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**Section I**  
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**Section II**  
**Regional Development,**  
**Integration and Globalization**

## Remote Work and Technology. A Brief History and Evolutions in E.U and Romania

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### Abstract

*The paper below searches for the basics of the work at distance in the few successive decades life-time of the information technology. The reader will here meet dates and data arranged and correlated notions and evolutions introduced as simultaneously working and a relationship between technological issues and their corresponding moments in and intervals of time that could appear interesting even for those who know well this area or have enough read about so far. The work at distance issue will also meet its law and organizing stuff at both the EU's and its member countries' levels, here including Romania's. It will be here related about the Covid-19 interval as well. It will be equally interesting not only about effective developments in time at past, present and future, but also about perceptions about distance working from employees and employers, e.g. it is this way of giving birth to the concept of "hybrid working", i.e. more or less between the classical way and distance working.*

**Key words:** remote work, work from home, telework, , COVID-19, European Union, Romania

**J.E.L. classification:** J81, J21, J24, O52

### 1. Introduction

Actually *remote work* issue isn't too new in practice and literature, but it became increasingly popular in time with the help of the technology's advancing, e.g. the PC's , the Internet and the public *wifi*. Currently (as much as all people in the possession of laptop or smart-phone connected to the Internet) some of the today employees might prove able to contact their colleagues at distance and even do their work at home, in the Coffee-bar or elsewhere quite similarly to those times in which they were compulsorily sharing the employer's location in such an aim (Messenger J.et. al 2017,2019) .

But things have not always been like this if we remember computers of the sixties, when each related employee was supposed to travel to the computer's place or to send those magnetic bands to by ordinary mail in order to access specific information and/or, conversely, to make his/her work public.

In 1975 the first personal and portable computer was made the way the employees' work could finally be ever made transferable out of office. That was an IBM-5100, enough different from the today *laptops*, but certainly in their order of becoming. And it is ever-since that companies endeavoured to renew and make PCs increasingly performing. It is this way that then Adam Osborne offered in April 1981 what is also today recognized as the first laptop of all time, i.e. really portable -- this was even called *Osborne I*. It weighted 24 ½ kilograms, had a 5-inch display, a pretty narrow monitor and no storage space. Despite such handicaps, as seen today, and a high market price its sales made about US\$ 1 million at that time. And in the aftermath of this more than 24 kilograms computer of 1975, in 1989 came up the next laptop made by NEC and weighting as low as 5 pounds (i.e. 2.26 kilograms)— this is taken as the first electronic notebook ever. In 1992 it was about the primary series of *touch-pad* laptops on market, launched by Olivetti, and a decade later, in 2002, Toshiba was making the thinnest laptop ever created, only 3/4 inches (1.9 centimetres).

Apart from laptops, the *tablets* seemed to have met a similar story between 1972 – when their first ideas about – and 2002 – when Microsoft, under Bill Gates, introduced the *Windows XP Tablet*. In 2010 Apple (Steve Job) also introduced the *I-Pad*.

Back to 1983, its 1<sup>st</sup> of January is the official day of the *Internet's* birth. Actually the internet has revolutionized the communication as a mechanism of data dissemination and also increased the collaboration between people at different locations/regions (Leiner B.M. et. al.,1997). Just some restricted computer networks with no standard communication working between had been before that. Dozens of scientists, engineers, computer programmers and other related professionals worked on this project the way the *information highway* was coming to be built in its today image (Hogeback, J.2016).

Then, the computer scientist Tim Berners-Lee invented the *World Wide Web* in 1990. This often sees itself mixed up with the Internet itself, but in reality the *web* identifies to a way of accessing data by *web-sites* and *hyperlinks*, i.e. *online*. The web isn't the same with the Internet, but helped the Internet to have its popularity together with a vast information tissue that the public sees only at this time, as never before. The other thing that the web done meanwhile was connecting people from all over the world through the *e-mail* and related visual tools.

The first accessing of the Internet *wireless* network was made possible in 1991, as part of the 2<sup>nd</sup> generation (2G) of mobile phones. In the following years, 1994-1995, other companies like American Express, IBM and AT&T started proceeding to allowing their employees to work in other locations than the employer's head-quarter. In 1999 the Internet users went up to 400 millions (Monica D. et al , 2020). In the years 2000 the Internet-wireless and broadband were acting like two pieces for freeing the employees from a given physical location, as their work place. Then the 2001-2006 interval was the one of higher Internet speeds, as part of the 3<sup>rd</sup>(3G) and 4<sup>th</sup> (4G) generations.

## 2. Literature review. The "remote work" basics

Jack Nilles is the first book author ever using expressions like *remote work* and *teleworking* in 1975. This was the time in which he was working as a NASA engineer and so experienced some of these in a communications system context. Other notions like *telecommuting* were here used by the author as well basically as "alternatives" to classical operations in order to face the new deficit of non-renewable resources in an innovative way – i.e. *telecommuting* was here an "alternative transportation".

Later on, in 1979 Frank Schiff writes an article in *Washington Post* underlining about the same idea: working from home might be able to help at least the overall gasoline consumption nationwide to be lowered and so saved (Schiff F., 1979) - i.e. not to be here omitted that 1979 was the year of the OPEC oil embargo –, if not about the same could come out in chain for traffic congestion, air pollution, and mental and physical stress for all. Schiff directly here refers to that time (previous) energy crisis and shows preoccupied by methods of counteracting it: one or two days a weak working from home might be one of these (Daniels, 2021). Moreover, Schiff proved himself that visionary writer in the respect of technological advance able to move from its original place to anybody's home where bringing "the functions of televisions, videophones, computer terminals, electronic files and word and data processing systems and which can be connected directly to offices and other homes".

Then, the author equally anticipated the criticism that working from home would attract, being aware that there could be no control over how each worker would work – e.g. cutting-off individual contacts needed among colleagues; "too much distraction and rather no quiet place for work". Finally, the 2020-2021 pandemic was coming to respond to all such theoretical issues introduced by Schiff on the very ground.

In another book, the one of Woody Leonhard, published in 1995, "*work*" is notionally assumed "as what we do, and not as where we are doing it".

This author rather excludes all business success in future in the absence of the virtual environment, as infrastructure for all communications and business cooperation. However, that time was rather the one of some unsuccessful start-ups for entrepreneurs not quite yet prepared for

such strategic movements. Later on, in 2008 Sir O'Donnell's uses similar expression "*Work is something you do, not somewhere you go*" (Hardy B. et al 2008).

The *English Dictionary* sees *tele-work* as the use of computers, smart-phones and other new technical devices (from) home by those working this way similarly to their (former) work at the office, i.e. keeping at the same in direct contact with colleagues, customers and the central office (Oxford Advanced Learner's Dictionary). *Tele-work* is here the same with *telecommuting* – above described as a variant of work arrangements for employees that are not committed to travel to a central place of work for doing their jobs. Those persons/employees are called *telecommuters*, *teleworkers*, *home based* or *work-at-home employees* - to be also distinguished from the so called *nomad workers*, who do the same not from home, but preferring coffee bars or other locations.

*Wikipedia*, in its turn, reunites several expressions here related: *distance work*, *remote work*, *work-at-home (WFH)*, *mobile work*, *work-from-everywhere (WFA)*. All of these keep in common a work arrangement in which the employees do not usually travel to a central place of work in establishments that might be an office-building, a warehouse, a retail store or others. *Wikipedia* also insists on the other part of these notions, i.e. the help of diverse specific technologies like: collaborative software, local area networks, virtual private networks, conference calls, video telephony, internet access, cloud computing, voice IP (VoIP), mobile telecommunications technology, such as laptops or tablets equipped with Wi-Fi, smart-phones and desktop computers with landlines. Last, but not least, companies might have their reason to vote for the remote work, as useful and efficient since workers communicating at any distance, time and transportation costs saved and more technology and afferent devices here added to help: e.g. Zoom( a 5<sup>th</sup> mobile application in the decreasing order of downloading world-wide, i.e. 477.3 million down loadings), Web-ex, , Google Meet, What's App etc.

*Eurofund* (European Foundation for the Improvement of Living and Working Conditions) also deals with *distance working* – an arrangement on work to be developed away of a pre-established place, usually the employer's place, and so using information technology (TIC) - i.e. this last(TIC) contains the idea of technology making the workers "independent from locations, as work places".

The *International Labour Organization (ILO)*, in this same order, defines *work from home (WFH)* as a system of work in which the worker fills his/her job tasks by reaching the information & communications technology (TIC) and concomitantly giving up the classical work place – i.e. usually again, the employer's headquarters. It was in 1996 that ILO offered its variant of such a definition (ILO, 2021) in what was its Convention No 177(/1996)- only 10 countries meanwhile did ratify it. Then there came the Covid-19 pandemic in 2020 and 2021, when WFH came to be used in the ILO's view together with a temporary title and some more joint commitments from both employees and employers on continuity and productivity ensured in given activity.

### 3. Research methodology

The methodology here used devolves from the above exposed literature on the topic area. This is searching for a brief, but comprehensive history of concepts related to distance working. A primary aspect arising from such throughout history searching was the link between this last and technology in its development. Such a link between technology and Internet, on the one hand, and changes in the work-organizing on the other seems to continuously work since the 60'ies and 70'ies and isn't but similar today to that epoch, despite some appearance that a concept like *tele-work* looks rather newly-coming.

Then, from real-historical facts to law related issues the literature and statistics reveal either some difference between work-at-distance and/or tele-work, as technology-related, and work-at-home, an older concept not dealing with technology and with the recent pandemic, or different ruling in different states, here including the EU member States. Finally, there are the merits of the Eurostat (i.e. through LFS-labour force statistics) and Eurofound(i.e. through surveys carried out in all member countries, in several rounds during the pandemic period) to have completed all studies with statistics on both pre-pandemic years for work-at-home and the pandemic period for tele-work.

#### 4. Findings

In July 1997 the European Commission (EC) adopted a series of political recommendations regarding the labour market and the social dimension of the information society. There were recommendations for the work at distance as one of opportunities-tools of enlarging employment in the information society. The EC started studying telework on its own activity area – i.e. a pilot project was started in 1998 through the EC's departments called *Directorate General for Employment, Social Affairs and Equal Opportunities* and the *Directorate-General for the Information Society*.

In the year 2000 the European Council reunited in that famous session of Lisbon with its objectives for the future dynamic of the economy in Europe intended as "knowledge- based" (Lisbon Strategy,2000). That "*Lisbon Strategy/2000*" was regarding the first whole decade of the new 21<sup>st</sup> century, i.e. 2000-2010. In context, work related reports were coming to be modernized with the eyes on both the companies – i.e. their productivity and competitiveness – and individual work places – i.e. their quality. Besides, the Commission proceeded to invite the social partners for negotiations, here including the telework modality.

The *Framework Agreement on Telework* – also called the main "*EU regulation addressing telework*" – came to be reached after negotiations during the September 2001-July 2002 interval and this Framework of course regards first the work conditions of telework for those who are supposed to practice it. In its Article 2, this Act defines (in its turn) the *telework* as an arrangement in which an employee, though always able to his/her job at the employer's places and work points, does the same regularly away of these using informatics stuff and technologies (Mandl, I., et al., 2020). Then, these last technologies providing and their maintenance here belong to the employer. As for that place of work alternative for the employer's one, the employee's house residence comes first, but the Act's definition and provisions do not exclude any other alternative places able to ensure conditions for both secured and healthy work done and data protection (Filip&Company, 2017).

The terms of this European Agreement came to be achieved in 2002 among those 15 EU member States at that time. As for social partners fully participating to that social dialogue, there were ever-since the ones belonging to those countries only – nevertheless, the Agreement became applicable to all the 27 member states at this time(ILO, 2020). Status and regulation of telework (EU-OSHA, 2021) are so far of two kinds / actually, groups of EU member States:

- the ones with express provisions on telework in the Labour Code and/or other specific laws (ILO-2020b) – e.g. Belgium, Bulgaria, Czech Republic, Spain, Germany, Estonia, France, Greece, Hungary, Croatia, Italy, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovenia and Slovakia. EU-OSHA mentions specific definitions for telework in these countries: "remote" (work/Bulgaria), "telework" (Spain), "alternative workplace" (Croatia), "location independent" (Netherlands), "mobile work" (Germany).

- the ones without such express provisions/laws and/or in which telework sees itself included in regulations on different specific – e.g. referring to data protection, safety, healthcare, work time: Austria, Cyprus, Denmark, Finland, Ireland, Latvia, Sweden.

It was the same technological evolving since 2002 so far that influenced the telework towards its extension and so to an increased workers' mobility. Currently, the *European Economic and Social Council* (CESE 2021) uses the telework word for employees who work at distance/out of their enterprise establishment and use technology of information and communications (TIC). In the CESE's view really identifying the place of work and TIC used are the two important pillars of telework and this is why each nation's law and practice are supposed to have their own saying about (Trindade, C.M., 2021).

In Romania, firstly the *Labour Code* (Law number 53 /2003) regulates the *work-at-home* category – i.e. the employee's residence, instead of the employer's one - in its Articles 108, 109 and 110. The Code provides that working-at-home employees are not discriminated, as compared to the others, have the right of settling their own work schedule, but are required to submit to the employer's checking on according to individual contracts (Labour code-Individual work contract, Cap.9-Work at home).

On the other hand, the employer is committed to ensure materials, raw materials and their transportation needed, the same for afferent finished products both senses. However, work-at-home in the Romanian Labour Code of 2003's provisions limit to manual work with physical and easily identifiable finished products and materials and cannot conceptually extend to a technological complexity related the information society.

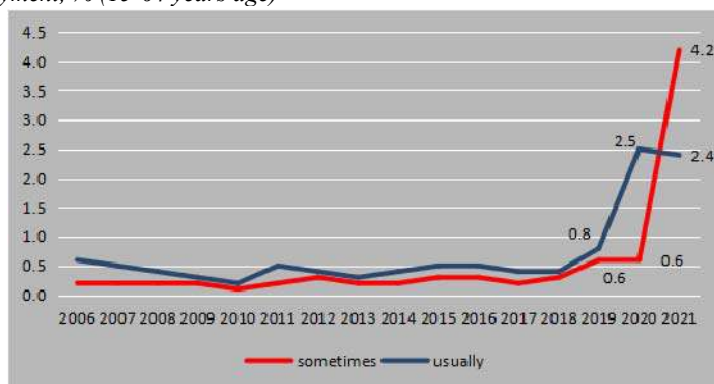
Telework then came to be defined by *Law in Romania in 2018* – i.e. Law No 81, Article 2: “*a type of work organizing in which the employee, regularly and voluntarily fills his/her job tasks in other places than the ones managed by the employer, at least once a month and using the information and communications technology*”. So, two legal aspects became obvious in Romania about telework: the difference from the earlier Labour Code provisions for work-at-home and the EU vision approached – telework means work done home, but compulsorily using TIC.

As in detail, telework legally assumes the ordinary individual employment contract – the one for every worker – accompanied by an addendum always containing provisions like: the one that nominated employee works in telework conditions in dates of... besides the dates in which he/she works at the employer's place(s), as well, the exact place for telework and time in which the employer might be supposed to check on this, modalities of accounting the hours worked as telework, the employer's commitment for all materials needed by telework and their transportation to the telework place, the same for ensuring data protection, here including personal data, the same for letting know the telework employee about all changes occurring in the collective employment contract – when the case -, the same for helping the employee against all perspectives of isolation from his/her colleagues and finally the same for the employer's commitment about all costs supported by this type of work. And this list of employer's commitments then are followed or accompanied by corresponding commitments on the employee's side (Haiduc C., Iordăchescu & Asociates, 2021).

Law No 296/2020 provides a new possibility of funding costs of utilities for the teleworker's place by the employer – e.g. power, heating, pipe water, data subscription and even office furniture and equipment within the limit of a monthly ceiling of 400 RoN (R&S, 2022). The Emergency Government Ordinance No 36 / 2021 wipes out the previous provision on “*telework done at least once a month*” the way that all precision remaining on this aspect is the systematic, constant and not accidental or up hazard use of telework. On the contrary, telework isn't imposed to fill the whole or the most of the work hours either(R&S,2022).

*In Romania*, it was not quite usual the work-at-home before the recent pandemic in Romania – i.e. as low as 1% of the whole people employed (of 15-64 years old). Not only, the so high majority of working people weren't used to fill job tasks elsewhere than in the employer's place, but recall from above that the *work-at-home* was regulated in 2002 – i.e. for some *manual activities* - and the *telework* lately, in 2018. In its turn, the Eurostat here provides data also for *frequently/usually and sometimes working-from-home*. As for “*sometimes*”, in the 2019 Romania data show about 0.6% of the total country's employment, a weight staying constant in the next 2020, then meeting a significant rise in 2021 to 4.2%. As for “*frequently /usually*”, the percentage grows from 0.8% in 2019 to 2.5% in 2020, but then goes a little down to 2.4% in 2021, the second pandemic year (Figure no. 1).

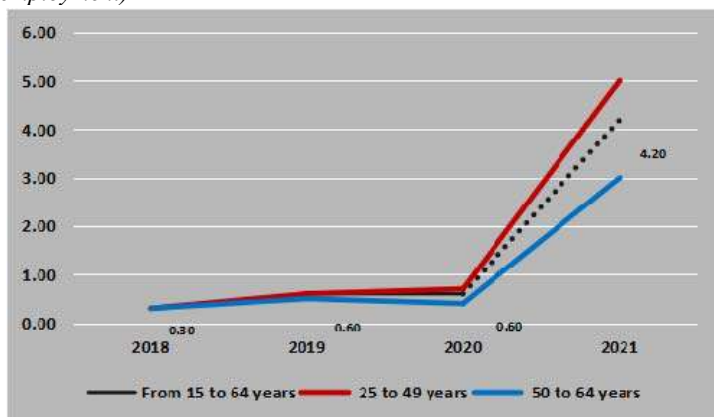
Figure no. 1. Romania-Employed persons sometimes and usually working from home as a percentage of the total employment, % (15-64 years age)



Source: Eurostat - Labour force survey 2021, EU-LFS [lfsa\_ehomp]

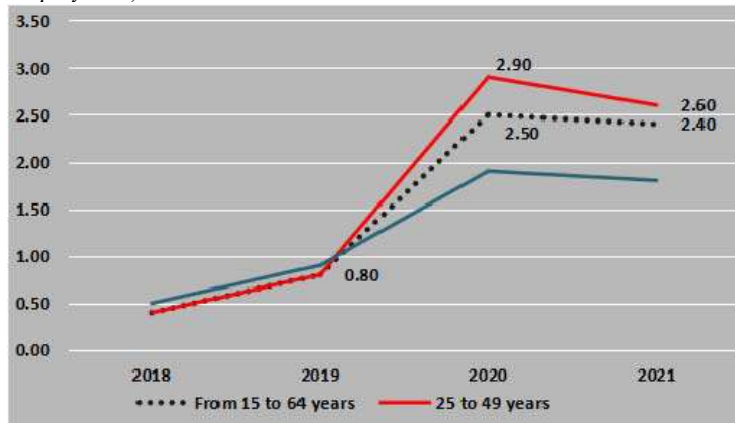
As for groups of ages in Romania, the number one was the middle one, of 25-49 years old, that worked-from-home by its 7.6% in 2021, as compared to only 1.4% in 2019. This was followed by the seniors of 50-64 years old, with respectively 4.8% in 2021, as compared to 1.4% in 2019. The youngest of 15-24 years old were working-from-home by just 4% in the 2021 end (Fig.2a,b).

Figure no. 2a. Romania- Employed persons sometimes working from home - age groups (% of the total employment)



Source: Eurostat - Labour force survey 2021, EU-LFS [lfsa\_ehomp]

Figure no. 2b. Romania- Employed persons usually working from home - age groups (% of the total employment)



Source: Eurostat - Labour force survey 2021, EU-LFS [lfsa\_ehomp]

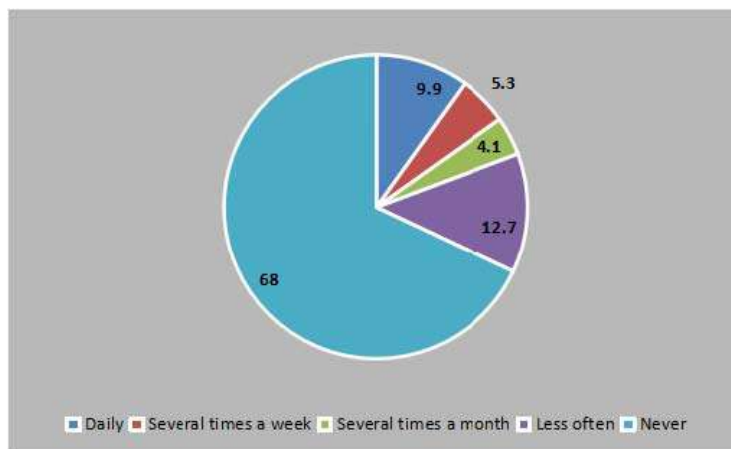


And now it is the moment to observe the difference of results between the above EU-Labour Force Survey (Eurostat) and the other data source here used, i.e. Eurofound Survey - with a common Eurofound-ILO report (Ahrendt, D. et al., 2020).

The impact of the pandemic appears much more surprised by *Eurofound* through the multitude of questions in the questionnaires addressed to workers in the EU

For Romania, in this survey context, 68% of the respondents of April-May 2020 had never worked-from-home and the rest of 32% had done it in diverse forms: i.e. from daily to a few times a week or even less often (Fig. 3).

Figure no. 3. Romania- Frequency of working from home before the outbreak-Romania (%) April/May 2020



Source: Eurofound (2020)

Actually, Eurofound, in its Survey, took the location issue of work done in its larger sense – i.e. home, for work-at-home, but not only: the employer's diverse establishments and/or working points, other places accepted by the employer and adequate to the specific of work or of relationships with customers. Throughout the survey's three rounds deployed, the same employees worked either at home, or in other locations/ headquarters/ work points, therefore the percentages do not add up to 100%.

In Romania the working-at-home employees started by their 19% in the lockdown of 2020, April-May, and then percentage rose to 30.8% in June-July. Then 55.1% of the Romanian employees continued their work in their employers' places and/or in other places at the employer's option or at the one of customers (Fig. 4).

Figure no.4. Location of work during the Covid-19 pandemic (%) 2020 June/July 2020

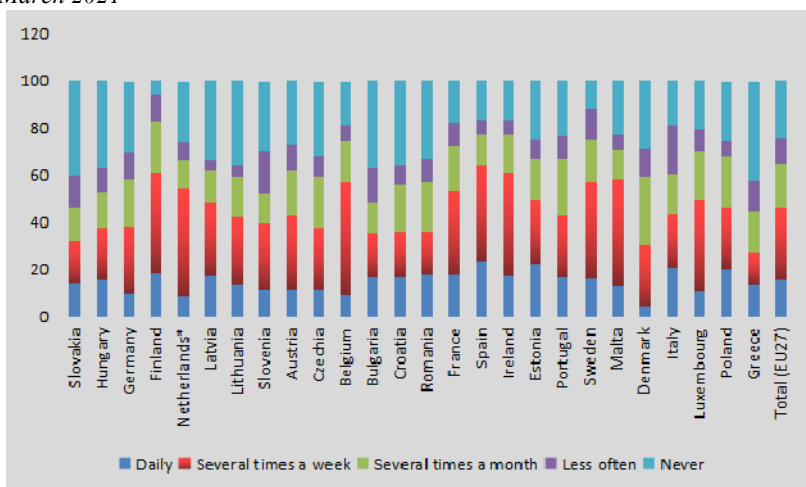


Source: Eurofound, 2021

While the work-from-home incidence actually seems to have slightly decreased towards the end of pandemic the preference for this kind of work arrangement maintained for the near future. The same survey found employee respondents preferring about equally working from home and at the employer's place when no restrictions.

The 3rd round of the survey (February - March 2021) revealed in most EU member States the alternative of several days a week working-from-home as the most popular to employees (Nivakoski, S., et al.,2021).

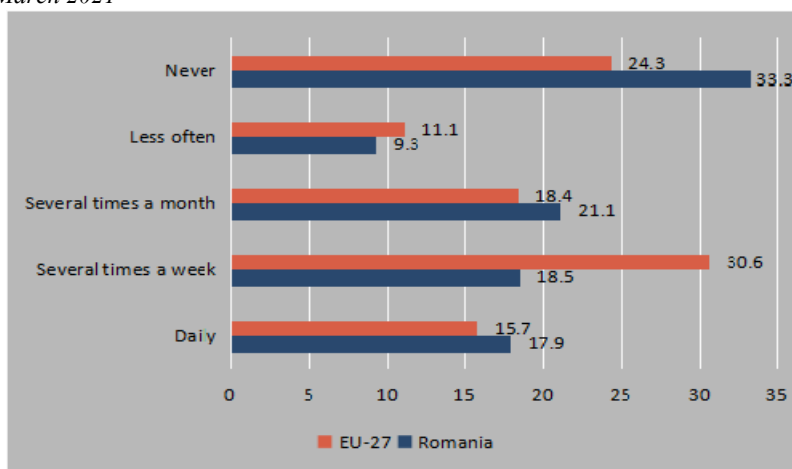
Figure no.5. EU-Work from home preference by country (% of respondents)  
February/March 2021



Source: Eurofound , 2021

As taken by individual categories of employees interviewed, in Romania the highest weight belongs to those who refuse the work-from-home (33.3%), but taking into account all the employees' options in the survey those preferring work-from-home in the total were many more, if not even double (66.8%). 17% of the interviewees said they were preferring working-at-home everyday, 18.5% of them were preferring a few times a week, 21.1% a few times a month and finally 9.3% were preferring rarer than these(fig.6)

Figure no.6. Work from home preference, Romania, (% of respondents)  
February/March 2021



Source: Eurofound , 2021

The workers' preference to *work from home extended* even after the lifting of the restrictions and the approaching end of the Pandemic. Other studies from all over indicate for the future rather *a hybrid system of work organization*. This might be a new formula backing more flexibility and performance resources, while the opposite alternative – the one of fully remote work – is still suspected for problems related to spoiling the inter-human relationships, to then individual isolation and even to health related problems.

## 5. Conclusions

A historical review, as above, of concomitant technology evolving, including the Internet, and the employees' work elsewhere than at the employer's place (*telework*) proves able to help to both these aspects' well understanding. In other words, none of *telework* issues would be possible in the absence of technology and Internet. The research in the area finds some 60'ies and 70'ies precedents for the present *technology-telework* deepened connection, as well as in that epoch there were voices that foresaw such today facts obvious at a blink of an eye. Among other things, the new *telework* helps to reduce the non-renewable energy resources' consumption.

Despite appearances and the popular perception, *telework*, in its multiple forms, is actually older than computers and the Internet, all the more than the recent Covid-19 pandemic crisis. This last didn't do here, but – thanks to its needs of physical contact reduced and of social distancing -- making the *technology-telework* (as new work organizing and management) connection transparent, useful and quickly to be implemented by all world States. The pandemic speeded up technology and digitization at least indirectly.

The quickly events in the area then look to have taken the afferent law enacted by very surprise – i.e. numerous law ruling differentiations in different countries, here including the EU member countries. For instance, *telework* is ruled by the specific "Labour Code" in some countries, while in others by other kinds of laws – i.e. Romania is an example for the latter case. Then, a similar difference for how old such rule on *telework* is, and then for making the difference between *telework* and *work at home*, as differently founded than by technology involving – i.e. in Romania again, work-at-home is ruled by an older law enacted in 2002 and *telework* by another one or 2018. And then for how many workers frequently used work-at-home and other systems of using other work places than the employer's headquarters previously to the pandemic event – i.e. this is rather not too much for EU member countries and for Romania even less than 1% of its working staff.

The aspect pushed by the pandemic in this respect is just this: the statistical measuring methodology on such workers' number and percentage during the crisis and in its aftermath. There was an International Labour Organization (ILO)'s methodology proposal advanced in 2020, certainly, for a unitary statistic practice, but then there were not all States able to take it over. So, we're staying far from a unitary view on such work organizing, from reaching a pertinent and quick-efficient conclusion on the reality of the latest years world-wide. But in exchange, the Eurofound reached the merit of having approached this distance-work reality through its successive surveys developed in the EU member countries during the pandemic. Thus, different nuances of how employees worked, more or less from home, during the pandemic and before it were highlighted – e.g. how performing actually was the workers' activity off the employer's headquarters; whether the same workers' perspective preferences have been changed in such a respect with this experience, etc.

These Eurofound's surveys' results rather conclude that the preference for continuing to work from home under a hybrid format appears more and suitable for majority.

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## Managing Tourism Seasonality in European Countries

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### Abstract

*Seasonality is an important factor for tourism, having a major impact on tourism activities during certain periods of the year. This is determined by climatic conditions, school holidays or holidays, and is the period when most people are willing to travel. Seasonal tourism is characterized by intense tourist activity, with massive concentrations of tourists at specific times and in specific areas. However, seasonal tourism was significantly affected during the COVID-19 pandemic period (2019-2021) when there was a worldwide tourism freeze through the imposition of movement and travel restrictions. The measures taken during the pandemic had a huge impact on all tourist destinations giving rise to unprecedented situations.*

**Key words:** tourism, destinations, seasonality, management

**J.E.L. classification:** Z32

### 1. Introduction

Although seasonality is one of the most important characteristics of tourism, it is not much addressed in specialty literature. It is often seen from a negative perspective, as it is considered to cause economic and social imbalances, but it is also considered to have a positive impact on tourist destinations and visitors. Seasonality can raise a number of management issues that require the use of specific strategies. Seasonality can put pressure on tourism businesses over a certain period of time, requiring a higher level of workforce involvement. By analysing the seasonality of tourism, the number of visitors and the occupancy rate of tourist facilities increases, with a higher concentration in certain periods of time. In recent years, heavily affected by the COVID-19 pandemic, all tourism activity has been reduced, which is also reflected in seasonal tourism.

This paper focuses on identifying and highlighting the fluctuations of tourists within a calendar year by analysing arrivals and overnight stays in tourist destinations in Europe in 2019-2022. The analysis will consider the major negative impacts of the COVID-19 pandemic on tourism worldwide. The research focuses on the analysis of arrival and overnight stays seasonality in the tourist accommodation sector in the European Union countries, highlighting increases and decreases caused by the pandemic. The aim was to examine arrivals and overnight stays comparatively by month and year (2019-2022), in order to gain an overview of the tourism seasonality during the period under analysis.

### 2. Literature review

In terms of its periodicity, tourism can be continuous or seasonal. While continuous tourism takes place over the whole period of a calendar year, seasonal tourism takes place according to certain conditions and events. Seasonality is a dominant feature of tourism because it is represented by periods when demand meets supply at the highest possible level. Seasonality is determined by natural

causes as well as climatic conditions, the periodicity of tourist events or cultural activities and economic and organisational conditions such as holidays and school vacations. In other words, seasonality in tourism activities can be characterised by an increased number of visitors in a given period of time due to different factors: climatic, cultural or economic.

Baron (1973) first defined seasonality in tourism as "the incomplete and unbalanced use of the means available to the economy, and it is similar to business cycle disequilibrium, where the economy is either overheated or operating below its full potential at different phases of the cycle". According to Butter (1994), seasonality in tourism is a time imbalance that can be determined by several factors such as spending, employment, number of visitors, etc. Higham and Hinch (2002) consider that most tourist destinations in the world are characterised by methodical variations throughout the year. According to Holloway (1994) tourist visits do not only vary over the course of a year, but can vary over a month, a week or even a single day. (Holloway, 1994)

Seasonal tourism activity has been studied more closely by Butler and Maio (1997), who argue that tourism seasonality has two major dimensions: natural and institutional. Natural factors that can determine tourism seasonality refer to climatic variations and phenomena, which are independent of human will. The institutional dimension, unlike the natural dimension, depends on human behaviour and is based on consumer decisions. The latter is represented by cultural and social factors and relates to holidays, vacations, traditions, sports or hobbies (Butler & Maio, 1997).

Although driven by many factors, seasonality is reflected in people's behaviour through the number of visitors and the occupancy rate of tourist establishments as well as the consumption of tourist products. Seasonality plays a key role in determining tourism demand and consumer behavior regarding tourism products. A literature review also reveals that the notion of push and pull factors in tourism motivation supports the role of seasonality on tourism demand and behaviour (Butler & Maio, 1997).

The factors that determine tourism seasonality are interrelated and can generate complex interactions that the tourism industry needs to manage by implementing different management and marketing strategies such as differential pricing, diverse facilities and attractions, offering high quality facilities and services (Commons & Page, 2001). Given that seasonality of tourism demand marks the whole tourism activity, it is necessary to manage at the highest level in order to better manage the tourism offer and the flow of tourists. The extent of seasonal fluctuations has a major impact on tourism and its efficiency, so that their management requires greater attention. Seasonality implies a greater use of the material base and labour force, which can affect the quality of services and their costs. Providing quality services during the seasonal period requires the active involvement of all resources and their good management, which in turn leads to higher prices for tourism.

Implementing management strategies for seasonal tourism can help mitigate negative impacts. In this respect, tourism operators need to have a good understanding of the causes of seasonality and its implications and impacts. The causes that determine seasonality are beyond the control of the operator, but can be managed through various actions: thus, managers can respond to the impact of tourism seasonality by taking action in three different directions: costs, employment and quality of facilities and services (Goulding, Baum & Morrison 2004). In terms of costs, prices are higher, there is income instability and seasonal costs must cover fixed costs throughout the year, etc. (Commons & Page 2001). Employment over a given period is more difficult to achieve. If demand for labour is sporadic, a lack of experience and commitment intervenes, leading to lower service quality and consumer satisfaction. Last but not least, there is under- or over-utilisation of resources in terms of facilities offered, which also leads to low consumer satisfaction. (Commons & Page, 2001).

According to Phelps (1988) seasonal tourism management strategy should depend on the nature of the facilities offered. In the more recent literature it is considered that management should take into account all three of the above dimensions as well as involving environmental and safety actions. In concrete actions, managers can use strategies such as financial and budgetary planning, offering promotional pricing and group booking offers. They can also diversify offers and attractions for consumers, carry out marketing campaigns or defer holidays over a longer period. (Goulding et al., 2004)

Jang (2004) also considers that two distinct ways can be used to manage the problems caused by tourism seasonality, which relate to reducing the season itself and reducing the negative effects of seasonality. These include the strategies described above but also involve marketing actions such as

the deliberate creation of additional demand through the organisation of promotional events (Jang, 2004). This type of approach requires greater investment and stakeholder involvement, which is why most tour operators prefer to focus on popular promotional tools.

With the advent of the Covid-19 pandemic, managing the tourism season had become even more complicated as the industry had been affected to a very large extent. Thus, as described by Marome and Shaw, businesses in the tourism and service sector became unstable and financially insecure during COVID-19. In 2020 there was a massive drop in demand experienced by the tourism industry during the peak season, with employers forced to make large-scale layoffs and reduce or even stop their business.

The enforcement of travel restrictions and border closures have caused a huge slump in the tourism industry and caused massive losses in the world economy. Even during seasonal periods when tourist numbers were higher than normal, there were huge falls in tourist numbers caused by the restrictions and measures imposed. Domestic markets have emerged as more reliable sources of tourist activity, ahead of international markets, which have a more significant economic impact but present a higher risk.

The mobility restrictions imposed by the pandemic have increased the strategic value of the domestic tourism market. Thus, seasonal tourism was more developed domestically than internationally during the pandemic. Domestic destinations competed to attract domestic tourism as international mobility was drastically reduced in 2020. In Spain, for example, many destinations focused their summer 2020 campaigns on the domestic market (Donaire & Galí, 2021). Although there were also agreements between neighbouring countries, which allowed seasonal holidays to be carried out safely for a limited number of tourists, more tourism activity took place within their own countries, which led to an increase in seasonal tourism in home countries in terms of domestic tourists.

According to studies carried out at an European Union level in 2021, the proportion of domestic and foreign visitors varies between EU Member States. In countries such as Germany, Sweden, Poland or Romania more than 75% of tourist arrivals are domestic, while countries such as Malta, Croatia or Luxembourg have a higher number of foreign visitors. Portugal, Spain and Italy recorded roughly equal numbers of domestic and foreign visitors. (EU Support of Tourism, 2021)

The Covid-19 pandemic reduced international arrivals among EU countries by 67.5% in the first three quarters of 2020. The most affected countries in terms of visits by foreign tourists in 2020 were Austria, Luxembourg, the Netherlands, Germany, Belgium, etc. This caused losses of up to 50% in GDP and over 2 million jobs lost. (EU Support of Tourism, 2021) These losses are expected to be recovered by 2024.

### **3. Research methodology**

The research methodology is based on EU-wide statistical data on arrivals and overnight stays in tourist accommodation establishments in EU countries by month for the years 2019-2022 to highlight the seasonality of tourism as well as the impact that the Covid-19 pandemic has had on tourism in Europe. The analysis was also carried out in terms of three categories of tourist accommodation types, aiming to identify those that had a higher occupancy during the pandemic.

The indicators chosen to analyse the evolution of seasonal tourism during the Covid-19 pandemic in the European Union are *tourist arrivals in EU countries; tourist overnight stays in tourist accommodation establishments in EU Member States, the distribution of arrivals and overnight stays by month*, in the period 2019-2021 and in the first 4 months of 2022. The findings were taken from official data provided by EuroStat.

The information obtained from processing official data on monthly arrivals and overnight stays in EU countries has allowed us to get an overview of tourism seasonality and helped to identify fluctuations during the years under analysis (2019-2020). It also identified the countries in Europe where seasonal tourism is most common.



#### 4. Findings

In 2019 the number of arrivals and overnight stays in EU member countries was increasing from January to August and then gradually decreasing until December. Most arrivals were recorded in June, July, August and September of 2019. In 2020 the upward trend was not maintained. Thus, from the 3rd month arrivals and overnight stays decreased drastically, fluctuating in the following months. Months November and December recorded approximately the same number of visitors and overnight stays. In months January-April of 2021 the number of arrivals and overnight stays is roughly in line, with relatively small changes from month to month. In months May-June there was a slight increase and in months July and August the number of arrivals and overnight stays from EU countries doubled, gradually but drastically decreasing in the following months until the end of 2021.

As for 2022, data are available for months January-April, as it is the current year. These first months of 2022 show a low number of visitors but a slight increase until month April, when it doubles compared to the first month of 2022. The fluctuations in arrivals and overnight stays from the EU Member States can be seen in exact figures in Table no. 1.

Table no. 1 Arrivals and overnight stays 2019-2022 (by month) in Europe

No. crt.	Month	Arrivals	Nights
1.	01.2019	49395133	128692169
2.	02.2019	54222141	138456076
3.	03.2019	65066851	161006014
4.	04. 2019	79176433	204653767
5.	05. 2019	89524816	231217714
6.	06. 2019	108477707	318134695
7.	07. 2019	125907344	444169884
8.	08. 2019	131946755	481756238
9.	09. 2019	102771908	286483585
10.	10. 2019	80321819	207705402
11.	11. 2019	60628564	135494244
12.	12. 2019	58603499	140159246
13.	01.2020	52230434	135027352
14.	02.2020	56856885	147685570
15.	03.2020	22622779	62806244
16.	04.2020	2865237	9763338
17.	05.2020	8525843	24263499
18.	06.2020	33402917	95147311
19.	07.2020	7812162	269511271
20.	08.2020	93210308	340921945
21.	09.2020	57616349	170440612
22.	10.2020	36923113	100539682
23.	11.2020	12495956	33459707
24.	12.2020	11274575	33219628
25.	01.2021	11176475	29598797
26.	02.2021	13753022	35285059
27.	03.2021	14958594	38793905
28.	04.2021	16217174	44166456
29.	05.2021	32747938	86610331
30.	06.2021	55999710	172340299
31.	07.2021	101829055	357445772
32.	08.2021	112787870	430649285
33.	09.2021	80128676	246151906
34.	10.2021	69497975	181871718
35.	11.2021	44423604	108230668
36.	12.2021	39177067	99710862
37.	01.2022	31947709	89071050
38.	02.2022	39556407	106980225
39.	03.2022	49105864	131519896
40.	04.2022	67115176	176115016

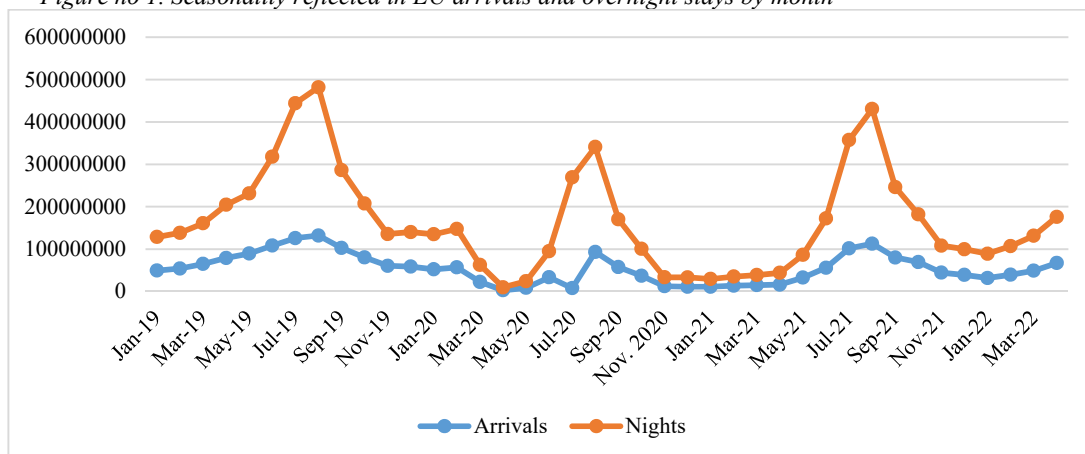
Source: Eurostat: <https://ec.europa.eu/> (Accessed on 7th October 2022)



Tourism seasonality can be seen in Fig. 1. which shows an increase in arrivals and overnight stays in the months of June-September 2019-2020. Seasonality fluctuates in the years analysed due to the COVID-19 pandemic. Thus, in 2020 there was a decrease in arrivals and overnight stays of more than 50% compared to 2019. Although in 2021 arrivals and overnight stays showed a slight increase compared to the previous year (25%), there was still a major deficit, with 39% less than in 2019.

Monthly statistics from the years analysed show that seasonality was more pronounced in 2020 despite overall decreases in arrivals and overnight stays from EU member countries. This was considerably influenced by the lifting of some of the travel restrictions in the summer months of this year. In 2021 the seasonality pattern was closer to that of 2019. Thus, although seasonality is more pronounced in 2020, the overall recorded decrease in arrivals and overnight stays was drastic. Signs of recovery in European tourism become visible in 2021.

Figure no 1. Seasonality reflected in EU arrivals and overnight stays by month



Source: Eurostat: <https://ec.europa.eu/> (Accessed on 7th October 2022)

Figure no. 2 shows the monthly distribution of nights spent in EU accommodation establishments as a share of total annual arrivals and overnight stays. According to the data analysed, in 2021, as in previous years, seasonal fluctuations were less important for hotels than for other tourist accommodation. In 2019 the fluctuation in hotel overnight stays shows an increase in the months of June-September compared to the previous months, with overnight stays being up to 50% higher. In 2020, the lowest number of overnight stays was recorded in July and August, with an increase of about 25% compared to the previous months.

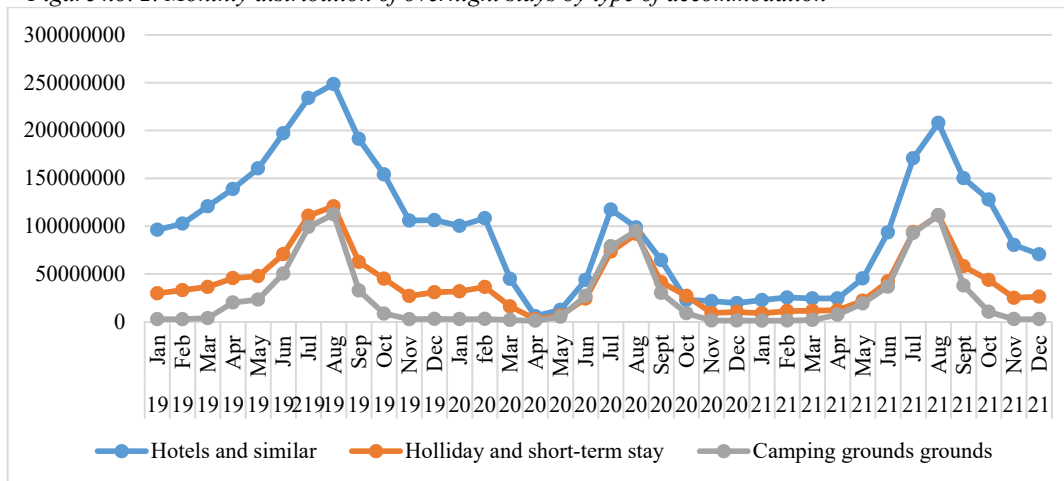
The biggest increase in the summer months was in campsites, as they are more dependent on weather conditions and are often closed during the winter. Thus, campsites experienced the highest concentration of overnight stays in the June-August months of 2021. In the other months of 2021, however, overnight stays in campsites were extremely low, with the exception of April when there was an increase. In 2019 the months of June, July, August saw an increase, but not a very large one, and in 2020 seasonality was evidenced by an increase of over 70% in the summer months compared to the previous months.

As far as short-stay accommodation is concerned, the biggest increase was recorded in 2021. In almost all EU member countries, more than half of holiday and other short-stay accommodation nights were in the third quarter.

In all EU countries, the third quarter of each year analysed was the peak season for all three types of tourist accommodation. In most countries, the peak for hotels (51% in the third quarter on average for the EU) was lower than the peak for both types of tourist accommodation (57% for holiday and other short-stay accommodation and 74% for campsites in the third quarter on average for the EU).

Seasonality is thus more prominent in the campsites, followed by short-term accommodation. Hotels are where seasonality is least reflected during the period under review. This can be justified by the fact that hotels are open and available throughout the year, while camp sites are more active during the warm season and are occupied to a greater extent by pupils and students who travel during the summer holidays more than during the rest of the year.

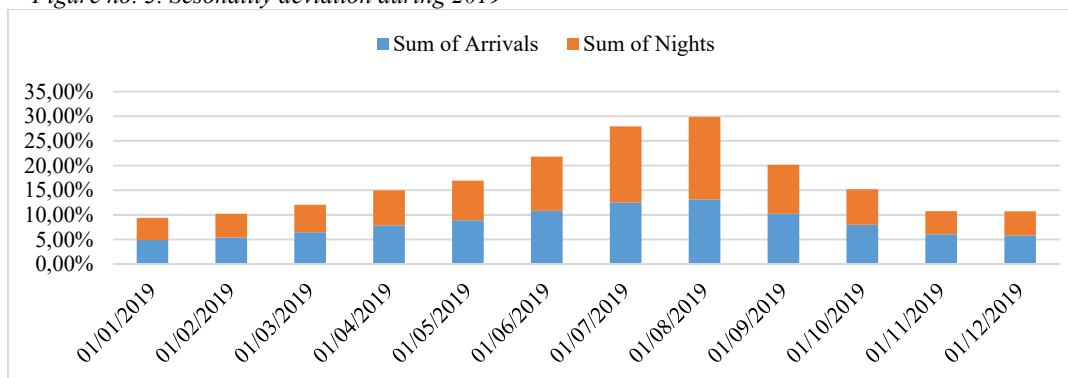
Figure no. 2. Monthly distribution of overnight stays by type of accommodation



Source: Eurostat: <https://ec.europa.eu/> (Accessed on 7th October 2022)

In order to highlight the seasonality of each year among those analysed, the data were analysed on a percentage basis. Thus, it was found that in January 2019 arrivals and overnight stays accounted for 5% of the total arrivals and overnight stays in that year, as well as the following month. In March and April arrivals and stopovers accounted for 6% and 7% respectively of total arrivals and overnight stays. Since May these have increased by about 2 percent and in the summer months the percentage has doubled. Thus, June, July, August and September accounted for 46.64% of total arrivals and overnight stays in the European Union, marking a considerable increase in summer travel and highlighting the discrepancy with the rest of the year. From September onwards, however, arrivals and overnight stays fell by 30% compared to the previous month and continued to fall in the following months, reaching 5.86% of total arrivals and overnight stays in January and a fall of around 40% compared to September.

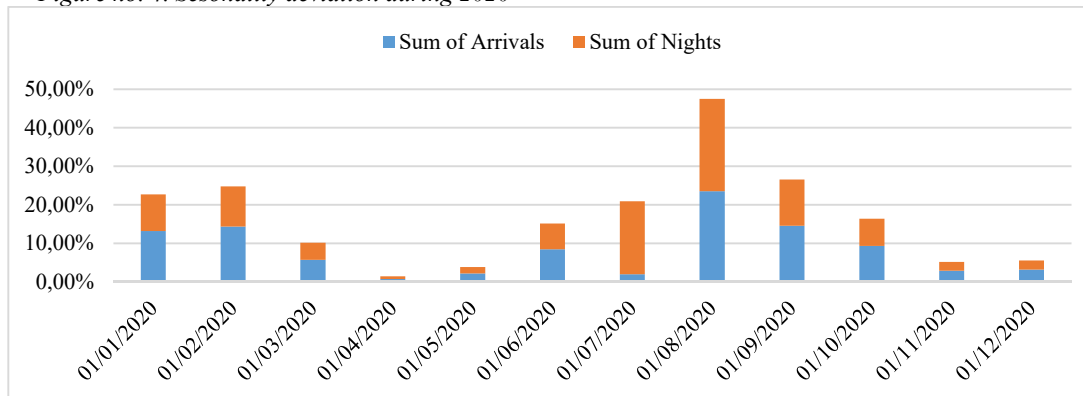
Figure no. 3. Seasonality deviation during 2019



Source: Eurostat: <https://ec.europa.eu/> (Accessed on 7th October 2022)

In the first months of 2020 (January; February) the percentage of arrivals and overnight stays was 13-14% of the annual total. Only 5% of the total arrivals were recorded in March, following a drastic decrease in the following months, reaching a 0.72% in April. These declines were caused by the Covid-19 pandemic. The year 2020 saw a decline in July-August-September. August saw 23% of all visitors in 2020, a year extremely affected by the pandemic. However seasonality is more prominent this year than in 2019, with an increase in arrivals of up to 50% in August compared to April.

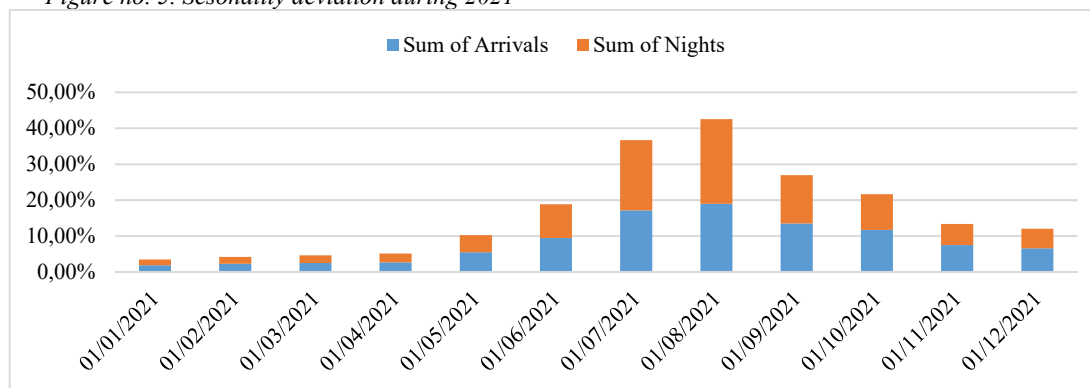
Figure no. 4. Sesonality deviation during 2020



Source: Eurostat: <https://ec.europa.eu/> (Accessed on 7th October 2022)

The first months of 2021, also heavily affected by the pandemic, accounted for 9.47% of total arrivals from the European Union, while in July, August, September the arrivals rate was 61.46% of the total. This shows a discrepancy of 52% between the first quarter and the second quarter of the year. From October onwards, the percentage of arrivals and overnight stays in European countries began to fall gradually, reaching 6% in December.

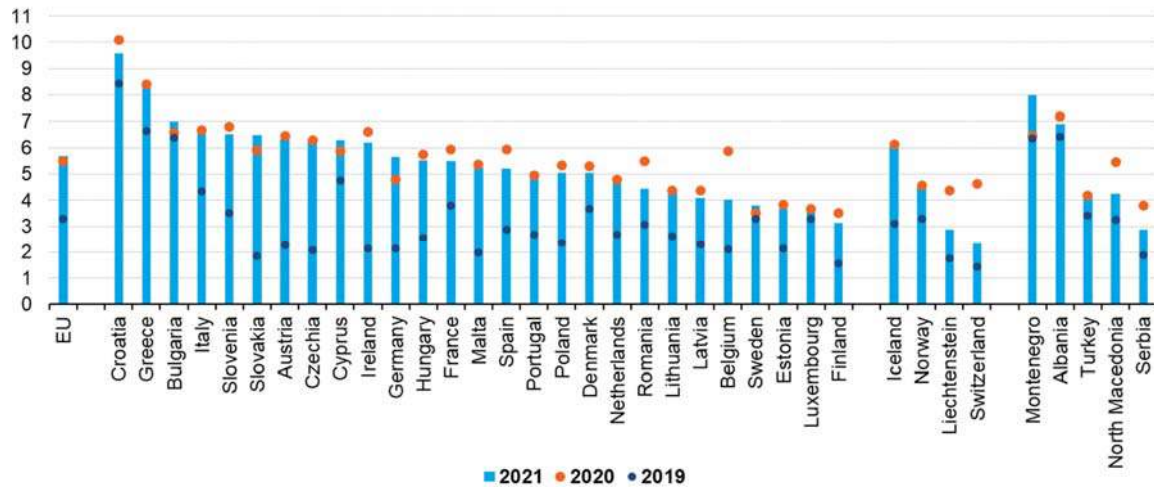
Figure no. 5. Sesonality deviation during 2021



Source: Eurostat: <https://ec.europa.eu/> (Accessed on 7th October 2022)

The above analysis refers to the general situation of tourism seasonality in the European Union, but this may differ from country to country. Thus, the highest seasonality in 2019 was recorded in countries such as Croatia (8.4); Greece (7.8), Albania and Montenegro (7.4), Pecum and Bulgaria (7.2). In 2020, although the number of overnight stays decreased due to the Covid-19 pandemic, seasonality increased both in countries where it was already high and in other countries that had not experienced high seasonality the previous year. The highest rates were reached in Croatia (10.1), Greece (8.6), Albania (7.1), Montenegro (7.5). The discrepancy is major for countries such as Italy, Slovenia, Austria, Czech Republic, Cyprus, France, Malta, Iceland, Switzerland, where seasonality increased considerably compared to 2019.

Figure no. 6. Seasonality deviation by countries



Source: Eurostat: <https://ec.europa.eu/> (Accessed on 7th October 2022)

The largest seasonal deviations in 2021 (measured as the average monthly deviation from the average relative share) were observed in Croatia and Greece with 9.6, and 8.5 points respectively. These two countries were followed by Montenegro and Albania (8 and 6.9 points) and Bulgaria, Italy, Slovenia and Slovakia (all with around 6.5 points). In these eight countries the peak month was August, with the highest overnight stays.

## 5. Conclusions

The analysis of the data collected showed that seasonality is a significant part of tourism in Europe. Seasonality is caused by different natural or economic and social factors and causes a discrepancy in the number of arrivals and overnight stays throughout the year, which differs from month to month. However, seasonality represents a concentration of more visitors in 2 or 3 consecutive months and it has been observed that these months are mainly summer months. This is primarily due to favourable climatic conditions and school holidays, but also to tourists' holidays.

Tourism seasonality in the years under review (2019-2021) was affected by the Covid-19 pandemic, devastating the entire tourism industry. However, an increase in seasonality was identified in 2020, the year most affected by the pandemic. The slope of seasonality was steepest in 2020, followed by 2021, while in 2019 its line was smoother. In terms of the months with the highest number of arrivals and overnight stays in the years analysed, it could be seen that in 2019 June-September were on the rise, in 2020 June-August and in 2021 July-September.

In terms of the types of tourist accommodation analysed, it was found that the seasonality of tourism makes its presence felt most among campsites. Thus, overnight stays experienced the greatest increase in the summer months in campsites in 2019 and 2021, with a drastic downward trend in 2020. The existence of a greater degree of tourist seasonality among campsites is determined by the fact that they are not open in winter (or at least most of them). On the other hand, seasonality among hotels is quite low precisely because they are open all year round and in different regions where they can also operate in cold seasons (e.g. for winter sports). Short-stay accommodation units have seen the highest seasonality in July, August and September.

Looking at each year individually has helped to draw both individual and comparative conclusions about tourism seasonality. In 2019 this is shaped by an increase of up to 40% in arrivals and overnight stays in EU countries in June, July and August. Seasonality in 2020 is marked by an increase of more than 50% compared to the other months, as in 2021. However, the steepest slope in seasonality is observed in 2020 despite the drastic drop in arrivals and overnight stays caused by the travel restrictions imposed by the Covid-19 pandemic.

The countries where seasonality is most prominent during the period under review are Croatia, Greece, Bulgaria, Montenegro and Albania. Among the countries where seasonality is least noticed are Switzerland, Serbia, Finland, Estonia, Belgium, etc. In the summer months of 2020 many of the countries with a low share of seasonal tourism reached higher shares of it, which is justified by domestic travel during the period when travel restrictions were imposed but also by the fact that summer was considered a favourable period for travel even during the pandemic period, with some of the restrictions being lifted or relaxed.

Seasonality can therefore be seen both in a positive light, in terms of increased tourism during seasonal periods, but also in a negative light, in that there is quite a large discrepancy with the other months of the year. Seasonality of tourism means that tourism activity is unevenly distributed at a given destination and leads to alternating periods of overcrowding and under-use. Given that seasonality can jeopardise the sustainable development of tourism because of its impact on the economy, the environment, society and the labour market, seasonal periods must be managed with greater care so as to ensure profitability rather than further losses.

In this respect, there are strategies that can be adopted at company and destination level to reduce the negative effects that can be caused by the seasonality of tourism. Strategies used at destination level are relevant and can be adopted at company level. In addition, there are key managerial strategies on employment and employee training.

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## Trends Regarding the Destinations Preferred by European Tourists during the Covid-19 Pandemic

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### Abstract

*Competition between tourist destinations has always existed, both nationally, regionally and internationally, and represents differentiation from a number of perspectives, such as the quality of the environment and services offered, tourists' perception of quality, value for money, etc. With the advent of the pandemic, competition has become even fiercer, with each tourist destination seeking to survive in the market. In this situation, tourism destination management has had to reassess and design its tourism offerings in order to gain market position and at the same time has had to adapt to the safety measures taken during the pandemic and implement new strategies to integrate these measures. The main tourist destinations in the European Union have been all the more difficult to manage as the interests of tourism organisations are diverse and stakeholders are often in conflict, especially during the pandemic. This paper explores the issue of management of the main destinations in Europe from a statistical perspective using the analysis and processing of existing official European Union data on the countries representing the main tourist destinations during the Covid-19 pandemic.*

**Key words:** tourism, Covid-19, destinations

**J.E.L. classification:** Z32

### 1. Introduction

Tourism is considered a driver of economic growth and one of the most important service industries in many European countries. The Covid-19 pandemic, with the safety measures and movement restrictions imposed, has put pressure on tourist destinations around the world to better position their tourism offerings in a highly competitive market, either by reducing costs or differentiating their products. In response to the pandemic measures, integrated management of tourist destinations and sustainable use of tourism resources have become a major issue for many European tourist destinations. Adaptability has been the key activity for destinations in Europe that have remained at the top. Among the most visited countries during the pandemic were Spain, Italy, France, Germany, Greece, etc. Although they were the most visited destinations in Europe during 2019-2021, the number of tourists and overnight stays decreased considerably compared to previous years due to the measures imposed in the pandemic. Nearby countries became the top destinations in Europe for tourists looking to travel close to home during this period. Therefore, the proximity of the tourist destination as well as the accessibility in terms of safety measures imposed were the main criteria in the choice of tourists. Moreover, there has been an increase in domestic travel. Travel restrictions around the world have led people to travel within their own country, thus boosting domestic tourism. In the European Union, receipts from domestic tourism were 1.8 times higher than receipts from international tourism (UNWTO). The countries where domestic tourism experienced the highest growth in 2019-2021 were Germany and France.

## 2. Literature review

The Covid-19 pandemic has had an impact on the world's tourism business. Perceptions of travel risk and management by tourists have been important factors in their choice to travel both locally and internationally. Due to extraordinary levels of travel restrictions implemented by about half of the world's population, the Covid-19 epidemic altered many facets of society, including tourism management. Bartl and Schmidt (1998) claim that destination management includes "the strategy employed by strong regions with the guts to focus their abilities on aggressively marketing and actively coordinating their most valuable competitive assets. As a result, destinations that can provide their guests a chain of services that are perfectly coordinated, pertinent to their decision, and cover the entire process from gathering information and making an easy booking through the ideal length of their stay to their return home, emerge." Schmidt and Bartl (1998) established destination management as a simple framework for travel companies to do business in the era of explosive technological development (Palatková, 2006).

According to Minguzzi, "Destination management is the integrated management of the processes necessary to establish a connection between a location and its visiting tourists. In order to manage demand, which depends on visitor volume and customer satisfaction, it is necessary to manage the services offered and the factors that attract tourists on the one hand and" (Minguzzi, 2006). Destination Management Organizations (DMOs), which are in charge of directing and organizing activities at the destination into a cohesive strategy, are typically in charge of destination management. Despite the fact that they are not directly in charge of all the actions taken by the many agents at the location, they combine resources, expertise, a certain amount of independence, and objectivity to set the course (UNWTO, 2007).

Destination Management Organizations (DMOs) frequently serve as the only advocates for a comprehensive tourism industry in a location. In this capacity, they make sure that the negative effects of tourism on the environment and local communities are minimized and that opportunities are shared to promote a vibrant intercultural exchange. In fact, a DMO can be most effective at fostering communication between the public sector, the business sector, and other stakeholders who might not normally work together or comprehend how their choices can affect the value chain within a tourism destination.

The positioning of the destination in the market is directly related to the development of management structures and procedures at the destination level. The only locations that can manage tourism development in a sustainable fashion and compete effectively are those that are sufficiently large. Destination management aids in elevating the destination and gauging its attractiveness. Destinations are spatial units that have the ability to be recognized in global competition, to be positioned as a brand, and to be created and promoted with sustainable development in mind because of their size and structure (Partale, Partale, 2019).

In order to maximize the economic and social benefits of tourism, a competitive destination must be properly managed, promoted, and coordinated with all relevant parties. Four distinct tasks are involved in destination management: (1) information function; (2) planning function; (3) satisfaction function; (4) marketing function. The information function aims to create an information base on supply, demand, achievement of objectives, etc., helping to create connections with stakeholders. The planning function refers to the creation and implementation of management strategies to provide guidance and development in the given tourism context. The satisfaction function aims at meeting tourists' expectations regarding the quality of services offered. This complex task includes the development and/or provision of fundamental tourism-related structures, the professionalisation of tourism-related businesses and the combination of services into marketable products. Last but not least, the marketing function aims to promote the destination so that as many people as possible reach it and help attract as many tourists as possible. (Partale, Partale, 2019)

Each tourism location is unique, thus it necessitates the development and application of various management methods based on the recognition and redefining of the destination's vision. In order to do this, each destination need a unique development concept that outlines its goals, brand positioning, core businesses, and key areas of activity. The information from the study and evaluation of tourist arrivals and overnight stays serves as the foundation for this. Monitoring progress toward previously



stated goals and maintaining control over associated actions is another step in the strategic planning process (Partale, Partale, 2019).

A successful destination management strategy contributes to a tourism location's growth in terms of both visitors and assets. Therefore, the quantity of lodging, the caliber of the services, the attractions, and the number of tourists are all indicators of effective destination management. Additionally crucial are sustainability, cooperation with stakeholders, and the development of partnerships. They are regarded as the most significant stakeholder group in terms of the amount of tourists and addressing their wants. Their significance is clear given how significantly they affect tourism. Destination management is responsible for monitoring the impact that visitors have and for investigating all the variables that influence their decisions. (2010) Bornhorst et al. Understanding destination management and how it may be accomplished will be improved by taking into account the viewpoint of tourists. To meet management goals, it can help to comprehend how tourists feel about destination management. Tourists are more likely to respond favorably to the policies and procedures put in place when it is recognized that they share the same values as other stakeholders, especially when an effort is made to inform them about a certain destination (Stanford, 2006).

With the advent of the Covid-19 pandemic, tourism destination management has required adherence to a very high degree of adaptability for the survival of tourism destinations. The emergence of the pandemic crisis has unprecedentedly transformed the reality of tourist destinations around the world, producing an unusual scenario of undertourism. (Mestanza, Bakhat, 2021) Tourism has seen a huge drop in demand due to restrictions, with the pandemic affecting the welfare of local communities that depended heavily on tourism. This triggered an economic crisis in both the tourism sector and its associated organisations, with the pandemic having a major impact on overall GDP and employment.

Tourism management's response to this has focused on safety and quality, which are indispensable in a situation such as that created by the Covid-19 pandemic. One of the key efforts to promote safe corridors and sustainable tourism in the wake of COVID-19 was the creation of a 'travel bubble', an agreement between two or more neighbouring countries to allow citizens to travel between them without having to stay in quarantine. (Fusté-Forné, Michael, 2021). Other destination management efforts have involved promoting streaming experiences, promoting medical, regional, creative and even virtual tourism. In the crisis period, it has become imperative for tourism businesses to develop strategic approaches through which they can generate a competitive advantage and cover regional tourism.

Tourism, as an important driver of economic activity, contributes to the GDP of many European countries, e.g. Greece, about 7%; France, over 7%; Portugal, 8%; and Spain, about 12% (OECD, 2020). These countries maintained their position as top tourist destinations even during the pandemic but experienced significant declines in tourist numbers and contribution to GDP. As international tourism declined by about 80%, domestic tourism helped mitigate the problem. For this reason, the tourism economy needs to rethink its future, move to the digital transition and use green, resilient and sustainable strategies to recover.

### 3. Research methodology

The research methodology is based on EU-wide statistical data on overnight stays in tourist accommodation establishments in EU countries for the period 2019-2022 to identify the main destinations in Europe preferred by domestic and foreign tourists. Thus, the analysis was carried out on the basis of tourist overnight stays by origin in the top destinations during 2019-2021, as well as using a comparative analysis of nights spent in March 2019-2022. We have chosen March as no data for the current year is yet available for the following months.

The indicators chosen to analyse the trend in tourism in the main destinations of the European Union are the *overnight stays of European tourists in tourist accommodation establishments in the EU Member States in 2019-2021*, the *distribution of overnight stays by origin of tourists (domestic/foreign) in 2019-2021* and the *overnight stays of tourists in the main tourist destinations of the EU in March 2019-2022*. The data processed in the research was taken from official data provided by EuroStat.



The information obtained from processing official data on overnight stays in EU countries has allowed us to get an overview of the evolution of tourism and helped to identify the most visited destinations during the years under analysis (2019-2020). Fluctuations recorded in March 2019-2022 were also identified in order to make a comparison highlighting the impact of the covid-19 pandemic on tourism in the main European destinations.

#### 4. Findings

According to EuroStat data, in 2019, EU citizens made 1139 million journeys and spent 5717 million nights while travelling. Tourism expenditure amounted to EUR 479474 million (Table 1). About three out of four trips (72.7%) were domestic (in the tourist's country of residence). In terms of overnight stays, domestic trips accounted for 57.6% of the total. Spending by tourists on domestic trips accounted for 42.7% of the total. These data indicate a dominant domestic market for most EU countries.

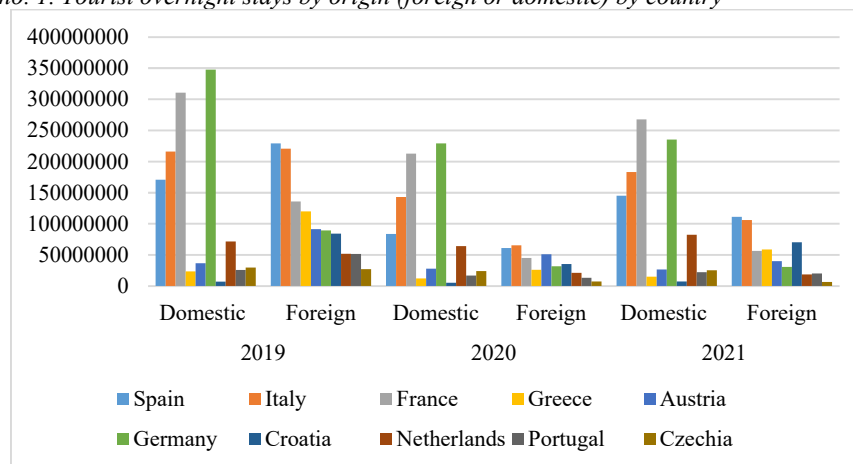
Table no. 1. Trips, nights spend, expenditure of EU residents - domestic and outbond

	Domestic trips	Outbound trips	Total trips
Trips	827420	311437	1138857
Nights	3295342	2421792	5717134
Expenditure (million euro)	204592	274882	479474

Source: Eurostat (<https://ec.europa.eu/eurostat/statistics-explained>) [Accessed on 16th November, 2022]

Based on data on nights spent by European tourists on domestic and foreign trips, it was found that Germany is the country with the most domestic tourists, while Spain is the country with the most foreign tourists. Thus, in 2019, more than 10% of European outbound trips were made to Spain, followed by trips to Italy (9%). France and Greece ranked next for countries that received a high number of European tourists from foreign countries. In terms of domestic trips, Gemania is followed by France, Italy and Spain. In 2020 the trend of nights spent in all 10 countries analysed is downwards. However, Germany remains the country with the highest number of domestic trips, while Italy, closely followed by Spain are the countries with the highest number of overnight stays by foreign tourists. In 2021, the number of overnight stays by European tourists shows a slight increase compared to the previous year, but remains well below the 2019 level. The countries preferred by tourists for outbound trips are Spain and Italy and for domestic trips France and Germany.

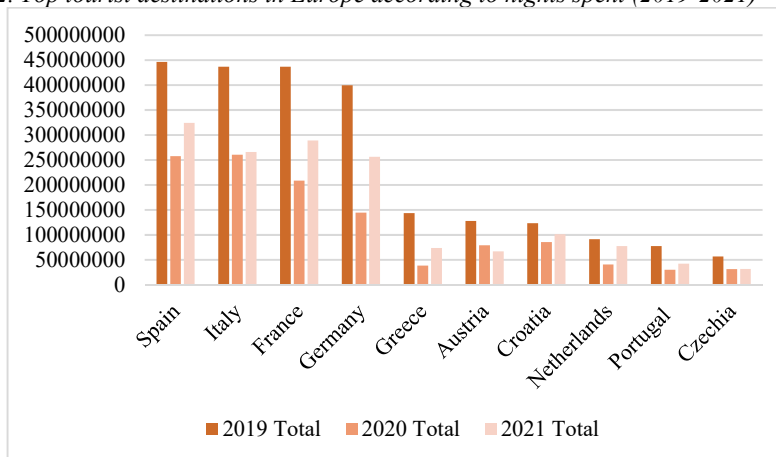
Figure no. 1. Tourist overnight stays by origin (foreign or domestic) by country



Source: Eurostat (<https://ec.europa.eu/eurostat/statistics-explained>) [Accessed on 16th November, 2022]

More than 400 million domestic and foreign tourists travelled to and stayed in Spain in 2019, making this European country the first most visited country in the EU, closely followed by Italy (436,954 million) and France (436,954 million). In 2020, Spain also ranks first in Europe in terms of travel by foreign and domestic tourists. However, there is a significant decrease of 42% compared to the previous year (257 841 million). In 2021, Spain remains the European country of choice for European domestic and foreign tourists, with an increase in overnight stays of 17%. The next countries in the top tourist destinations in Europe are Italy, France and Germany. They are followed by Greece, Austria, Croatia, the Netherlands, Portugal and the Czech Republic. In comparison to 2019, there is a trend toward less overnight stays across all of the nations examined in 2020. Additionally, there is a little rise in the quantity of overnight stays in 2021 compared to 2020, but it is still significantly less than in 2019.

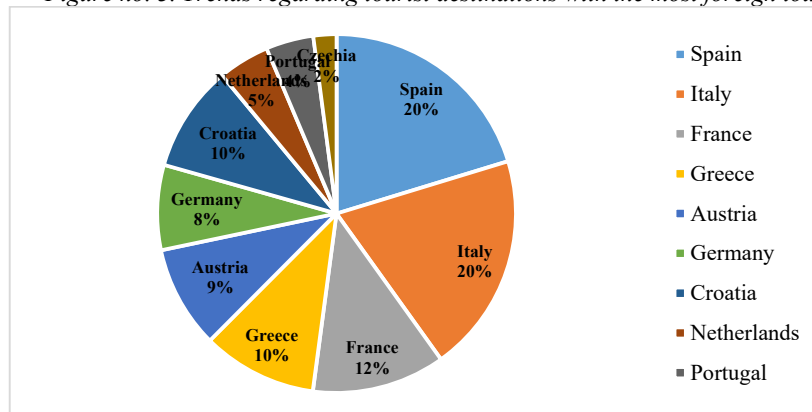
Figure no. 2. Top tourist destinations in Europe according to nights spent (2019-2021)



Source: Eurostat (<https://ec.europa.eu/eurostat/statistics-explained>) [Accessed on 16th November, 2022]

According to the data analysed, European tourists preferred destinations close to home during the period analysed. More than seven out of ten (71.4%) trips by Europeans were spent within the EU. For the period analysed (2019-2021) the country that received the most foreign guests is Spain (401.335 mil), closely followed by Italy (392.112 mil). France and Greece were the next European countries with the highest number of foreign tourists, representing 12% respectively 10% of the total of the top 10 most visited countries in Europe during the period analysed. Croatia and Austria also received a large number of foreign tourists (189 million; 182 million). Germany, the Netherlands, Portugal and the Czech Republic also received many guests during this period, but the number of domestic guests dominated.

Figure no. 3. Trends regarding tourist destinations with the most foreign tourists 2019-2021

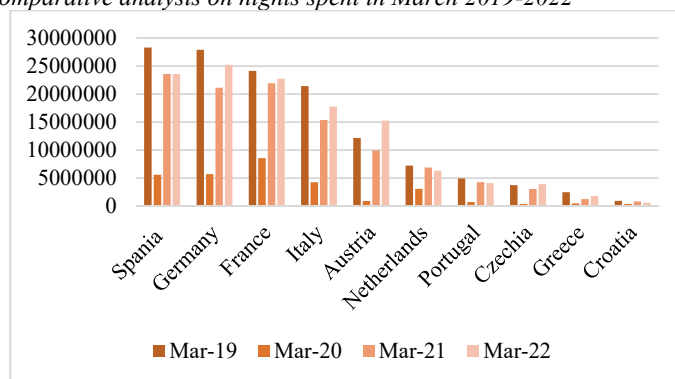


Source: Eurostat (<https://ec.europa.eu/eurostat/statistics-explained>) [Accessed on 16th November, 2022]

In order to follow the evolution of tourism during the Covid-19 pandemic until 2022 in countries considered to be top destinations in Europe, the number of overnight stays in March each year was analysed. This showed a downward trend in 2020, with a drastic decrease in overnight stays in the countries analysed in March of this year. In March 2020, overnight stays fell by up to 80% compared to March 2019. March 2021 saw major increases (by up to 18 mil) in overnight stays in the countries analysed.

Thus, in Spain, the main destination preferred by European domestic and foreign tourists, in March 2020 there were 5,591,945 overnight stays in tourist accommodation establishments and in March 2021 there were 23,614,135 overnight stays, more than four times more than in the previous year. Germany recorded 5,715,502 overnight stays in March 2020 and 21,125,594 overnight stays in the same month of the following year. In France, 8,571,391 overnight stays were recorded in March 2020 and 21,950,805 overnight stays in the same month of 2021. In each of the countries analysed there was an increase in the number of trips and nights spent by tourists in March 2021 compared to March of the previous year. The countries with the smallest decreases in the number of tourists in March 2020 compared to March 2019 were Croatia (approx. 45%), the Netherlands (approx. 50%) and Greece (approx. 65%). In March 2022 an upward trend continued in most of the countries analysed, with slight increases in the number of overnight stays. Countries where the number of overnight stays decreased in March 2022 compared to March 2021 are the Netherlands, Portugal and Croatia.

Figure no. 4. Comparative analysis on nights spent in March 2019-2022



Source: Eurostat (<https://ec.europa.eu/eurostat/statistics-explained>) [Accessed on 16th November, 2022]

## 5. Conclusions

The most visited countries in the European Union in 2019-2021 were Spain, Italy and France, closely followed by Germany. Greece, Austria, Croatia, the Netherlands, Portugal and the Czech Republic followed. In terms of type of travel, countries such as Germany, France, Italy, the Netherlands and the Czech Republic recorded a higher number of domestic visitors, while countries such as Spain, Greece, Austria, Croatia and Portugal recorded a higher number of foreign tourists. Domestic travel was also driven during this period by the Covid-19 pandemic, due to which movement restrictions and safety measures were imposed on the way guests were received and accommodated. There were some agreements between neighbouring countries on free movement between them to facilitate foreign tourism during the restrictions. One of the countries that has concluded such agreements is Greece because it is a country whose economy is predominantly based on tourism. In Greece, tourism is considered a strategic area and even a national priority, and special economic policies are implemented to enhance the positive effects that this branch has on the development of the national economy. During the Covid-19 pandemic, measures were taken at national level and management strategies were implemented to help the development of tourism activities, at least in part.

The main destinations in Europe are mainly around the Mediterranean Sea but also in other regions of Portugal, Spain and France, the Alps, the coastal areas of Belgium, and Germany, Finland and Sweden.

The regions most affected by the pandemic during this period, i.e. those with high susceptibility and exposure, are the main urban destinations, including the capital regions of Athens, Berlin, Madrid and Paris, and destinations in southern Europe and the Alps, such as Italy.

During the period under review, there is a drastic decrease in overnight stays in 2020, followed by a slight increase in 2021, with a focus on domestic travel. There are also countries with high susceptibility and low exposure that have benefited from a so-called pandemic advantage as they have experienced more tourists than normal. These include Austria and Croatia, among the countries analysed. The countries with the highest tourist activity in 2020 remained Spain, Italy, France and Germany.

However, being highly dynamic, the tourism sector is constantly adapting to new requirements, changing contexts and emerging offers in other areas. Consequently, preparing for resilience is essential to ensure the development of regional tourism in the medium and long term. The importance of preparedness and resilience has been underlined by the COVID-19 pandemic. The resilience of local and regional tourism ecosystems varies greatly depending on the tourism industries in an area and their share in the local and regional economy.

The hospitality sector in Spain, the top destination in Europe, has been hit hard by the pandemic, but has also recovered rapidly since 2021. The rapid recovery of the sector has led to an increase in demand for new employees. However, the sector - which typically employs one in eight workers - is facing staff shortages. The tourism sector in Spain accounts for 13.3% of the total number of registered workers in the country and is one of the sectors contributing most to job creation.

Spain is also the European country that received the most foreign tourists in 2019-2021, closely followed by Italy. The natural resources as well as the management of tourist areas in these countries contribute to their ranking among the most visited countries in the EU. In 2019 and 2022 Spain ranked first in the preferences of European tourists and in 2021 it was Italy. France and Germany recorded a lower number of overnight stays by foreign tourists (from Europe). Greece is the country that ranks third in the top in terms of overnight stays by foreign tourists recorded in 2019-2021.

The analysis of March 2019-2022 overnight stays showed a drastic decrease in tourism in the countries analysed in 2020 and a gradual increase in the following years. Thus, in March 2019, the most overnight stays were recorded in Spain, followed by Germany, France and Italy. In March of the following year (2020) the country with the most visitor overnight stays was France, followed by Germany, Spain and Italy. In March 2021 the most visited country in the EU was Spain, followed by France, Germany and Italy. And in March this year the top countries with the most overnight stays were Germany, France, Spain, Italy.

So Spain, Italy, France and Germany are the countries in the European Union with the highest number of overnight stays by domestic and foreign visitors in Europe. The research showed that Germany is the country with the most domestic visitors during this period, while Spain is the country with the most foreign visitors in Europe. The Covid-19 pandemic affected all the countries analysed and tourism worldwide, with the most drastic decreases in the number of overnight stays by European tourists in the countries analysed in 2020 and an upward trend in the following year. March, as the reference month for the start of the Covid-19 pandemic worldwide, shows the fluctuations in the top destinations preferred by Europeans in 2019-2022. So in 2019 the preferred country was Spain, in 2020 France, in 2021 it was Spain again and in 2022 Germany.

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## The 21st Century: a Potential Century of Crises

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### Abstract

*We live in a world characterized by the desire for economic growth and improved living standards, by often irrational government measures, by the struggle for the re-distribution of the spheres of influence and, last but not least, by the increasing frequency and impact of economic crises.*

*The globalization of economy has inevitably led to the globalization of crises, a phenomenon that is generating both interest and concern.*

*The aim of this paper has been to highlight the complex issues faced by mankind, issues which create the premises for the worsening of the crises in the medium- and long-term.*

**Key words:** economic crisis, contagion, globalization, premises, imbalances

**J.E.L. classification:** F62

### 1. Introduction

After the end of the Second World War, for three - four decades, the global economy was, for the most part, not confronted with major crises.

The onset of the increasing globalization process in the 1980s and 1990s led, in the following period, to an increase in the degree of transmission of the crises from one country to another, and from one region to another. Thus, crises began to occur on a global scale and with relatively high frequency.

Flaws in the banking regulatory system, economic imbalances, excessive public spending, excessively loose monetary and fiscal framework which increased public debt, etc. were the determining factors which led to the onset of crises until the emergence of the pandemic at the end of 2019 (Haller, 2015, p. 22-23).

The frequency and magnitude of the crises that have occurred since the year 2000 have led to a reduction in the budgetary resources and, consequently in the interest of the countries to solve complex issues related to education, health, energy, global warming, demographic trends, chronic budget deficits, relocation of production, etc.

Capitalism based on the excessive increase in the role of the markets is bound to lead to imbalances in the global economy also in the future, which may result in a large number of crises, in some cases several crises occurring simultaneously.

Reality has shown that an economy based on the excessive role of the markets is seriously flawed. This calls for a redefinition of the balance between the state and the market (Stiglitz, 2010, p. 304).

The aim of this paper stems from the need to realize that the tensions accumulated in the economy have become chronic and that there is a high probability that the next decades of this century will also be impacted by crises with a strong economic and social impact.

### 2. Literature review

The issues raised highlight the fact that with the entry into the 21st century, the phenomenon of economic crisis contagion has become more and more obvious. In addition to this, the existing imbalances' tendency to worsen and the emergence of new challenges have led to the weakening of national economies in various countries and, consequently, to the weakening of the global economy.

The lack of response or the inadequate response of countries to the complex issues faced by the economy risks leading to an increase in the number of crises in the coming decades and even their overlapping.

Much has been written in the specialized literature about the causes of crises emergence and the ways in which they manifest themselves, and certain key authors in this field have addressed a number of relevant issues.

The issues related to the typology of financial crises and the impact of banking crises, currency crashes and inflation on the economy are tackled extensively by Carmen Reinhard and Kenneth Ragoff in the paper titled "This time is different. Eight Centuries of Financial Folly", in which the authors highlight the effects generated by the growth of countries' external debts, paying particular attention to the debt default cycles. The thoughts on the interpretation of early warnings of crises and the response policies developed and implemented by policy makers are also interesting.

A globalist par excellence, Joseph Stiglitz has also addressed in his writings the issue of the crises which have characterized and are still characterizing the global economy. A thorough analysis of the causes and effects of the global financial crisis triggered by the US, as well as the responses to the crisis is performed in his work "Freefall". At the same time, the author argues in favor of the establishment of a new capitalist order, in which the role of the state in the economy should be redefined in order to alleviate the imbalances and other issues that the economy is facing.

Nouriel Roubini's contribution to the literature specialized on crises is also noteworthy. We can say that Nouriel Roubini is a renowned crisis analyst, and that his analyses of crises, as well as his prophecies in this field are well known.

### **3. Research methodology**

The economic crises in recent decades have increased in scale and territorial scope, due to the increasing interdependence between the national economies. The pandemics and the military expansion further accentuate the impact of the crises on the global economy.

The theoretical background related to the researched topic and the critical approach to the economic crises issues were based on statistical data provided by the United Nations Conference on Trade and Development (UNCTAD), the National Bank of Romania, etc.

Through generalization, deduction, analogy, and comparative analysis, we have tried to highlight on the one hand, the characteristics of the crises at the beginning of this century, and on the other hand, to identify the present realities and future trends which will leave a mark on the economic crises in the decades to come.

### **4. Findings**

#### **4.1. The globalization of crises at the beginning of the 21st century**

At the end of the last century, the crises which started in a few countries spread to other partner countries. This has led to the phenomenon of crisis contagion, as seen in the crises in Argentina, East and South-East Asia and Russia.

In the period since the beginning of the 21st century, the crises have manifested according to a clearly global trend.

Taking into account the relevant economic indicators, we can assess that, in the current century, 2009 and 2020 were years in which crises manifested with maximum force. The 2008-2009 crisis was, par excellence, an economic crisis which closed an economic cycle characterized by strong money supply growth. On the other hand, the economic crisis caused by the Covid-19 pandemic was not the result of questionable economic decisions and actions, rather it was the consequence of the lockdown imposed for a certain period of time.

The financial crisis of the year 2008 was caused by the reckless behavior of banks, which encouraged citizens to take out excessive loans, thus contributing to the intensification of the housing bubble. Moreover, banks gambled on this bubble, taking hidden risks. The banks lived with the hope that they were too big to be allowed to fail, therefore they had to be bailed out by the governments,

a fact which indeed happened. The banks' unethical practices were matched by the rating agencies with their superior ratings of banking products based on overvalued mortgages.

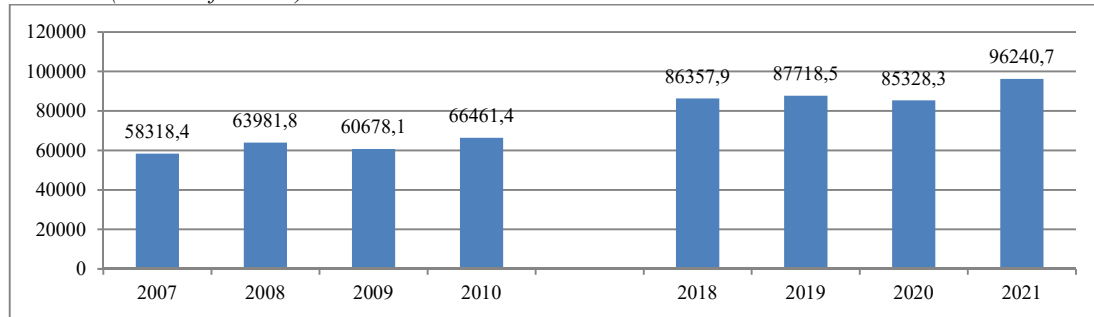
Even though the financial packages for bailing out the banks were substantial, it was not possible to avoid entering a status of global recession characterized by a decrease in GDP, a reduction in global exports and imports, decreasing commodity prices, an alarming rise in unemployment, etc.

The Covid-19 pandemic has led to the imposition of containment measures, the temporary closure of some production capacities, difficulties in obtaining pandemic-specific imported products, etc. The major difficulties faced by the global supply chains demonstrate once again the process of increasing interdependence between the countries of the world, a process generated by the increasing globalization of the world economy in the recent decades.

The pandemic measures have affected most areas of the economy, have led to a collapse in stock market performance, have increased unemployment, have disrupted oil prices, etc.

In order to highlight the impact that the crises of the 21st century have had on the economy, we have focused on the evolution of three economic indicators: global GDP, global exports and global FDI flows.

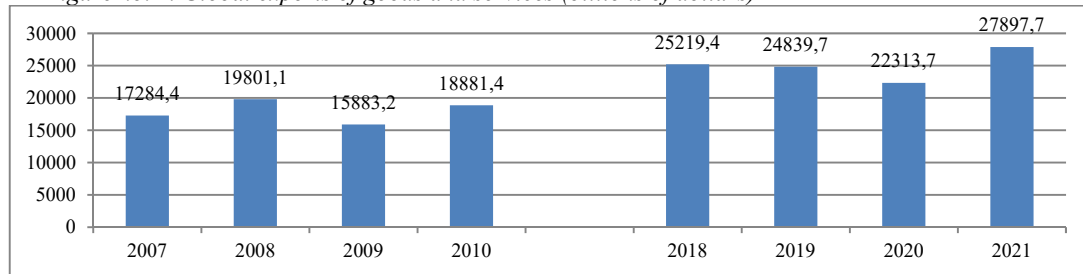
*Figure no. 1. The dynamics of global GDP (current prices) throughout the periods encompassing the two crises (billions of dollars)*



Source: <https://unctadstat.unctad.org/>

The bursting of the real estate bubble and the massive trading in derivative products labelled by some as toxic products and by others as weapons of mass destruction led to a substantial decrease in the global GDP (expressed in current prices) of 5.1% in the year 2009 compared to the previous year. Despite all the shortcomings of the lockdown caused by the pandemic, the decrease in global GDP in the year 2020 compared to 2019 was only 2.1%. Possibly, this development may also be due to the higher degree of confidence in the economy during the pandemic crisis compared to the situation registered during the global financial crisis. The massive intervention of governments through financial packages destined for bailing out banks, through the amounts injected into the economy in order to mitigate the effects of the pandemic, led to the economic recovery in the years 2010 and 2021. The situation was noticeably different from the 1929-1933 crisis, when state's intervention in the economy was limited and economic recovery was slow, requiring a much longer period of time.

*Figure no. 2. Global exports of goods and services (billions of dollars)*



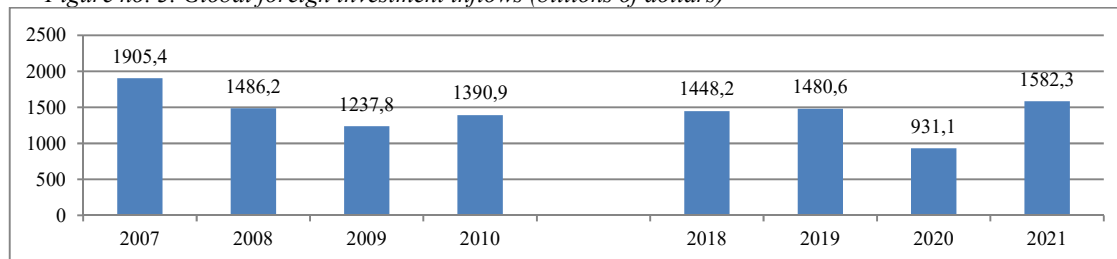
Source: <https://unctadstat.unctad.org/>



The increasing globalization of the world economy in the recent decades has led to growing interdependencies between the economies of different countries. This phenomenon has had a distinct impact on the decline in global exports of goods and services during the two crises, compared to the previous year, i.e., 19.7% in 2009 and 10.1% in 2020.

Tighter credit conditions for business activities, increased risks in the foreign markets, increased currency volatility were the determining factors behind the significant reduction in the exports of goods and services throughout the two crises.

Figure no. 3. Global foreign investment inflows (billions of dollars)



Source: <https://unctadstat.unctad.org/>

The global situation of foreign direct investment (FDI) flows received by the world's countries was different, the decline in the year 2020, i.e., 34.9%, being greater than the decline in the year 2009, i.e., 16.7%. It seems that investors' reluctance generated by the pandemic crisis was stronger than the reluctance determined by the global financial crisis. Moreover, it is worth noting that the return to growth of global FDI flows was greater in 2021 than in 2010.

Although in the year 2021 a situation closer to normality was reached, due to the pandemic phenomenon having been largely overcome, the effects of the pandemic and the subsequent events nevertheless complicated the global economic situation.

In order to counter the trend of reduced economic growth generated by the measures imposed as a result of the pandemic, governments have undertaken a series of initiatives to stimulate their own economies, mainly dealing with currency issuance and relaxed lending. Although initially these initiatives had the desired effect, the subsequent increase in the money supply led to rising inflation.

The acceleration of inflation was also driven by major disturbances in the energy market which led to increases in the price of electricity, oil and gas. Reduced energy consumption during the pandemic, due to reduced economic activity, coupled with the reduction in energy production capacity for environmental protection, undertaken globally and, in particular, in the EU, led to a shortage of energy resources as the restrictions generated by the pandemic were reduced and lifted. The economic sanctions induced by Russia's war in Ukraine have further complicated the situation.

#### 4.2. Romania in the context of the globalization of the crises

As Romania entered the period of major turbulence caused by the pandemic and the war, its economy was already in a precarious situation.

In 2019, Romania's budget deficit as a percentage of GDP was over 4.3%, ranking first among the EU countries, in this respect (Nistor, 2020). In fact, Romania's situation in the periods preceding the crises of the years 2009 and 2020 was similar, in the sense that in the midst of an economic growth our country recorded substantial budget deficits. In other words, the two crises caught Romania totally unprepared. We can rightly ask ourselves whether Romania's economic growth during certain periods was healthy. Obviously, the answer is easy to guess.

The situation of the Romanian economy during the two crises of the 21st century can be highlighted by the way foreign investors perceived the realities in our country, the volume of foreign investment attracted being eloquent in this respect. We can say that from the perspective of the flow of foreign investment received by Romania, there are some similarities between the two crisis periods. After a historical record reached in 2008, when foreign direct investment flows received by Romania amounted to 9,496 million euro, in 2009 they decreased by 63.3% reaching 3,488 million euro. It should be noted that in the following years, although there were some increases in the levels

of FDI inflows, they remained well below the levels reached before the onset of the global financial crisis. The pandemic has led to a decrease of 41.9% in the foreign direct investment received by Romania in 2020, i.e., 3,005 million euros, compared to 4,264.1 million euros in 2019. It should also be noted that in 2021, FDI flows received by Romania increased sharply to \$8,940 million, the highest level reached by the Romanian economy after having been affected by the global financial crisis in 2009 (ISD Annual Report 2010,2020,2021). This situation is mainly due to the deficiencies existing in the Romanian economy at the time of the onset of the crises, which fueled the mistrust of the foreign investors.

Surprisingly, the conflict in Ukraine could generate some investment opportunities in Romania. In fact, the flow of foreign direct investment received by Romania increased in the first semester of the year 2022 by 21% compared to the corresponding period of the previous year. It remains to be seen whether this trend will continue.

Substantial budget deficits recorded over longer periods of time and to some extent modest FDI inflows have had a direct impact on the substantial increase in Romania's public debt.

Although Romania's degree of indebtedness is below the acceptable threshold (60%), we must still acknowledge that in this respect Romania has recorded negative developments over the last two decades. It is worth noting that Romania's public debt as a percentage of GDP increased sharply during the periods associated with the major crises that impacted the world in the 20th century. Thus, Romania's public debt-to-GDP ratio increased from 12.3% to 34% in the period 2008-2011, and from 35.3% to 49.3% in the period 2018-2021 (Dumitru, 2021).

According to UNCTAD's statistics, Romania's GDP (in current prices) multiplied by 1.3 in the 2008 – 2021 period. Over the same period, Romania's public debt multiplied by 5.2. Public debt's upward trend continued in the year 2022, reaching 50.6% of Romania's GDP in February. It is easy to appreciate that both during the two crises (of the year 2009, respectively of 2020) and in the period between them, the Romanian economy has depended heavily on borrowing.

Given the specific situation of the national economy, the international context and the questionable quality of the measures taken by the decision-makers, we can say that the future evolution of Romania's economy is likely to be disappointing.

#### **4.3. Perspectives on the global economy's vulnerabilities**

In order to understand the difficulties that different countries' governments will be facing in the future, we need to consider the realities of the global economy.

In the last 60 years, the world's population has grown 2.6 times and global GDP (current prices) has increased more than 60 times, resulting on the one hand, in an improved standard of living for many of the world's citizens, and on the other hand, in an increased consumption of fossil fuels, the intensive use of agricultural land, cutting down of forests, etc. In this context, there has been a massive consumption of natural resources, coupled with a heavy environmental pollution. Climate changes in recent years are more than evident. Moreover, it should be pointed out that the problems generated by the crises in recent decades have been solved by substantially increasing the degree of indebtedness of the countries. We can say that in many countries borrowing has become a kind of regular sport for the respective governments.

Counteracting the impact of the global financial crisis was possible due to a substantial increase (45%) in global sovereign debt between the years 2007 and 2009 (Mediafax, 2009).

Since late 2019, conditions have been created in most countries for the lending activity to be performed at low interest rates, prompting governments to borrow massively in order to offset the impact of the anti-pandemic measures on the economy. Thus, due to the pandemic, global government debt increased by 13 percentage points, reaching 97% of GDP in the year 2020 (CECCAR Business Magazine, 2022). In this context, over-indebted countries have had problems both in terms of countering the effects of the pandemic crisis and in terms of implementing measures aimed at fighting global warming.

According to the information provided by the IMF, in the year 2021 the countries with the highest degree of indebtedness (sovereign debt as a percentage of GDP) were: 1. Japan (262%), 2. Venezuela (240%), 3. Greece (199%), 4. Sudan (182%), 5. Eritrea (176%), 6. Singapore (159%), 7. Italy (150%), 8. Cape Verde (142%), 9. Barbados (135%), 10. Bhutan (132%). In terms of sovereign debt

per capita, the following were in the top positions: 1. Japan, 2. Singapore, 3. Qatar, 4. Greece, 5. Italy, 6. Ireland, 7. Belgium, 8. United States, 9. Canada, 10. Bahrain, and in terms of absolute value of external debt, the top performers were: 1. United States, 2. UK, 3. France, 4. Germany, 5. Japan, 6. China, 7. Italy, 8. Spain, 9. Canada, 10. Australia. (Curs de guvernare, 2022)

It is worth noting that the ranking according to the degree of indebtedness is balanced in terms of the number of developed and developing countries, whereas the first part of the ranking based on sovereign debt per capita and especially the ranking based on the absolute value of external debt is dominated by the developed countries. As a result, over-indebtedness has become a global problem, affecting both developed and developing countries.

It is also worth noting the worldwide increase in the cumulative share of government debt with the private debt from 200% in the year 1999 to 350% in 2021 (Andrei, 2022).

Budget surpluses and external balance of payments' surpluses of some developing countries, such as China, are used to support the imbalances in some developed countries, such as the US. Complications arise from the fact that many countries, especially the developed ones, have reached a substantial level of over-indebtedness given that the sums borrowed have not been used to improve economic and social development in the medium and long term, rather they have been used for generally electoral reasons, so as to ensure a satisfying standard of living.

By the year 2022, the degree of indebtedness of many countries is expected to fall, although in absolute terms sovereign debt will rise. This is due to significant GDP growth, mainly driven by the rise in inflation.

In fact, the result of the implementation of the fiscal stimulus packages during the pandemic has been an unprecedented increase in inflation in comparison with the recent decades and consequently in borrowing costs. Under these circumstances, governments have had to borrow at much higher interest rates this year, including for matured loans that had to be refinanced.

One of the effects generated by inflation over a longer period of time is, as mentioned, the increase in indebtedness. Inflation leads to the erosion of capital and hence the need to attract financing, i.e., a substantial increase in debt. Inevitably, there is a struggle at international level to secure financing resources, which leads to increased disagreements between the countries.

In some cases, for a state, a substantial increase in public debt is equivalent to a reduction in state sovereignty, as its economic policies and assets can be taken over by other states. The problem-solving process is based on the premise that a state has a choice between a financial crisis that causes major tensions in an economy and the outbreak of a war on the territory of another state. It is easy to see what the choice could be (Pop et al, 2013, p. 79).

The habit of the governments to solve economic imbalances and mitigate crises by increasing the degree of indebtedness is likely to continue.

Moreover, governments will be forced to spend more in the coming years as the share of older people in the total population will increase significantly and global warming problems will amplify.

The tax cuts for the rich, combined with the underfunding of the pension system and populist measures adopted by governments, have led to the perpetuation of the phenomenon of over-indebtedness of the states.

There is a good chance that economic instability will increase in the future and that currency markets will experience a strong sinuous evolution. Protectionist measures will, in all likelihood, expand and there will be a relocation of industrial capacities, leading to a reduction in the level of globalization currently experienced by the world economy.

China's rapid economic growth and the real possibility of this country to become the world's leading economy, as well as China's expansionist tendencies are likely to provoke US trade restrictions in relation to China. The Chinese leadership's commitment to annex Taiwan and the United States' desire to defend Taiwan will certainly further complicate matters.

In the rush for resources and in the attempt to expand its spheres of influence, history shows that there have been times when mankind became irrational (Parag, 2008, p. 308). The war waged by Russia in Ukraine confirms the unreasonable behavior of states at a given time, with extremely serious consequences in the economic sphere, but especially in the human sphere.

The collapse of the socialist system in the early 1990s led the world to mostly regard capitalism as being triumphant. The disappearance of the danger that some capitalist countries would switch to socialism has resulted in a tendency for people to do everything possible to maximize profit. Under

these circumstances, a series of measures were implemented in the economy, which have led to a reduction in the interval between the crises and an increase in their contagion effect. The negative impact on the middle and poor classes and on the environment appeared soon enough. Maintaining and, in some cases, amplifying the conditions that created tensions in the economy is likely to set the stage for the manifestation of more violent economic crises in the decades to come.

Many of the world's citizens and many policymakers are affected by the "this time it is different" syndrome, believing that other people, from other countries and other times, are subject to crises (Reinhart, 2012, p. 60).

## 5. Conclusions

The political parties in government, for mainly electoral reasons, want the countries that they govern to achieve an economic growth as substantial as possible. It should be pointed out that in many cases a country's economic growth is unhealthy and the repercussions will be felt over time. In these circumstances, crises are inevitable, as they are designed to put the economy back on track after major tensions have built up.

On the other hand, unfortunately, in many countries of the world, governments did not create during the economic growth period the necessary resources to enable them to surpass the subsequent crises without major losses. Moreover, countries have accumulated huge debts, transferring some of the shortcomings of the recent governments onto the future generations.

Given that more action has been taken regarding the effects than regarding the causes of the economic turmoil, it is expected that in the following period of this century we will enter a spiral of crises caused by pandemics, the disruption of global supply chains, the over-indebtedness of states, energy shortages, insecurity, the substantial growth of inflation, the growing inequalities, diminishing raw material reserves, etc.

Equilibrium, caution, and saving are the words which should characterize in the future the activity of both decision-makers and ordinary consumers (Lățea, vol. 104, p. 23).

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## Relations between the European Union (EU) and Japan

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### Abstract

*The present paper has as its starting point two well-developed economies, the European Union and Japan, representing an eloquent example of a successful partnership. Through the right techniques and tactics, the negotiation between them bore fruit, developing the economy and infrastructure of both countries. This cooperation has opened the doors to new opportunities, new markets, free international trade, numerous investments, a trade policy based on values as well as sustainable development.*

*The era of globalization and multilateral negotiations (early 2000s to the present) sees a major leap in the creation of multinational corporations, which expand into the world market. The need to solve global problems, combining national and global interests, puts multilateral negotiations first, making these problems even more topical.*

**Key words:** European Union, Japan, GDP, export, import

**J.E.L. classification:** J21, J26

### 1. Introduction

The purpose of the EU was to create a free market so that member countries can enjoy the free movement of goods, people, services offered, security, fluent migration, strong external relations. Its resources are used for the development of the transport and communications infrastructure, the support of small and medium-sized businesses that reflect 99% of all European enterprises, the strengthening of educational systems. The EU has scrapped a whole host of legal barriers to make things easier in the single market, so increased competition has driven down prices and diversified choices. The European Union's investment fund has mobilized around EUR 439 billion, supporting 1.1 million jobs, which is set to grow even more (<https://op.europa.eu/>).

### 2. Literature review

Japan represents the third, most developed economy worldwide, being succeeded by the USA and China. Even though this country lacks natural resources, being dependent on imports of raw materials, its economy is particularly advanced. The country's development slowed in the 1990s due to high asset prices which only improved in the 2000s, then in 2011 due to the complete shutdown of nuclear reactors. Thus, the Japanese government implemented a tough monetary easing policy, during which time the country made enormous progress in suppressing deflation.

#### ***Economic and trade relations between Japan and the EU***

Japan is the EU's most essential partner. Even against the backdrop of cultural and structural factors, both economic studies and public consultation have pointed out that bilateral trade volumes are not as high as might be expected between major developed economies. The need to revitalize EU-Japan bilateral trade and underlined the perception of considerable unrealized economic potential. This untapped potential in EU-Japan trade relations was at the heart of the decision to launch negotiations for a bilateral trade agreement. To fully unlock the trade potential of EU-Japan relations, which would in turn bring considerable benefits to both partners in terms of economic growth and jobs, an agreement needed to go beyond purely tariff aspects. Since the beginning of the negotiations, special attention has therefore been paid to issues such as non-tariff measures (ie the

type of technical barriers that have long been perceived as one of the major reasons for low levels of trade and investment), services, issues related to procurement and corporate governance. The total of these two economies represents 40% of world GDP, covers 30% of trade and provides about 50% of the world's total foreign investment ([https://trade.ec.europa.eu/doclib/docs/2017/september/tradoc\\_156051.en12.pdf](https://trade.ec.europa.eu/doclib/docs/2017/september/tradoc_156051.en12.pdf)).

The vector that coordinates the bilateral partnership and financial competitiveness, for the EU is the provision of the Lisbon Agenda, and in the case of Japan it is the structural reform. In commercial terms, these two countries signed a Mutual Recognition Agreement in 2002, which legalizes the access of products to both markets. In 2013, the EU and Japan successfully completed negotiations on the cancellation or reduction, in certain situations, of both tariff and non-tariff barriers.

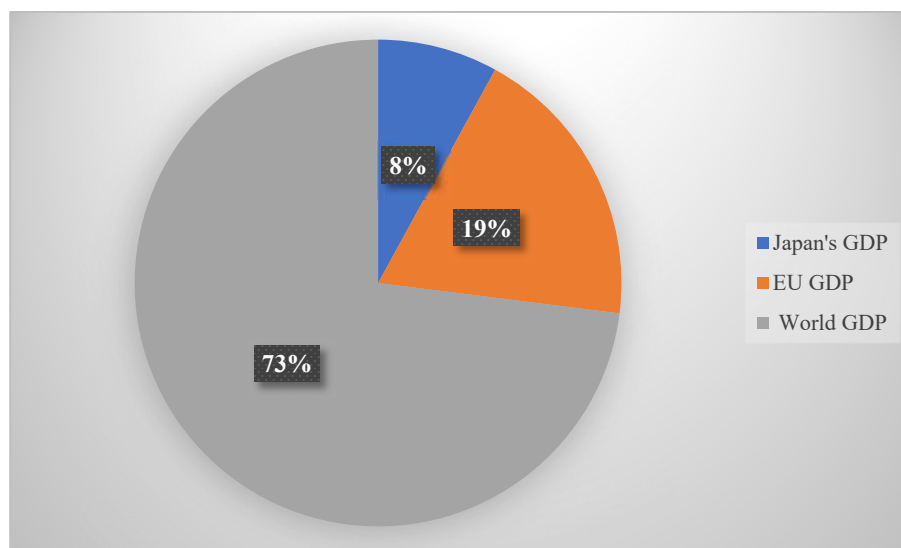
Another important instrument is the Economic Partnership Agreement proposed in 2013 and successfully concluded on February 1, 2019, which aims to solve problems in several areas: health, naval and air transport, environmental issues, telecommunications, job availability qualitative, public tenders. Through this agreement, 98% of tariffs between these two countries were eliminated, regulations and provisions in the property rights sector were harmonized, and climate change occurred.

### ***The economies of the European Union and Japan***

The alignment of these two economies has consequently facilitated collaboration in the field of modern technologies, products and services. Over the past decade, Japan's share of imports to non-EU countries has decreased from 5.7% in 2010 to 3.9% in 2020. Exports have also decreased, from 3.9% to 3.3% ([http://www.imm.gov.ro/audaugare\\_fisiere\\_imm/2018/11/INDRUMAR-DE-AFACERI-JAPONIA-2019.pdf](http://www.imm.gov.ro/audaugare_fisiere_imm/2018/11/INDRUMAR-DE-AFACERI-JAPONIA-2019.pdf)).

The GDP of Japan and the European Union, according to the chart shown below, adds up to 27%, which is almost a third of the world's GDP which is 73%.

*Figure no. 1 EU and Japan GDP relative to World (%)*

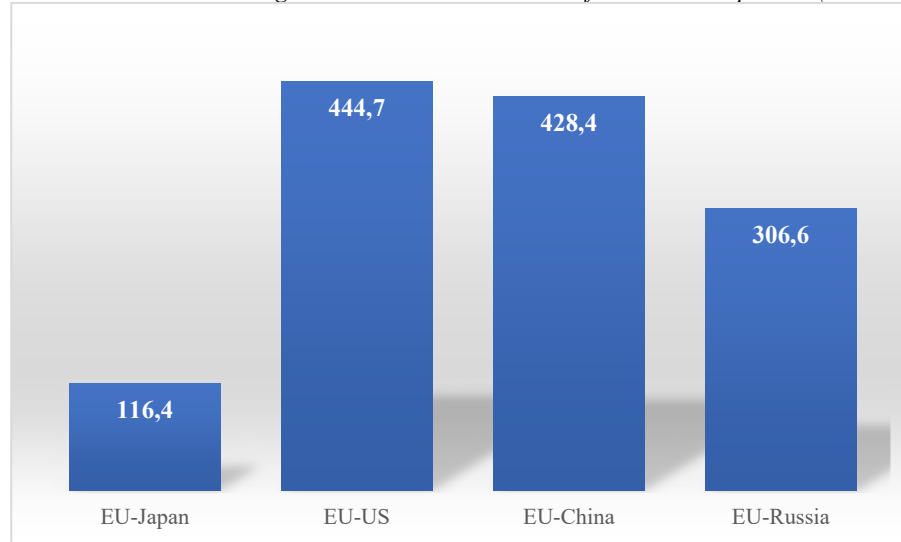


Source: World Bank

Bilateral trade in goods between the EU and Japan is much lower compared to the most economically developed countries.

According to the graph, the entire volume of trade between the European Union and Japan is only EUR 116.4 billion, compared to the world's most advanced economies. Thus between the European Union and the USA the import and export of goods represents EUR 444.7 billion, EUR 328.3 billion more than in the case of Japan, between the EU and China EUR 428.4 billion, and between the EU and Russia EUR 306.6 billion EUR.

Figure no. 2 Bilateral trade in goods between the EU and the four economic powers (million EUR)



Source: World Bank, <https://databank.worldbank.org/indicator/>

A potential 70% increase in EU export goods to Japan and a 60% increase in Japanese exports to the EU are expected if tariffs are reduced or completely eliminated (Rocio, 2021, p.87).

### 3. Research methodology and findings

#### *EU-Japan cooperation agreement*

The cooperation agreement between the EU and Japan (table no. 1) aims at the mutual promotion of interests and values, the free access of the EU countries to the huge market of Japan, the establishment of new companies and enterprises, therefore, numerous jobs for the population, the establishment of a global trading system, guaranteeing the protection of EU standards and importance.

In this way cooperation will become the most effective way to deal with global problems.

Table no. 1 EU-Japan trade agreement in figures

Value of EU exports of goods to Japan	EUR 58 billion
Value of EU services exports to Japan	EUR 28 billion
Number of jobs offered by the EU to Japan	600.000
Number of people employed by Japanese companies in the EU	550.000
Amount of tariffs paid by EU exporters to Japan	1 billion EUR/year
Estimated increase in EU processed food exports to Japan	Over 50% or €1 billion
Estimated increase in EU chemical exports to Japan	Almost 7% or an additional EUR 1.6 billion
Estimated increase in EU exports of textiles, clothing and leather to Japan	22% or an additional EUR 5.2 billion
Number of EU companies exporting to Japan	Almost 74,000; 78% of them

Source: <https://trade.ec.europa.eu/>

The two great powers have come to the conclusion of the need to conduct negotiations in order to sign an agreement that will allow the active import and export of goods and services, numerous investments in various branches of the economy as well as business projects, which will facilitate collaboration much more fast and efficient between the EU and Japan, removing structural obstacles and strict aspects of Japanese culture.



In conclusion, both economic powers face certain interdependent needs whose achievement can only be met through cooperation between them. Noting that needs are continually diversifying and expanding as greater possibilities are created to satisfy them, this situation will be the justification for a long-term collaboration.

Modern production technologies, the low level of inflation, the efficient distribution of profits, are just some of the reasons that achieve a strong environmental change, opening the way to new horizons and opportunities (Ghauri, 2005, p.36).

The negotiation between two powers will greatly influence the situation of both economies, guaranteeing promising perspectives, influence on the market, the quality and efficiency of products and services, the level of increased demand in the market and a much more diversified offer (Gross, 2012, p.126). In conclusion, the trade negotiation between the EU and Japan does not signal any concern but rather a fruitful success.

- The EU-Japan Trade Agreement has improved the economy in several areas, in particular:
- Japan has eliminated over 90% of customs duties and non-tariff barriers for approximately 96% of goods exported to the Japanese market.
- As a result of these eliminations, EU exporters have gained over €1 billion per year due to customs duty savings.
- Taxes on chemicals, cosmetics, textiles, clothing and plastics have been eliminated.
- All fishing demands have been canceled by both sides.
- EU consumers currently benefit from both fresh fish and fish products imported from Japan at a better price, as well as profitable export opportunities for the European Union.
- Forestry tariffs for wood products have been completely eliminated.
- Japan has also pledged to fight illegal logging. Both the EU and Japan have introduced surveillance systems to combat illegal timber imports.
- The agreement highlighted the mutual obligation of the European Union and Japan to guarantee that all technical standardization and regulatory systems are based on international norms. This has pleased exporters of pharmaceuticals, chemicals, textiles and electronic devices.
- The EU has come to export services to Japan, with services trade evolving every year. The agreement gave European firms the chance to provide services to the Japanese market much more easily.

- o In the postal services sector the agreement provided for universal service obligations, standard border procedures, a level playing field for European courier and postal service providers and Japanese adversaries.

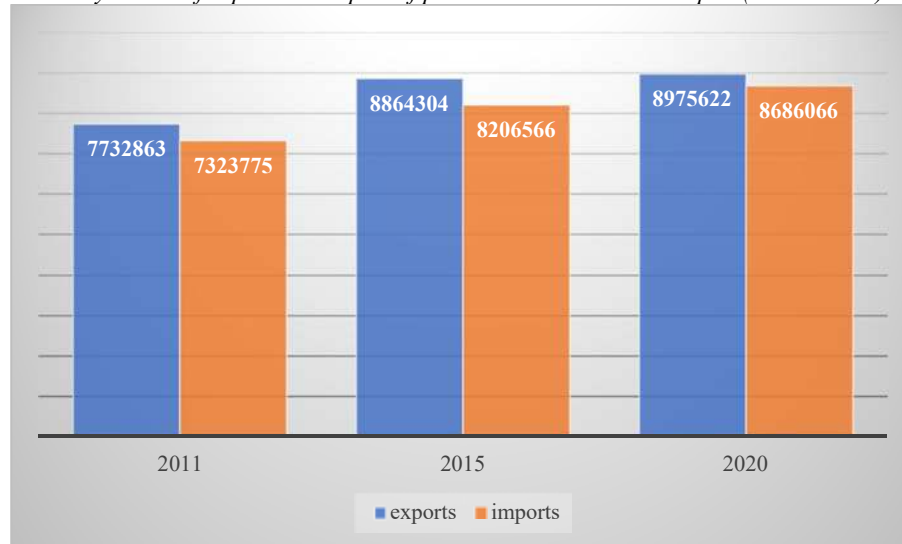
- o In telecommunications, the agreement involved regulations based on mandatory confidentiality of communications, roaming operators, portability of contact numbers.

- o In the international maritime transport services sector the agreement included the duty to maintain open and non-discriminatory access to ports, access to maritime services (transport or deliveries).

- o The agreement highlighted explanations and exceptions regarding financial services, self-regulatory bodies, transparency, payment and compensation method (Timothee, 2021, p.123).

The export of goods and services in Japan increased by 46,923 thousand dollars for 4 years, and the import increased by 224,506 thousand dollars.

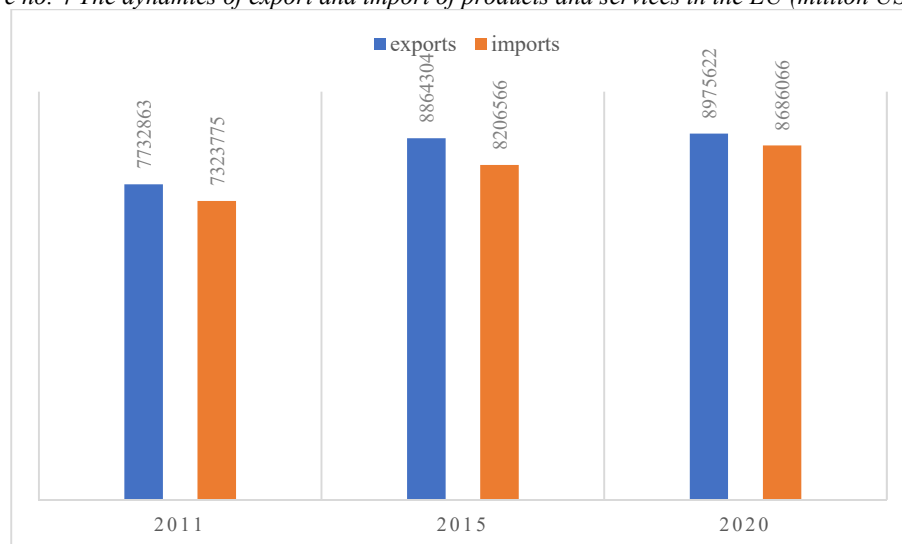
Figure no. 3 Dynamics of export and import of products and services in Japan (million USD)



Source: <https://unctadstat.unctad.org>

The European Union also recorded significant progress in this regard, with exports increasing by 1,242,759 million dollars more than in 2011, and imports progressing by 1,362,291 million dollars.

Figure no. 4 The dynamics of export and import of products and services in the EU (million USD)



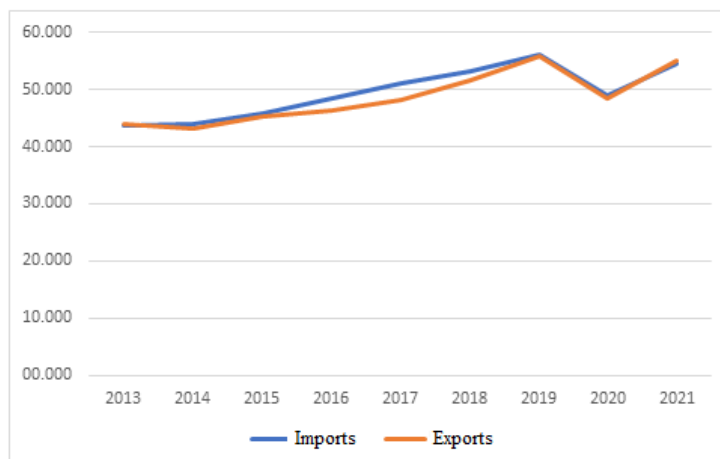
Source: <https://unctadstat.unctad.org>

### ***The EU-Japan relationship***

Japan is an important strategic partner for the EU and a key ally in the Asia-Pacific region. It is a long-established democracy with a clear commitment to the rule of law and free and fair trade. As advanced, industrialized democracies, the EU and Japan have strong economic and political ties and cooperate closely with each other in international and multilateral fora such as the United Nations, the World Trade Organization and the Group of 7 and the Group of 20.

The negotiation process in the liberalization of trade exchanges began in 2013 and was completed in 2019. An aspect that must be emphasized is how trade flows have evolved during this period and until now. Figure no. 18 shows the import and export relations between the EU and Japan.

Figure no. 5 Effects of Covid-19 on imports and exports of goods from the EU to Japan (billion EUR)



Source: Eurostat, [www.eurostat.com](http://www.eurostat.com)

Trade flow trends have been steadily increasing since 2013, reflecting the effectiveness of these agreements. In the 2015-2019 period, Japan's exports exceeded those of Europe, but even so, the export growth trend was maintained in both directions.

The COVID-19 pandemic has severely affected the industries of the European Union (EU) and Japan. There were disruptions to multiple supply chains across a variety of sectors, particularly early in the crisis (March-April 2020). Unprecedented policy responses have been initiated in Europe and the world in an attempt to mitigate the impact of this economic shock and help recovery. However, the pandemic has created great difficulties for collaboration within the signed agreement. In the figure above, a very well emphasized deviation can be observed at the beginning of the pandemic. The EU-Japan Economic Partnership Agreement has been in force for three years. It has proven to be the cornerstone of the EU-Japan economic relationship during this time, with goods trade between the two partners reaching €125 billion in 2021, returning to pre-pandemic levels.

In addition to strong trade and investment relations, the EU and Japan are allies who share similar values and are united in their opposition to Russia's invasion of Ukraine.

Sanctions against Russia and Belarus were closely coordinated by the EU and Japan. Moreover, Japan has recently demonstrated its solidarity with Europe by channeling excess liquefied natural gas to the EU, and the two partners have confirmed that they will continue to cooperate on energy security, particularly through trade and investment in renewable energy capacity. In their response to the epidemic, the EU and Japan are also committed to international solidarity. With more than 340 million doses imported to date, Japan is the most popular destination for EU-produced COVID-19 vaccinations (<https://policy.trade.ec.europa.eu/news/eu-japan-trade-bounces-back-pre-pandemic-levels-2022>).

The new EU-Japan trade agreement also has implications for the world trade order, as it has strengthened the EU's role in setting global trade standards, thereby assuming a leadership role in global trade policies. With the successful conclusion of the EU-Japan trade agreement, the EU has also strengthened its trade ties in the Trans-Pacific Partnership area, the world's most dynamic economic region. The deal allows the EU to enforce its own rules and standards with a major Pacific economy.

#### ***The relationship between Romania and Japan***

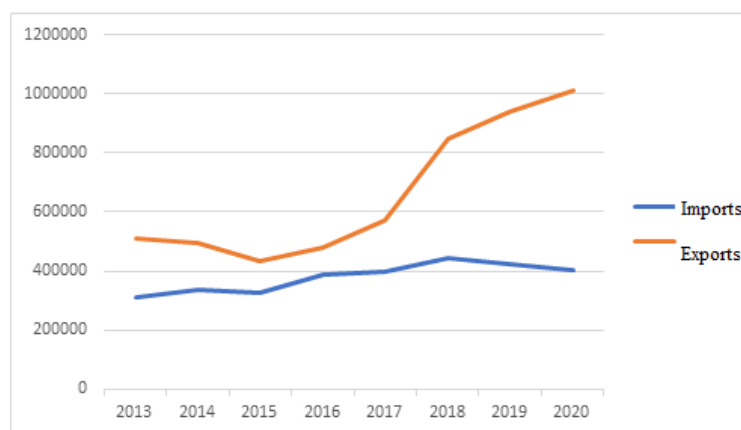
EU countries are not a homogeneous group, they have a different production structure and level of economic development. It is well known that most of the so-called "old" EU member states (the composition of the EU before 1 May 2004) are developed countries. In terms of GDP per capita and Human Development Index, they are Germany, Luxembourg, Ireland, Sweden, Netherlands, Denmark, United Kingdom, Finland, Belgium, Austria, France. On the other hand, some of the "new" EU member states (EU member states after 1 May 2004) have a substantially lower level of economic development and competitiveness (eg Bulgaria, Romania, Croatia).

Romanian companies that export to Japan benefited from the agreement. Exports to Japan, worth 233 million euros, and imports of 346 million euros, make this country Romania's 13th largest commercial partner outside the EU. Currently, there are 271 companies from Romania, with 21,268 employees, that export to Japan products such as car components, aluminum carpentry or mineral water, according to a press release from the European Commission Representation in Romania

(<https://documents1.worldbank.org/curated/en/473331580296321439/pdf/Romania-Catching-Up-Regions-Metropolitan-Romania.pdf>).

Romania, as an EU member country, benefits from the provisions of the established agreement, but the situation is more complex than in the European Union as a whole. On the one hand, the Romanian market can benefit from Japanese goods at prices that do not include additional taxes, as they are very competitive on the market. At the same time, the level of exports to Japan from Romania, according to figure 19, have evolved insignificantly since the beginning of the negotiations, registering figures 2.5 times lower than Japanese exports at the end of 2020.

Figure no. 6 The effects of Covid-19 on imports and exports of goods from Japan to Romania (million USD)



Source: UNCTAD, [www.unctad.com](http://www.unctad.com)

Analyzing the graph above, we conclude that Japan was able to strengthen its position on the Romanian market, doubling its exports following the facilities within the negotiated agreement. Despite the critical situation in the world caused by Covid-19, goods imported into Romania reached USD 1,000,000. Romanian exports, however, did not evolve much, remaining constant in the same period, registering a figure of USD 400,000.

#### 4. Conclusions

Creating a war is easier than maintaining peace, resulting in the idea that achieving a negotiation process to resolve certain disputes is quite difficult and requires skills and knowledge gathered over time.

Through this paper I have tried to create an overview of the principles on which the ties between the EU and Japan are based, highlighting a series of strategies, techniques and tactics practicable in international business, through the theoretical and practical components. The complexity of the current social, economic and political field, the variety of business types of economic agents, make negotiation one of the most valuable attributes of contemporary society. In this sense, negotiation is used to respond to the complex difficulties resulting from the need for the permanent development of interpersonal connections, in particular, diplomatic and economic ones.

A real example is Japan and the European Union, the negotiation between them having the role of establishing a partnership relationship. Thus, non-tariff customs duties were eliminated, trade in goods and services was stimulated, numerous investment opportunities were created, travel and population migrations between states were facilitated, both the economy of these two powers and the ecological sphere evolved, imposing certain restrictions to save and protect the biosphere. The

participating parties interacted in the aspiration to reach a mutually acceptable and profitable solution to the issues in all areas under discussion.

The outcome of the relationships depended to the greatest extent on the attributes and qualities of those who maintained the relationships, these differing according to family values, the culture of the country of which they belong, friends, their own interests. In this sense, the Japanese, showing respect, training, intelligence, good preparation, cold thinking, and on the other hand, the EU showing punctuality, attention to every detail, calmness, politeness and accuracy created a partnership, which proved to be successful.

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## Constanța County Exports in the Last 10 Years

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### Abstract

*In this paper I will make an analysis of the exports registered in Constanta County in the period 2011-2021 inclusive. Although there are statistical data available, there are no works that have addressed this topic. Constanta County is on the first places in the country in terms of production and export, holding also the largest port on the Black Sea. The flow and composition of exported goods are important to know, both for statistical reasons, but especially for economic and social reasons.*

**Key words:** exports, Constanța, international trade

**J.E.L. classification:** F31

### 1. Introduction

Romania's exports are analysed by several organisations and institutions, at national and international level. At the national level, the most important, in terms of data accuracy, are the reports issued by the National Institute of Statistics and the Ministry of Entrepreneurship and Tourism on Romania's international trade.

Considering the fact that an analysis of exports at the level of Constanta County has not been carried out, in this paper we have undertaken this approach. Following the study, we will draw important conclusions, we will identify which products have registered the highest export growths and which products have registered decreases. We will also see the impact of the pandemic on the exports of Constanta county, because the years 2020 and 2021 will be analyzed.

### 2. Theoretical background

There is a vast amount of empirical literature on exports.

Studies in the field have concluded from the outset that there is a direct link between export growth and productivity (Kunst and Marin, 1989; Laszlo, 2006).

Studies showed that net growth of surviving firms is negatively related to the experience of the firm in the export market, while the impact of size is non-monotonic. The growth premium of new exporters decreases progressively over time. The significance of firm experience in the export market, beyond the effect of size, points to the existence of some form of learning on foreign markets. Young exporters contribute disproportionately to export volatility through both firm turnover on the export market and within firm entry and exit of product and destination markets (Berthou and Vicard, 2013).

Exports are extremely concentrated among a limited number of very large firms, whereas a large number of small exporters ship one product to a single destination (Eaton et al., 2004). This distribution of the size of exporters is influenced by the process of entry and exit, as new exporters tend to be small, grow fast and have a low rate of survival (Eaton et al., 2007; Freund and Pierola, 2010).

Regarding an analysis of Constanta County exports, for a long period, has not been made. However, statistical data are available for each county, which can be used for a detailed analysis, which we have done in this paper. County Directorate of Statistics Constanța periodically publishes "Evolution of the main statistical indicators of Constanța county".

The National Institute of Statistics publishes every month a press release with a brief analysis of Romania's international trade and the changes recorded. The Ministry of Entrepreneurship and Tourism issues a monthly information bulletin on Romania's international trade, which goes into more detail on the important changes that have been recorded, as well as a wide range of statistical data.

Within the European Union, quarterly economic forecasts for each Member State are published on the European Commission's home page, analysing, among other things, the indicators relating to Romania's exports, with statistical data obtained from Eurostat.

The World Trade Organization provides centralized and easily navigable information as well as news and important new publications on Romania's international trade.

The online publication TradingEconomics provides a detailed report every 1-5 months on all indicators of the national economy. This report is based on statistical data collected from the National Institute of Statistics, Eurostat and the World Bank, and is one of the most comprehensive and detailed reports designed to provide investors with an overview of the national economy.

### 3. Research methodology

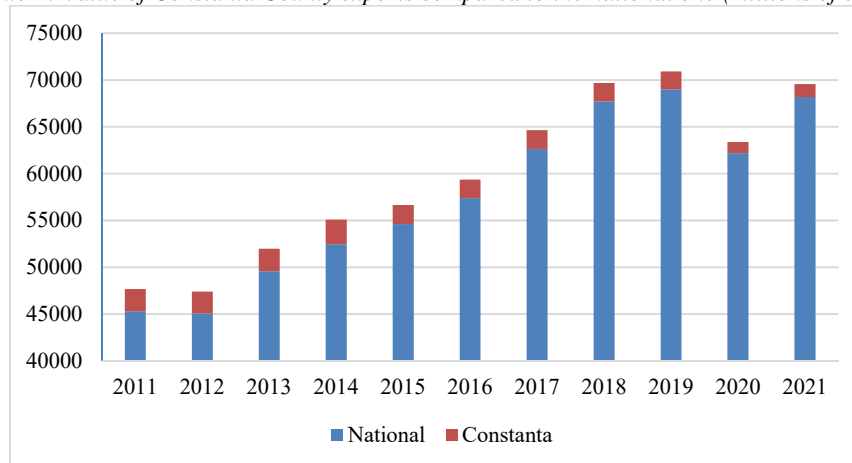
We use data analysis, that summarizes collected data. It involves the interpretation of data gathered through the use of analytical and logical reasoning to determine patterns, relationships or trends.

The data used in the analysis are taken from the publications of the National Institute of Statistics. County Directorate of Statistics Constanța periodically publishes "Evolution of the main statistical indicators of Constanța county", also representing a source of data.

### 4. Findings

Analysing the data made available by the National Institute of Statistics, we observe that exports from Constanța county have experienced a slight increase in the period 2011-2014, from 23,814 to 26,173, representing 5.26% respectively 4.99% of national exports, followed by a significant decrease until 2021, reaching 14,039 million euros, representing 2.06% of national exports.

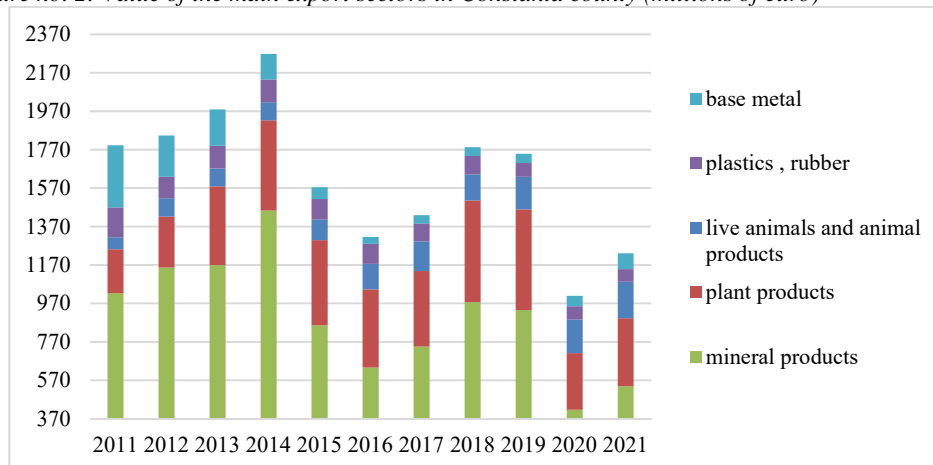
Figure n.o 1: Value of Constanța County exports compared to the national one (millions of euro)



Source: National Institute of Statistics

The COVID-19 pandemic has amplified the downward trend in exports, resulting in a loss of 37.41% in 2020 with a slight increase of 16% in 2021, starting from 19,581 in 2019 and reaching 14,039 million in 2021.

Figure no. 2: Value of the main export sectors in Constanta county (millions of euro)

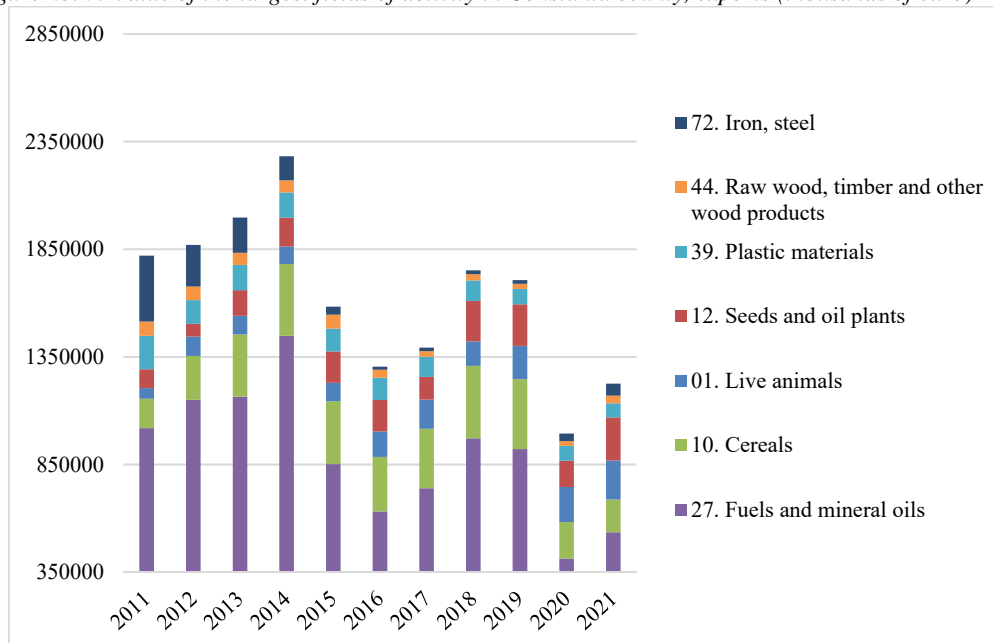


Source: National Institute of Statistics

In the period 2011-2021, the top 3 largest export sectors in Constanta County are (1) the mineral products sector, representing between 34.00% and 55.53% of the county's exports, (2) the plant products sector, representing between 9.56% and 26.98% of the county's exports and (3) the live animals and animal products sector, representing between 2.60% and 14.48% of the county's exports.

During the same period, the live animals and animal products sector had an upward trend, achieving increases every year, the plant products sector observed significant fluctuations, with a strong upward trend in the period 2011-2019, increasing from 227 to 523 million euros, and registering significant losses for the years 2020 and 2021, 294 and 354 million euros respectively, and the mineral products sector observed the biggest change, having an upward trend in the period 2011-2014, starting from 1.024 to 1,453 million euros, followed by a fluctuating trend with increases and losses, registering significant losses of 41.08% in 2015 and 55.48% in 2020. 55.43%, obtaining the highest value in 2014, 1,453 million euros, and the lowest in 2020, 416 million euros.

Figure no. 3: Value of the largest fields of activity in Constanta county, exports (thousands of euro)



Source: National Institute of Statistics

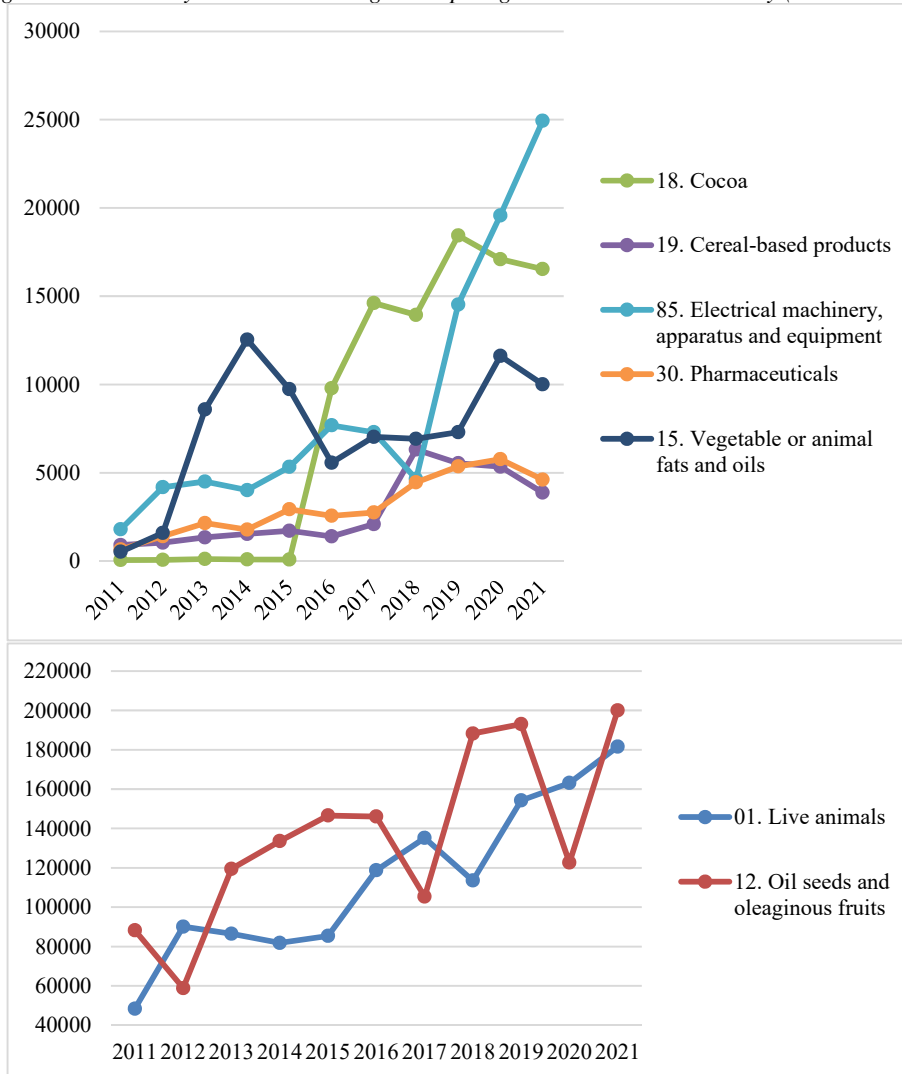


In the period 2011-2021, the largest exports of Constanta county are the export of (1) fuels and mineral oils, being the main export of the county, representing between 32.17% and 55.33% of the county export, (2) cereals representing between 5.76% and 16.83% of the county export and (3) seeds, oleaginous fruits and industrial or medicinal plants representing between 2.53% and 10.14% of the county export. These are the 3 largest exports of Constanta County, observing small changes in the period 2011-2015, where the 3rd position was occupied either by the export of cast iron, iron and steel or by the export of plastics and plastic articles.

Over the period 2011-2021, we can see similar changes by sector for the top 3 exports, as they are part of the mineral and plant products sectors, but the biggest changes are seen in (1) iron and steel, which experienced significant losses over the period 2011-2019, down from 306 to 17 million euros and with an increase in 2020 and 2021, 35 and 56 million euros respectively, and in (2) plastics which is in a downward trend in the period 2011-2021, down from 155 to 65 million euros, with small increases in 2013 and 2014.

Cofco International Romania (formerly Nidera), part of the COFCO group, the largest agri-food company in China, Cargill Agriculture, owned by American shareholders, and Glencore Agriculture, with shareholders from Switzerland, lead the top ten largest grain exporters in Romania in 2021, and Cerealcon Dolj, a company controlled by Mihai Anghel, is the only grain trader with Romanian capital in the top ten (Ziarul Financiar, 2021).

Figure no. 4: Activity areas with the highest export growth in Constanta county (thousands of euro)



Source: National Institute of Statistics

The period 2011-2021 brought substantial increases in certain areas of activity. The largest increases in terms of value were recorded in the export of live animals and seeds, oilseeds and industrial or medicinal plants, with an increase of 133,146 thousand euros and 111,721 thousand euros respectively. These increases occurred gradually, following a predominantly upward trend throughout the period.

From a percentage point of view, the period 2011-2021 brought substantial increases in exports of cocoa and cocoa preparations, animal or vegetable fats and oils and machinery, electrical appliances and equipment, recording equipment, etc., recording percentage increases of 28,414%, 1,793% and 1,285% respectively.

The export of cocoa and cocoa preparations has observed a substantial increase since 2016, jumping from 86 to 9,790 thousand euros, reaching 16,480 thousand euros in 2021, the export of animal or vegetable fats and oils has experienced a substantial increase in 2013, jumping from 1. 597 to 8,584 thousand euros and reaching 9,484 thousand euros in 2021, and the export of machinery, electrical appliances and equipment, recording equipment, etc. experienced a substantial increase in 2019, jumping from 4,654 to 14,529 thousand euros and reaching 23,130 thousand euros in 2021.

With the exception of exports of animal or vegetable fats and oils, which experienced considerable fluctuations during the growth period, the increases were followed by a predominantly upward trend until 2021.

Romania, by providing all the facilities it currently has, has contributed to the evacuation of about 60% of Ukrainian grain in total from February to September 2022. By far, the Port of Constanta has made a decisive contribution to the evacuation of this significant percentage (RFI România, 2022).

## 5. Conclusions

Although at national level the trend of exports is increasing, at Constanta county level the trend is decreasing, showing a discouraging situation of county exports. In the last 10 years Constanta county exports have decreased from about 5.5% to about 2% of national exports. Comparing the export values in 2011 and 2021, we can see an increase, but applying the inflation rate for the same period, the increase is much lower than it seems (45.291 million euro in 2011 means 54.802 million euro in 2021, against 68.170 in 2021).

However, the biggest losses can be seen in the strong downward trend in the sectors with the highest exports, (1) fuels and mineral oils, (2) ships, boats and floating structures, (3) iron and steel. Although some of the impact of these losses is reduced by increased exports of oilseeds and oleaginous fruits, industrial or medicinal plants and live animals, the increases do not compensate for the losses.

Analysis of exports at local, regional, national and European levels remains a tremendous tool for policy and regulatory institutions as well as for business. They can point to opportunities, future needs as well as draw attention to problems with significant impact in order to repair or mitigate their impact.

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## Overview on Romanian Highschool Students' Attractiveness for Maritime Transport Studies

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### Abstract

*The paper is presenting a part of the results obtained between 2021-2022 within the Capacity building Project "Challenges of Maritime Digital Leaders in the Algorithmic Age (DIGITAL LEADER)", research grant by the International Association of Maritime Universities (IAMU) and the Nippon Foundation in Japan. Anticipating the structurally change of careers choice from sea to shore-based employment, in order to increase the attractiveness for studies, maritime educational institutions expand the focus of teaching technical core competences and knowledge necessary for on board jobs, to those competences needed for an array of on-shore jobs, complementary to seafaring. Some of the objectives of the study were to establish most in-demand skills for maritime digital leadership and to propose updated operational training methods for maritime training necessary to increase the students' attractiveness for maritime transport studies.*

**Key words:** education, industry 4.0, digitalization, learning

**J.E.L. classification:** I21, J24, L91, R41

### 1. Introduction

While in the past, seafaring was considered to be a life-long occupation offering hierarchical advancement, job security and retirement certitudes, nowadays most seafarers individuals shift to finding on-shore employment opportunities at a moment of their professional path.

Although a conclusive statistical study was not yet published to analyze the percentage of seafarers' that structurally change careers from sea to shore-based employment, there is observed an increasing rate of such phenomenon in most maritime countries. In such context, maritime educational institutions need to find solutions to increase highschool/colleage students' attractiveness for maritime transport studies and to prepare students for both sea and on shore careers challenges.

### 2. Theoretical background

Romanian high school students' attractiveness for tertiary education in maritime studies raise certain concerns, in the context of constant decrease of new enrolments. "In contrast to early childhood and compulsory education, in upper secondary and tertiary education demographics have little influence in enrolments. At these levels, the number of students enrolled is influenced by other factors: education requirements, school drop-out rate, variety and popularity of existing post-secondary pathways and quality of higher education services in the country. The positive difference between the number of students enrolled at all levels in 2019 and 2009 is the highest" in well-developed European countries (France, Spain, Sweden) and the most negative in Poland, Romania and Portugal, revealing the evolution of needs for infrastructure investment in education in general. The difference between the number of students at all ISCED levels enrolled in 2019 and 2009 is negative for Romania: - 1 006 653 (European Commission, Directorate-General for Education,

Youth, Sport and Culture, 2022, p.31-32)

A European report focusing on the 2020-2021 school year during COVID-19 pandemic, part of a multi-country study coordinated by the Joint Research Centre of the European Commission shows that, in education, COVID pandemic made more visible some old and latent problems of the system and offered solutions for some others (...) New digital technology in education is a moving target (...) as digital education is not only about digital tools, but also about digital pedagogies" (Velicu, 2021, p.33)

In Romania, some efforts have been made to improve the quality of early childhood education and care and strengthen initial teacher education but there is still a need to increase the digital skills of teachers, trainers and students and better equip schools with digital equipment. A large percentage of young people have inadequate levels of basic skills. Ensuring quality and labour market-relevant education and training is still a key challenge. (Tamasan, 2020)

### **3. Research methodology**

The paper presents an exploratory analysis between general and specific objectives of maritime studies programs of one maritime university from Romania, highlighting the need to update the classical educational curriculum with transversal skills relevant for the educational and business sector, as well as with specific competences required by the dynamism of the maritime industry.

Research data was collected within Capacity building Project "Challenges of Maritime Digital Leaders in the Algorithmic Age (DIGITAL LEADER)" research, grant by the International Association of Maritime Universities (IAMU) and the Nippon Foundation in Japan, between 2021-2022.

For identifying in-demand skills for maritime digital leadership, there was applied an online questionnaire to a target group of 25 international maritime companies to assess their in-demand skills further necessary for maritime digital leadership. After the questionnaire replies were received, data was processed and results were analyzed.

Further, for proposing operational training methods for maritime digital leadership training, necessary to increase high school students' attractiveness for maritime transport studies, a questionnaire tool was submitted online to maritime lecturers from one Romanian maritime university.

### **4. Findings**

Maritime transport studies aim to expand the technical vocational training by conferring the managerial and technical-economic capability necessary to approach planning, organization, operation and evaluation of maritime transport systems in relation to the expectations of maritime companies.

In order to accomplish its mission, maritime educational institutions aim to provide the institutional framework and material means and infrastructure to enhance and develop the potential of skills, attract specialists in the field and establish an academic community to increase high school students attractiveness contribute to local, regional and international development through education, science and research.

Through the maritime transport studies, the subjects included in the curriculum ensure the multidisciplinary and modularization of the study program which will allow the diversification of study options in the fields of transport engineering and management.

#### **4.1. General objectives of maritime transport studies**

The general objectives of the maritime transport studies are to ensure a complex, rigorous and interdisciplinary academic training, which combines theoretical and applied aspects, so that, through this training, professional, technical, scientific and managerial skills useful for graduates are formed.

Through the studies period, students develop and improve their professional skills and competencies related to the novelty elements of public management, the transfer of know-how from private agencies to public port services, implementation of the 3Es: Economics, Efficiency, Effectiveness in the organizations from the field of transport and will acquire skills necessary to be selected on the Romanian and international market and to have the opportunity to hold positions in the management of institutions and companies in the transport sector.

The maritime studies programs aim to continuously improve the educational process, promoting modern and solid forms of training, appropriate to the training requirements of transport engineers, being focused on student's ability to apply the assimilated knowledge. At the same time, the improvement of student evaluation methods was considered, emphasizing the role of individual study.

The development of study programs is an approach meant to ensure the completion of some general objectives envisioned at the faculty level:

*Table no. 1 General objectives for MSc maritime program*

No.	Strategic dimension	General objectives
1	Educational opportunities	Providing well-trained theoretically and practically specialists, at the level of current and future requirements for the transport market.
2	Academia- industry partnerships	Creating the necessary framework for the integration of education specific to the field of transport in the Romanian and international economic environment.
3	Academic partnerships	Continuation and extension of strategic partnerships with foreign faculties, as well as openness to joint study programs with other universities.
4	Scientific opportunities	Inclusion of the faculties among the best faculties in the country in terms of academic offer and scientific research.

*Source:* Maritime university educational plan for maritime MSc studies

#### 4.2. Specific objectives of maritime transport studies

The specific objectives of maritime education programs are to achieve an optimal educational process, based on the complementarity of logical thinking with analytical and applied elements, the transfer of basic knowledge and specialized training to advanced, synthesis and advanced knowledge, respectively formation of technological and practical skills, using connections of technical-scientific, economic and managerial information specific to the field of engineering and management.

At the end of the study period, the graduates are expected to have much more educational, informational and formative experience, confidence in their own strengths and in the future. Through competencies, the acquired qualification gives them, immediately after graduation, special opportunities and professional satisfactions.

Specific objectives for maritime studies, professional skills and transversal skills expected by the maritime industry and their equivalent in maritime studies are enlisted in Tables 2-4 below.

*Table no. 2 Specific objectives for maritime studies program*

No.	Strategic dimension	Specific objectives
1	Educational opportunities	Acquiring advanced theoretical knowledge in the field of business administration in the field of transport
		Theoretical education of students at the level of current and future requirements for the international transport market
2	Academia- industry partnerships	Developing the managerial and professional skills necessary for the modern business environment
		Practical training of students for easy integration of graduates on the maritime transport labor market
		Acquiring the competencies of a specialist who can evolve in the field of maritime transport, in the field of both engineering and economic field.

		Studying the disciplines which provide the necessary information in the form of models or knowledge about the structure and operation of business processes in the field of transport in order to achieve the desired performance and adequate risk management within organizations.
		Training of specialists with superior technical training in economic profile, able to carry out their activity in the engineering field which is suitable for the use of digitization and business models, tools for measuring performance in transport, advanced techniques needed to solve complex challenges in the field of transport or specialized institutions in which the planning and management of infrastructure issues or the establishment of risk minimization strategies are essential etc.
		Acquiring advanced knowledge in areas such as the creation and development of entrepreneurial organizations, sustainable development, social responsibility, corporate governance and business ethics.

Source: data collected from maritime universities

Table no. 3 Professional skills included in maritime transport programs

No.	Type of skill	Professional skill
1	Theoretical based	C1. Creative application of knowledge and methods specific to the field of economic engineering C2. Operating with advanced concepts and techniques in computer science and information technology
2	Practical based	C3. Elaboration and interpretation of technical, economic and managerial documentation C4. Management of transport companies and supply chain subsystems C5. Financial and economic substantiation of transport supply development solutions (infrastructure, vehicles, technologies) C6. Ensuring the quality of transport services

Source: data collected from maritime universities

Table no. 4 Transversal skills expected by the maritime industry and their equivalent in maritime studies

No.	Transversal skill expected by industry	Transversal skill trained by the academia
1	Social soft skills: - Objective communication - active listening - teamwork - team management - writing skills	Efficient use of information sources and communication resources and continuous professional training for fulfilling the personal career development plan
2	Problem-solving skills: - team management - project management - resource management	Identification of requirements, resources, processes, deadlines and risks related to a complex professional task and elaboration of the execution plan
3	Emotional intelligence: - recognize, understand and positively use your emotions. - recognize emotional distress in others and help them overcome it	Distribution of roles and responsibilities in a team, ensuring coordination and control of team activity to achieve the intended objectives
4	Life-Long Learning Attitude: - learn new skills - gain new expertise to do your job well - learn constantly about new technologies, trends, and hard skills.	
5	Work ethics in shipping: - Integrity - Responsibility - Dependability	

Source: data collected from maritime universities; Sunarjo (2022)

## 5. Meeting Maritime Industry 4.0 expectations in the updated maritime studies educational plans

During COVID-19 crisis the Romanian educational system remote schooling prevailed, mostly as synchronous online classes, challenged by the inequal access to digital devices and internet connection, lack of educational digital pedagogical skills and lack of inclusiveness (Velicu, 2021).

The COVID-19 pandemic had substantial negative impacts and caused several disruptions to the global supply chain of the shipping industry. Key challenges identified during COVID-19 pandemic in terms of maritime manpower are the expiration issues for Certificates of Competency (CoC) or failure for revalidations due to pandemic constraints, which directly hinder employment retention and leads to lost opportunities at sea. Also, there is manifested the solid increasing need for distance learning capabilities and seafarers' digitalization essential for speeding up the online processes in shipping.

The fourth industrial revolution is expected to bring significant impact for the development of maritime transport, intermodal transport and supply chain.

Technology trends as Artificial Intelligence, Big Data Analytics, interconnectivity, smart port terminals and autonomous ships require the creation of new jobs in the maritime sector or a new approach for the existing jobs. Classic jobs need to adapt to the use of new technologies and in such context the maritime educational system already includes in the curriculum relevant content for the new expectations of the industry stakeholders.

Beside technical knowledge on classic seafaring topics (e.g. e-learning videos on Fire Prevention and Firefighting, Personal Survival Techniques, Elementary First Aid etc.) and particular knowledge relevant to the domain (e.g. Mental Health Training Curriculum; Maritime English Communication Package) a diversified content relevant for Industry 4.0 jobs in the maritime sector needs to be included in maritime studies educational plans.

The content of the courses should include relevant input regarding leadership and management skills necessary for the organizational functionality and professional development of the trainee.

Teaching content needed for Industry 4.0 jobs in the maritime sector should smoothly integrate technical skills with transversal skills and should include relevant input regarding leadership and management skills necessary for the trainees' organizational functionality and professional development, as enlisted in Table 5.

*Table no. 5 Managerial and leadership skills needed for shifting between off-shore and on-shore jobs*

No.	Managerial skills	Leadership skills
1	Technical-based skills and competencies to ensure the safety of personnel and cargo on board.	Comprehension of new cultures
2	precise judgment and decision making	human resources management
3	change management	active listening
4	operation and control	communication skills
5	operation monitoring	instructing and teaching
6	coordination	social perceptiveness
7	knowledge management	oral expression
8	owners' structure comprehension	oral comprehension
9	client management	far vision
10	critical thinking	problem sensitivity
11	maritime business development	depth perception
12	economic understanding	stress tolerance
13	project management	attention to detail
14	digital systems for administrative tasks	self-control and composure
15	quality assurance and supervision of machinery and maintenance systems	initiative
16	skills for maritime e-business development	independence
17	time management	persistence/ being adaptable

*Source:* data collected from maritime universities



Teaching content should develop critical thinking and problem-based learning and should provide educational resources for captain and high-ranked officers needed to optimize the fleet, decentralize decisions and reduce ship administration on-shore

Critical thinking determines seafarers ask questions, analyze, interpret, evaluate and judge what they perceive (see, hear, say, or write). Teaching content should include input related to sustainability and resilient, dynamic market challenges.

Maritime transport studies should contribute to raising sustainability awareness, innovation, operational efficiency, company resilience, stakeholders overview, risk management, establishing short, medium, and long-term goals, targets and key performance indicators, organizational culture in shipping, identification of clear roles for critical decisions, appropriate leadership and decision style.

Maritime officers need the knowledge and skills necessary for the operation and competent use of the computer systems with which modern ships are equipped, and of the various equipment and machinery that are controlled by computers.

Modern ships contain many different equipment and machines that operate non-stop. Systems such as the engine, fuel supply, electricity, climate control, among others, require constant monitoring. Changes in temperature, fuel and oil flows and other parameters must be observed, recorded and analyzed. By using computers, the task of keeping track and analysis is much easier, which in turn improves overall performance of the ship and voyage.

At the same time, the use of modern information technologies and their application on board ships make life on board easier to manage. Thus, ships and their crews depend on different types of supplies. These include food, water, fuel, oil, spare parts and more. By using computerized inventory management systems, records of supply use is analyzed and data can be used to make use and supply more efficient. Routine maintenance is facilitated by systems that monitor the daily use of the machines and record maintenance dates and times. Such systems help to remind the maintenance crew which systems need preventive maintenance and which ones need to be replaced.

Navigation systems for modern ships use GPS, radar, sonar and computer maps along with radio and satellite communications systems. These systems help navigation officers find their way and follow their routes even in the dark, bad weather or low visibility.

Cargo operations require the timely processing of cargo movements to and from ships. Systems that monitor the weight and balance of bulk and liquid cargo are vital not only for fast and efficient transfers, but also for the safety of transport and port crew.

Blockchain technology improves the transmission of cargo documents. A single container shipment can generate up to 200 communications, and the administrative cost of processing the accompanying documentation is estimated to be 15-20% of the overall cost of transporting the goods. (WCO, 2022, p.69) It is therefore essential to use easier, more efficient ways of transferring data and documents, verifying and archiving documentation. Allowing economic operators to submit scanned or computer-generated documents certainly makes the whole process easier and swifter, but it does not make it possible to determine ownership of a file where required. There is also no means of generating a reliable audit log, used to record a history of changes made to a document, or establishing a paper trail directly to the original source. One method of resolving these problems would be to establish a centralized authority responsible for processing these documents, determining ownership, compiling audit logs and facilitating the exchange of files. Blockchain technology helps digitize the shipping industry, where ownership, traceability and security are paramount.

ICT skills are increasingly important in port and related maritime industries, as technological advancements involve the digitization of information exchange and the automation of port activity (through connectivity to a local network and the Internet, radio and satellite communications systems), computerized inventory management systems, systems that monitor the daily use of equipment and record maintenance dates and times, automatic door opening systems, development of container terminals etc.

Information technology education and training for seafarers should be supported by the e-learning platform, built to enable participants to improve their knowledge and gradually assess their level of achievement. The main purpose of the training is to acquire skills for using the computer as an universal means of data processing, for the use of office programs dedicated for shipping activities, for word processing, spreadsheets, graphics processing, communications, the use of computer

networks and the Internet etc.

## 6. Conclusions

Anticipating the structural change of careers from sea to shore-based employment, in order to increase the attractiveness for studies, maritime educational institutions expand the focus of teaching technical competences and knowledge necessary for on board jobs only, to those competences needed for multitasking and on-shore jobs. Inclusion of online teaching content needed for Industry 4.0 jobs in the maritime sector should focus on integrating technical skills smoothly with transversal skills. Maritime universities learning curriculums should be focused on developing practical competencies as critical thinking and problem-based learning. Teaching content should include input related to sustainability and resilient, dynamic market challenges.

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## Careers in Maritime Transport – Gender Equality and Climate Change Perspectives

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### Abstract

*Gender equality and climate change perspectives are both important aspects of sustainable development, and they are likely to have a significant impact on careers in the maritime transport industry.*

*The study presented in this paper has the objective to understand to what extent contemporary maritime and port jobs evolved in the context of sustainability expectations. A second objective is to discover which are the new sustainable jobs that are expected to appear on the international maritime market. Results show that many of the classic jobs in the sector have integrated sustainability responsibilities to meet the updated legislative requirements. Most of the classic maritime jobs include tasks necessary for the sustainable development of the company, without explicitly mentioning such responsibilities in the title of the job. However, an increasingly number of new jobs in port, maritime and related fields have titles that explicitly includes sustainability – gender related or environmental protection tasks. Based on the advancements in the maritime, new emerged technologies and changes in traditional biased mindsets, is expected an increase in the need for professionals delivering sustainable solutions and hence, the appearance of new sustainable jobs specific for the sector.*

**Key words:** employment, sustainability

**J.E.L. classification:** J21, J24, J60, Q01, R11

### 1. Introduction

Although the concept of sustainability refers to environmental aspects, as defined by the United Nations in 1972 as a view according to which „people should strive to fulfill the needs of the present generation without compromising the needs of future generations”, the concept of „sustainability employment”, as used by several researchers, is more narrow and outside the scope of our study, implying that, in the context of ageing working population (e.g. in Europe and in Asian countries), employers should try to organize work in such a way that their employees are fostered, not exploited, in order to be used further in the future (Docherty et al., 2009; Hedge, 2008; Mohrman and Worley, 2010; Van Dam, Van Vuuren and Kemps, S. 2017).

In this paper the concept of “sustainable career” is used in relation with meeting the 17 United Nations Sustainable Development Goals (SDG), not in relation with the time-dimension as suggested by the above researchers.

For meeting the research objectives of our paper, the analysis focused on aspects related to SDG 5 – Gender Equality and SDG 13 – Climate Change. Other SDGs were also considered, directly or indirectly.

Gender equality and climate change are both important issues that intersect in the context of maritime transport, although research has not been delivered so far to understand which is the extent of intersection and its further implications.

Besides economic and trade benefits, the maritime industry is strongly related to significant environmental and social impacts (Karagiannis et al., 2022).

There are a variety of sustainable careers in the maritime transport industry that can help address both gender equality and climate change issues. Sustainable careers in maritime transport can include positions that focus on reducing the environmental impact and gender inequalities of shipping operations, thus promoting sustainable practices within the industry.

Regarding the gender perspective in the maritime, there are historical, social, economic and scientific evidence that indicate the maritime industry has historically been male-dominated, with women facing discrimination and limited opportunities for career advancement. To promote gender equality, efforts should be made to increase the participation and representation of women in all levels of the maritime industry, including in leadership roles (Kitada et al, 2015; Dragomir, 2018; Dragomir, 2019).

From a climate change perspective, the maritime industry is a significant contributor to greenhouse gas emissions and other forms of pollution. To address this, the industry should transition to more sustainable practices, such as using cleaner fuels and implementing energy-efficient technologies. Additionally, there is a need for policies and regulations that encourage or mandate the reduction of emissions from ships.

## **2. Theoretical background**

While research on maritime sustainability logistics is increasingly published, it is considered "fragmented in terms of conceptual development, empirical testing and validation, and theory building" (Sung-Ho Shin et al., 2018).

Wang et al. (2020) analysed theoretic process of maritime industry's transitional involvement in sustainability from the social entrepreneurship perspective, by reviewing content of sustainability reports published by container shipping liners and terminal operators from 2016 to 2019. They provided a unified framework of motives and levels of comprehensiveness of the sustainability efforts by the maritime industry, revealing the theoretic process of maritime industry's transitional involvement in sustainability.

Karagiannis et al. published in 2022 a study on cross-sectoral materiality analysis of sustainability reporting in the transportation industry and reviewed sustainability reports of 90 maritime organizations of different sectors, sizes, types and locations. Results show that only 46,6% included a materiality assessment section, where most of the headquarters were located in Europe around Scandinavian region (61%) and 26% were located in Asia.

The International Maritime Organization (IMO), which is a United Nations agency responsible for the safety and security of shipping and the prevention of marine pollution, have published a number of studies on sustainable employment in the maritime transport industry, including guidance on how to improve the welfare of seafarers. The International Labour Organization (ILO), which is another United Nations agency promoting social justice and promotes decent working conditions., have also published a number of studies on sustainable employment in the maritime transport industry, including guidance on how to improve the welfare of seafarers and on how to promote gender equality in the maritime transport industry.

Other published studies on sustainable employment in the maritime transport industry including guidance on how to improve the welfare of seafarers and how to promote gender equality in the maritime transport industry, the environmental impact of shipping and how to improve the efficiency of the maritime transport industry were conducted by researchers from the World Maritime University (WMU), an international post-graduate maritime university in Malmö, Sweden; the Center for Sustainable Transport at the University of California, Berkeley, the Sustainable Shipping Initiative (SSI) which is an industry-led coalition of companies, NGOs and academics aiming to create a sustainable global shipping industry.

### 3. Research methodology

Between 2021-2022 we have analyzed trends and employment information collected from 5 recruitment online databases and from various online scientific sources. There were analyzed more than 100 jobs ads related to maritime field, gender equality and climate change, enlisted on the following types of recruitment databases: global websites with jobs listings from general sectors (LinkedIn, Indeed and Jooble) and recruitment websites specific for maritime careers advertisements (Seacareer and Maritimejobs.com). Job searches were delivered around the topics: "gender equality in maritime employment" and "climate change in maritime employment". Scientific published articles were searched on Google Scholar, Researchgate, Academia, Tandfonline and ScienceDirect. Considering the term "sustainable employment" is used by researchers in relation with age-supportive employment conditions, which is not in line with the objectives of our paper, we carefully considered the risks of confusion when we accessed published works on such topic.

### 4. Findings

Careers in maritime and port sector, explicitly considered "sustainable" due to the job's name, suggest a significant requirement of professional specialization in aspects related to climate change and environment. The trend of employing such professionals emerged once with the major focus and interest of companies and institutions on the environmental legislation and sustainability. The maritime transport industry is vast and sustainable careers opportunities are many, therefore it's important to note that sustainable practices and environmental responsibility should be integrated in every position in the industry. As the industry continues to evolve, new opportunities for sustainable practices will arise.

#### 4.1. Gender equality perspectives influencing port and maritime career trends

Promoting gender equality in the maritime transport industry is an important aspect for achieving sustainable development. Explicit career names related to gender equality play an important role in reducing gender bias and providing equal opportunities for men and women, while addressing the barriers that may prevent women from entering and advancing in these fields.

In the below table in column 2 are synthesized 11 examples of careers that explicitly promote gender equality tasks in maritime transport and in column 3 there are 60 classic jobs that span across various roles and levels within the maritime transport industry while not explicitly suggesting a gender dimension. Such jobs, once occupied by female candidates, would reduce the gender bias or glass ceiling challenges. In the table the jobs order is random. The purpose of the table is to highlight the discrepancy between the number of gender-related jobs compared with classic jobs with no gender related dimension, due to the specificity of gender related area of expertise.

*Table no. 1 Sustainable careers in maritime transport related to climate change dimension*

No.	Jobs with explicit gender related dimension	Classic jobs with no explicit gender related dimension
1	Gender Equality Officer	Ship Captain
2	Diversity and Inclusion Manager	Navigation Officer
3	Gender Equality Training Coordinator	Marine Engineer
4	Gender Equality Project Manager	Mariner
5	Gender Equality Data Analyst	Marine Surveyor
6	Gender Equality Advisor	Ship Safety Trainer
7	Gender Mainstreaming Specialist	Ship Safety Inspector
8	Seafarer Welfare Officer	Ship Safety Engineer
9	Gender Equality Program Coordinator	Marine Safety and Environmental Protection Officer
10	Gender Equality Communications Specialist	Maritime technical advisor
11	Maritime Gender Researcher	Marine Safety and Environmental Protection Manager
11		Marine Resources Manager
12		Marine Resources Engineer
13		Marine Resources Consultant
14		Shipping Fleet Manager
15		Ship Operations Manager

16	Shipyard Manager
17	Shipyard Engineer
18	Shipyard Supervisor
19	Marine Recruiter
20	Shipping Company HR Manager
21	Maritime Transport Planner
22	Maritime Transport Logistics Coordinator
23	Port Operator
24	Logistics Coordinator
25	Supply Chain Manager
26	Maritime Lawyer
27	Human Resources Manager
28	Crewing Manager
29	Shipping Agent
30	Ship Broker
31	Ship Surveyor
32	Ship Manager
33	Maritime Economist
34	Marine Environmental Consultant
35	Marine Insurance Broker
36	Terminal Operator
37	Marine Pollution Control Officer
38	Marine Pollution Control Manager
39	Marine Environmental Engineer
40	Marine Environmental Consultant
41	Marine Biologist
42	Marine Ecologist
43	Marine Geologist
44	Marine Meteorologist
45	Marine Geographer
46	Marine Archeologist
47	Marine Engineer Officer
48	Marine Engineer Technician
49	Marine Electrician
50	Marine Mechanic
51	Marine Carpenter
52	Marine Plumber
53	Marine Welder
54	Marine Painter
55	Marine Rigger
56	Marine Survey Technician
57	Marine Quality Control Inspector
58	Marine Safety Equipment Inspector
59	Marine Safety Equipment Technician
60	Maritime researcher or trainer

Source: Authors' study

It can be observed that job titles in column 2, gender-related, are not exclusively maritime-related. No maritime related explicit job title was found in the analyzed databases and resources, however such jobs were offered by maritime, crewing, shipping or port companies.

The titles of the enlisted jobs may vary depending on the company, organization or the specific role within the organization. Gender equality is a key aspect of sustainable development and many role and positions can be adapted to include it as a key objective. Such job titles may vary depending on the company, organization or the specific role within the organization.

Nevertheless, gender equality is a key aspect of sustainable development and many role and positions can be adapted to include it as a key objective, so many job titles can have a component of gender equality within them.

#### 4.2. Climate change perspectives influencing port and maritime career trends

The findings of the study, regarding the evolution of contemporary jobs in maritime transport for meeting sustainability requirements, are further synthesized in two tables which indicate that most of the classic jobs' titles in the port and maritime doesn't explicitly integrate sustainable responsibilities. However, such integrated responsibilities are further added to the job's tasks in order to meet the updated legislative requirements. Only in a small number of cases such integration is explicitly visible in the job's name and we can consider it as an evidence for labeling the job as being "sustainable".

*Table no. 2 Maritime careers with integrated sustainable tasks related to climate change dimension*

No.	Careers with no explicit sustainable dimension related to climate change	Conventional responsibility and tasks	Integrated sustainable responsibility and tasks
1	Shipping company executives	Strategic management of current operations and investments	Takes strategic decisions to: <ul style="list-style-type: none"> <li>invest in sustainable technologies</li> <li>promote sustainable practices throughout the industry.</li> </ul>
2	Supply Chain Manager/Maritime logistics manager	<ul style="list-style-type: none"> <li>Management of logistics and transport</li> <li>Supply chain management</li> <li>Coordination and management of the movement of goods by sea</li> </ul>	Manages logistics and transportation of goods, with focus on: <ul style="list-style-type: none"> <li>reducing the environmental impact of shipping operations</li> <li>promoting sustainable practices</li> <li>the use of sustainable shipping routes and practices to reduce emissions and fuel consumption.</li> </ul>
3	Port and Terminal Operations Manager	Management of daily operations of a port/terminal: <ul style="list-style-type: none"> <li>management of cargo and passenger ships logistics</li> <li>handling and storage of goods</li> </ul>	Management of day-to-day operations of a port, with a focus on: <ul style="list-style-type: none"> <li>reducing the environmental impact of port/terminal operations</li> <li>promoting sustainable practices</li> <li>reduce emissions</li> <li>reduce other forms of pollution using sustainable technologies and practices to minimize environmental impacts.</li> </ul>
4	Naval Architect	Ship design, marine structures design	Design and construction of ships and other marine structures, with a focus on: <ul style="list-style-type: none"> <li>energy efficiency</li> <li>emission of fewer pollutants</li> <li>reducing the environmental impact of shipping operations.</li> </ul>
5	Seafarers (rated and unrated)	Seafaring tasks related to navigation and ship maneuvering, manipulation of cargo and transport	Tasks related to minimize pollution impact, required by international maritime regulations as the International Convention for the Prevention of Pollution from Ships (MARPOL) and the International Convention for the Safety of Life at Sea (SOLAS).
6	Electric/Hybrid marine propulsion specialist	Design and maintenance of propulsion systems	Design and maintenance of sustainable electric and hybrid propulsion systems for ships

7	Researchers and maritime education and training academics	Study of maritime transport	<ul style="list-style-type: none"> <li>• Study of the environmental impact of maritime transport</li> <li>• Development of new technologies and practices to reduce emissions</li> <li>• Development of new technologies/ practices to protect the marine environment</li> </ul>
8	Marine Engineer	Design, building and maintenance of ships, other marine vessels, marine structures or propulsion systems	Design, building and maintenance focused on: <ul style="list-style-type: none"> <li>• energy efficiency</li> <li>• reducing emissions</li> <li>• sustainable propulsion systems</li> </ul>
9	Wind propulsion specialist	Design and maintenance of wind propulsion systems for ships	<ul style="list-style-type: none"> <li>• Design sustainable fuel-powered systems.</li> </ul>
10	Offshore wind and wave energy specialist / Offshore wind farm operations and maintenance specialist	Design, construction and maintenance of offshore wind and wave energy facilities	<ul style="list-style-type: none"> <li>• Advocate on reducing dependency on fossil fuels.</li> </ul>
11	Dredging Engineer	Design and implementation of dredging operations used to maintain navigable channels and ports	Design and implementation of sustainable dredging operations with a focus on minimizing environmental impact.
12	LNG (Liquefied Natural Gas) Engineer	Design, construction and maintenance of ships and other marine vessels and structures that run on LNG	Design, construction and maintenance of ships and marine structures that run on cleaner burning alternative to traditional fossil fuels
13	Ship Recycling Coordinator / Ship recycling and decommissioning	Coordination of safe recycling of ships at the end of their lifetimes, in compliance with international regulations.	<ul style="list-style-type: none"> <li>• Coordination of safe and sustainable decommissioning of ships</li> <li>• Coordination of environmentally-friendly dismantling and recycling of materials</li> </ul>
14	Maritime weather forecasting meteorologist and ship routing specialist	Allows ship navigation teams to re-route vessels as needed, avoiding hurricanes, cyclones, and storms	<ul style="list-style-type: none"> <li>• Minimize pollution risks</li> <li>• Improve crew and cargo safety</li> </ul>

Source: Authors' study

Examples of most known classic careers in port and maritime are enlisted non-exhaustively in Table 2, where conventional responsibilities and general tasks were updated in the last column with sustainable perspectives. Further, in Table 3 are enlisted sustainable careers in maritime transport that are explicitly related to climate change dimension.



*Table no. 3 Sustainable careers in maritime transport explicitly related to climate change dimension*

No.	Career	Responsibility and tasks
1	Sustainable Transport Planner	Planning and implementing sustainable transport solutions to reduce emissions and congestion in ports and on roads: <ul style="list-style-type: none"> <li>• intermodal transportation</li> <li>• short sea shipping</li> </ul>
2	Environmental (compliance) Officer	Identifying ways to reduce the environmental impact of ships and ensuring that a shipping company and its ships: <ul style="list-style-type: none"> <li>• complies with environmental regulations such as those related to air and water pollution</li> <li>• complies with international agreements related to the protection of the marine environment</li> <li>• implements sustainable practices (e.g. waste management, reduction of emissions etc.)</li> <li>• becomes more energy-efficient</li> <li>• becomes environmentally friendly</li> </ul>
3	Marine Biologist	Study of the ocean, fauna and flora and advising on sustainable practices in the maritime sector
4	Marine conservation and restoration specialist	Working to protect and restore coastal and ocean ecosystems, such as mangrove forests, coral reefs, and sea grass beds, and developing sustainable fishing practices.
5	Ship Energy Manager	Managing the energy consumption and efficiency of ships, with a focus on reducing emissions and costs.
6	Smart Shipping Solutions Engineer; Smart ports and logistics optimization specialist	Responsible for developing and implementing innovative technology solutions that improve the efficiency and sustainability of shipping operations, such as autonomous ships and digital twin technology.
7	Carbon offset specialist/ Carbon offsetting and carbon credits trading/ Decarbonization Engineer	Identifying, monitoring and offsetting the carbon emissions of a shipping company
8	Marine Consultant	Advising shipping companies on sustainable practices, such as reducing emissions, improving energy efficiency, and complying with environmental regulations.
9	Coastal and ocean management	the conservation and management of coastal and ocean resources, including the protection of marine ecosystems and the reduction of pollution.
10	Port sustainability manager	Development and implementation of sustainable practices in port operations, e.g.: <ul style="list-style-type: none"> <li>• reducing waste and emissions</li> <li>• improving energy efficiency and promoting energy efficiency</li> <li>• waste management.</li> <li>• working with port operators or shipping companies to improve their environmental performance.</li> </ul>
11	Energy-efficient ship design engineer	Designing and constructing ships that use less fuel and emit fewer pollutants, and researching new technologies to improve energy efficiency
12	Low-emission propulsion systems researcher; Electric and hybrid propulsion systems researcher	Developing new technologies that reduce the environmental impact of ships, such as hybrid propulsion systems and alternative fuels.
13	Green logistics and supply chain manager	Managing the transportation of goods in a way that minimizes environmental impact, such as through the use of low-emission vehicles and the optimization of routes.

14	Sustainable cargo handling and storage specialist	<ul style="list-style-type: none"> <li>• Organise the storage and distribution of cargo</li> <li>• Ensure that the right products are delivered to the right location on time and at a proper cost.</li> <li>• Other tasks related to transportation, stock control, warehousing and monitoring the flow of goods, while considering principles of environmental standards and waste management</li> </ul>
15	Sustainable shipping education and training professional	Educating seafarers, dockworkers and other maritime workers about sustainable practices and technologies, and developing training programs to improve environmental performance.

Source: Authors' study

It is important to specify that this is not an exhaustive table and there are many more careers options in maritime transport industry with sustainable perspective. Additional examples of sustainable careers that are in demand on the recruitment platforms, that might inspire businesses and further lead to similar career prospects in maritime sector, were related to:

1. Clean energy policy: Professionals working on energy policy and regulation, including renewable energy standards, carbon pricing, and clean energy research and development.

2. Sustainable urban development: Urban planners, architects, and developers working on sustainable and livable cities, including green infrastructure, sustainable transportation, and affordable housing.

3. Sustainable water management: Engineers, hydrologists, and water resource managers working on sustainable water supply, treatment, and conservation.

4. Sustainable waste management: Professionals working on reducing, reusing, and recycling waste, as well as designing and implementing sustainable waste management systems.

5. Sustainable tourism: Professionals working on sustainable tourism development, including ecotourism, responsible travel, and sustainable destination management.

6. Sustainable packaging: Professionals working on designing and implementing sustainable packaging solutions, including bioplastics, compostable packaging, and sustainable packaging design.

7. Sustainable finance: Professionals working on sustainable investing, socially responsible investing, and environmental, social, and governance (ESG) analysis.

8. Green chemistry: Scientists and engineers working on developing sustainable and non-toxic materials, products, and processes.

9. Carbon capture and storage: Engineers and scientists working on developing and implementing technologies to capture and store carbon emissions from power plants and industrial processes.

10. Sustainable transportation planning: Transportation planners and engineers working on sustainable transportation planning, including active transportation and public transportation planning, and working on the integration of new technologies like drones, autonomous vehicles, and electric vehicles.

11. Sustainable supply chain management: Professionals working on sustainable sourcing, production, and logistics, including sustainable procurement, responsible sourcing, and circular economy.

12. Green marketing: Professionals working on sustainable and environmentally friendly marketing, including green advertising, sustainable branding, and social responsibility.

13. Sustainable business strategy: Professionals working on sustainable business strategy, including sustainability reporting, corporate social responsibility, and sustainable innovation.

14. Sustainable community development: Professionals working on sustainable community development, including green infrastructure, sustainable housing, and community resilience.

15. Sustainable product design: Product designers working on sustainable product design, including life cycle assessment, green product development, and sustainable materials.

16. Sustainable human resources management: Professionals working on sustainable human resources management, including employee engagement, sustainable recruitment, and sustainable employee development.

17. Sustainable facilities management: Professionals working on sustainable facilities management, including energy efficiency, water conservation, waste management, and sustainable procurement.

18. Climate science: Climate scientists, atmospheric scientists, and meteorologists working on understanding and addressing the causes and impacts of climate change, including climate modeling and climate adaptation.

19. Renewable energy systems engineering: Engineers working on the design, installation, and maintenance of renewable energy systems, including solar, wind, and geothermal systems.

20. Sustainable agriculture: Professionals working on sustainable farming and food systems, including organic farming, agroforestry, and sustainable fisheries,

21. Sustainable forestry: Foresters and ecologists working on sustainable forestry practices, including reforestation, conservation, and sustainable timber harvesting.

22. Sustainable fisheries: Professionals working on sustainable fisheries management, including fishing quotas, habitat conservation, and sustainable aquaculture.

23. Sustainable building design: Architects, engineers, and construction professionals working on sustainable building design, including green building certification, energy-efficient building systems, and sustainable materials.

## 5. Conclusions

This paper presents one of the first studies on employment trends in maritime transport considering sustainable perspectives of gender equality and climate change needs, while similar studies are tackling these two topics separately. From a gender equality and climate change perspective, the maritime transport and connected industries are affected and are affecting society welfare through employment inequalities or through pollution activities. To address this, the industry should transition to more sustainable practices, such as using cleaner fuels and implementing energy-efficient technologies, which implies sustainable professionals with relevant expertise. Additionally, there is a need for policies and regulations that encourage or mandate the reduction of emissions from ships.

A first important conclusion results even from the introductory chapter of this paper and highlights the confusion when using the terms "sustainable" or "sustainability". These terms, depending on the context of speech or discourse, either have an environmental dimension being related with pollution impact, either have a temporal dimension being related to generational time-constraints, either have a broader meaning, referring to multiple sustainable aspects, as proposed by the United Nations 2030 Agenda through the 17 sustainable development goals. The precise understanding of such terms becomes clear once the reader advances in the context of discourse.

Another important conclusion underlines the increase occurrence of sustainable jobs ads that relates to gender equality and climate change and are relevant for the transport system. In the analyzed sector of port and maritime transport, there is an evolving context for sustainable careers opportunities. Sustainable practices and environmental responsibilities are becoming integrated in many positions in the industry. Is important to consider both gender equality and climate change perspectives to have a sustainable maritime transport system.

Although gender related jobs are not exclusively titled related to the maritime field (there is no "marine" title added to the job), they are increasingly being offered by maritime companies. Much more other technical jobs have no title explicitly connected to the gender equality dimension, however if they are occupied by female candidates, they might contribute to reducing gender inequalities and bias in the sector.

There is a dynamic extent to which contemporary maritime and port jobs evolved in the context of sustainability expectations. In the paper were enlisted several new sustainable jobs in the maritime port sector, in a non-exhaustive list. Most of the classic maritime jobs' postings enlisted on employment websites suggest no explicit sustainability responsibilities, however such responsibilities are requested by employer as job tasks, in order to meet the updated legislative environmental and sustainable requirements. However, the occurrence of jobs where such integration appear explicitly visible in the job titles is significant.

Overall, our study shows that there are many more jobs titles related to climate change and the maritime domain, compared to gender equality in the same field. However, technological and societal advancements in the maritime sector and the need for professional sustainable solutions suggest that will increase the appearance of sustainable jobs specific for the sector. This trend brings challenges for the educational system that needs to keep up with the industry changesets. Nevertheless, is important to consider both gender equality and climate change perspectives for the development of a sustainable maritime transport system.

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## Exploratory Study on the Types of Economic Crimes at EU Level

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### Abstract

*Financial crimes refer to illegal acts committed by individuals or groups for financial or professional gain. Following the analysis carried out in this article, we noticed a very close connection between the number of newly investigated cases and the number of ongoing investigations from previous years, which denotes the maintenance of a high level of economic crime in general. At the same time, a very close connection can be observed between the total number of investigated cases and the number of coordination meetings; from here we can conclude that the frequency of these meetings is dictated by the high number of economic crime cases present at the EU level. Another strong connection that we can observe is the one between the number of coordination meetings and the number of joint investigation teams formed at the EU level, which shows a concentration of forces at the EU level to combat economic crime.*

**Key words:** economic crime, fraud, money laundering

**J.E.L. classification:** K00

### 1. Introduction

Crimes committed by individuals or groups to gain a financial or professional advantage are called economic crimes, also called financial crimes. The main motive in such crimes is economic gain (Europol, 2022).

The unauthorized conversion of another person's property for one's own use and advantage is financial crime (Wikipedia, 2022). Financial crimes include fraud (including credit card fraud, check fraud, mortgage fraud, corporate fraud, medical fraud, securities fraud (including insider trading), bank fraud, insurance fraud, payment fraud (point of sale), market manipulation, and healthcare fraud), theft, con games or confidence tricks, tax evasion, bribery, rebellion, embezzlement, identity theft, money laundering, and counterfeiting, including the creation of fake currency and goods (Rus, 2019, p. 144)

Computer crimes, elder abuse, and even violent crimes like robberies, armed robberies, and murder can all be tied to financial crimes. Individuals, businesses, or organized criminal groups can all conduct financial crimes. Individuals, businesses, countries, and entire economies can all be victims (Aivaz, Munteanu, Chiriac, 2022, p. 337).

## 2. Theoretical background

Some of the most common examples of fraud and economic crime are the following:

### *a. Fraud and deception*

Generally speaking, the crime of swindling involves the act of unlawfully depriving another person or entity of money, property or legal rights. The perpetrator deliberately tricks the victim into handing over money, goods or services.

Investing fraud, insurance fraud, tax and excise fraud, or consumer fraud are all forms of scams and fraud. Because these crimes typically combine high profits and low risks, they are popular with organized crime groups (OCGs). Perpetrators often operate across borders, benefiting from differences in national legislation and adding complexity to the investigations needed to uncover these criminal acts (Aivaz et al, 2022, p. 1).

The types of deception are:

- tax fraud: underreporting taxable income, overstating business income, or intentionally evading taxes by individuals or entities.
- excise fraud: it involves smuggling or illegally importing excise goods, illegally manufacturing excise goods, or diverting excise goods, such as alcohol, cigarettes, or fuel, to avoid taxes or import duties.
- counterfeiting: the fraudulent imitation or copying of items with intent to deceive, for example consumer products, food, pharmaceuticals, technical products such as aircraft or automobile parts, works of art, money or documents (forgery).
- investment fraud: enticing investors to make buying or selling decisions based on false information, often in variations of boilerplate schemes, Ponzi schemes or pyramid schemes, resulting in large losses to victims and
- benefit fraud: illegally claiming benefits to which a person is not entitled, for example unemployment benefits, subsidies, pensions or compensation, by providing false information or failing to report changes in circumstances that determine eligibility to receive such benefits (Florea, 2018, p. 124).

### *b. Money laundering:*

Transnational criminal networks have one thing in common: money. Organized criminal activity is driven by profit and all criminal groups need resources to finance their activities. This is where money laundering comes in. The introduction of ill-gotten goods into the legal financial and economic cycle aims to provide criminals with explainable and apparently legal resources that make it increasingly difficult to trace to their true source.

The effective prosecution of money laundering, including the recovery of ill-gotten gains, contributes significantly to a successful fight against organized crime. As the profits are taken from the perpetrators, crime becomes less attractive. At the same time, decisive actions against money laundering prevent the use of assets to commit new crimes (Rus, 2013, p. 942).

### *Stages of money laundering:*

A money laundering process can be divided into three stages rather than a single act.

- *Placement stage:* Crime proceeds are introduced into the legal financial system for the first time, often broken down into smaller amounts. During this phase, there is a high risk of being discovered.
- *Layering stage:* A variety of financial transactions occur, often involving banks and/or companies from different countries. As part of this phase, ill-gotten funds are separated from their source, thereby hiding the paper trail and severing any links with the original crime. In order to avoid detection, funds are transferred between several actors mainly through international transactions. To accomplish this, legal loopholes in the respective countries' laws can be exploited.
- *Integration stage:* An apparently legal source of money returns to the criminal. Rather than attracting attention, the money is supposed to resemble legal provenance while being reunited with the criminal. The money is then reinvested into real estate, luxury goods, or businesses within the legal economic cycle (Florea, 2018, p. 123).

*c. Drug trafficking*

Drug trafficking is a particularly complex form of criminal activity that frequently involves multiple states and often overlaps with other crimes, including financial crimes and cybercrime. The fight against drug trafficking is based on effective operational partnership between law enforcement and the judiciary.

In 2020, national judicial and law enforcement authorities tackled €3 billion worth of illicit drug trafficking in operations coordinated through Eurojust. In 2020, almost 1 200 cases and 50 joint investigation teams of Eurojust dealt with drug trafficking, leading to the organization of almost 90 coordination meetings and 4 days of joint action, the so-called centers of coordination. (Eurojust, 2022).

In addition to the corruption of officials, laundering of proceeds from the legal economy and pollution of the environment resulting from illicit drug production, drug trafficking remains a major form of organized crime that continues to pose major threats to the safety and well-being of EU citizens and society as a whole. The criminal justice system must cooperate with all national authorities involved in drug trafficking, from the police, border and customs authorities to prosecutors, judges, and prison authorities (UN Office on Drugs and Crime, 2017).

There are, however, a number of obstacles that prevent national authorities from cooperating judicially. There can be delays or even refusals in the execution of mutual legal assistance requests due to differences in substantive and procedural law. For example, if a Member State does not consider the drug quantity to be significant or if the substance is not illegal in that State (International Narcotics Control Board, 2018), then it may not be allowed to proceed (International Narcotics Control Board, 2018).

*d. Cybercrime*

Many positive developments have been brought about by technological breakthroughs in recent years. From large-scale cyberattacks to malware, phishing, and spam campaigns, cybercriminals exploit the speed and anonymity of the Internet for a wide range of illegal activities (Maras, 2014, p. 284).

The often-borderless nature of cyber and cyber-related crime makes effective cross-border cooperation essential to the investigation and prosecution of perpetrators.

Cybercrime is a rapidly growing area of crime. There is also an increasing overlap between crimes originating from the Internet and cybercrimes such as terrorism and money laundering. The increasing complexity of cybercrime tools and practices, such as encryption, present additional challenges to investigators and prosecutors, allowing criminals to avoid detection and prosecution by hiding data and evidence. Furthermore, recent developments show a growing need for regulation of emerging technologies, including the Internet of Things (Europol, 2009).

In 2019, Europol and Eurojust published a joint report that identifies and categorizes current developments and common challenges in the fight against cybercrime, which fall into *different areas*:

- *Data loss*: Electronic data is the key to successful investigations in all areas of cybercrime, but the possibilities to obtain such data have been significantly limited.
- *Loss of location*: Recent trends have led to a situation where law enforcement can no longer determine the physical location of the perpetrator, criminal infrastructure or electronic evidence.

International cybercrime investigations are often hampered by differences in national legal frameworks in EU Member States.

Evidence distribution is hindered by the absence of a common legal framework in an international setting (as storage is hindered by the absence of a common legal framework). In addition, there is a clear need for better cross-border communication mechanisms and rapid information exchange.

The challenges of public-private partnerships: cooperation with the private sector is vital to combating cybercrime, but there are no standardized rules of engagement and investigations can thus be hindered (Eurojust, 2022).

*e. Human trafficking*

Human trafficking is a serious and rapidly growing criminal area that affects millions of innocent people around the world and involves serious violation of fundamental human rights. Traffickers control and exploit vulnerable victims and use threats, force, fraud, deception or kidnapping. Traffickers predominantly capitalize on sexual and labor exploitation, often targeting people with limited education or financial means (Siddarth, 2009, p. 173).

During the investigation and prosecution phases of human trafficking cases, the many sensitivities and complex nature of these activities present clear challenges to national authorities. Crimes are usually committed by organized crime groups that may have extensive resources and sophisticated ways of working, and whose profits may be difficult to track and seize (Hepburn and Simon, 2013).

In addition, human trafficking activities are by their very nature transnational, often taking place in several jurisdictions, while the involvement of non-EU states can create additional difficulties for national authorities in Member States. Identifying, locating and persuading victims to cooperate with law enforcement/judicial authorities to bring perpetrators to justice remains an important humper in many cases (Aronowitz, 2009, p. 118).

*f. Corruption*

Corruption is a crime that is undertaken by a person or an organization with a role of authority, who realizes illicit benefits or abuses power in personal interest. Corruption takes many forms, some of the most used being bribery, influence peddling and embezzlement. In the following we will explore the origin of the phenomenon of corruption and highlight some of the controversies generated by the attempt to define and motivate this phenomenon (Florea and Aivaz, 2022, p. 325)

Corruption is a global, timeless and trans-systemic phenomenon (Neild, 2002, p. 181). It can exist in any country, at any time and under any form of government, as John A. Gardiner (1970, p. 101) also said. It appears persistently in political society and is unlikely to be completely eliminated, ever. It exists in any situation where people compete for valuable but limited opportunities and is generated by the temptation to ensure success through corrupt incentives, in case all other efforts fail (Gardiner, 1970, p. 120).

Among the most common types of corruption, we can mention: bribery; embezzlement; theft and fraud; extortion and blackmail; influence traffic; abuse of power; favoritism, nepotism and clientelism.

*g. Migrant traffic*

Organized criminal organizations or international criminal organizations that operate along trafficking routes commit acts involving smuggling of migrants, frequently putting the lives of migrants while they are traveling by land, air, or water (Chiriac, Munteanu and Aivaz, 2022, p. 298).

Criminal migrant trafficking organizations routinely commit associated crimes such money laundering and unauthorized attempts to acquire citizenship of an EU member state using fake documents and phony marriages. Other criminal organizations prey on and use their victims as modern-day slaves. Such hybrid legal actions (including both criminal and civil law) may present particular legislative and jurisdictional difficulties. Effective collaboration is crucial in these complex cases since various organized crime organizations may be involved in moving people from their country of origin to their final destination whether traveling by land, air, or water (Campana, 2018, p. 481).

In over 75% of instances, more than two Member States are involved, according to an analysis by Eurojust, easily resulting in simultaneous investigations with a significant potential of jurisdictional conflicts. In especially on the high seas, national authorities face unique difficulties in obtaining valid evidence (UNODC, 2018).

*h. Crimes against the financial interests of the European Union (PIF crimes)*

In addition to affecting the Union's financial interests, PIF offences pose a threat to its reputation and credibility, as defined in Directive (EU) 2017/1371.



Among them are frauds involving the EU budget, VAT fraud affecting two or more Member States, corruption, misappropriation by public officials of assets, and money laundering (Nitu, 2018).

Eurojust works closely with the European Anti-Fraud Office (OLAF) to investigate these crimes. An EU-wide anti-fraud policy is developed by OLAF, which is responsible for conducting independent administrative investigations (internal and external) into fraud, corruption, and irregularities involving EU funds. A close collaboration exists between Eurojust and the European Public Prosecutor's Office (EPPO). In each of the 22 member states participating in the EPPO, the office is an independent, decentralized prosecution office, tasked with investigating and prosecuting crimes affecting the EU budget.

#### *i. Terrorism*

There is a major threat to the safety of European citizens posed by terrorism. In recent years, terrorist incidents have increased in frequency and scale in the European Union. Eurojust's national members and liaison prosecutors are continuing to coordinate a steady number of new terrorism cases, including the attacks on the Thalys train in Paris, Saint-Denis in Brussels, and Zaventem in Nice, which highlight the increasing complexity for judicial authorities dealing with terrorism. Terrorist groups are increasingly highly organized and operate across borders, presenting increasing challenges to national authorities in Member States and elsewhere. The unpredictable nature of 'lone actor' terrorism presents an additional challenge to national authorities (Eurojust, 2022).

As well as raising funds through legitimate sources, such as personal donations and profits earned by businesses and charities, terrorists can also engage in criminal activities, such as drug trafficking, fraud, arms smuggling, kidnapping, and extortion (Florea, 2018, p.14).

The terrorists use money laundering techniques to evade authorities and protect the identities of their sponsors and the ultimate beneficiaries of the funds. If proceeds of crime are used to finance terrorist activities, terrorist financing can also be directly linked to money laundering. In contrast to money laundering, terrorist financing tends to involve smaller amounts of money (Diaw et al. 2014, p. 64).

The use of the formal banking system, informal value transfer systems, such as Hawalas and Hundis, as well as smuggling routes for the physical transfer of cash, gold, and other valuables is one of the oldest methods of asset transfer (FIU, 2022).

To prevent terrorist acts, bring to justice terrorist perpetrators, instigators, and financiers, and address the root causes of terrorism, effective judicial cooperation between states is essential.

#### *j. Crimes against the environment*

According to Interpol and the UN Environment Programme, environmental crime is the fourth most prevalent crime in the world, growing at a rate of between 5% and 7% per year. Environmental crime's growth and its organized and transnational nature require a coordinated, national and international approach from administrative, law enforcement, and judicial authorities

A new case report on environmental crimes, prepared in 2020 and published in January 2021, showed that Eurojust's early involvement enables effective international cooperation, coordination from the beginning of investigations, effective information exchange and the development of joint strategies.

#### *k. Fundamental international crimes*

Global peace, security, and well-being are threatened by genocide, crimes against humanity, and war crimes. The majority of atrocities and conflicts that occur today take place outside the EU's borders, but their impact is felt within. Under international law, these heinous crimes must be investigated and prosecuted by national authorities (Lobont et al, 2017, p. 91).

Recent escalation of nearby conflicts along with the influx of refugees into member states have caused states to struggle to deal with a growing number of challenging cross-border cases. The success of an investigation depends on expert knowledge and close coordination between national authorities, as well as gathering evidence across different countries. Third countries and international partners are usually involved in most cases.

### 3. Research methodology

Considering the multitude of variables, the study used principal component analysis (PCA) as a research method. Starting from a large set of data, which presents the distribution of some statistical units according to the variation of some numerical variables,  $X_1, X_2, \dots, X_k$ , ACP, through the variable standardization mechanism, highlights a system of factorial axes that concentrates the information contained in the original series for a better view of it (Pintilescu, 2007, p. 32). To apply this method, we used the SPSS computer product, version 28.

### 4. Findings

The statistical description of the variables was carried out with the help of statistical indicators: the average level and the standard deviation, shown in table no.1, N representing the number of types of crimes included in the analysis.

Table no. 1 Statistical description of the variables

	Mean	Std. Deviation	Analysis N
New_cases	324.31	427.195	13
Ongoing_cases	379.77	490.009	13
Total_cases	711.77	907.284	13
Coord_meetings	41.85	43.158	13
JIT	23.31	24.459	13
Coord_centr	2.31	3.199	13

Source: authors' own processing

Highlighting the statistical links (correlations) between the considered variables was done with the help of Pearson correlation coefficients, rendered by SPSS through the Correlation Matrix output from table no.2.

Table no. 2 Correlation Matrix<sup>a</sup>

	New_cases	Ongoing_cases	Total_cases	Coord_meetings	JIT	Coord_centr
Correlation	New_cases	.971	.992	.847	.867	.763
	Ongoing_cases	.971	.993	.854	.902	.821
	Total_cases	.992	.993	.856	.891	.796
	Coord_meetings	.847	.854	.856	1.000	.721
	JIT	.867	.902	.891	.920	.759
	Coord_centr	.763	.821	.796	.721	1.000
Sig. (1-tailed)	New_cases	<.001	<.001	<.001	<.001	.001
	Ongoing_cases	.000	.000	.000	.000	.000
	Total_cases	.000	.000	.000	.000	.001
	Coord_meetings	.000	.000	.000	.000	.003
	JIT	.000	.000	.000	.000	.001
	Coord_centr	.001	.000	.001	.003	.001

a. Determinant = 3.799E-7

Source: authors' own processing

Following the analysis of table no.2, we can observe a very close connection between the number of newly investigated cases and the number of ongoing investigations from previous years, which denotes the maintenance of a high level of economic crime in general. At the same time, a very close connection can be observed between the total number of investigated cases and the number of coordination meetings; from here we can conclude that the frequency of these meetings is dictated by the high number of economic crime cases present at the EU level.

Another strong connection that we can observe is the one between the number of coordination meetings and the number of joint investigation teams (Joint Investigation Team-JIT) formed at the EU level, which shows a concentration of forces at the EU level to combat economic crime.

Also, the indicator Total number of cases under investigation is closely related to the number of joint investigation teams (Joint Investigation Team-JIT), showing the dedication and speed of reaction of the European Commission in relation to this phenomenon, called economic fraud.

To see if there is a statistical link between the variables introduced in the study, in table no. 3, the SPSS program provides the calculated values of the test statistic  $\chi^2$ . Since the calculated value of the  $\chi^2$  test statistic is 135.513, and Sig.<.001, it can be guaranteed with a probability greater than 99% that there are statistically significant relationships between the statistical variables. The value of 0.781 of the KMO statistic shows that there are significant statistical links between the statistical variables, the solution obtained by ACP being very good.

Table no. 3 KMO and Bartlett's Test

<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</b>		.781
<b>Bartlett's Test of Sphericity</b>	<b>Approx. Chi-Square</b>	135.513
	<b>df</b>	15
	<b>Sig.</b>	<.001

Source: authors' own processing

According to the results presented in table no.4, for the interpretation of the links, similarities or differences between the variables we will use a single factorial axis

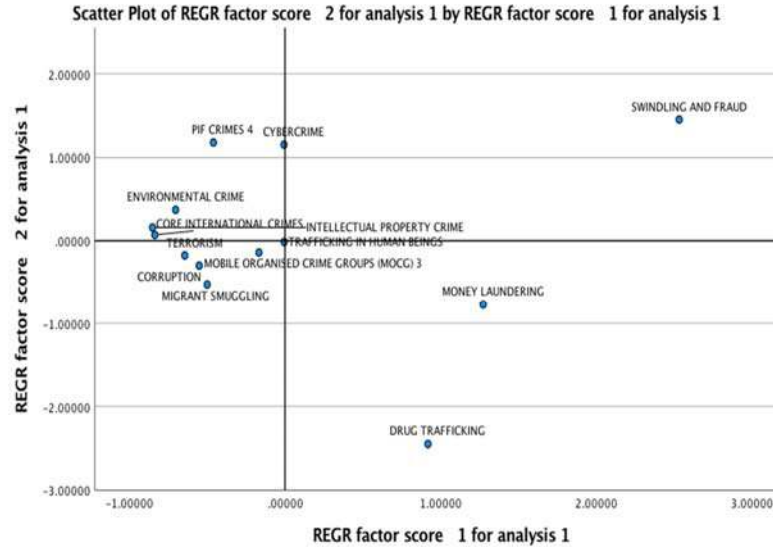
Table no. 4 Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.328	88.800	88.800	5.328	88.800	88.800
2	.322	5.374	94.173	.322	5.374	94.173

Source: authors' own processing

Following the analysis of the figure no.1, we can observe 4 clusters, namely: cluster 1- crimes of fraud and deception, cluster 2- money laundering fraud, cluster 3- drug trafficking and cluster 4- crimes against EU interests, cybercrime, crimes against the environment, terrorism, organized crime, corruption, emigrant trafficking, human trafficking, intellectual property trafficking. As for the number of cases, drug trafficking, money laundering and fraud and deception are the most numerous at the EU level, the other types of crimes and the rest of the clusters having a much lower frequency.

Figure no. 1 Variables clusters



Source: authors' own processing

## 5. Conclusions

White collar crimes, also known as financial crimes, refer to illegal acts committed by individuals or groups for financial or professional gain. The main motivation behind such crimes is economic profit.

A financial crime can also include computer crimes, elder abuse, and violent crimes such as robbery, armed robbery, and murder. An individual, a business, or an organized crime group can commit a financial crime. There are many types of victims, including individuals, businesses, governments, and entire economies.

Following the analysis of table 2, we can observe a very close connection between the number of newly investigated cases and the number of ongoing investigations from previous years, which denotes the maintenance of a high level of economic crime in general. At the same time, a very close connection can be observed between the total number of investigated cases and the number of coordination meetings; from here we can conclude that the frequency of these meetings is dictated by the high number of economic crime cases present at the EU level.

Another strong connection that we can observe is the one between the number of coordination meetings and the number of joint investigation teams (Joint Investigation Team-JIT) formed at the EU level, which shows a concentration of forces at the EU level to combat economic crime.

Also, the indicator Total number of cases under investigation is closely related to the number of joint investigation teams (Joint Investigation Team-JIT), showing the dedication and speed of reaction of the European Commission in relation to this phenomenon, called economic fraud.

As for the number of cases, drug trafficking, money laundering and fraud and deception are the most numerous at the EU level, the other types of crimes and the rest of the clusters having a much lower frequency.

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## Blockchain Technology: From the Technological Fringes to the Mainstream and Its Applications

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### Abstract

*Blockchain Technology which began as a pilot project on the technological fringes aimed at solving the double-spending in a digital exchange of value in a transactional relationship has moved into the mainstream and become the vortex of technological innovations. In technical parlance, blockchain technology is called 'Distributed Database (DD)' or 'Distributed Ledger Technology (DLT)'. Its intrusion into our 'wired world' of cybernetics has thrown open a whole 'Pandora box' of a sort, a jinni out of the technological bottle, whose applicability cuts across not only finance but across the broad spectrum of our social, political, and economic life. Since its debut in 2008 by Satoshi Nakamoto, it has generated a great deal of interest globally; with mixed feelings; swinging between euphoria and trepidation. Euphoric because it has endangered trust, while a feeling of trepidation because of its decentral city based on consensus. This technological breakthrough was made possible by the employment of cryptography and algorithm. This paper is an attempt at exploring the noise and the frenzy about blockchain technology and its unfolding ubiquitous uses across various aspects of our daily existence.*

**Key words:** blockchain technology, cryptocurrency, distributed ledger technology, algorithm, cryptography

**J.E.L. classification:** O3, O31

### 1. Introduction

Most innovations or inventions and of course all technological breakthroughs, have always broken new grounds and extended the frontier of knowledge; and learning has always followed a trajectory of a sort. And this is not different from the world of the internet called web 2.0 which took the world by storm and changed our existence to a wired world, back in the 80s. The internet not only brings to us both real life and the world of fantasy or make-believe events as it unfolds but also indulges and immerses us deeply in ways we could never have fathomed, particularly in telecommunication and information technology.

Before the internet, communication internationally and intercontinental is through surface mail and/or telegram. But all that changed with the introduction of the internet, where instant real-life exchange of messages has become a reality and no more a distant fantasy of Science Fiction. We are now witnessing another technological tsunamic revolution being unleashed and suddenly thrust on us, called *Blockchain Technology*, poised to revolutionize, and alter our entire way of life; and indeed, our whole existence pervasively and ubiquitously. During the early stage of its development, the dominant narrative is to view blockchain through the prism of cryptocurrencies, but all that has changed. Bitcoin is the first thing most people will associate with blockchain technology but storing cryptocurrency transactions is one out of so many that blockchain technology can be put to use. In

Mattila (2016) this was buttressed and stated unequivocally that the prospect for the use of blockchain technology across the broad spectrum of human existence is so wide and unfathomed, in more ways than imagined. While it was initially intended to create an innovatively digitized currency as bitcoin it has now transcended cryptocurrencies and found applicability not just in commerce but also in the world of finance; and of course, the whole economic system.

To the dyed-in-the-wool band of techies and the whole gamut of personalities, which includes cyberpunks, corporate organizations, behemoth investment fund managers, and technological geeks, the blockchain is an innovative and cutting-edge technology that represents a new paradigm shift in data and information recording, storage and retrieval. It is a quantum leap forward to the terrain and turf of information gathering/collection, storage, dissemination, and management. It presents a whole new vista in looking at a new technological system for storing information distributed across various nodes without a centrally directed and controlled hub.

Its revolutionary impact is felt more in the area of commerce and means of exchange – money. It is instructive to bear in mind that ever since the first applicability with Bitcoin, other types of blockchains have been created that found use in a whole range of applications, with an integral and built-in feature.

The blockchain as the name connotes is an electronic and virtually dispersed and linked system, which can be equated to a digitized network, that through mathematical manipulation with the aid of faster and high computational power computers, utilizes cryptography and encryption techniques to store information/data which cannot be counterfeited or altered; and of course, where the entire chronicles of the exchanges between the operators of the whole system, are algorithmically engineered (digitally) and cryptographically documented, authenticated, preserved and stored which is also open and accessible to the public.

To underscore the imperativeness and the revolutionary importance of this new technology, and its disruptive imprimatur on the entire world ecosystem, particularly in the world of commerce and international finance, blockchain technology became a major agenda at the Annual World Economic Forum in Davos, Switzerland in August 2016. It brought together heads of Government, leaders, and captains of industries, multinationals, professionals across various disciplines.

It was indeed a gathering of the world's finest financial experts; it lends credence to the revolutionary importance of the 'new kid in the block' in the world of digital technology called Blockchain. (WEF 2016).

## **2. Literature review**

Before the internet, communication internationally and intercontinental is by surface mail and/or telegram. But all that changed with the introduction of the internet, which is called web 2.0, where instant real-life exchange of messages has become a reality. After the introduction of the internet, now comes blockchain. We are now witnessing another technological tsunamic revolution being (unleashed) thrust on us, called blockchain technology, poised to revolutionize and alter our lives, and indeed, configure our whole existence pervasively and ubiquitously. The initial effort and focus were to create a digital currency which is called Bitcoin as an alternative to the current 'fiat' currency (paper currency). But it has now become a useful technological tool across the board. Beyond Blockchain 1.0 which deals with the application of blockchain technology to cryptos, the world is now talking about Blockchain 2.0, Blockchain 3.0 and even beyond that threshold. (Menalie 2018)

Blockchain 2.0 deals with the full range of blockchain-based economy, market, and financial applications that go beyond simple monetary exchanges, including shares, securities, commodities, credits, home equity loans, deeds, and what can be termed smart estate, and self-executing agreements without any intermediary, and in technological parlance is called smart contracts.

It is pertinent to state here that during the evolutionary life of blockchain technology, a very important breakthrough was achieved/made possible along that trajectory sometime in 2014 with the creation of the Ethereum platform by a Russian immigrant programmer in Canada by the name Vitalik Buterin, which is called web 3.0. Just like the anonymous Satoshi Nakamoto, Vitalik Buterin (2014) followed in his footsteps by publishing a white paper in 2014, outlining another alternative platform to blockchain purposefully created that enables and allows software engineers to develop any type of decentralized application. It gives programmers the leeway to modify the computer-



generated codes that can alter and change the configuration/nature of the blocks in the sequence(chain). It also permits them to create, whole new data, not only to store additional data but information ranging from contracts to stocks, including e-voting without physically being at the designated polling booth. It also allows for the execution of iterative action under given conditions.

The development of Ethereum gives programmers the latitude to deploy some applications, configured on autopilot to operate on the platform, and can be executed unaided seamlessly unhindered. Web 3.0 technological infrastructure did not only transcend its use as a cryptocurrency, but it also cryptographically engineered encryption permits and held out a great promise for the development of any decentralized application. Ethereum, just like bitcoin, incorporates a disintermediation mechanism in its storage and authentication of records in its platform. However, it differs from it by laying greater emphasis on speed, and it places a high premium on the temper-proof security of every transaction. Another important feature of Web 3.0 is the fact that it provides seamless operation of multiple applications on its infrastructural platform, besides acting as a peer-to-peer payment system.

Ethereum not only has its own cryptocurrency called Ether, but it also acts as an open-source system that allows anybody who wants to deploy an application to do so unfetteredly.

### **3. Research methodology**

The methodology employed for this paper involves the rigorous review of existing referenced works and numerous national and international Committee Reports, inclusive of literature on blockchain technology, cryptocurrencies which include books, papers by other scholars, journal articles, online publications on the subject matter; in line with the Systematic Review and Evidence Synthesis (SRES) as propounded by Briner and Denyer (2012). Briner and Denyer (2012) emphasize the application of an identical and comparable standard of strict adherence to the technique and procedure in reviewing relevant literature that would be appropriate and applicable to any scientifically conducted and verifiable fundamental research. We also incorporated the "Preferred Reporting Items for Systematic Reviews and Meta-Analyses" (PRISMA) proposed in (Moher, D., et al., 2009).

### **4. Findings**

#### **4.1. Evolution of Blockchain Technology**

The evolution of Blockchain Technology was fortuitously and purely incidental due to the financial crisis in the USA in late 2000 which demanded a new technological paradigm shift for a digital currency, as opposed to the current 'fiat' money as a store of value. It initially focused on creating a cryptocurrency that will be used by anybody, without the need for a central control and intermediary to validate the transactions. But the 2008 USA housing loan debacle that almost took out the entire United States financial system had a resonating ripple effect which was felt by many top financial institutions across the major financial centers of the world's capital cities. This undisputedly accelerates the development of this novel technology. The financial crisis brought to the fore the shortcomings and reliance on the current international financial order, which relies on central control by fiat, which is subject to manipulation and distortions. It was the catalyst needed to spur the world into action. This singular iconic event laid the foundation of what is today called cryptocurrency.

The precursor to the introduction of Bitcoin which was the beginning of blockchain technology as its infrastructure, and which was the grundnorm for the adoption of this novel technology was a white paper published by an anonymous personality under the pseudo name called Satoshi Nikamoto in 2009. The white paper lay out the concept, the technology, and the computer-generated codes of what is today called blockchain, which birthed the first cryptocurrency called Bitcoin.

It is important to mention here that since the beginning of civilization particularly from the Babylonian era where information was recorded on clay tablets to the introduction of bookkeeping in the early 15th century, dovetailed by the introduction of a digitized system using computers, the evolvement of infrastructure has extended the frontier of this phenomenon. Therefore, man's



obsession and the quest for proper record-keeping have undergone tremendous innovation and transformation (Daskalakis and Georgitseas 2020). The intrusion of blockchain technology, therefore, as an emerging novelty in digital technological breakthrough, synchronizes cryptography, data processing and management, networking, and artificial intelligence ;(AI) in enhancing and aiding the authentication, implementation, and recording of transactions involving various stakeholders. The main thrust of this new technology is to ingeniously remove intermediaries in the whole process.

According to Xewei et al. (2018), a blockchain ledger is a list ('chain') of groups ('blocks') of transactions. Parties proposing a transaction may add it to a pool of transactions intended to be recorded on the ledger. Processing nodes within the blockchain system take some of those transactions, check their integrity, and record them in new blocks on the ledger.

The substance of the blockchain records is replicated across many geographically distributed processing nodes or terminals. In conventional networks of digital payments, there is an imperative and the need for an intermediary (usually a bank or non-financial organization like PayPal, etc.), which records the transactions and thus avoids double-spending.

A third party must record all transactions and check that the amount X sent by one person to the other will not be spent again.

In this context, the existence of a bank and the notion of trust of all parties involved are necessary for this model to function properly. In 2009, Satoshi Nakamoto makes the first reference to bitcoin and offers a solution to the problem of double-spending. (Satoshi Nakamoto 2009)

A new decentralized peer-to-peer payment system is proposed, where users will be able to make transactions directly and between themselves without a third trusted party. This is possible with the use of blockchain technology, which was first introduced as a public, decentralized platform, without the need for intermediaries, to record the bitcoin cryptocurrency. Cryptocurrencies are virtual currencies that do not have a material form; rather, they are viewed as digital information. In this context, the blockchain network is usually described as an accounting book, a ledger, where all this digital information is stored, and everyone can have access to the information contained in this ledger.

Imagine the blockchain network as a ledger that records all transactions, but this ledger is not kept by a bank and does not belong to the bank. Instead, it is made public, where everyone has access to it at any time, and everyone can have a copy of it; at the same time, the personal data of the users are not visible, but digitally and cryptographically encrypted. We can liken or imagine the blockchain network as a spreadsheet that is not stored in a central computer but in all the computers (called "nodes") of the network, located and spread across the globe. Every amendment on this spreadsheet becomes visible to all users of the network at the same time and is validated only when nodes verify it.

The blockchain network is then a digital platform, which uses cryptographic methods for the storage of information, which cannot be falsified or reversed, and where the entire history of the transactions among the users of the network is recorded, validated, stored, and publicly available. We can view blockchain from a different perspective. From a data point of view, it can be seen as an alternative way of storing data, and conversely, it can also be viewed as a 'protocol' or means of communication digitally and/or transferring value.

## **4.2 What is Blockchain**

According to (Chuen and Low 2018) Blockchain takes different shapes either public or private, but has a common theme between them, and these can be summarized, viz.: dispersed data storage, cryptography, inalterability, and what we call 'consensus algorithm'. Data repository in this context takes the form of sequestered and sequenced information in blocks, added, and linked together.

Blockchains come in many forms and generally share four main features: decentralized data storage (a public ledger of transaction records), encryption, immutability, and a consensus algorithm. As a specialized type of decentralized ledger technology (DLT), blockchains store encrypted data across peer-to-peer networks, linking together sequential "blocks" of information into "chains". The information available to all network participants is a shared ledger of all information transactions on

the blockchain. The consensus algorithmic self-censorship ensures that information is consistent and immutable across this decentralized network and deters individual users from adding to ledger information without authorization from the network. Furthermore, due to the blockchain's structure, prior information on the chain cannot be edited or removed, as doing so would compromise the integrity of the decentralized ledger.

The blockchain can be defined as an electronic and virtually dispersed and linked system, which can be likened to a digitized network, but utilizes cryptography and encryption techniques to store information and data which cannot be counterfeited or altered; in addition, a comprehensive report and records of the exchanges between the stakeholders of the whole system are algorithmically engineered and cryptographically documented, authenticated, preserved and stored. The records of the entire transaction are open and accessible to the public. The operability of the blockchain is enmeshed in the technology and anchored on three main pillars, namely safety, transparency, and irreversibility.

### **4.3 Uses of blockchain**

Since it debuted in 2009 as a new technological infrastructure for the digital currency that birthed Bitcoin, it has given rise to many cryptocurrencies (altcoins), adopting similar architectural infrastructure but incorporating different features, enhancements, and adjustments. It has also been researched by scholars, investors, and academicians and it has found wider application across many fields of endeavors. Every day its applications are constantly being discovered and brought to light.

Ever since the development of blockchain technology, it has found uses across diverse applications, ranging from cryptocurrencies, finance e.g. equity exchange as being developed by NASDAQ (Cheung et. al (2018) to commerce, e-government, digital identity system management, insurance, crime-fighting; to logistics, agriculture, commerce, smart contract, which is self-executory, without the need for a third party. It is also a tool for improving legislation.

To understand how Artificial Intelligence (AI) and blockchain can affect our daily lives, we need to get to grips with the whole concept of the Internet of Things (IoT), which is the ability of a device to send information to a network and exchange that data with other similar devices. A good example is the smart home system. When AI and the IoT are combined, intelligence is the mind, and the Internet of Things is the body. The latter can only process data thanks to AI. If we introduce blockchain into this system, it becomes useful and secure: intruders will not be able to break into the smart home and take advantage of the stolen information. As blockchain technology is the nerve center of Bitcoin and Ethereum, it has also lent itself to ubiquitous applications in virtually every sphere of business.

One of the areas that blockchain technology could be applied is the management and analysis of 'Big Data'. Blockchain technology can be used to store and distribute data securely, quickly, easily, and more efficiently. The public sector can use blockchain to automatically tax the executed transactions since every transaction in the blockchain environment would be visible to the public. Also, interesting applications in the health sector have already been discussed in the previous section.

Another use of this technology is in electronic voting. The technology allows citizens to vote anonymously, avoiding the risk of someone changing the vote, while simultaneously bringing the whole cost of holding elections down. The hospitality industry can also benefit tremendously from the adoption and use of blockchain technology, particularly in hotel management, and ticket reservations, which could be executed automatically with the use of smart contracts without human interference.

Money laundering legislations and laws require banks' compliance in keeping a tab of customers that flout them, and in addition, provide the government with such lists. This also goes together with the 'Know Your Customers (KYC)' as statutorily required by law to obtain pertinent customer data and information. Therefore, Anti-money laundering (AML) laws and Know Your Customer (KYC) details require banks to perform such a complex and often cumbersome, and time-consuming exercise for each customer one by one. The application of blockchain technology in obtaining and storing such information can be done seamlessly and with ease; more so, the fact that such data are immutable and cannot be altered.

Blockchain, through the peer-to-peer payments mechanism, has removed bottlenecks and hindrances to a sharing economy that was absent in the current ecosystem. It also helped open a whole new vista that emphasizes social responsibility in an inclusive economy as against the current profit motive as a prime driver of business.

Blockchain-enabled direct transactions disintermediate the third-party intervention, as can be evidenced in bitcoin created by Satoshi Nakamoto (2009) and which has assumed the undisputed position as the 'numero uno' of choice as a means of payment system in cross-border transaction and exchange of value without the need of an intermediary, and of course without any behemoth central coordinating authority policing such transactions. Everything is carried out by means of consensus among the parties involved. It meets all the attributes of the definition of money which are: as a medium of exchange, as a store of value, and as a unit of account.

Other practical uses of blockchain technology can be found in smart and precision agriculture. Blockchain and artificial intelligence have the capacity to help provide food for the entire global population, which is growing in leaps and bound. This powerful combination of AI and Blockchain helps to put available land into effective and efficient use of arable land.

In the area of the Economic and banks, a synergistic combination of AI and blockchain technology has the potential for increased security for financial institutions, particularly banks. It would afford them greater latitude in taking on additional functions in providing services in insurance, digital identity (Ghajiga and Warlimont 2020), and institutional credit rating. Such a powerful innovative infrastructure can render financial scams, fraud, and online identity theft unattainable. The global banking industry is already witnessing an increased interest in going in that direction by exploring alternatives offered by this technology. At the local level, Stellar is a charitable not-for-profit organization that is working assiduously to decentralize access to capital globally.

Stellar is already partnering with Oradian, a FinTech company to deploy blockchain-related technology in powering the operations of hundreds of Microfinance Banks in Nigeria, which are currently saddled with the burden of movement of physical cash across and between branches, with its attendant risks.

## 5. Conclusions

The development of Blockchain technology and its attendant use and benefits have challenged existing technology on many fronts and have irrevocably transformed our technological landscape for the future. This new paradigm has opened a new vista in looking at data and information storage, management, and retrieval, which finds application in virtually every sphere of national life. Based on various research findings, and within the ambit of given compelling reasons, Kewell, and Ward (2017) justified people's prediction that blockchain will transcend not just bitcoin and cryptocurrencies, which were the precursor of this novel technology, but will intrinsically and inherently precipitate a dramatic transformation in the world of technology that will affect and influence our daily lives and existence. The untapped benefits of the application of Blockchain Technology transcend far beyond the economic sphere. It expands to the political, social, and technical realms. It also finds applicability in charitable and trust organizations. Its practical application is already being utilized and has found use in various industries in solving practical and real-life challenges.

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# The Impact of the Energy Crisis in Europe

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## Abstract

*The start of the war in Ukraine in the beginning of the 2022 had a significant impact on Europe, especially on the security of the gas supply. This has led to challenges and imbalances that require immediate action from the European Union in order to gradually end the reliance on imported Russian fossil fuels. As a result, the issue of energy security was brought into attention, gaining real importance at the international, regional and national level, being an extremely important sector for states from a social perspective, economic, political, technological. These developments usher in a new era of study and methodology for energy security.*

*This paper highlights the impact of the energy crisis in Europe that occurred due to the Russia-Ukraine war that started in the beginning of the year and also the measures that the EU took in order to mitigate the effects.*

**Key words:** Europe, energy, security, crisis

**J.E.L. classification:** O1, Q4

## 1. Introduction

Europe, especially its energy system, is strongly affected by the outbreak of the war in Ukraine and its continuation for more than 10 months, causing problems and imbalances, which require concrete measures to counteract its effects. These developments usher in a new era of study and methodology for energy security. One of the main purpose of the EU is to gradually ending its reliance on imported Russian fossil fuels.

The inadequate management of this crisis by the European Union and each individual state can generate devastating effects for the entire population.

This paper is aimed at researching the impact of the energy crisis in Europe that occurred due to the Russia-Ukraine war, that started in the beginning of the year and also the measures that the EU took in order to mitigate the effects.

## 2. Theoretical background

The concept of energy security has evolved, gaining a great scope and importance, as a result of the impact it has on a country and on its citizens, being a fusion of the notion of national security, sustainability, individual security, human rights (Sovacool, 2016). During the 1970s and 1980s, attention was directed to the consistent supply of oil at a low price, in the 2000s, emphasis was placed on securing energy sources in view of distribution to the population, but also the implications for the environment (Proskuryakova, 2018).

This notion can be approached differently, depending on the fields: natural sciences, arts, international relations, social sciences. According to the World Bank, energy security includes three major pillars: "energy efficiency, diversification of energy supplies and dealing with volatility" (World Bank, 2005, p.2). Energy security, according to the European Commission (2004), represents the availability and access to energy, regardless of form, at an affordable price. From the perspective of engineers or scientists, it is approached through the prism of research, the technological transfer system, innovation (Sovacool and Brown, 2010). The International Energy Agency's presents energy security as available and uninterrupted energy sources at an affordable amount of money (IEA, 2019).

From the perspective of consumers, we find two dimensions that are intertwined: the economic one, which looks at energy accessibility but also price volatility, and the physical one, which aims at energy procurement (Mansoon et al, 2014). Therefore, energy security can be approached from the point of view of supply, representing a priority of governments or from the point of view of services.

Energy security represents the provision to final consumers, in a fair manner, of efficient, accessible, ecological energy services (Sovacool BK, 2013), ensuring the protection of society, citizens, and the state in case of a power outage or an energy deficit. At the same time, energy security is ensured by government measures that follow the population's access to efficient energy sources at a convenient price (Gasser, 2020). According to Winzer (2012), there should be a separation of the term energy security, which defines it as a supply of energy according to demand, from political economic objectives (Winzer, 2012)

Thus, as a result of the many definitions and multitude of domains, the term energy security is slippery (Chester, 2010), but also dynamic as a result of the analysis carried out over a time horizon, which, according to analysts, cost effectiveness is not more important than stability (Hippel et al, 2011). At the same time, this term denotes the balance between elements such as "security of supply, affordability and the sustainability of energy provision" (Berling et al, 2022, p. 1).

Energy represents an essential element in the process of technological development that helps economic growth, leading to social well-being (Kosowski, 2022), found in most sectors of the economy (services, transport, industry).

Currently, conceptual energy security is made up of four components: "availability, accessibility, affordability and acceptability" (Kosowski, 2022, p. 2; Sovacool, 2010). The first component presents the actual presence of the energy resource, the next one describes obtaining the resource considering demographic, political, geographical aspects, etc., the third one considers the probability of accessing the resource, and the last one describes accessing the energy resource without had certain restrictions, obstacles (example: environmental) (Kosowski, 2022, p. 2).

### **3. Research methodology**

The main purpose of this article is to present the energy crisis that started this year, the impact of it in Europe and the measures taken by the European Union authorities, using the method of qualitative research. I began by reviewing the concept of energy security and providing the most representative definitions, then I presented the impact of the energy security, as well as the action taken to reduce and counteract its effects.

This research is divided into five sections, as follows: in the first part I presented the current European context that led to the outbreak of the energy crisis and formulated the research question: what was the impact of the energy crisis in Europe and the measures taken by the authorities? Secondly, I have presented the literature review regarding the concept of the energy security and its importance within a country and a region. In the third part I draw up the methodology and in the fourth part of this paper I highlighted the findings regarding the impact of the energy crisis in the European Union, as well as the measures taken by the authorities and the last part I formulated the main conclusions of my research

### **4. Findings**

Deep worries about the security of the gas supply in Europe were raised by Russia's invasion of Ukraine, and this had repercussions on the worldwide LNG market.

Since September 2021, Russia's strategic behavior of utilizing natural gas as a political weapon has been more apparent, so that the addition of gas from Russia, necessary for industrial processes, heating, etc., has been reduced by approximately 80% (IMF, 2022).

As a result of the international events, the issue of energy security was brought to the fore in forums and congresses, gaining real importance at the international, regional and national level, being an extremely important sector for states from a social perspective, economic, political, technological.

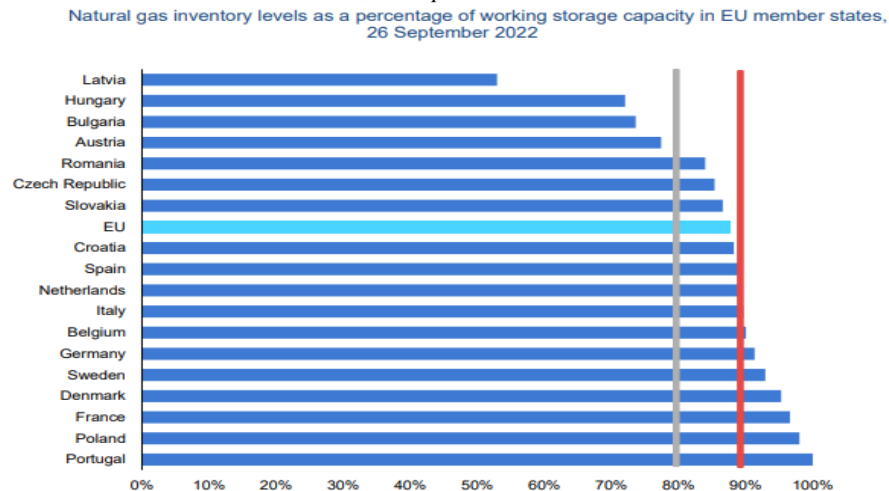
Therefore, international prices have reached new highs as a result of Russia's invasion of Ukraine and the ensuing reduction in gas supplies to Europe. This year, the price of oil reached its highest point since 2008 (IEA, 2022).



In accordance with a new storage law issued by the European Union (June 2022), storage facilities must be filled to at least 80% of their capacity prior to the winter of 2022–2023 and to 90% prior to all subsequent winter seasons. More strict storage requirements have been imposed by a number of EU members, including Belgium, France, Germany, and Italy, with fill objectives of more than 90%, according to the figure below (International Energy Agency, 2022).

In advance of winter, by the beginning of September, the European Union had met its 80% fill goal, and by the end of September 2022, storage levels had risen to almost 88% of operating capacity (International Energy Agency, 2022, p. 13).

Figure no. 1. Natural gas inventory levels as a percentage of working storage capacity in EU member states, 26 September 2022

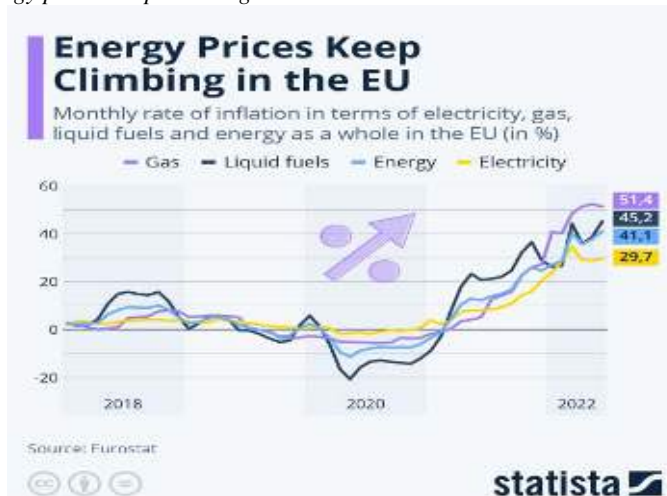


Source: International Energy Agency, 2022, p. 15

Europe has to increase LNG regasification capacity development, due to the fact that LNG has become crucial in the context of the shortage in Russian gas supplies in 2022 (International Energy Agency, 2022).

At the European level, energy prices rose sharply, gas having a major impact on inflation, which increased by 10.7% with a value of 51.4% in June (Statista, 2022). According to the Figure no. 2, gas hit 51.4% inflation, fuels (diesel, petrol, etc) 45.2% and energy 41.1% in June 2022.

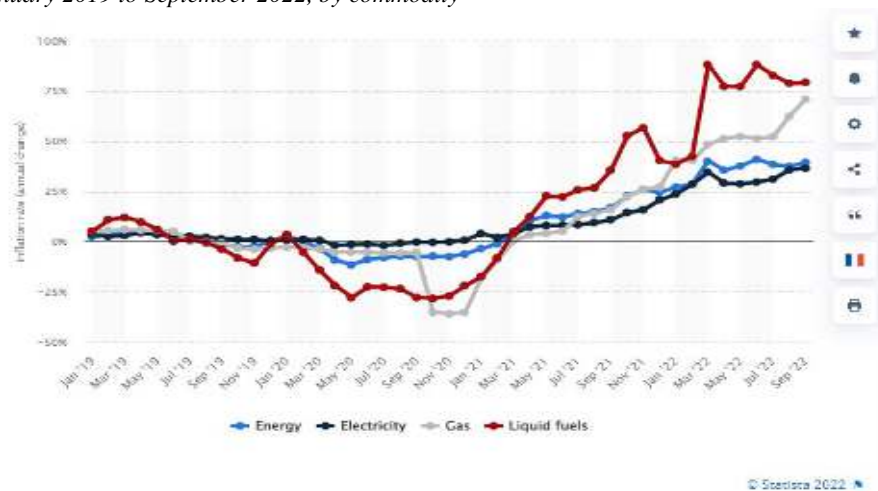
Figure no. 2. Energy prices keep climbing in the EU



Source: Statista, 2022, <https://www.statista.com/chart/28004/eu-energy-inflation-rates/>

Since the beginning of 2022, an increase in the inflation rates of several European energy goods has been observed. The most accelerated inflation growth rate was recorded by fossil fuels, 97.1%, followed by gas 70.9%, energy 39.4% and electricity 36.7% and can be seen in figure no. 3 (Statista, 2022). These events happened in the aftermath of Russia's invasion of Ukraine, which has caused anxiety about Europe's gas supply security as well as extreme energy price volatility (Statista, 2022).

Figure no. 3. Harmonized index of consumer prices (HICP) energy inflation rate in the European Union from January 2019 to September 2022, by commodity



Source: Statista, 2022, <https://www.statista.com/statistics/1328128/eu-energy-inflation-rate-by-commodity/>

As a result of the energy crisis, European countries have mobilized to ensure the supply of energy and to find effective solutions to the increase in prices. The measures taken in response address aspects such as: make ensuring EU consumers have access to affordable and competitive energy, enhancing the EU's emergency readiness and security of supply and increase EU nations' energy independence and resilience (European Council, 2022). At the same time, the EU's member states are collaborating on: enhancing cooperation and supply sharing, lowering energy expenses for companies and homes, lowering the EU's reliance on foreign energy, ensuring the supply of gas as well as quickening the switch to green (European Council, 2022). The changes in the energy market generated an increase in prices at the European level by approximately 7% compared to the first quarter of 2021 (IMF, 2022) plus inflation. In this situation, governments intervened with a series of policies to mitigate energy prices. In countries such as France, Austria, Portugal, Italy, Spain, measures were taken to mitigate the increase in prices, reducing taxes for a certain period of time (IMF, 2022).

Measures are also being taken to counter the volatility of energy prices, to support domestic consumers and businesses, to reduce dependence (imports) on fossil fuels from Russia, to diversify sources of supply (Versailles Declaration, March 2022) and to find alternative sources (renewable energy). Following the Versailles declaration, it was agreed on: broadening the sources of supply and transportation, notably by utilizing LNG (liquefied natural gas) and advancing biogas; increasing energy efficiency and controlling energy use, fostering the adoption of circular production and consumption practices, creating a European hydrogen market, speeding up the process of reducing our dependency on fossil fuels in general, completing and upgrading European gas and electricity network integration, as well as completely synchronizing the power systems across the EU, etc (Consilium Europa, 2022, p.5,6.).

An important step in this direction is the closure of partnerships with other countries in order to supply energy (European Council, 2022): Egypt, Israel, Azerbaijan, Canada, the United States of America.

In order to counteract the effects of the energy crisis, but also environmental issues, the European Union developed the Fit for 55 Package, by transposing into European legislation the objectives provided for in the European Ecological Package, which aims at reduced dependence on fossil fuels,



decreased reliance on energy and a healthier environment (European Council, Council of the European Union, 2022).

There are now two significant energy issues in Europe: the energy insecurity, which is a result of the continent's reliance on fossil fuels and susceptibility to outside aggression and the climate change brought on by emissions which affects the entire world (McKindsey, 2022). For the coming winters, the European Union should find ecological alternatives to energy security that would lead to a faster energy transition in order to fulfill the elements mentioned in REPowerEU targets. A series of measures in this direction would be: authorizations for renewable energy projects to be given more quickly, expand the manpower required to facilitate the switch to sustainable energy, increase energy efficiency via finance and public awareness campaigns, etc. (McKindsey, 2022 ).

## 5. Conclusions

In light of the structural uncertainty brought on by Russia's behavior, the security of the European Union's gas supply confronts unprecedented challenges. The situation quickly deteriorated into a full-fledged global oil crisis and the natural gas prices hit record highs, which had an impact on power prices in several markets (IEA, 2022).

In 2022, the European Union has worked together with the authorities, governments in order to increase supply security (World Economic Forum, 2022).

The war in Ukraine, as well as the disruptions occurring on the energy markets, have focused attention on renewable energy and alternative sources. Thus, as a result of the events that happened at the international level, it can be observed that energy security is a primordial branch for each individual state, and its recovery must be a priority for the government and authorities, as well as finding a consensus to achieve the faster and easier the transition to renewable energy, which provides a chance to accelerate growth (IMF, 2022). Therefore, the one of the best solution will be to investment in clean energy (renewable energy, electrification, etc) in order to ensure future energy security.

At the same time, we can see a revival of the concept of energy security that has received attention, both from policy makers and the academic environment.

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## Factors Favoring the Level of Knowledge in Writing European Funds for Sports Structures

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### Abstract

*This study aims to analyze the factors favoring the level of knowledge in writing European funds for sports structures. Factors such as gender, age, school, and the level of English are analyzed in correlation with the writing skills abilities: writing knowledge, needs assessment knowledge, purpose and objectives knowledge, Gantt chart knowledge, budget knowledge, finding partners knowledge, finding calls knowledge, dissemination Knowledge. A questionnaire survey was adopted, and the literature was reviewed before collecting data. One hundred nineteen representatives of public and private sports structures participated in this study. The study revealed that the level of English is the main factor favoring the level of knowledge in writing European funds for sports structures. The findings of this study provided valuable implications for curriculum developers and trainers in developing European funds training programs in the field of sport in Romania and beyond.*

**Key words:** English skills, European projects, writing sports projects, teaching in English, European funds writing in English

**J.E.L. classification:** J24

### 1. Introduction

The Bologna process influenced the creation of a common European higher education and significantly impacted the internationalization of higher education. Nowadays, in a globalized context, English language users are privileged in terms of access to better jobs and mobility than those using the national language. In addition, English has become the writing language of European projects with direct submission to the European Education and Culture Executive Agency (EACEA). Both the access portals and the application materials are entirely in English.

In this context, this paper analyzes a training program for writing European sports funds (EURO PRO SPORT) delivered in a hybrid format, at the National University of Physical Education and Sport (UNEFS), between October and December 2022.

The course had a technical nature and aimed to introduce participants to *Eurodesign techniques*, providing the necessary tools to understand how European Union funding programs (especially Erasmus+ Sport) work and how it is possible to respond to requests for proposals, both of the EU, as well as of other bodies or organizations. The course focused specifically on design techniques, providing participants with specific skills to draft a project correctly. A very relevant part of the course was developed through practical exercises, essential for learning design tools. The course had two sections: a theoretical section and a practical section in the form of a Euro design laboratory for writing projects.

All the training classes were provided in Romanian. However, the additional documents, application forms, and summary of the projects were asked to be delivered in English to be more related to the actual application process for funds applied directly to Bruxelles.

## 2. Literature review

There is evidence that English was taught as early as the 16th century, albeit in a limited way, only in places where there was trade with Great Britain. Instead, English was frequently encountered outside the institutional framework of the school (Essen, 1997).

English was the new foreign language used in Spain, Portugal, and Italy in the late 1970s and early 1980s. In Eastern Europe in the late 1950s, English was reintroduced next to German and French. English gained increasing importance until the late 1980s (Fodor, Pelau, 2001).

Nowadays, English and French are considered to be of particular importance and are widely taught in Romania (Truchot, 2001a., b., c.). Also, English occupies a leading place in the countries of the European Union, thus becoming the first modern language taught.

A Eurydice study from 2001 announced that out of 29 countries studied, nine of them learning English is compulsory. Moreover, in the rest of the countries, due to the large-scale introduction of English teaching and the obligation to learn a foreign language, English has a quasi-compulsory status (Truchot, 2002).

The Bologna process embraced by several European countries led to a common European space of higher education and implicitly to the internationalization of higher education. This is corroborated by Erasmus+ mobilities through European projects prioritizing the English language. Also, English language users and those who have benefited from Erasmus mobilities will be considered more adapted to the context of globalization. Regarding the research field, most journals have resorted to English to address an international audience.

The use of the English language both between universities and at the level of European institutions was a gradual process. For example, European institutions have used English in areas such as economics, technology, and science. Nowadays, the European Union's programs are managed mainly in English, from calls available to application submission and implementation. The programs concentrated on the central and eastern European countries are also based on the use of the English language (Ionescu, Stănescu, 2021).

Starting in 1980, there has been an expansion of the fields in which English is used, a process also supported by the effects of the internationalization of the economy and globalization. Thus, the English language began to be used in the main areas falling within the competence of the EU; the teaching of English spread, and thus the young diplomats were formed at American and British universities or other English language faculties in Europe (Wright, 2000).

According to the EF English Proficiency Index (2021), speaking English gives people access to a broader range of information, a more diverse network, and job opportunities than ever before. English-speaking workplaces can attract more diverse talent and draw on ideas and information from a larger pool (Ionescu, Stănescu, Aivaz, 2022, a.).

They are also more likely to collaborate internationally with partners and within their organizations. Romania ranks 15 as a high proficiency country in this EF English Proficiency Index, the countries with better scores being the Netherlands, Austria, Denmark, Singapore, Norway, Belgium, Portugal, etc. In Romania, 31% of the population speaks English, while in Denmark, 71% speak English.

A globalized planet needs a way to communicate, and English is firmly established in that role. Speaking English allows people to engage internationally in the broadest possible sense: meeting colleagues, understanding humanity's everyday challenges, and collaborating on solutions (Carter, 2020).

Suppose the adoption of English is rooted in history; the need for a lingua franca springs from globalization. The more our economies, technologies, and populations have intertwined, the more we need a way to communicate across borders. Consequently, English usage has spread unevenly but persistently over the past decades.

As part of its efforts to promote mobility and intercultural understanding, the European Union (EU) has designated language learning as an essential priority and funds numerous programs and projects in this area, including the Erasmus+ Programme, the Creative Europe Programme, the European Day of Languages, the European Language Label and Juvenes Translators.

Various articles of the Treaty of the European Union refer to the importance of all EU's languages, to the linguistic rights of EU citizens, and to the aim of "developing the European dimension in education, mainly through the teaching and dissemination of the languages of the Member States, while fully respecting cultural and linguistic diversity" (Article 165(1) TFEU).

### **3. Research methodology**

As a research method, we used cross-tabulations. In the first step, we determined whether the association between the variables was statistically significant. Then we examined the differences between expected and observed counts to determine which variable levels may impact the association most (Aivaz, Teodorescu, 2022).

The central hypothesis is that a high level of English determines a) a high writing knowledge; b) a qualitative needs assessment analysis; c) purpose and objective knowledge; d) a qualitative Gantt chart for the project; e) a qualitative structure of the budget for the project; f) a good process in finding the right partners for the project; g) the choice of an appropriate call for the submission of the project; h) the level of dissemination of the project results. To confirm this hypothesis, the variables used in the analysis were: Writing knowledge; Needs assessment knowledge; Purpose and objectives knowledge; Gantt chart knowledge; Budget knowledge; Finding partners knowledge; Finding calls knowledge; Dissemination Knowledge.

### **4. Findings**

About 119 participants registered for this course, 57 females and 62 males, with different age limits – about 26% up to 35 years and 74% over 35 years old, the majority of participants had university degrees/master's degrees. They had different levels of English: 26.1% advanced, 23.5% beginner, and 50.4% intermediate.

The participants entered this training with the following abilities: 86.6% said that on a scale from 1-5, the writing knowledge was up to 3 (inferior, poor, medium poor); 73.9% said that on a scale from 1-5, the needs assessment knowledge was up to 3 (inferior, poor, medium poor); 75.6% said that on a scale from 1-5, the purpose and objectives knowledge was up to 3 (inferior, poor, medium poor); 75.6% said that on a scale from 1-5, the Gantt chart knowledge was up to 3 (inferior, poor, medium poor); 72.3% said that on a scale from 1-5, the budget knowledge was up to 3 (inferior, poor, medium poor); 80.7% said that on a scale from 1-5, the finding European partner' knowledge was up to 3 (inferior, poor, medium poor); 80.7% said that on a scale from 1-5, the finding calls knowledge was up to 3 (inferior, poor, medium poor); 68.1% said that on a scale from 1-5, the dissemination knowledge was up to 3 (inferior, poor, medium poor).

#### **4.1. The correlation between Writing knowledge and Level of English**

As shown in Table 1, when analyzing the correlation between the variables of writing knowledge and the level of English, we can see that there is a statistically significant association between the two variables, in the sense that the knowledge of the English language determines the differentiation of the participants in terms of Writing Knowledge – in table 2 the Pearson Chi-Square is 0.05.

Out of the total 119 participants, 76.5% have an intermediate and advanced level of English, and 23.5% are beginners. Out of the ones that declared an excellent level of writing knowledge in European funds, 85.7% have an intermediate and advanced level of English. When writing a European project directly for the European Education and Culture Executive Agency (EACEA), the application forms and budget must be filled in English, so an intermediate/advanced level of English is needed.

Table no. 1. Crosstab between writing knowledge and level of English

		Level_English			Total
		Advanced (C1&C2)	Beginner (A1&A2)	Intermediate (B1&B2)	
Writing_K nowledge	1	Count	11	13	35
		% within Writing_Knowledge	18.6%	22.0%	59.3%
	2	Count	8	9	12
		% within Writing_Knowledge	27.6%	31.0%	41.4%
	3	Count	5	2	8
		% within Writing_Knowledge	33.3%	13.3%	53.3%
	4	Count	7	2	5
		% within Writing_Knowledge	50.0%	14.3%	35.7%
	5	Count	0	2	0
		% within Writing_Knowledge	0.0%	100.0%	0.0%
	Total	Count	31	28	60
		% within Writing_Knowledge	26.1%	23.5%	50.4%
					119
					100.0%

Source: Authors' calculation

Table no. 2. Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.101 <sup>a</sup>	8	.050
Likelihood Ratio	14.035	8	.081
N of Valid Cases	119		

a. 7 cells (46.7%) have an expected count of less than 5. The minimum expected count is .47.

Source: Authors' calculation

#### 4.2. The correlation between Needs Assessment Knowledge and Level of English

As shown in Table 3, regarding the need assessment knowledge and the level of English, out of the total number of 119 participants, 76.5% have an intermediate and advanced level of English, and 23.5% are beginners. Out of the ones that declared an excellent level of writing knowledge in the field of European funds, 86.4% have an intermediate and advanced level of English, and out of the ones that declared an excellent level of writing knowledge in the field of European funds, 77.7% have an intermediate and advanced level of English. The P-value from table 4 is less than the significance level, so we can deduce that there is a statistically significant association between the two variables.

When preparing a project, the need assessment is an essential part of the application form.

A need is a discrepancy or difference (gap) between what exists or the current state of affairs for the group or situation in question and what should be or is desired. A need reflects a particular problem that requires intervention and needs to be solved. A needs assessment attempts to identify these gaps, analyze their causes, and set priorities for future proceedings. Needs assessments require sufficient data, usually gathered from European statistics that are generally provided in English.

Table no. 3. Crosstab between Needs Assessment Knowledge and Level of English

			Level English			Total
			Advanced (C1&C2)	Beginner (A1&A2)	Intermediate (B1&B2)	
Needs Assesment_Kno wledge	1	Count	8	7	20	35
		% within Needs Assesment_Knowledge	22.9%	20.0%	57.1%	100.0%
	2	Count	4	14	11	29
		% within Needs Assesment_Knowledge	13.8%	48.3%	37.9%	100.0%
	3	Count	5	2	17	24
		% within Needs Assesment_Knowledge	20.8%	8.3%	70.8%	100.0W
	4	Count	11	3	8	22
		% within Needs Assesment_Knowledge	50.0%	13.6%	36.4%	100.0%
	5	Count	3	2	4	9
		% within Needs Assesment_Knowledge	33.3%	22.2%	44.4%	100.0%
	Total	Count	31	28	60	119
		% within Needs Assesment_Knowledge	26.1%	23.5%	50.4%	100.0%

Source: Authors' calculation

Table no. 4. Chi-Square Tests

	Value	df	Asymptotic Significance (2- sided)
Pearson Chi-Square	22.218 <sup>a</sup>	8	.005
Likelihood Ratio	20.667	8	.008
N of Valid Cases	119		

a. 3 cells (20.0%) have an expected count of less than 5. The minimum expected count is 2.12.

Source: Authors' calculation

When analyzing the correlation between the variables' *purpose and objectives knowledge and the level of English*, the p-value is larger than the significance level, so *there is not enough evidence to conclude that these variables are associated*.

Developing the purpose and objectives of a project is a more technical ability that does not involve a good level of foreign languages in general and English in particular. The purpose and objectives of the project refer to the project itself, so the writer of the project can develop these project sections in their native language and then translate them into English with the help of the internet applications available nowadays.

#### 4.3. The correlation between Gantt chart knowledge/Budget and the Level of English

The Gantt chart was developed in the early 1900s by Henry Gantt, and it shows the start and end periods and the duration of activities. It is not a network graph because it does not show the interdependence or the links between activities. This chart is usually provided by the funders inside the application package/annexes, but to fill it in, one needs to have intermediate/advanced knowledge of English.

The funders inside the application package/annexes also provide the budget. However, to understand these very technical accountability terms, one must have advanced English knowledge, especially for projects with budgets larger than 60.000 euros.

As shown in table 5 and table 6 below, the p-value is less than the significance level, so we can conclude that there is a statistically significant association between the variables.

Table no. 5. Crosstab between Gantt\_chart\_knowledge and level of English

			Level_English			Total
			Advanced (C1&C2)	Beginner (A1&A2)	Intermediate (B1&B2)	
Gantt_chart_knowledge	1	Count	5	8	20	33
		% within Gantt_chart_knowledge	15.2%	24.2%	60.6%	100.0%
	2	Count	3	9	17	29
		% within Gantt_chart_knowledge	10.3%	31.0%	58.6%	100.0%
	3	Count	7	6	15	28
		% within Gantt_chart_knowledge	25.0%	21.4%	53.6%	100.0%
	4	Count	12	2	5	19
		% within Gantt_chart_knowledge	63.2%	10.5%	26.3%	100.0%
	5	Count	4	3	3	10
		% within Gantt_chart_knowledge	40.0%	30.0%	30.0%	100.0%
Total		Count	31	28	60	119
		% within Gantt_chart_knowledge	26.1%	23.5%	50.4%	100.0%

Source: Authors' calculation

Table no. 6. Chi-Square Tests

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	21.487 <sup>a</sup>	8	.006
Likelihood Ratio	20.412	8	.009
N of Valid Cases	119		

a. 4 cells (26.7%) have an expected count of less than 5. The minimum expected count is 2.35.

Source: Authors' calculation

#### 4.4. The correlation between Finding partners' Knowledge and the Level of English

In table 7, we have the Crosstab between finding external partner knowledge and level of English. When talking about *finding external partner knowledge*, as the p-value from Table 8 is less than the significance level, we can infer a significant association between these two variables.

A necessary condition to apply for funding from the European Education and Culture Executive Agency (EACEA) is to have at least one external partner. Thus, the international component is an eligibility criterion.

All the processes of finding a partner, communicating with their representatives, and writing the application form usually involve a common language - English, so there is no doubt that also these variables are connected.



Table no. 7. Crosstab between finding external partner knowledge and level of English

			Level_English			Total
			Advanced (C1&C2)	Beginner (A1&A2)	Intermediate (B1&B2)	
Finding partners_Knowledge	1	Count	6	11	24	41
		% within Finding partners_Knowledge	14.6%	26.8%	58.5%	100.0%
	2	Count	5	8	18	31
		% within Finding partners_Knowledge	16.1%	25.8%	58.1%	100.0%
	3	Count	6	4	14	24
		% within Finding partners_Knowledge	25.0%	16.7%	58.3%	100.0%
	4	Count	10	4	3	17
		% within Finding partners_Knowledge	58.8%	23.5%	17.6%	100.0%
	5	Count	4	1	1	6
		% within Finding partners_Knowledge	66.7%	16.7%	16.7%	100.0%
Total	Count	31	28	60	119	
	% within Finding partners_Knowledge	26.1%	23.5%	50.4%	100.0%	

Source: Authors' calculation

Table no. 8. Chi-Square Tests

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	21.070 <sup>a</sup>	8	.007
Likelihood Ratio	20.332	8	.009
N of Valid Cases	119		

a. 5 cells (33.3%) have an expected count of less than 5. The minimum expected count is 1.41.

Source: Authors' calculation

#### 4.5. The correlation between Finding a call Knowledge and the Level of English

When discussing finding a call, as the p-value from table 9 is larger than the significance level (0.298), there is not enough evidence to conclude that the variables are associated. The principal calls are also available on national websites and also on the websites of the European Union, translated into the national languages.

Table no. 9 Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.544 <sup>a</sup>	8	.298
Likelihood Ratio	10.823	8	.212
N of Valid Cases	119		

a. 5 cells (33.3%) have an expected count of less than 5. The minimum expected count is .71.

Source: Authors' calculation

#### 4.6. The correlation between the Dissemination Knowledge and the Level\_English

The p-value from table 10 is less than the significance level, so we can conclude that there is a statistically significant association between the variables. The level of English determines a good knowledge of the dissemination methods and access to different local/regional/European networks where project results can be promoted.

Table no. 10 Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	33.682 <sup>a</sup>	8	<.001
Likelihood Ratio	38.252	8	<.001
N of Valid Cases	119		

a. 3 cells (20.0%) have an expected count of less than 5. The minimum expected count is 3.53.

Source: Authors' calculation

#### 5. Conclusions

This paper examines the factors influencing the knowledge of writing sports projects funded with European funds. The observed high degree of association between the majority of factors that determine an excellent European project (a high writing knowledge, a qualitative needs assessment analysis, a qualitative Gantt chart for the project, a qualitative structure of the budget for the project, an exemplary process in finding the right partners for the project, a good level of dissemination of the project results) and the level of English emphasizes the importance of a more closely integrated training system in the field of European funds. Facilitated access to European funds knowledge is to be combined with measures for best practice in writing applications in English, simulation of tasks in English, and ways of finding and communicating with external partners to increase the level of English and the quality of the applications.

Thus, from the point of view of efficiency and effectiveness, it would be recommended that the teaching of European funds courses in general, and in the field of sport in particular, be carried out in English, using from the start an international program that would allow participants to use the English language: creating partnerships with one or more universities in Europe, making assignments and project drafts in English, creating the proper contexts for communicating in English with external partners. This means exposing learners to English through experiences (such as immersion) close to the natural context and focusing on the meaning of what is being communicated rather than its form.

To achieve this objective, however, the universities, training providers, and the state should apply a systematic and unified methodology to help identify those individuals that demonstrate potential in terms of European funds writing in English in order to increase the number of sports organizations that apply for funding and that are capable of bringing about sustainable growth in the sports sector (Ionescu, Stanescu, Aivaz, 2022, b.).

New research is needed to see to what extent training programs in European funds are more effective if they have a diverse curriculum with teaching in both native language and English.

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## The Impact of the Russian-Ukrainian Conflict on the Current Migration Phenomenon

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### Abstract

*In recent decades, after the Second World War, we have become familiar with migration to Europe mainly for the purpose of work. In the European Union we have enjoyed the free movement of labour, goods, services and capital. But the outbreak of the Russian-Ukrainian conflict revived in Europe the migration caused by the war, for humanitarian purposes or in other words, the struggle for security or survival of some human individuals is identified. Through this paper, we propose to analyze the impact that the Russian-Ukrainian conflict has on the migration phenomenon, but also some contextual regional socio-economic effects.*

**Key words:** armed conflict, Ukrainian citizens, refugees, humanitarian, migration, regional socio-economic impact, labor force

**J.E.L. classification:** F22, O15, R23

### 1. Introduction

The free movement of labor, goods, services and capital are part of the scenario that allowed the European Union to evolve to a new level of development. After the Second World War, in the last few decades, we have become familiar with the fact that migration to Europe takes place mainly for the purpose of work. However, the outbreak of the Russian-Ukrainian conflict led us to follow and analyze the effects it has in the region and even worldwide.

Because one of the main effects of any armed conflict is that the affected population seeks refuge in areas where they feel safe, we appreciated that the migration phenomenon is the one that deserves our attention. Thus, in the first part of the paper, we captured some aspects of the migration phenomenon from the EU before the start of the Russian-Ukrainian conflict in order to have a first overview, in order to then analyze how the Ukrainian refugees contributed to the amplification of this phenomenon and from what perspectives, with what regional implications, so that in the end we come up with some relevant conclusions.

Our approaches on this plan have the following structure: (1) Introduction, (2) Theoretical/Research Background, (3) Research methodology, (4) Amplification of the migration phenomenon by Ukrainian citizens - effect of Russia's military aggression against Ukraine, (5) Situations derived from the migration phenomenon, (6) Other effects of the Russian-Ukrainian conflict and (7) Conclusions. Obviously, briefly, at the end, Limits of the research and our future research directions are presented.

### 2. Theoretical background. An overview of the migration phenomenon within the European Union before the current Russian-Ukrainian conflict

Regarding the migratory flows registered in the EU space in the period before the Russian-Ukrainian conflict, we highlight the fact that Eurostat, in 2010, for example, shows that „about 3.1 million people immigrated to one of the EU member states (see table no. 1), and at least 2.0 million people emigrated from an EU member state” (Eurostat, 2010). According to the same source, the EU policies in the field of migration, from the reference period, aimed to attract a certain profile of

migrant who would contribute to „fixing certain competence deficits”, focusing on the selection process „linguistic knowledge, professional experiences, education and age”.

The migration situation in European society, in 2020, reflects the fact that „1.92 million people immigrated to the EU, 0.96 million people emigrated from the EU, and the total net immigration in the EU registers the value of 0.96 million people” (European Commission, 2021). The European Commission, in statistical analyses, shows that „in 2020, the EU population decreased by approximately 100,000 people (from 447.3 million on January 1, 2020 to 447.2 million on January 1, 2021) and this is because have had fewer births, more deaths and less net migration” (European Commission, 2021), in a pandemic context, when travel restrictions were introduced to reduce the spread of the SARS CoV2 virus.

Table no. 1 Immigration by main citizenship groups, 2010

	Total immigrants (1 000)	Nationals		Non-nationals					
		(1 000)	(%)	Total		Citizens of other EU Member States		Citizens of non-member countries	
				(1 000)	(%)	(1 000)	(%)	(1 000)	(%)
<b>EU-27</b>	<b>3 100</b>	<b>600</b>	<b>21</b>	<b>2 500</b>	<b>79</b>	<b>1 000</b>	<b>31</b>	<b>1 500</b>	<b>48</b>
Belgium	131.2	17.0	12.9	113.7	86.6	59.6	45.4	54.1	41.2
Bulgaria	48.3	18.3	37.8	30.1	62.2	14.8	30.7	15.2	31.5
Czech Republic	52.2	18.5	35.4	33.7	64.5	16.7	31.9	17.0	32.6
Denmark	404.1	85.5	21.2	317.2	78.5	156.8	38.8	160.4	39.7
Estonia	2.8	1.6	57.3	1.2	42.6	0.5	18.2	0.7	24.4
Ireland	39.5	16.6	42.0	22.7	57.4	15.7	39.8	7.0	17.6
Greece	119.1	64.1	53.9	54.9	46.1	18.7	15.7	36.2	30.4
Spain	465.2	34.8	7.5	430.4	92.5	145.4	31.2	285.0	61.3
France	251.2	101.6	40.5	149.5	59.5	61.2	24.4	88.4	35.2
Italy	458.9	34.4	7.5	424.5	92.5	118.6	25.8	305.9	66.7
Cyprus	20.2	1.9	9.3	18.3	90.6	11.9	58.9	6.4	31.7
Latvia	2.4	0.3	10.7	2.1	89.3	0.8	35.7	1.3	53.6
Lithuania	5.2	4.2	79.7	1.1	20.3	0.1	2.9	0.9	17.5
Luxembourg	17.0	1.1	6.8	15.7	92.8	12.6	74.2	3.2	18.6
Hungary (2)	27.9	2.3	8.3	25.6	91.7	14.2	51.1	11.3	40.6
Malta	8.2	1.2	14.6	7.0	85.3	6.3	76.4	0.7	8.9
Netherlands (2)	128.8	36.9	28.7	81.9	63.6	47.3	36.7	34.6	26.8
Austria	73.9	8.7	11.7	65.1	88.2	41.3	56.0	23.8	32.2
Poland	27.6	19.7	71.5	7.9	28.5	2.4	8.7	5.5	19.8
Portugal	15.4	2.7	17.6	12.7	82.1	2.0	13.1	10.6	69.0
Romania	13.8	1.1	8.1	12.7	91.9	6.0	43.3	6.7	48.6
Slovakia	25.6	7.4	29.0	17.9	69.8	7.1	27.7	10.8	42.1
Finland	98.8	19.8	20.0	78.7	79.6	24.2	24.4	54.5	55.2
Sweden	591.0	93.3	15.8	497.6	84.2	176.0	29.8	321.7	54.4
United Kingdom	3.9	1.7	42.5	2.3	57.5	1.7	42.5	0.6	15.0
Iceland	0.6	0.2	27.1	0.4	72.9	0.2	39.9	0.2	33.0
Liechtenstein	69.2	9.6	13.9	59.6	86.1	37.3	53.8	22.3	32.3
Norway	161.8	22.3	13.8	139.4	86.2	91.2	56.4	48.2	29.8

(1) EU-27 rounded totals are based on estimates; the individual values do not add up to the total due to rounding and the exclusion of the 'unknown' citizenship group from the table.

(2) 2009.

Source: Eurostat (online data code: migr\_imm1ctz)

Source: Eurostat

### 3. Research methodology

The approach to the aforementioned topic („The Impact of the Russian-Ukrainian Conflict on the Current Migration Phenomenon”) is based on the investigation of several specialized works, which (and) due to the fact that the researched problem is relatively new (approx. one year), they are as recent as possible.

For the same purpose, we have resorted to analyzing the official documents of the European Commission, the EU Council and the European Council, the data provided by Eurostat, the UN High Commissioner for Refugees, but also national normative acts related to our topic. Among the latter we highlight those foundations and legislative provisions aimed at providing facilities for refugees from Ukraine.

## 4. Findings

### 4.1. Amplification of the migration phenomenon by Ukrainian citizens - effect of Russia's military aggression against Ukraine

Russia's military aggression against Ukraine has generated an impressive migration influx of millions of people seeking refuge and in this context the EU on 4 March 2022 activated the Temporary Protection Directive to support citizens on the territory of Ukraine.

An impressive number of people tried to ensure their security and took refuge, either by migrating from one region to another on the territory of Ukraine, or to EU states and the Republic of Moldova, or to Russia, despite the fact that the latter the state is precisely the attacker (Elisei, 2014). According to Arthur Elisei, in the work *The Russia-Ukraine Conflict*, „On March 1, 2014, the Duma (Russian Parliament) approved Vladimir Putin's request to use force in Ukraine to «protect Russia's interests».... Starting from March 1, 2014, armed persons, in uniforms without insignia, took control of some strategic points in the Crimean peninsula.” Hostilities continued, and here in December 2022 the Russian-Ukrainian armed conflict is in full swing, after Russia began its invasion of Ukraine on February 24, 2022. According to the UN High Commissioner for Refugees (UNHCR, November 22, 2022), 7.9 million refugees from Ukraine are registered across Europe, and 4.8 million refugees from Ukraine are registered for temporary protection or a similar regime in the EU. Thus, Europe is facing the largest migration since the Second World War.

In the context of the military aggression, the EU offered Ukraine support on multiple humanitarian-political-financial-material levels, support that concretely presents itself as follows (European Council, 2022, UN High Commissioner for Refugees (UNHCR), 2022):

- „a temporary protection mechanism for people fleeing war;
- 523 million euros in the form of humanitarian aid;
- Support for civil protection granted to Ukraine, the Czech Republic, Moldova, Poland, Slovakia and UN High Commissioner for Refugees (UNHCR);
- financial and technical support for member states hosting refugees;
- support for border management for EU countries and the Republic of Moldova”.

Among the states included in the Response Plan for refugees, in addition to those already nominated, there are at least Romania, Hungary, and Bulgaria. It is worth highlighting the numerical picture of Ukrainian citizens involved in the fluctuating migration process (*Table no. 2*).

*Table no. 2 Countries featured in the Refugee Response Plan*

Country	Refugees from Ukraine registered for Protection	Refugees from Ukraine recorded in country	Border crossings from Ukraine*	Border crossings to Ukraine**
Poland	1,521,085	1,521,085	7,885,885	5,806,156
Czech Republic	464,701	464,910	Not applicable	Not applicable
Slovakia	102,278	102,476	970,667	705,384
Republic of Moldova	Not applicable	96,913	706,906	348,335
Romania	90,348	94,526	1,589,800	1,265,900
Bulgaria	146,659	51,516	Not applicable	Not applicable
Hungary	32,271	32,271	1,812,974	Data not available
<b>Total</b>	<b>2,357,342</b>	<b>2,363,697</b>	<b>12,966,232</b>	<b>8,125,775</b>

Source: UN High Commissioner for Refugees (UNHCR), Ukraine refugee situation, [online] Available at: <<https://data.unhcr.org/en/situations/ukraine>>, [accessed on November 30, 2022]

Analyzing the data from *Table no. 2*, we find that Poland experiences the largest flow of migrants who have commuted between the country of origin and Poland. Thus, the significant percentage of 60.82% of Ukrainian citizens, out of the total number of migrants represented in *Table no. 2*, who left Ukraine and entered the territory of Poland. 7,885,885 citizens entered Poland from Ukraine through various border points, and 5,806,156 Ukrainian citizens returned from Poland to Ukraine (according to the previously indicated sources). So it follows that out of the



difference of 2,079,729 Ukrainians who did not return to Ukraine, only 1,521,085 registered in Poland as Ukrainian refugees for temporary protection or similar national protection schemes. Thus, a significant number of Ukrainian migrants went to other states in the European Union (Union whose states face labor shortages and which offer them opportunities in this regard) and to a lesser extent, to countries such as Canada, the USA or Israel. New arrivals find work more easily and quickly than previous groups of refugees, yet there is uncertainty for both parties (employers / employees) as to how long they will stay, combined with obstacles such as language, cultural and qualification recognition barriers and childcare responsibilities, which have led many to prioritize any job, whether skilled or unskilled (Desiderio and Hooper, 2022).

It is necessary to emphasize that the figures regarding migrants are constantly changing and that the data in our analysis were provided on November 29, 2022 (with the exception of the data provided by Romania which was reported on November 27, 2022). Thus, the figures recorded in Poland (to which I referred previously) are followed by a percentage of 13.98% of migrants who went to Hungary and then 12.26% of Ukrainians who migrated to Romania. If no data is available for Hungary, from Romania, 1,265,900 Ukrainian citizens returned to their country of origin, Ukraine, 94,526 registered as refugees in Romania, 90,348 benefiting from temporary protection or similar national protection schemes, and the rest we understand they have gone to other destination states. Finally, while Poland has the highest number of registered Ukrainian refugees, Hungary has the lowest number of Ukrainian refugees (32,271) who have registered for protection.

Beyond the European states, EU member states, Belarus, Russia's ally, constituted a favorable environment for migration for the Ukrainian population. However, it cannot be ignored that a significant number of Ukrainian citizens (2,852,395) migrated to the Russian Federation, and 17,209 registered as refugees in Belarus, as shown in *Table no. 3*.

*Table no. 3 Other countries neighbouring Ukraine*

Country	Refugees from Ukraine registered for Protection	Refugees from Ukraine recorded in country	Border crossings from Ukraine*	Border crossings to Ukraine**
Russian Federation	Not applicable	2,852,395	2,852,395	Data not available
Belarus	Not applicable	17,209	16,705	Data not available
<b>Total</b>	<b>Not applicable</b>	<b>2,869,604</b>	<b>2,869,100</b>	<b>Data not available</b>

Source: UN high Commissioner for Refugees (UNHCR), Ukraine refugee situation, [online] Available at: <<https://data.unhcr.org/en/situations/ukraine>>, [Accessed on November 30, 2022]

In this context, some questions arise regarding the migration option selected by a part of Ukrainian citizens for which we aim to find, to some extent, answers:

- What are the reasons why Poland is facing the largest influx of Ukrainian migrants?
- Why Romania?
- What causes the citizens of an attacked state (Ukraine) to migrate precisely to the state that caused the conflict (Russia)?

#### 4.2. The motivation of the major influx of Ukrainian to Poland

First, as we detailed in one of the previous paragraphs, we must not lose sight of the fact that Poland, together with other EU member states, as well as the Republic of Moldova participates in the implementation of the EU Response Plan for refugees that ensures the protection mechanism temporary and humanitarian aid.

If a decade ago Poland was not considered a country of immigration, in recent years, in addition to other states of Central and Eastern Europe such as the Czech Republic, Slovakia, Hungary, Poland, as a member state of the EU it is no longer only a state of emigration but also immigration and transit, thus, if some citizens of this state migrate to Western Europe, the same country becomes a destination for migrants from Belarus and Ukraine. (Tudorache, p. 97) Here, a custom related to the migration of Ukrainians to Poland since before the outbreak of the Russian-Ukrainian conflict, as well as Ukraine's proximity to Poland, the two states having a common border of approximately 530 km with 11 border crossing points since 2012 (Frontiera Polonia - Ucraina, 2022), can constitute premises of the influx of Ukrainian migration in the midst of the Russian-

Ukrainian conflict. Ukrainian citizens who emigrated to Poland even before the armed conflict between Russia and Ukraine broke out in 2022, could constitute real anchors for family members who had to take shelter from the dangers generated by the war and flee from them.

A larger number of citizens on the territory of any state has effects on the public institutions of the receiving state, demanding a greater involvement of the staff, as well as its increase with the multiplication of the workload. Currently, in addition to registering impressive numbers of refugees (mostly women and children who apparently preferred to stay close to the mother country), Poland is witnessing a pattern of mobility that is somewhat similar to the reality of pre-2022 migration between Ukraine and Poland which included a large number of temporary migrants commuting for work, regularly, between the two countries, it being not possible to estimate the extent of the phenomenon due to insufficient data. (Duszczyk and Kaczmarczyk 2022, pp. 164-170)

#### 4.3. Why Romania?

Romania, as a member state of the EU and a neighboring state of Ukraine, has a common border in the North and the East that stretches over a distance of 649,4 km (The Consulate General of Romania in New York) and in accordance with the Protocol concluded between the Government of Romania and the Cabinet of Ministers of Ukraine there are several border points of which 3 from *Table no. 4* are located on the northern border of Romania. We will include in the table only those with international status.

*Table no. 4 Open points for crossing the Romanian-Ukrainian state border*

<i>No. Crt.</i>	<i>Denomination</i>	<i>Traffic</i>
1	Halmeu - Diakove	Car and rail, people and goods
2	Siret - Porubne	Car and pedestrian, people and goods
3	Valea Vișeuului - Dilove	Rail, people and goods
4	Câmpulung la Tisa - Teresva	Rail, people and goods
5	Vicșani Vadul Siret	Rail, people and goods
6	Sighetu Marmăției - Solotvino	Car, pedestrian, people, and goods weighing up to 3.5 tons

*Source:* The protocol concluded between the Government of Romania and the Cabinet of Ministers of Ukraine for the amendment of the Agreement between the Government of Romania and the Cabinet of Ministers of Ukraine regarding the conditions of mutual travel of citizens, signed in Kyiv on December 19, 2003, adopted/published on 07.04.2006

If the number of refugees from Ukraine increases, both the Romanian and Ukrainian sides show that they are ready for the opening of new border points. Thus, on November 10, 2022, a new road crossing point for the border with Ukraine was inaugurated in Romania, at Vikovu de Sus, Suceava county, against the background of the intensification of Russian military actions and in case of the need to evacuate the capital Kyiv (Horșia, S., 2022).

According to the Romanian government (Romanian Government, 2022), with the introduction of the temporary protection mechanism by the European Commission, for refugees from Ukraine, both Ukrainian citizens and citizens of third countries located on the territory of Ukraine, can enter the territory of Romania, they can benefit from protection for the period of one year, a period that can be extended by six months, for a maximum period of one year. According to the same source and under the conditions of the regulations in force, on the territory of Romania, refugees from Ukraine benefit from the rights of „assistance necessary for maintenance, in the situation where do not have the necessary material means, emergency hospital medical assistance, as well as free medical assistance and treatment in cases of acute or chronic diseases that put life in imminent danger”, which is realized, mainly, through facilities such as:

- Accommodation in spaces provided by the state or at available private units/people, the expenses on food, hygiene products and clothing being provided from funds allocated by the state and from donations;



- Upon request, the refugees from Ukraine who want to settle in Romania are provided with the state allowance for children, social aid, family support allowance, if they meet the eligibility conditions according to the legal regulations in force;
- Free medical assistance and appropriate treatment for emergency situations;
- The Ukrainian refugees who wish to secure sources of income from work, without needing an employment permit, can be employed under an IEC (Individual Employment Contract) for nine months of a calendar year;
- Refugees with *disabilities, the elderly and people who benefit from international protection can benefit from various forms of support such as: „protected housing, training centers for independent living, empowerment and rehabilitation centers, care and assistance centers, crisis centers”*;
- *Refugee children from Ukraine have access to education in Romania, under the same conditions that Romanian students benefit from, being mainly provided with: accommodation in boarding schools, allowance for food, medical assistance, supplies, clothing, shoes, textbooks;*
- *within the limit of 20% of the schooling capacity allocated by ARACIS, the Ministry of Education can approve the addition of the number of places for refugee students from Ukraine who wish to continue their studies;*
- *based on the status of the unaccompanied minor, children from Ukraine who arrive unaccompanied in Romania benefit from protection, through the Operative Group for Unaccompanied Children which ensures an integrated intervention, adopting the most appropriate measure for the minor.*

For example, as presented by UNHCR (Burks, 2022), art therapy, sculpture, music, drawing or dance classes are some of the activities in which some Ukrainian refugee children and/or young people participate/have participated in a safe space for Ukrainian refugees, of a community organizations from Bucharest, the capital of Romania. Participating in such activities, the escape of children and the solidarity they benefit from is a momentary solution for Ukrainian refugee children/youth having the chance to communicate and share experiences and feelings in a diverse informal setting, but although the participants feel good in such a space (of which it is known that there are many others in Romania), dreams of „home” and of returning to Ukraine where they will be able to meet their father again. Home and family, the trauma of separation and flight from war, are in the mind of every refugee, adult or child, and the humanity, the support, the momentary well-being that these children/young people benefit from in such a center represents a solution framework „here and now” and not a viable long-term solution (Burks, 2022).

#### **4.4. Why are so many citizens migrating to Russia?**

After the collapse of the Soviet Union, the migration phenomenon was preserved between Russia and the newly independent states, but over time, the migration ties between Russia and them, in general, weakened, and the predictions made did not seem to have a positive trend, not even for Russia, nor for countries in the region. (Denisenko, 2017, p. 10)

However, against the background of the armed conflict between Russia and Ukraine, the neighborhood, the border that delimits the two states, the common history that the two entities have shared, the similar culture and linguistic components, the degree of kinship between some Ukrainian citizens and other Russians, constitute premises strong for a Ukrainian citizen to migrate to Russia (2,852,395 Ukrainian migrants, according to UNHCR, data recorded as of October 3, 2022). All of the above can be sufficient reasons for any Ukrainian citizen to join the attacker's camp, or even more so, to share the same reasons that led to the outbreak of the war. This if we take into account Russia's previous policy (The one that dates back to at least 2014, when the Duma, the Russian Parliament, approved Vladimir Putin's request to use force in Ukraine to „protect Russia's interests”), as well as the current one, which is motivated and legitimized by the fear of Western expansionism that could have subversive effects on the spiritual integrity of the Russian nation (Morozov, 2017, pp. 5-6), and more.

In addition to causing thousands of deaths and amplifying the phenomenon of migration, Russia's military aggression against Ukraine has given rise to large-scale economic imbalances worldwide, prompting the EU to take measures to respond to this challenge in order to protect its own security and democratic values, and at the Versailles Summit (March 10-11, 2022), EU leaders decided on a three-dimensional vision regarding (1) strengthening European economic resilience, (2) reducing energy imports from Russia and (3) strengthening European defense. (EEAS, 2022)

Looking ahead, both the integration trajectory and the ability of governments to track results will be complicated by the secondary movements of this population [allowed under TPD (Temporary Protection Directive) status] and circular movements to and from Ukraine. (Desiderio and Hooper, 2022)

#### **4.5. Conjunctures derived from the migration phenomenon**

The migration phenomenon that has increased in the context of the Russian-Ukrainian conflict is characterized by both advantages and disadvantages for the communities in the region and implicitly for their citizens, especially for Ukrainian citizens. We present, in the following, some of them:

##### *Advantages:*

- ✓ the humanitarian spirit and support offered to Ukrainian citizens by the states that share a common border with Ukraine, as well as by other EU states, but not only, encouraged Ukrainian citizens to migrate to them;
- ✓ the fact that NATO, in the context of the armed conflict, supports Ukraine, which is a NATO „partner country” since 2008, gave courage to Ukrainian citizens for fluctuating migration, i.e. to oscillate between the host state (of migration) and the state of origin (Ukraine);
- ✓ The European Union came to the support of Ukrainian citizens and activated for them the Temporary Protection Directive (TPD), a directive with a protective role and which allowed the provision of facilities to Ukrainian refugees on several levels: humanitarian, political, material and financial, to which we did detailed reference in the preceding paragraphs, context in which Ukrainian citizens had the confidence to migrate to EU member states;
- ✓ the relatively easy access for Ukrainian refugees to the labor market from the level of the EU member states, in the context in which they face a certain labor force deficit, is another element that has encouraged migration;
- ✓ the financial resources that they save in the state of migration, could be sent to the country of origin to serve the family members who remained in the country of birth and why not, could be used, someday, even in the reconstruction of Ukraine (piece by piece);

##### *Disadvantages:*

- ❖ the uncertain evolution of the Russian-Ukrainian conflict determines the need to define multiple strategic scenarios of states facing labor shortages in order to prevent and/or counteract the numerical and temporal unpredictability of a fluctuating part of the labor force originating from Ukraine (the population is considered fluctuating, precisely due to the oscillation between the state(s) of migration and the state of origin during peacetime/small or non-existent Russian armed turbulence); this context causes migration states to continuously monitor the evolution of the Russian-Ukrainian conflict and to constantly adapt to the factors generated by the conflict;
- ❖ loss of income of the Ukrainian state and its citizens as a result of the temporary non-use of labor force, skills or their partial use by Ukrainian citizens; this situation may lead to the definitive loss of valuable professionals by the Ukrainian state, but may represent an immeasurable benefit to the state of migration of Ukrainian citizens if it experiences a labor shortage; however, even under these conditions, it is possible for Ukrainian refugees to integrate professionally in a field in which they do not utilize their skills to their full capacity, there is also the possibility of carrying out their activity in fields for which the skills they possess are not necessary, this if we have considering language and cultural barriers; of course, Ukrainian refugees can adapt to the new conditions, but adaptation

requires time, SMART programs of integration/preparation, will and sustained commitment from both sides;

- ❖ there is a possibility that some adolescent Ukrainian refugees may have to be employed early in the state they migrated to, due to linguistic and cultural integration barriers (except for states that have common or at least close linguistic and cultural elements) or due to factors of social order and, respectively, financial and material needs, thus neglecting the education necessary for a quality professional life; it is also possible that this category of refugees will not return to their country of origin, and if this happens, we can again identify young people with an intermediate level of professional training and, respectively, with insufficiently developed skills; all of these depend to a great extent on the integration programs offered by each of the host states, but also on the potential of each teenager; however, the experience gained in the state that hosted them can offer new linguistic, cultural and even socio-professional perspectives;
- ❖ the eventual „reconstruction” of Ukraine, after the end of the conflict, may register slower progress if we consider the impossibility or reduced possibility of participation in it by Ukrainian citizens who have migrated to other states.

#### **4.6. Other effects of the Russian- Ukrainian conflict**

Additionally, in addition to the amplification of the migration phenomenon by citizens from the territory of the states involved in the conflict, especially from the territory of Ukraine, the armed conflict generated many other effects, both on Ukrainian citizens and foreigners temporarily located on the territory of Ukraine, as well as for the states in the immediate vicinity of Ukraine and their citizens, but not only. Here are some of those effects: ► thousands of deaths of citizens directly or indirectly involved in the Russian-Ukrainian armed conflict, either of Ukrainian and/or Russian nationality, or of other nationalities who for professional purposes or in another context were in the territory affected by the conflict; ► the destruction of some human settlements in communities directly involved in the armed conflict, but also of the industrial, transport infrastructure, etc.; ► the security and democratic values of the EU states, but not only, are tested or tried on the occasion of this conflict; ► economic losses recorded by the partner entities, through the departure of multiple international reference companies from Russia, the interruption of strategic economic partnerships, the termination of commercial contracts concluded by Russia with third countries, except for countries such as Belarus and China, for example; ► large-scale economic-social imbalances worldwide, which had as their main causes: ▪ suspension, interruption or delay in the delivery of some products and/or raw materials from Ukraine to third countries; ▪ the increase in the cost of goods exported by Ukraine, by means of transport other than the naval one; ▪ redefining strategies for strengthening European economic resilience; ▪ the relocation of budget funds for defense consolidation, by strengthening the defense infrastructure and human resources at the borders, the creation of new border crossing points, but also the increase of support at the level of institutional structures with a major role in ensuring security, defense and migration; ▪ increase in energy costs as a result of the reduction/cease of imports of energy from Russia by the EU and reorientation to other markets; ► there are signs that the Russian economy will register less favorable indicators than in previous years, considering the value fluctuations of the Russian national currency (the ruble), the values recorded by the inflation index, the difficulties of the Moscow Stock Exchange, the risk of Russia's dependence on China.

#### **5. Conclusions**

The way of approaching our theme leads to the conclusive idea that the European Union, under the pressure of events, prepared to respond to the challenges launched by the Russian-Ukrainian armed conflict. An issue of major importance, namely whether there are migration and asylum policies in the EU states that allow the optimal integration of Ukrainian refugees, has caused us to make a series of relatively brief references and from which it does not follow that the most good practical solutions.

It is true that, in the face of the humanitarian crisis that arose on the background of the Russian-Ukrainian conflict, any help from any state is vital and much more than "no helping hand", but future developments in the integration of Ukrainian refugees will be talkative; for the moment, the feedback is, to a certain extent, positive, and for example, there are already signals that some of them are already active in the labor market in their host states.

But until a satisfactory solution the distance is long. The situation is conditioned by political, social and, most importantly, financial/material factors. Or, in the context of the other crises that act simultaneously: health, financial, energy, supply circuits, etc. (aside from the geostrategic crisis), with certainty, the difficulties we referred to in the paper will not be removed anytime soon.

**The limits of the research** – are given by the fact that the work is far from exhaustive, the analyzed problems having appeared relatively recently. This also explains the small number of similar works in the scientific offer. Moreover, as I have shown, the uncertain evolution of the Russian-Ukrainian conflict determines the need to define multiple strategic scenarios for states facing labor shortages in order to prevent as much as possible the numerical and temporal unpredictability of a fluctuating part of the labor force from Ukraine.

**Our future research directions** – necessarily assume the passage of a longer period of time, possibly until the conflict is resolved in one way or another. However, we appreciate that this paper is only a starting point in the creation of more complete scientific articles, given the importance of the topic we have chosen for research, and which we believe will be of high interest for many years to come.

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## Digitalization of Public Administration in the Context of the Multiannual Financial Framework (MFF) 2021-2027 and the Implementation of the National Recovery and Resilience Plan (NRRP)

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### Abstract

*An efficient European public administration that responds in a real way to the needs of both citizens and the business environment, through a better organization of activity, through strategy, transparency, reducing response time and reducing costs is imperative, precisely in the context of the challenges the current decade (generated by the COVID-19 Pandemic, the Russian-Ukrainian armed conflict, the energy sector, economic competitiveness). Increasing the quality of public administration services could also be ensured through the implementation and use of tools facilitated by information and communication technology (ICT). Thus, we propose, through this paper, to analyze the role of the Multiannual Financial Framework (MFF) 2021-2027 and the implementation of the National Recovery and Resilience Plan (NRRP) in the strategic process of digitalization of the public administration, as well as the impact of the two instruments of financial-budgetary strategy on the digitalization of public administration.*

**Key words:** ICT, digitization, digitalization, e-government, e-governance, governmental cloud, efficiency, effectiveness, public administration

**J.E.L. classification:**D73, H83, D73

### 1. Introduction

The terms digital transformation, digitization and digitalization are increasingly identified in communication in recent years, either only from a conceptual perspective, or in a more complex formula with practical applicability, in the form of processes. Information and communication technology, the basis of the digital transformation of European governments increasingly concerned with the use of digital tools, has the opportunity to show its role and „shine” in the process of transformation and improvement of processes in public administration to respond to the needs of citizens and the business environment, through quality public services. The COVID-19 pandemic, the Russian-Ukrainian armed conflict, imbalances in the energy sector, economic competitiveness are sufficiently sound arguments for the European government to be concerned, set objectives and take measures to support citizens and the environment experienced businesses, natural and legal persons affected enough starting with the year 2020.

In this context, through this paper, we aim to capture and analyze the way Europe can find solutions to the problems faced by citizens and the business environment, in particular, through the digitalization of public administration.

Our approaches, on this plan, include the following structure: (1) Introduction, (2) Theoretical/Research Background, (3) Research methodology, (4) Digitalization of public administration in the context of the Multiannual Financial Framework (CFM) 2021-2027 and the implementation of the National Recovery and Resilience Plan (NRRP), (5) The digital component of public administration in European countries and interoperability and (6) Conclusions. Obviously, briefly, at the end, limits of the research and our future research directions are presented.

## **2. Theoretical background. Perspective on the exploitation of ICT with impact on the efficiency and the effectiveness of the European public administration**

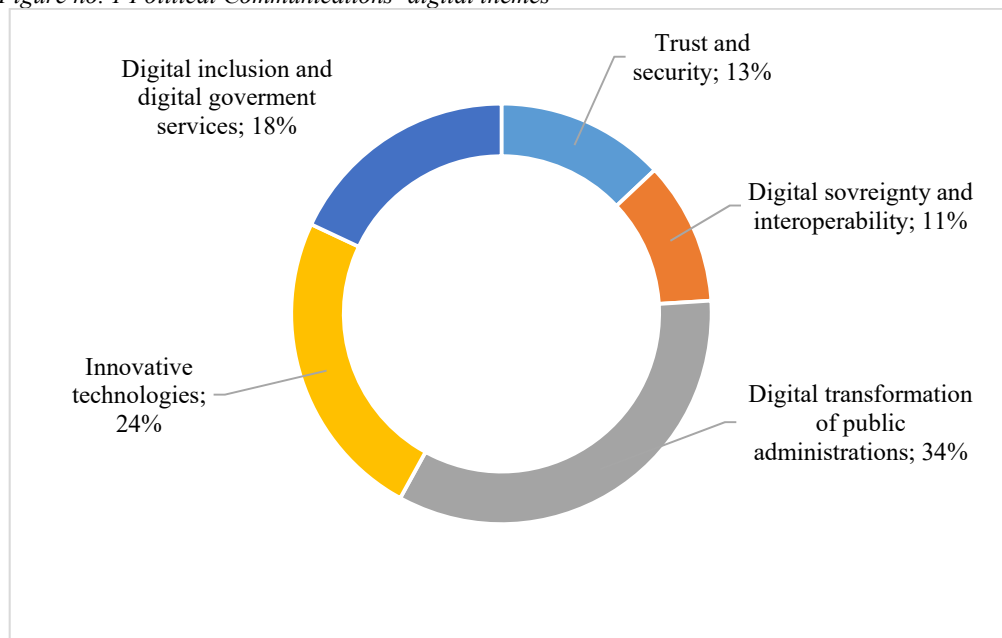
„Transparency, cost efficiency and reduction of response times, better organization of activities and the development of the capabilities, capacities, skills and abilities necessary to provide proactive responses” (Roja, A. and Boc, M., 2021) are considered the much-desired effects of the digitalization of public administration against the background of the new digital paradigm, by capitalizing on information technology and communication (ICT).

In recent years, terms such as digital transformation, digitization or digitalization have been used more and more in everyday language, and at least the last two are somewhat confused, this fact prompting us to initiate an approach to clarify the terminology: thus, if initially digitization meant the conversion of analog formats into digital formats, today, this digitalization refers to processes or equipping analog objects with ICT; to best understand the difference between digitization and digitalization, we emphasize that while „digitization involves transforming analog data into digital, digitalization uses digitized data and changes the way <<businesses>> and <<customers >>”, [ <<governments>> and <<citizens, business environment>>] „interact, creating new digital flows with the help of digital technologies”. (The Ministry of Research, Innovation and Digitalization, 2022).

Information and communication technology, the basis of the digital transformation of governments increasingly concerned with the use of digital tools, aims to improve the interactions between governments and citizens, respectively the business environment, by simplifying procedures, the digital transformation of governments means „▪ the continuous modernization of public administration, ▪ crossborder mobility without interruption and ▪ improved digital interactions” (European Commission (b), 2022), ▪ quality public services offered to citizens.

If not before, at least in recent years, with the COVID-19 Pandemic that began in Europe in 2020, but also in the context of subsequent challenges related to the Russian-Ukrainian armed conflict, imbalances in the energy sector, economic competitiveness, one of the main objectives of European governments aims to improve the efficiency and effectiveness of public administration, by harnessing information and communication technology (ICT) to promote innovation, sustainability and transparency for the benefit of „customers”, European citizens, natural and legal persons (European Commission (c), Federico CHIARELLI et. al., 2022). In this context, the previously indicated source allows us to present in Figure 1 the „priorities in the fields of digital policies in European countries analyzed” [„The countries studied are the 27 EU Member States, the members of the European Free Trade Association (Iceland, Liechtenstein, Norway and Switzerland) as well as Ukraine, Montenegro, Turkey and the Republic of North Macedonia”]., taking into account the 204 communications(\*) regarding decisions to introduce new commitments on digital policy or to revise some of the existing between the years 2021 and 2022, as follows: leading, is the field of „digital transformation of public administrations” with 34% (69\*), in second place being the field of „innovative technologies” with 24% (50\*), followed by the domain „digital inclusion and digital government services” with 18% (36\*), then we identify the domain „trust and security” with 13% (26\*), and the domain „digital sovereignty and interoperability” registers a share of 11% ( 23\*) priority, among the concerns of action in the fields of digital policy.

Figure no. 1 Political Communications' digital themes



Source: (European Commission (c), Federico CHIARELLI et. al., 2022)

In various contexts and from multiple perspectives on which we stopped our attention in the present research, the issue of digitalization, treated in this work, was the object of research by several authors (Androniceanu, et. al., 2022; Scupola, and Mergel, 2022; Ahna, and Chen, 2022; Margariti, et. al., 2022; Filgueiras, 2022; Profiroiu, and Negoită, 2022) who support the need for digitalization and the benefits brought by ICT, digitalization, e-government, e-governance etc. citizens, private and national, European, global institutional environment.

### 3. Research methodology

The approach of our research topic [„Digitalization of Public Administration in the Context of the Multiannual Financial Framework (MFF) 2021-2027 and the Implementation of the National Recovery and Resilience Plan (NRRP)”] is based on the investigation of several specialized works, which (also) due to the fact that the researched problem is of great topicality, necessity and utility, have a character as recent as possible.

For the same purpose, we have resorted to the analysis of official documents of the European Commission and the Government of Romania, the Ministry of Investments and European Projects, the Ministry of Research, Innovation and Digitization, the Authority for Digitization of Romania, and, respectively, some European/national normative acts centered on the theme of our research.

### 4. Findings

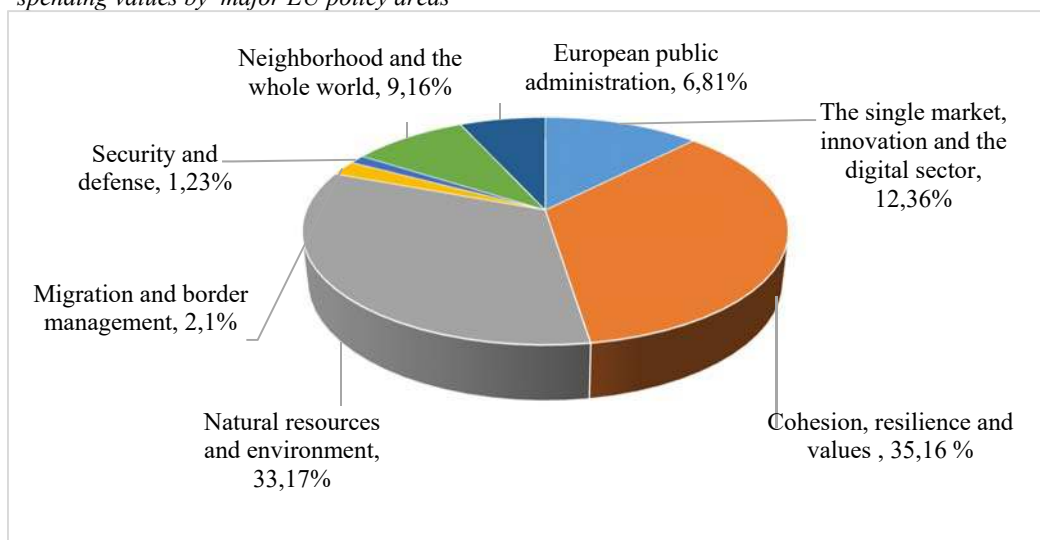
#### 4.1. Digitalization of public administration in the context of the Multiannual Financial Framework (CFM) 2021-2027 and the implementation of the National Recovery and Resilience Plan (NRRP)

The EU's Multiannual Financial Framework (MFF) (2021-2027) was established by Council Regulation (EU, Euratom) 2020/2093 of December 17, 2020 which also establishes the maximum amounts that can be spent, in the period 2021-2027, for EU policies. According to the provisions of the Regulation, for the reference period, the annual budgets must respect these general ceilings for each of the major policies, with the European Parliament, the Council and the European Commission having the mission of ensuring that in each of the seven years, the budget falls within the MFF



ceilings. On the one hand, the three institutions must ensure that the general/total maximum level of expenses is respected, on the other hand, that the maximum values are respected for each of the 7 major areas which, according to the cited source, are as follows: (Council (b), 2020): €377.8 billion for Cohesion, resilience and values; €356.4 billion for Natural Resources and Environment; €132.8 billion for the Single Market, innovation and the digital sector; €98.4 billion for the Neighborhood and the whole world and €73.1 billion for the European Public Administration; €22.7 billion for Migration and border management; €13.2 billion for Security and Defense. Carrying out an analysis of the destination taken by the maximum amounts allocated to the EU policy areas, we can find that a fraction of 12.36% of the budget of €1 074 billion was distributed to the area of the Single Market, innovation and the digital sector, and another of 6.81% to the European Public Administration, highlighting that the three largest weights were identified for the following EU policy areas (Figure no. 2): (1) Cohesion resilience and values (35.16%), (2) Natural resources and environment (33.17%) and (3) Single market, innovation and digital sector(12,36%).

*Figure no. 2 The multianual financial framework (CFM) of EU (2021-2027) - Distribution of maximum spending values by major EU policy areas*



*Source:* (Council (b), 2020)

We note that the total amount related to the CFM to which we have already referred, was exceptionally and temporarily supplemented by the Regulation establishing the European Union Recovery Instrument (EU) 2020/2094(Council (a), 2020) for the recovery of the EU after the COVID-19 pandemic, with a special emphasis, both on the modernization of the EU economy, as well as the transition to an ecological and digital future, and any other addition or modification that is not the subject of our research will be placed in the background or omitted.

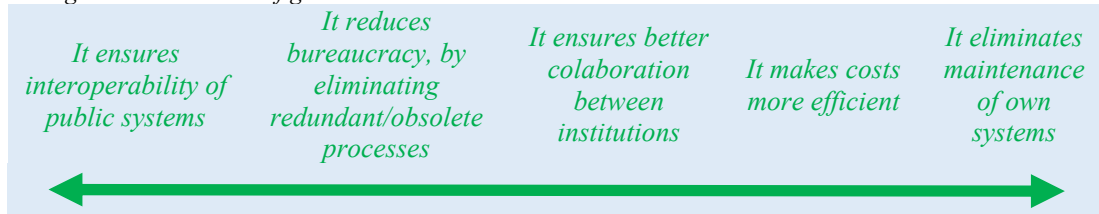
In the context of the period we are going through, the European Commission appreciates that digital technologies represent a major growth potential for Europe, committing that both citizens and businesses and not least the public administration will benefit from the digital transformation, adopting and facilitating solutions innovative for citizens, businesses and for increasing the efficiency of public services including, by improving access to them. Faster, cheaper and better services are desired internationally, through the E-government process, which aims to simplify administrative processes, improve efficiency, accessibility, ease of use, promote good ethical practices, as well as prevent and reduce corruption. The Commission offered and offers support for the digitalization of administrations through various methods, technologies and tools, such as: the design of e-governance systems in an optimal administration framework and artificial intelligence. (European Commission (a), 2022)

At the level of Romania, there have been multiple concerns and initiatives embodied in strategic documents, regarding the issue of digitalization, the digital development being on the rise. In this sense, we exemplify: Romania's governance program 2021-2024, public policy in the field of e-government, Romania's National Recovery and Resilience Plan (NRRP):

- Romania's governance program 2021-2024 aims for the digitalization field: ▪ optimizing the digital interaction of the citizen and the business sphere with state institutions and authorities; ▪ increasing the degree of accessibility and quality of public services; ▪ debureaucratization with the direct involvement of the government; ▪ standardization and digitalization at the level of administrations; ▪ digitalization, simplification and debureaucratization of public services in the administration; ▪ automation of processes and interactions, through the use of ICT for data management; ▪ ensuring administrative procedures in correlation with e-government system; ▪ increasing the number of public services accessible online; ▪ introducing electronic „domicile” and „identity” for each citizen etc.(Romania's Government, (a) 2020).
- The public policy in the field of e-government 2021-2030 which was adopted on June 3, 2021 by the Government of Romania, is considered a strategic document for digital governance and the management of electronic public services, and this represents for the next 10 years: ▪ the roadmap of the digitalization of public services; ▪ a periodic monitoring-evaluation-adjustment mechanism; ▪ „a support tool for programming and negotiation with the European Commission for the 2021-2027 financing exercise from European funds” and „a support tool for programming and negotiation with the European Commission for the exercise of financing 2021-2027 from European funds and ▪ an instrument to substantiate the digitalization measures of the National Recovery and Resilience Plan (NRRP) – PNRR”. (General Secretariat of the Government of Romania, 2021)
- Romania's National Recovery and Resilience Plan (NRRP), approved by the EU Council on October 28, 2021, includes, in its second part, two components of interest for this research, namely: 7 – Digital transformation and 14 – Good governance. For the Digital Transformation Component, a budget of €1,884.96 million is provided, and for the Good Governance component, we have identified the value of €165.60 million (The Ministry of Investment and European Projects, 2022). For the digitalization component, as it follows from the PNRR, the following are targeted:
  - Development of the architecture and implementation of the governmental cloud system;
  - Creating an eHealth and telemedicine system;
  - Digitalization of the judicial system, digitalization in the field of the environment, work and social protection, public procurement (through the implementation of the electronic forms), the NGO sector, public service management...;
  - Electronic identity card;
  - Qualified digital signature;
  - Implementation of the support system for the use of communication services;
  - The assurance of cyber protection;
  - The development of government security system;
  - Increasing resilience and cyber security for internet services provided to public authorities;
  - Creating, both for the society and for the economy, of new cyber security skills;
  - for civil servants, ensuring the development of advanced digital skills;
  - increasing the number of digital skill development hubs;
  - digital transformation for public administration;
  - technology in order to automate processes in public administration;
  - ensuring the framework for the improvement /retraining of companies' employees.

At this level, „the government cloud is the fundamental deliverable of the investments in Romania's digital transformation from the National Recovery and Resilience Plan (NRRP), which will bring together the central public administration institutions in a single, secure and consolidated IT architecture.” (Authority for the Digitalization of Romania, (a), 2022.) Figure no. 3 shows the role of the governmental Cloud.

Figure no.3 The Role of governmental Cloud



Source: (Authority for the Digitalization of Romania, (a), 2022.)

#### 4.2. The digital component of public administration within European countries and interoperability

According to the Directorate General for Informatics at the level of the European Commission, as it results from the content of the State-of-play report on digital interoperability 2022, we find that the countries participating in the study (EU member states, states of the European Free Trade Association and Ukraine, Montenegro, Turkey and the Republic of North Macedonia) are concerned with the digital transformation of public administration acting to a greater or lesser extent to provide electronic public services and to promote digital inclusion, and as regards Romania(European Commission (c), Federico CHIARELLI et. al., 2022), this:

- is among the 24 European countries (AT, BE, BG, HR, CY, CZ, DK, FR, EL, IS, IE, IT, LV, LT, LU, ME, PL, PT, RO, SI, ES SE, TR, and UA) concerned with promoting and investing in innovative technologies, having both artificial intelligence and high-speed broadband connectivity on the digital development agenda, already taking important steps in this regard;
- together with other 12 European countries (AT, HR, CY, DK, FI, DE, IT, LV, LU, MT, PL and SE), it has adopted legislation initiatives in this field that it has implemented and/or is in the process of implementing; for example, one of the most recent legal norms adopted by Romania (Authority for Digitalization of Romania, (b), 2022) is the ordinance of governmental cloud(Government of Romania, (b) 2022), this mainly regulating the attributions of The Authority for Digitalization of Romania;
- against the backdrop of the COVID 19 Pandemic but not only, along with 19 other states in Europe (BE, HR, CY, CZ, DK, FR, EL, IE, IT, LI, LU, ME, NO, PL, SI, ES, SE, CH and UA) it developed the necessary infrastructure for the provision for electronic public services to citizens;
- besides other 13 European countries (AT, HR, FI, FR, DE, HU, IT, LT, SK, SI, SE, CH and UA) it was concerned with research and development in the public administration of innovative technologies based especially on Artificial Intelligence (AI) for the provision of voice-assisted public services;
- regarding secure electronic means of identification of citizens, together with 15 other countries in Europe (AT, BG, HR, CY, DK, FI, EL, LV, LU, NO, SK, SI, SE, CH and TR), it has adopted infrastructure security initiatives that ensure electronic identification/eID/eIDAS, through the identity card, passport and electronic signature;
- regarding data sovereignty or digital sovereignty, as well as regarding interoperability, together with 7 other European states (HR, CY, DK, HU, PL, SI and SE), it has implemented initiatives to increase the use of interoperability, but also of open data in public administration.

#### 5. Conclusions

Our paper focuses on a series of aspects regarding the digitalization of public administration in the context of the Multiannual Financial Framework (MFF) 2021-2027 and the implementation of the National Recovery and Resilience Plan (PNRR), then highlighting the digital component of public administration in European countries and the interoperability problem.

In this context, we revealed that digital technologies represent a major growth potential for Europe, as faster, cheaper and better services are expected to appear through the E-government process, which aims to simplify administrative processes, improve efficiency, accessibility, ease of use, promotion of good ethical practices, as well as prevention and reduction of corruption. Moreover, the Government Program of Romania 2021-2024 aims at important objectives for the field of digitization, from the optimization of digital interaction of the citizen and the business sphere with state institutions and authorities, standardization and digitalization at the level of administrations, digitization, simplification and debureaucratization of public services in administration, when entering the electronic „domicile” and „identity” for each citizen. Emblematic, in the sense of what we have presented, is the government cloud, respectively that fundamental deliverable of the investments in Romania's digital transformation from the National Recovery and Resilience Plan (PNRR), which will bring together in a single, secure and consolidated IT architecture, the central public administration institutions in Romania.

Some studies that I have referred to show that EU member states, states of the European Free Trade Association and Ukraine, Montenegro, Turkey and the Republic of North Macedonia are particularly concerned with the digital transformation of public administration acting to a good extent to provide public services electronics and to promote digital inclusion.

With reference to *Limits of the research*, these are given by the fact that the work is not exhaustive. As a result, we appreciate that our *Future research directions* must take into account that this work is only a starting point in the creation of more complete scientific articles, given the importance of the topic we have chosen for research, and which we believe will further present high interest for a multitude of researchers.

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## The Influence of Business Incubation Services on The Performance of SMEs in The Tourism Industry

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### Abstract

*Research studies by academics, financial experts and development economists have all harped on the imperativeness of promoting the establishment of Small and Medium Enterprises (SMEs) as an instrument for the economic development and engine of growth, as well as employment generation. However, various countries employ various strategies in promoting SMEs. One such strategy is the Business Incubation Strategy, where potential entrepreneurs which cut across the broad spectrum of the economic sector, from the production of goods and services like tourism; are attached to well established businesses to learn and imbibe the rudiment of the business for a specified period. They are then given financial and logistics support for their start-ups; having learned the nitty-gritty of the trade. This paper is conceived to look at the influence of Business Incubation Services as a strategy in driving the performance of SMEs in the Tourism Industry in South Africa.*

**Key words:** SMEs, strategy, business incubation, tourism, performance, influence

**J.E.L. classification:** M10, M13, M19

### 1. Introduction

In today's rapidly changing and dynamic global economy, Small and Medium Enterprises (SMEs) have increasingly become a powerful policy/tool and an engine for economic growth and development. Most governments, particularly in emerging economies across the world today have realized the importance of supporting the provision of business incubation services that will function as a midwife and enhance performance of SMEs across diverse industrial sectors of the economy. Given the prevailing harsh macroeconomic conditions experienced by the South African economy recently, the government as a matter of deliberate policy has produced and adopted various strategies in supporting SMEs for the promotion and sustainability of economic growth and development, particularly in the dynamic competitive tourism sector. This is aimed and geared towards employment generation as an utmost priority for the government of South Africa (National Treasury, 2013:1).

According to the Tourism Act (1993) and the 1996 White Paper on the Development and Promotion of Tourism in South Africa, tourism is considered a prime national priority with the potential to contribute significantly to the country's economic development, employment generation and sustainable growth; and poverty reduction (National Treasury, 2013: 1).

Consequent upon the intervention measures adopted by the government, this research sought to investigate the influence of one of the strategies, which is the business incubation service that have been extended so far on the performance of SMEs in the tourism sector. Furthermore, according to Dutiro (2009:18), SMEs are created by innovative entrepreneurs who have great passion for growth and development but lack the business and technical skills needed to successfully carry out the business plans.



In support of this view, the Small Business Development Agency (SEDA, 2011), show that eight in every ten new businesses fail within their first five years of operation. Such a gloomy picture of the fate of SMEs birthed the need to look at the effectiveness of business incubation services.

## 2. Literature review

A perusal of various books, articles and journals on SMEs have always emphasized in unanimity their importance in promoting economic and wellbeing of the citizens but vary in approach and strategy. While some emphasize on formal business training, others adopt the business incubation method as a strategy in promoting SMEs as a vehicle to promote entrepreneurship for economic development.

In its generic sense, the term incubation system is often used to describe a wide range of organizations that, in one way or another, help entrepreneurs develop their ideas from start-up through commercialization. By general definition, incubation is a unique business support model that contains in-built capacity to contribute valuable interventions for enterprise creation and development (Eshun, 2009:163). Meru and Struwig (2011:7) define a business incubator as a nurturing environment for start-ups that provides business-support programs and infrastructure that enables businesses to develop and thrive within a controlled environment. Incubators are basically designed and promoted to address inherent market failures and deficiencies through provision of favorable controlled conditions to spur and aid in the growth of new ventures (Shahzad et al., 2012:6).

According to Hamdani (2006:17), a business incubator is defined as a facility and set of activities through which entrepreneurs can receive essential information and aid, value-added shared services and equipment that may otherwise be unaffordable, inaccessible, or unknown to the entrepreneur. Thus, incubators are facilities designed to meet the needs of business; supply proactive support and advice to accelerate growth; increase access to tools, information and contacts; providing aid from business experts and other entrepreneurs and investors. Moreover, Kushnirovich and Heilbrum (2008:8) describes a business incubator as an organization that systematizes the process of creating successful new enterprises by providing them with a comprehensive and integrated range of services, which include: incubator space which is made available on a flexible, affordable and temporary basis; common services including secretarial support and shared use of office equipment; hands-on business counseling and access to specialized assistance such as research and development (R&D) and venture capital; and networking activities operating as a reference point inside the premises among entrepreneurs.

From a relatively similar dimension, Cheng, Jackson, Haynes and Schaeffer (2008:54) suggest that a small business incubator is a facility that aids the early-stage growth of companies by providing rental space, shared office services, and business consulting assistance. Wessner (2007:31) states that a business incubator is an organization of services designed to nurture young businesses. A wide range of services can be offered within an incubator, including management support, access to financing, business or technical support services or shared office services such as access to equipment, flexible and affordable leases, and expandable space. Conlin and Stirrat (2008:205) claim that small business incubators are private, public, or academic-sponsored facilities that supply rental space, shared office services and business consulting services to infant small and medium enterprises.

Some authors regard a business incubator as a property with small work units, which provide an instructive and supportive environment to entrepreneurs at start up and during the early stage of business. They assert that incubators offer three main ingredients in contribution to the growth and development of small businesses: namely:

- i. an entrepreneurial learning environment.
- ii. ready access to mentors and investors; and
- iii. visibility in the marketplace

Business incubators thus supply services and facilities that help entrepreneurs to use an established organization. In addition to incubators offering a safer heaven for business start-ups with the reduced risk of failure, business incubation also offers an opportunity to businesses that may not otherwise be able to initiate a business on their own. In conclusion, business incubation is a means by which small businesses can turn vision into reality with reduced risks (Buys & Mbewana, 2007:112). Based on the numerous definitions of business incubation provided above, business incubation in this study can therefore be summarized as a process of effectively nurturing infant business enterprises with distinct tools and resources from start-up phase to the maturity stage where they can sustainably work independently.

Given the enormous contributions made by small and medium enterprises towards job creation and poverty reduction, the role of business incubation in the development and sustainable growth of small, medium, and micro-enterprises (SMMEs) is vital in an economy. According to Evans et al. (2006:25), a widely recognized new method for developing new small businesses is industrial incubation. Business incubation systems are oriented towards addressing problems of economic development through improving the entrepreneurial base with regards to either or both quantity and quality (Kushnirovich & Heilbrum, 2008:8). As proposed by the Small Business Development Agency (SEDA, 2012:12:), the purpose of business incubators is to promote the growth and development of new enterprises by providing flexible space at affordable rates; a variety of support services; access to management, technical and financial assistance; and opportunities to interact with other entrepreneurs and business experts in the relevant sector. Incubators make up of business aid programs targeted at start-up and fledgling firms. They offer access to business and technical aid provided through in-house ability and a network of community resources; shared offices; research or manufacturing space; basic business support such as telephone answering and clerical services; and access to common office equipment including copy and fax machines.

Incubators support emerging businesses at their early, most vulnerable stages. In addition, incubators promote new firm growth, technology transfer, neighborhood revitalization, and economic development and diversification. In recent times, most incubators have been seen to be focusing much on assisting entrepreneurs who are creating and managing new companies (Gill, 2005:17). The focus is concentrated towards reducing risks associated with new business formation. Business incubation catalyzes the process of starting and growing companies. As a proven model, it provides entrepreneurs with the ability, network and tools they need to make their ventures successful. This clearly shows that, if meticulously organized and implemented, business incubation can be effective towards enhancing sustainable turnover generation of small and medium enterprises in the medium to long-term. The term business incubator embraces a wide range of institutions, all of which are fostering the creation and development of SMEs whenever this has not happened spontaneously.

Deliberate efforts are made to ensure that the services needed by the entrepreneurs are provided in a comprehensive and integrated fashion. The primary goal of a business incubator is to facilitate economic development by improving entrepreneurial base. For this reason, most of the incubators are directly used by national or local governments.

### 3. Research methodology

The survey research method was used for this study and a self-administered structured questionnaire was used as the primary data collection instrument. The reasons for using the self-administered structured questionnaires, which invariably were consciously and meticulously disseminated by hand, via e-mail, are that they cost effective, which is also relatively easy to analyze, which ultimately reduces interview biases to the barest minimum.

Participants were requested to indicate the nature of the influence business incubation services have had on job creation and turnover generation capacity of tourism SMEs. It was anchored on the five-point Likert Scale: ranging from **"not at all"** to **"extremely important"**. In continuing further with the analysis, the incubation tenants were further requested to rate the magnitudes to which the listed incubation services or facilities provided to them have been effective based on their experiences and perceptions. The questions on this section were anchored on the five-point Likert scale ranging from **"not at all"** to **"extremely effective"**.

The questionnaire used for data collection from the research participants was developed based on the following structure: Section I: Participants' perceptions on the extent to which business incubation services have been important towards enhancing turnover of the tourism small and medium enterprises; Section II: Participants' perceptions on the extent to which business incubation services have been effective towards enhancing turnover of the tourism small and medium enterprises; and Section III: Respondents' recommendations on business incubation strategies that can be implemented to enhance turnover of the tourism small and medium enterprises.



### 3.1 Administration of Questionnaires

A highly structured questionnaire was physically distributed to the relevant participants by a team of two data enumerators and two senior research analysts from a local research company for data collection purposes. The team observed all the necessary research ethical considerations including securing informed consent and voluntary participation by all participants. The team further explained to all research participants the structure of the questionnaire, the information held therein and the recommended expected time for completion and return of the questionnaires for data capturing and analysis. Based on the Likert-scale format, the respondents were requested to respond to questions raised on every construct specified in the questionnaire. The rationale behind delivering the questionnaires physically to research participants was to ensure that the questionnaires are handed over to relevant participants to yield an effective response rate.

### 3.2 Validity of Instrument

The validity of the measurement tools refers to the extent to which the research instrument measures what it is intended to measure. According to Cozby (2004:90), the major common types of validity examined in research are face validity, content, and internal validity. The validity of this research study's data collection tool was enhanced through conducting a pilot study wherein all anomalies detected were rectified by the statistical analyst.

### 3.3. Statistical Validity

Overall, the structural validity of the measurement tools was examined using factor analysis; through which total correlation analysis of items was evaluated. Prior to conducting factor analysis, the Keiser-Meyer-Olkin (KMO) analysis was undertaken to determine suitability of the size of sampling and sample size. The KMO value was used to show whether the gathered questionnaire data was suitable for factor analysis and principal component analysis. Furthermore, the Bartlett's test of sphericity of the research survey items was examined to determine whether factor analysis could sufficiently be performed on the data. Additionally, the scale was examined to prove whether the items will not arise to an identity matrix. The total declared variance computed was analyzed to determine the cumulative total variance explained by selected components based on the initial Eigen values.

### 3.4. Scale Reliability of Items

To figure out the degree to which the chosen set of items will measure a single one-dimensional latent construct, internal consistency (scale reliability) of the questionnaire items was conducted using the Cronbach's alpha with the following computed specification:

$$\alpha = \frac{K}{K-1} \left( 1 - \frac{\sum_{i=1}^K \sigma^2 Y_i}{\sigma^2 X} \right)$$

Where:

$K$  = number of items

$\sigma^2 X$  = variance of total scores

$\sigma^2 Y_i$  = variance of item  $i$  for the current sample

The methodological data triangulation approach was undertaken to ensure reliability of data collected. Struwig and Stead (2001) point out that reliability is the extent to which test scores are accurate, consistent and stable. As such, the Cronbach's alpha was used as the common suitable tool for interval-level measurement involving multi-item scales. The scale reliability of items was conducted to examine homogeneity of internal consistency of the underlying constructs (Cooper & Schindler, 2006) of the study. This implies analyzing whether the questionnaire items will measure the same latent variable, which should be the case if the survey was conducted in an unbiased manner.

## **4. Findings**

From the total 112 questionnaires collected, 103 were fully completed: yielding an effective response rate of 91.96 percent. Under the Business Incubation Services, we have the provision of Infrastructure facilities for SMEs, in terms of affordability of office /premises rentals.

From the 103 surveyed respondents, 17 percent of them indicated that provision of affordable office or premises rentals in terms of rentals was extremely important; while 37 percent of the participants expressed that affordable premises rental was particularly important. Moreover, approximately 44 percent of the respondents indicated that affordability of office rentals was a fairly important element of business incubation. Overall, affordability of premises was therefore regarded as being crucial towards enhancing turnover generation of SMEs in the tourism sector.

### **4.1 Adequate business operating space**

The response in terms of adequate business operating space shows that about half of the respondents (55.3 percent) showed that adequate operating space was important towards enhancing operations of their SMEs. About 23.3 percent of the participants revealed that provision of adequate operating space was very important; while 12.6 percent expressed that the respective incubation service was extremely important. Therefore, provision of adequate operating space was rated important.

From the point of view of strategic location or visibility of business premises, half (46.6 percent) of the participants revealed that strategic location or visibility of business premises was important in enhancing operations of their SMEs. Additionally, approximately 35.9 percent of the cases indicated that strategic location was extremely important; hence strategic location was regarded important by the respective tourism sector of the small and medium enterprises. The centrality and the prime location of place of office equipment and related components were considered vital and important. Half (41 percent) of the participants reflected that availability of office equipment and related components was very vital to them; while approximately 29 percent of the cases specified that provision of office equipment was extremely important. About 25 percent expressed that provision of office equipment was important. Overall, availability of office equipment and related components was therefore regarded important. In the area of Shared Office Facilities 50.5 percent of the participants indicated that provision of shared office facilities was very important for their SMEs; while 35 percent specified that delivery of the respective business incubation services was extremely important for their SMEs' operations. Therefore, shared office facilities were considered important in enhancing the operations of the respondents' SMEs in the tourism segment.

One of the critical elements in the Business Incubation services is the provision of a secured workplace environment. Based on the outcome of the responses from the study more than two thirds (79.6 percent) of the participants revealed that provision of secured workplace environment was very important (37.8 percent) and extremely important (41.8 percent) for their businesses. Nearly 20.4 percent of the participants indicated that availability of secured workplace environment was important. Hence, this business incubation service was important for operations of the tourism segment SMEs.

Government provision of the business incubator services by facilitating through Local and international marketing opportunities are also a very critical to the survival and sustainability of the SMEs in the tourism sector of the economy. About 40.8 percent of the participants indicated that facilitation of local and international marketing opportunities was very important; while 29.1 percent indicated that facilitation of the respective marketing opportunities was extremely important. Approximately 25.2 percent expressed that the same marketing opportunities were important for their businesses.

### **4.2 Marketing networking channels**

Based on the study findings nearly half (44 percent) of the cases reflected that facilitation of marketing networking channels was important for their SMEs. Furthermore, 37 percent of the participants showed that facilitation of such services was very important, while 17 percent rated facilitation of the respective channels as extremely important. Hence, this service was certainly important. Government support is helping SMEs in the tourism industry subsector of the economy

with facilitating participation in marketing exhibitions; particularly in trade fairs both locally and international to enhance their overall success.

### 4.3 Training programs

Access to training programs by SMEs to periodic and continuous development as part of the business incubation services is also a critical component in expanding the tourism industrial sub-sector of the economic, taking advantage of modern information and communication technology in enhancing service delivery. Training in ability building skills, promotion and marketing skills, financial management skills is key to the success, scalability and sustainability in the sector.

From the questionnaire administered, half (50 percent) of the respondents indicated that facilitation of business promotion and marketing skills was very important for the SMEs. Nearly 36 percent of the cases revealed that such promotion and marketing skills was extremely important; while 36 percent reflected that facilitation of such skills was extremely important. Only 14 percent of the participants revealed that equipping respondents with such skills was important.

In the area of economic management 39.8 percent of the respondents affirmed that the provision of training in financial management skills was extremely important; while 41.7 percent indicated that provision of the respective service was very important for their SMEs' turnover generation. Only 18.4 percent revealed that training in economic management was important. While in capacity building close to three quarters of the respondents were of the view that facilitation of capacity building skills was very important (43 percent) and extremely important (30 percent) towards enhancing turnover generation of their SMEs. Nearly 25 percent of the respondents also indicated that facilitation of the respective skills was important for their SMEs.

In the area of product development skills, a sizeable number of the respondents were unanimous in their expression of its importance, consideration the dynamic nature of the industry. Also, based on the analysis of the data from the study approximately forty-one (40.8) percent of the participants rated provision of product development skills partially effective; while 41.7 percent showed that the facilitation of such skills was effective. Moreover, approximately 15.5 percent revealed that provision of the respective skills was remarkably effective while only 1 percent indicated that provision of such business incubation skills was extremely effective. This means that in overall this aspect of the incubation service provision score positive.

The provision of consultancy services which includes the development and review of business plans among the incubation services was also rated highly by the respondents. Based on the analyzed data sieved from the questionnaires, above half (54.4 percent) of the surveyed SMEs in this sector revealed that the provision of development and review of business plan services was effective; while 19.4 percent showed that provision of such services was very effective. Additionally, 26.2 percent provision of development and review of business plan services was partially effective.

## 5. Conclusion

In addressing the research aims based on the research questions, the hypotheses of this study were as follows: i. Business incubation services are important towards enhancing turnover of SMEs in the tourism segment, ii. Business incubation services have not been much effective towards enhancing turnover of SMEs in the tourism segment, and iii. There are significant mean differences between the perceived importance and perceived effectiveness of business incubation services on turnover of SMEs in tourism segment, iv. Strategies that can be supplied to enhance effective provision of business incubation services are business collaboration strategies, research and development strategies, marketing and promotion strategies, financial management strategies, networking strategies and project management strategies. It is pertinent to mention here based on the analysis of data obtained during this research virtually all the business incubation services highlighted in the research questions are not less important in enhancing and spurring increased turnover of SMEs in the tourism industrial subsector in the captive market.

Considering the discussions covered in the preceding sections of this study, it is imperative that the providers of business incubation services to tourism sector to the SMEs) in Tshwane should therefore work towards improving effectiveness in provision of the respective business incubation services that they provide to small and medium businesses. Based on the results explored from the study, effectiveness in supplying business incubation services can be focused on improved competitiveness and turnover.

However, it is important to highlight here that this study carried some limitations. Firstly, there are few stakeholders supplying business incubation services and facilities to tourism sector small and medium enterprises in Tshwane. This limitation can be addressed well in future when many stakeholders participate in providing such business incubation services to SMEs in the respective tourism segment.

Secondly, although the sample used for this study was statistically significant, the sample size was not adequate to draw generalized conclusions on a larger scale regarding the state of effectiveness of business incubation services to SMEs in the tourism sector. As such, the sample size used placed a considerable question on the generalizability of the study's findings. To address this limitation, further studies on this subject should use a larger sample that covers the tourism sector's small and medium enterprises. These limitations cited in this section highlight an opportunity for further research in which all the respective limitations found in this research study can be addressed.

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## Statistical Analysis Regarding Waste Generation and Treatment in Romania between 2016 and 2020

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### Abstract

*The generation and treatment of waste is a current issue, an idea reinforced by various policies and documents, such as the environmental policy of the European Union, the Paris Agreement on climate change from 2015, the European Green Deal, but also in the context of sustainable development objectives of the United Nations Organization.*

*The European Union aims to be as efficient as possible in terms of resources and to promote competitiveness in a circular economy. In terms of waste management, the European Union envisaged an order, prevention being preferred first. When the latter is not possible, it will go to reuse, recycling and recovery. The last place is assigned to sending waste to the landfill. Romania, as part of the European Union, will have to follow its provisions related to environmental issues in general and waste, in particular. The present article proposes a statistical analysis of the generation and treatment of waste in Romania during the period 2016-2020.*

**Key words:** waste, waste generation, waste treatment, waste management

**J.E.L. classification:** Q53, Q58

### 1. Introduction

The EU legislative framework for waste management primarily includes Directive 2008/98/EC on waste and repealing certain directives. This directive established a hierarchy of waste, introduced, and confirmed principles related to responsibility in waste management, defined concepts such as "extended producer responsibility", "waste" and "by-products", but also established the competences of national authorities. European Union Directive 2018/851 is the one that modifies Directive 2008/98/EC, in the context of measures specific to the circular economy.

According to Directive 2008/98/EC, waste is defined in Article 3, paragraph 1 as "any substance/object which the holder throws away/has the intention or obligation to throw away". In this regard, a careful management of the waste problem is necessary, to differentiate hazardous from non-hazardous waste, separating materials and residual energy that can be reused later, with the intention of reducing the negative impact on the environment, to avoid polluting water, air or soil or making people sick. At the level of the European Union, the aim is to reduce the amount of waste generated or to reuse, recycle and dispose of unavoidable waste.

Waste is generated by both businesses and households. Thus, the generation of waste will concern both production and consumption activities, as the analyzes carried out by Eurostat also show. Regarding waste treatment, Directive 2008/98/EC includes among the treatment operations: recycling, energy recovery, incineration, landfill, or waste disposal.

The statistical data on waste flows are collected at the level of the European Union, to be able to follow the compliance with the Community legislation regarding the issue of waste. Pre-established quantitative objectives, recycling rates, but also the recovery of waste are considered. All of this is in line with the Sustainable Development Goals (SDGs), included in the resolution called Agenda 2030, but also with the European Union's goal of achieving a circular economy, respecting green principles.

## 2. Literature review

The studies on the issue of waste at the level of the European Union are varied, they deal with topics related to generation and treatment, management, existing waste flows between member countries, but also the analysis of specific waste such as batteries, municipal waste, packaging, electronic and electrical equipment, and others.

(López-Portillo *et al.*, 2021) considers that the average levels of waste treatment rates differ between the states of the European Union, depending on their economic characteristics. Thus, after dividing the states into 3 groups according to the real GDP per capita, investments in research and development, the period of membership in the EU or resource productivity, they concluded that if the states have an increased GDP/capita, but also important investments in research and development, then the waste treatment rates are also high. High rates of waste treatment are also observed in the case of states with more years of EU membership and with an increased productivity of resources.

Analyzing the situation of municipal waste generated and treated, (Angheluta *et al.*, 2020) notes that the consideration of waste management systems for the reuse and recycling of waste is favorable to the environment; the technologies and energy sources used in the production of various goods influence, finally, the composition of the waste.

(Vujic *et al.*, 2015) points out that waste management systems, especially municipal ones, are developed in many countries of the European Union and they have succeeded in reducing the amount of stored waste. At the same time, they concluded that there is an important link between the waste management variables and the gross domestic product of the states, thus municipal waste disposal rates are high when GDP levels are low and vice versa.

(Castillo-Giménez *et al.*, 2019a) analyzing the degree of convergence of municipal waste treatment in the EU, shows that the highest performances are recorded in the member states located in Central and Northern Europe, and the lowest performances are recorded in the Europe of East, referring especially to those that joined after the year 2000. The authors mention that an increased convergence was noted with the adoption of the Waste Framework Directive in 2008. On the other hand (Castillo-Giménez *et al.*, 2019b) shows that high-income EU countries treat larger amounts of waste per capita per capita, through recycling, composting and digestion, while poorer countries deal with smaller amounts of waste per capita, through landfilling.

When we approach the issue of waste prevention and reuse or material recovery, we must also discuss the management of waste electrical and electronic equipment (WEEE), as a specific category of waste. The regulation of WEEE quantities at the level of the European Union is primarily based on Directive 2012/19/EU on waste electrical and electronic equipment (European Parliament and Council of the European Union, 2012). (Cesaro *et al.*, 2018) believes that the recovery of metals from WEEE must be a central pillar of waste management strategies, considering the various precious metals and rare earth elements that they contain.

Among the socio-economic factors that can influence the electrical waste collection rates, (Marinescu *et al.*, 2016) found that variables such as a person's age and the unemployment rate have the greatest impact. The authors consider that education or the minimum salary level do not have significant influences on WEEE collection rates. Instead, (López Malest and Gabor, 2022) considers that at the EU level, good macroeconomic predictors of the e-waste recycling rate are indicators such as the population at risk of poverty and public spending on environmental protection. A second conclusion of the two authors' study refers to Romania's position. This does not follow the European model regarding macroeconomic predictors, in its case, the population by education level (N 0-2) stands out, as a direct effect, and the other factors have an indirect influence.

## 3. Research methodology

The generation and treatment of waste is a current and extremely important topic for Romania, in the context of the need to comply with the environmental policies of the European Union, but also with the aim of moving from a traditional economy to a circular, modern, more efficient, and environmentally friendly economy.

To guarantee the fulfillment of the objectives and directions established at the level of the European Union, the national policy in the field of waste management pursues the interests of the European policy regarding the reduction of the resources used, of the prevention of generated waste, but also of waste classification. For this, the National Waste Management Plan was developed, considering the provisions of the Framework Directive on waste (Directive 2008/98/EC), but also the strategic objectives included in the National Waste Management Strategy.

The qualitative research of the work is based on the specialized studies on the theoretical and practical aspects in the field of waste. The knowledge of the subject treated, and its research assumed the method of economic analysis, the use of synthesis and comparison. Quantitative research completed this paper, through a statistical analysis of waste generation and treatment in Romania during 2016-2020, for which the most recent data provided by Eurostat were used.

Thus, the statistical analysis included the following points:

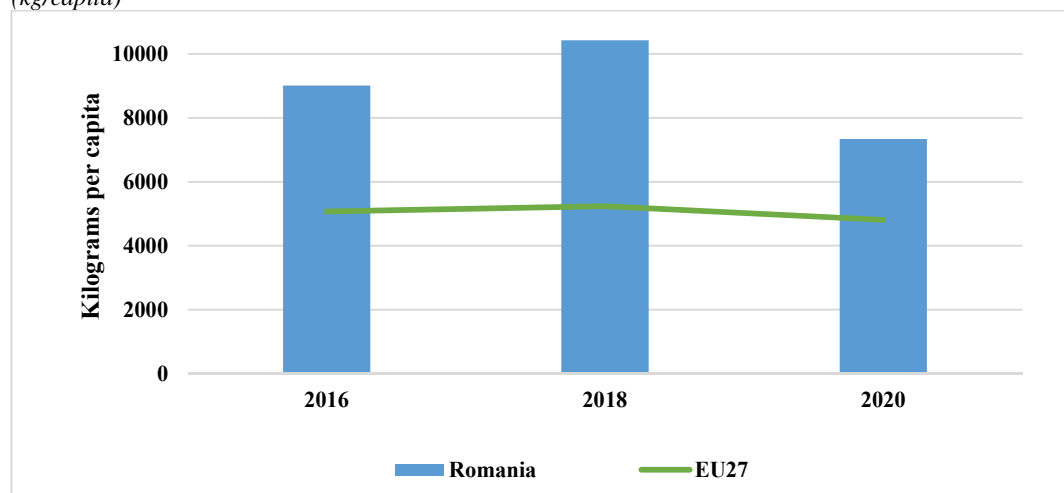
- ✓ The amount of waste generated in Romania (tons and kilograms per capita) in the period 2016-2020, but also compared to the average of the European Union
- ✓ The share of waste generated according to the criterion of economic activities
- ✓ The amount of waste treated in Romania (percentages and kilograms per capita) during 2016-2020
- ✓ The main waste treatment operations in Romania and compared to the European Union

#### 4. Findings

In Romania, according to data provided by Eurostat, over 177.5 million tons of waste were generated in 2016, over 203 million tons of waste in 2018 and over 141.3 million tons of waste in 2020. More than 99% of the amount of waste generated was non-hazardous.

As can be seen in figure no.1, waste generation in Romania is far above the European Union average, being among the largest generators of waste expressed in kilograms per capita. In 2016, in Romania, 9,012 kg of waste were generated per capita (representing over 177.6% compared to the EU average), in 2018, 10,425 kg of waste were generated per capita (representing over 199.1% compared to EU average) and in 2020, 7,338 kg of waste were generated per capita (representing over 152.6% compared to the EU average).

Figure no. 1. Waste generation in Romania compared to the EU average in the period 2016-2020 (kg/capita)



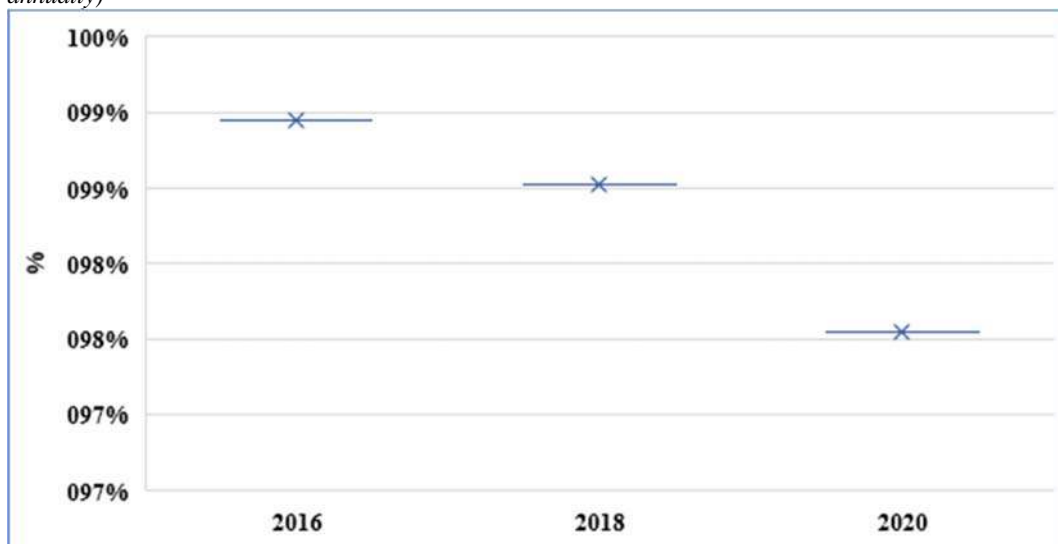
Source: Data processed by the author based on information provided by Eurostat

Based on the criterion of economic activities, according to the data provided by Eurostat, in Romania most of the waste generated was attributed to mining and quarrying (over 84.3% of the total waste generated), production (4.6% of the total waste generated) and energy (3.1% of the total waste generated). Households generate only 3% of total waste. Other economic activities represent 2.2% of the total waste generated, waste and water services have a share of 2% and constructions and

demolitions represent 0.9%.

During the analyzed period, waste treatment had significant proportions, but slightly decreasing, as can be seen in figure no. 2. Thus, if in 2016 the percentage of waste treatment was 98.95% of the total waste generated (corresponding to 8 918 kg per capita), in 2018 the share was 98.52% (corresponding to 10 272 kg per capita) and in 2020 it decreased to 97.55% (corresponding to 7 158 kg per capita).

Figure no. 2. Waste treatment in Romania in the period 2016-2020 (% of the total waste generated annually)

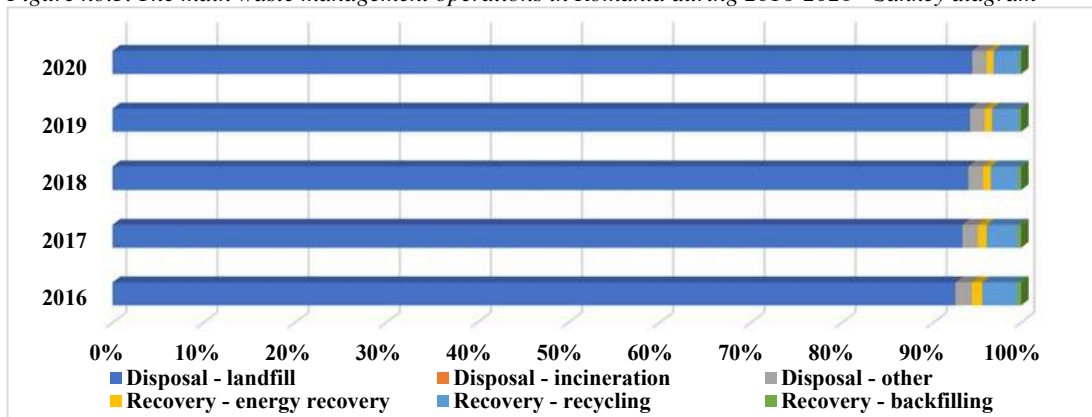


Source: Data processed by the author

At the level of 2020, most of the waste treatment operations in Romania targeted their disposal through landfill (124.5 million tons), followed by recovery through recycling (7.1 million tons) and other disposal operations (3 million tons). This means that a share of 92.45% of waste in Romania is eliminated through landfill and other specific disposal operations (such as biodegradation of waste in the soil, deep injection, release into water, etc.). In the same year, waste recovery through energy recovery (using waste as a fuel or energy generator) reached almost 2 million tons.

Comparatively, in the European Union the largest part of waste treatment operations concerned recovery through recycling (796.2 million tons), followed by disposal of waste through landfill (635 million tons) and recovery of waste through backfilling (285, 4 million tons). So, overall, at the level of the European Union, recovery and backfilling exceed the amount of waste disposed of through landfill and other disposal operations.

Figure no.3. The main waste management operations in Romania during 2016-2020 - Sankey diagram



Source: Data processed by the author based on information provided by Eurostat



According to the data provided by Eurostat, the main waste management operation in Romania based on the Sankey Diagram was landfill disposal throughout the analyzed period. At the same time, it has an increasing trend (as can be seen in figure no. 3). Disposal by incineration had a constant level, while other waste disposal operations registered slight increases. Recovery (through energy recovery, recycling, and backfilling) occupies a small part of waste management and has recorded a steady decline between 2016 and 2020.

## 5. Conclusions

Considering all that is mentioned in this article, we can summarize the following aspects regarding the current situation of waste generation and treatment in Romania:

- The national policy in the field of waste management must follow the directions and interests of the European policy, as constant measures are needed to reduce the consumption of resources and prevent the generation of waste.
- In 2020, more than 141.3 million tons of waste were generated, and 99% of the generated waste was non-hazardous.
- Waste generation at the national level is far above the European Union average, Romania being among the largest generators of waste expressed in kilograms per capita. Thus, 9,012 kg of waste were generated per capita in 2016 (representing over 177.6% compared to the EU average), 10,425 kg of waste per capita in 2018 (representing over 199.1% compared to the EU average) and 7,338 kg of waste per capita in 2020 (representing more than 152.6% compared to the EU average).
- Most of the generated waste was attributed to mining and quarrying (over 84.3% of the total generated waste), compared to the European Union average which placed constructions and demolitions on the first place of waste origin.
- Waste treatment had significant proportions, but slightly decreasing, from a share of 98.95% of total waste generated (corresponding to 8,918 kg per capita) in 2016 to a share of 97.55% (corresponding to 7,158 kg per capita) in 2020.
- A share of over 92% of the waste is landfilled or disposed of through specific operations (biodegradation of waste in the soil, deep injection, release into water). Comparatively, in the European Union more than 60% of waste is treated through recovery operations (recycling, backfilling, energy recovery).
- Recovery (energy recovery, recycling, and backfilling) occupies a small part of waste management and saw a steady decline between 2016 and 2020.

In conclusion, given the analysis undertaken and the observation of the evolution of the quantities of waste generated and treated, we believe that more attention is needed in this regard, by running campaigns to involve citizens and economic agents, but also by attracting greater investments in projects related to the ranking of waste, so that Romania can meet the specific objectives established by the European Union and to ensure better waste management.

In carrying out this study, we faced a series of limitations related, mainly, to the lack of more recent statistical data, but also to the lack of detailed data on the generation and treatment of waste in Romania. Future research directions may include the analysis of waste generation and treatment in certain specific areas of economic activity, of certain age categories, but also an approach to the urban-rural situation.

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## Trends in Municipal Waste Generation and Treatment in Romania. Comparative Statistics with the EU Average.

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### Abstract

*Although European Union statistics show that municipal waste is a small part of the total waste generated, their analysis is important, due to the complexity of the sources of generation and treatment, but also of the consumption patterns specific to each individual member state. The present research will analyze the indicators regarding the generation and treatment of municipal waste in Romania over a period of 10 years, compared to the average of the European Union. Through this analysis, we will be able to observe a trend in Romania, but also what is the current stage of reaching the targets set at the level of the European Union related to the generation and treatment of municipal waste.*

*The indicators taken into account are the amount of municipal waste generated expressed in kg/capita, the amount of municipal waste treated (total and by treatment operations) expressed in kg/capita and the recycling rate of municipal waste expressed in percentage. The main source for statistical data extraction was the statistical office of the European Union (Eurostat), in order to ensure a comparable and objective picture of the indicators.*

**Key words:** municipal waste, municipal waste generation, municipal waste treatment, recycling rate of municipal waste

**J.E.L. classification:** Q53, Q58

### 1. Introduction

Municipal waste is defined in Directive (EU) 2018/851 amending Directive 2008/98/EC, Article 3 paragraph 2b as "mixed/separately collected waste from households, including paper and cardboard, glass, metals, plastics, bio-waste, wood, textiles, packaging, waste electrical and electronic equipment, waste batteries and accumulators and bulky waste such as mattresses and furniture, but also mixed/separately collected waste from other sources, when they are similar in nature and composition to household waste" ((European Parliament and Council of the European Union, 2018). Thus, municipal waste is supposed to be that waste generated by households, but also similar waste generated by public institutions, various offices or commercial activities. At the same time, it is mentioned in Directive (EU) 2018/851, that they will not be included in the definition of municipal waste those wastes that have as their source production activities, agricultural activities, forestry, fishing, septic tanks, the sewage network, treatment operations and sewage sludge, but neither the vehicles taken out of use nor those wastes that come from constructions and demolitions.

The amending Directive (EU) 2018/851 of the Directive 2008/98/EC brings new objectives regarding the recycling of municipal waste. Thus, by 2025, a share of at least 55% of the weight of municipal waste should be recycled. The share will increase by another 5 percent for the next 5 years and by another 5 percent until the year 2035 (European Parliament and Council of the European Union, 2018).

Waste management is the third component (part of pillar 1 Green Transition) of Romania's National Recovery and Resilience Plan (NRRP), as a strategic document of the Recovery and Resilience Mechanism. According to the NRRP (Ministry of Investments and European Projects,

2021), Romania's challenge is to reach the 55% recycling target set for 2025 in the circular economy package (while recent data provided by Eurostat show a recycling rate of 13.7 % in 2020), but also the reduction to 10% by 2035 of municipal waste eliminated by storage (this being still the main municipal waste treatment operation of the national authorities).

In 2017, Romania adopted the National Waste Prevention and Management Plan, as a condition imposed for accessing European funds for the 2014-2020 period. Municipal waste is included in the National Waste Prevention and Management Plan, and according to the proposals for revising the Circular Economy Package mentioned therein, Romania can benefit from an additional period of five years in reaching the municipal waste recycling targets, as long as it takes measures so that the rate of preparation for reuse and recycling of municipal waste increases to a minimum of 50% (by 2025 - that is, approximately 2,500 thousand tons/year) and to a minimum of 60% (by 2030). The National Recovery and Resilience Plan states that investments related to municipal waste management systems will contribute four and a half percent to the national target. And regarding the reduction of the amount of municipal waste stored, Romania can benefit from an additional period of 5 years, provided that measures are adopted to reduce landfilled municipal waste to 20% of the total waste generated by 2030.

## 2. Literature review

Studies regarding the issue of municipal waste generation and treatment are varied. For our research, we have considered only those that concern the European Union and its member states, so that we can outline a general framework of the theme.

Analyzing the performance of the member countries of the European Union in the management of municipal waste in the period 1995-2016, (Castillo-Giménez *et al.*, 2019) concluded that Central and Northern European countries have better results. Contrary to them, many of the Eastern European countries do not have good results, and measures are needed to improve the situation. (Rios and Picazo-Tadeo, 2021) also support the idea that most Eastern European states that joined after the 2000s and some Southern states have poor results in municipal waste treatment. In addition, they concluded that good results in municipal waste treatment are related to the level of economic development. (Minelgaitė and Liobikienė, 2019) note the existence of important differences in the generation of municipal waste within the European Union and they also claim that the level of generation is related to economic development. At the same time, in addition to the importance of reducing waste generation, the authors note the importance of sustainable production and consumption, considering that the population of the European Union does not know well the relationship between waste reduction and the efficiency of the resources involved.

(Mena-Nieto *et al.*, 2021) analyzed the municipal waste situation in the Canary and Balearic Islands, given that these two Spanish regions have some of the highest rates of municipal solid waste generation per capita. The biggest factor identified by the authors as generating municipal waste is the tourist population; other factors contributing to high waste rates are resident population and per capita income. Thus, (Mena-Nieto *et al.*, 2021) considers that the two islands are far from reaching the European Union targets set by the year 2035 in terms of municipal waste.

(Bayar *et al.*, 2021) concluded that the developing countries of the European Union need to carefully monitor waste management and recycling rates, because in their case there is uncontrolled waste and there is a lack of awareness of the population in terms of environmental protection and recycling regulations are also needed. The authors note that international support given by agencies in developed countries to those in developing countries, consisting of advice and assistance may be welcome, ensuring the transition to the circular economy.

(Banacu *et al.*, 2019) show in their analysis of the 27 EU states that factors such as companies' research and development expenditures, GDP expenditure on research and development, private investments or resource productivity is in a direct and important relationship with the municipal waste recycling rate and therefore public policies should focus on them.

(Magrini *et al.*, 2020) emphasize in their research the importance of combining traditional "command and control" measures with market instruments and various economic incentives, as proposed by the environmental legislative packages of the European Union. At the same time, the authors believe that market instruments should be chosen depending on the implementation area or

the specific behavior of a certain place, but also that there should be an unanimously accepted and used definition of municipal solid waste.

Romania, as a member state of the European Union since 2007, is no exception to the results obtained in the works mentioned above. Thus, the results regarding the generation and treatment of municipal waste are not encouraging, considering the targets set at the level of the European Union and the behavior of the population towards aspects of waste and environmental protection in general. Next, through a 10-year analysis of the municipal waste indicators, we will try to conclude the trends in Romania and its degree of fulfillment regarding the European targets.

### 3. Research methodology

The current research analyzes the trends in the generation and treatment of municipal waste in Romania, in the period 2011-2020. For this purpose, based on data published by Eurostat (Eurostat, 2022), we have selected the following relevant indicators for the research carried out, as follows: the amount of municipal waste generated, the amount of municipal waste treated, the recycling rate of municipal waste (table no.1).

Table no. 1. Indicators used in research

Name	Unit of measure
Municipal waste generation	- Kilograms per capita
Municipal waste treatment - total - treatment operations	- Kilograms per capita
Recycling rate of municipal waste	- Percentages

Source: Eurostat data processing

The generation of municipal waste per capita is an indicator used by Eurostat in monitoring the transition to a circular economy, in which the reduction of waste generation is considered extremely important in the waste hierarchy. This indicator measures the waste collected by municipal authorities or on their behalf.

The municipal waste treatment approach included the following operations: landfill/disposal (D1-7, D12), incineration/disposal (D10), energy recovery (R1) and recycling. The classifications were approached according to the definitions included in the OECD/Eurostat Joint Questionnaire (Guidance on municipal waste data collection, October 2021), but also taking into account the Waste Framework Directive (Directive 2008/98/EC) and Directive (EU) 2018/851 amending Directives 2008/98/EC, as Eurostat considers for statistical data.

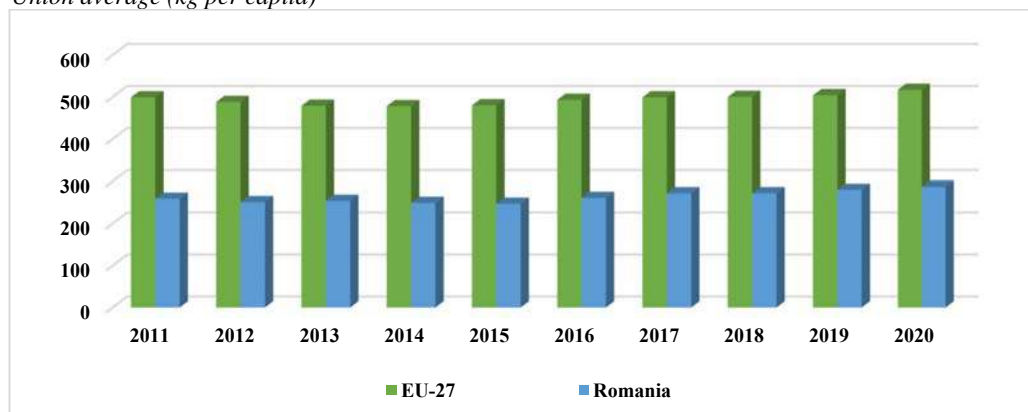
For a complete research we also considered the municipal waste recycling rate. It is also part of the set of indicators used by Eurostat to monitor the transition to a circular economy. According to the Eurostat methodology, this indicator measures the share of recycled municipal waste in the total municipal waste generated; for recycling, material recycling, composting, anaerobic digestion will be considered. The recycling rate of municipal waste was also used to monitor the objective included in the Waste Framework Directive related to reaching the share of at least 50% until the year 2020 of preparation for reuse and recycling of municipal waste (at least paper, metal, plastic, glass).

### 4. Findings

The most recent Eurostat statistics show that in 2020, 5,534 thousand tons of municipal waste were generated in Romania, registering an increase of over 6 percent in the last 10 years. The statistical expression of municipal waste generated in kilograms per capita shows a decrease from 259 kg/capita in 2011 to 247 kg/capita in 2015, followed by an increase up to 287 kg/capita in 2020. Thus, according to figure no.1, in the period 2011-2020, we have a 10.8% increase in municipal waste generated per capita. An increase in the generation of municipal waste shows that waste prevention measures are still needed in Romania, but also a change in the consumption model, and the involvement of citizens to be more active.

The trend is similar to that of the European Union, but the quantity is far below the Community average; in 2020, the municipal waste generated (kg/capita) in Romania had a weight of 55.51% of the EU average. In 2020, Romania generated the lowest amount of municipal waste per capita compared to the other members of the European Union. Differences between states may be caused by the regulation of municipal waste collection and management at the level of each economy (certain sources of waste may or may not be assimilated to household waste, being considered municipal waste or not), but also by the consumption model existing at the national level.

*Figure no. 1: Municipal waste generated in Romania in the period 2011-2020 compared to the European Union average (kg per capita)*

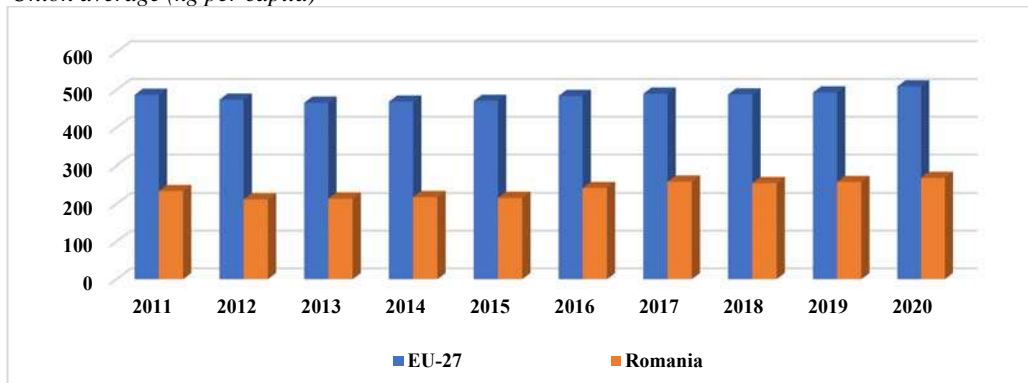


**Note:** Estimated data for the European Union - years 2019 and 2020

*Source:* Data extracted by the author from Eurostat, available online at [https://ec.europa.eu/eurostat/databrowser/view/ENV\\_WASMUN\\_\\_custom\\_4016808/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/ENV_WASMUN__custom_4016808/default/table?lang=en)

As seen in figure no. 2, the amount of treated municipal waste registered small fluctuations during the analyzed period. Currently, at the level of 2020, treated municipal waste averaged 269 kg/capita in Romania, which means a 15% increase compared to 2011. Thus, in 2020, 5,179 thousand tons of municipal waste were treated in Romania, this means an increase of 466 thousand tons compared to the base year of the analysis. Also, in the case of treated municipal waste, the trend was similar to that of the European Union.

*Figure no. 2: Municipal waste treated in Romania in the period 2011-2020 compared to the European Union average (kg per capita)*



**Note:** Estimated data for the European Union - years 2018, 2019 and 2020

*Source:* Data extracted by the author from Eurostat, available online at [https://ec.europa.eu/eurostat/databrowser/view/ENV\\_WASMUN\\_\\_custom\\_4016760/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/ENV_WASMUN__custom_4016760/default/table?lang=en)

Table no. 2 shows the amount of municipal waste by treatment category, both at the level of Romania and at the level of the European Union, as well as the change percentage of each category during the analyzed period.

*Table no. 2 Municipal waste by the treatment operations in Romania in the period 2011-2020 compared to the average of the European Union (kg per capita)*

Operation	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Change 2020/2011 (%)
<b>Romania</b>											
Disposal - landfill and other	201	171	175	179	178	181	207	210	213	214	6,46%
Disposal - incineration	0	0	0	0	0	0	0	0	0	0	0%
Recovery - energy recovery	2	4	5	7	6	11	12	12	13	15	650%
Recycling	30	37	34	33	33	35	38	30	32	39	30%
<b>EU-27</b>											
Disposal - landfill and other	167	153	142	134	127	121	127	125	124	122	-26,95%
Disposal - incineration	27	20	14	14	18	11	3	2	2	2	-92,60%
Recovery - energy recovery	99	102	112	114	110	119	128	128	129	134	35,35%
Recycling	194	199	199	207	216	226	231	232	238	251	29,38%

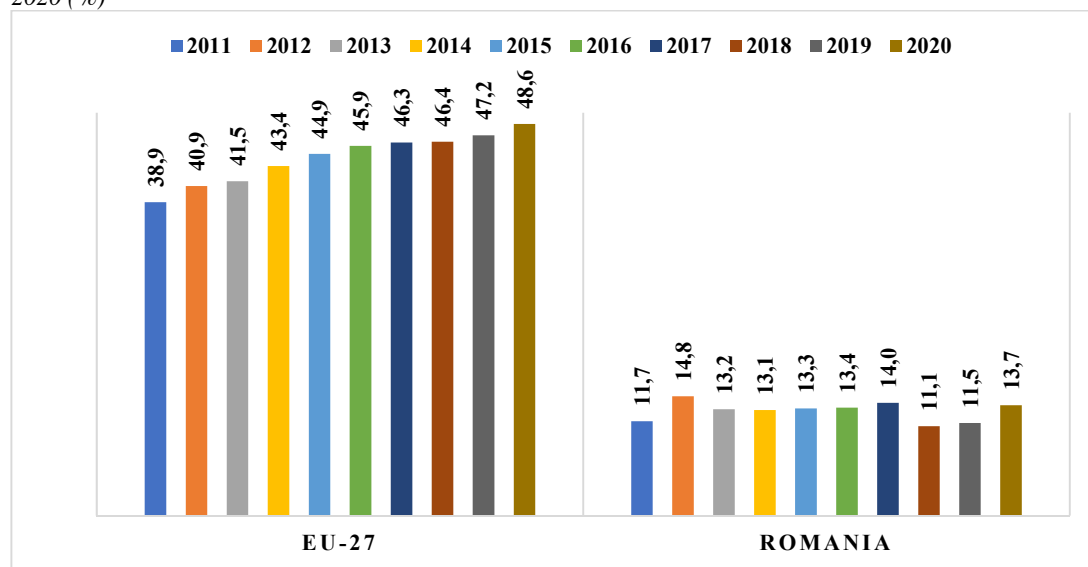
*Source:* Data extracted and processed by the author based on information provided by Eurostat

According to the data presented in the table above, we can see that the hierarchy of municipal waste treatment categories differs between Romania and the European Union. Thus, most of Romania's municipal waste is disposed of through landfilling and other similar operations, reaching 214 kg/capita in 2020, registering an increase of 6.46% compared to the base year of our analysis. Recycling is the second operation used by Romania for the treatment of municipal waste, registering a 30% increase in the analyzed period, from 30 kg/capita to 39 kg/capita. Recovery through energy recovery is still modest in Romania, but with a promising trend. Thus, this treatment operation registered a change of 650%, from 2 kg/capita to 15 kg/capita.

Comparatively, in the European Union the most used treatment operation is recycling (with a change of +29.38% compared to 2011), followed by recovery through energy recovery (with a change of +35.35% compared to 2011) and disposal through landfilling and other operations (with a change of -26.95% compared to 2011). A significant downward trend in the European Union was registered by incineration, which decreased from 27 kg/capita to 2 kg/capita.

The municipal waste recycling rate had a constant upward trend at the level of the European Union, from 38.9% in 2011 to 48.6% in 2020. On the other hand, in Romania there were fluctuations in the recycling rate of municipal waste, as we can see in figure no. 3. Overall, the recycling rate increased from 11.7% to 13.7% in the analyzed period, but places Romania in the last places among the EU states, surpassing only Malta (with a municipal waste recycling rate of 10.5% in 2020).

Figure no. 3: Municipal waste recycling rate in Romania and the European Union in the period 2011-2020 (%)



**Note:** Estimated data for the European Union - years 2019 and 2020

*Source:* Data extracted by the author from Eurostat, available online at [https://ec.europa.eu/eurostat/databrowser/view/CEI\\_WM011\\_\\_custom\\_4019127/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/CEI_WM011__custom_4019127/default/table?lang=en)

## 5. Conclusions

Although municipal waste is a small part of the total waste generated, its analysis is important, given the complexity of its sources, but also because it provides information on the consumption choices of the population. We list below some of the conclusions offered by our research:

- In the period 2011-2020, in Romania, a 10.8% increase in municipal waste generated per capita was recorded. The trend is similar to that of the European Union, but the quantity is far below the Community average; in 2020, the municipal waste generated (kg/capita) in Romania represented 55.51% of the EU average.
- The existing differences between the European Union states regarding the generation of municipal waste can be explained by the uneven regulation of the collection and management of municipal waste at the level of each economy and by the existing consumption model at the national level.
- The increase in the generation of municipal waste during the analyzed period reinforces the idea that waste prevention measures are still needed in Romania, a change in the consumption model, and the involvement of citizens to be more active.
- In 2020, the municipal waste treated in Romania had an average of 269 kg/capita, which means a 15% increase compared to 2011.
- The preferred order of municipal waste treatment categories differs between Romania and the European Union. Most of Romania's municipal waste is disposed of through landfilling and other similar operations, reaching 214 kg/capita in 2020, registering an increase of 6.46% percent compared to the base year of our analysis. Recycling is the second operation used by Romania, and energy recovery is still modest, but with a promising trend. In the European Union the most used treatment operation is recycling, followed by recovery through energy recovery, while disposal through landfilling and other operations has a decreasing trend.
- The recycling rate of municipal waste increased modestly during the analyzed period, from 11.7% to 13.7% and ranks Romania last among the EU states (in 2020, the recycling rate of the European Union was 48.6%).



Thus, Romania risks not meeting the targets set by the Framework Directive on waste, considering that its municipal waste recycling rate was 13.7% in 2020, compared to a rate of 48.6% recorded at the level of the European Union. At the same time, in 2020, a share of over 79% of treated municipal waste was eliminated by landfilling and others, compared to a share of 25% as recorded by the European Union, thus Romania is far from the established target.

It is also noted that Romania lacks the necessary infrastructure to ensure a separate collection of municipal waste. Finally, incentives to encourage reuse and citizen information campaigns are needed.

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## Socio-Economic Analysis of Romania After Joining the European Union

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### Abstract

*Romania is a rich country with high development potential, but little exploited.*

*At the beginning of the 2000s, Romania was in the pre-accession period, at that time approximately 90% of the country's areas were in the countryside, but after joining the EU, attempts were made to reduce the gaps in the country by improving the social and economic infrastructure.*

*The article seeks to present the evolution of the country by accessing European funds, briefly presenting the increase in the quality of life in the countryside, by analysing the social and economic indicators that determined the development of the region.*

*Carrying out a social analysis of the country's population based on the data provided by the INS, it was found that in the last three years the population of Romania is continuously decreasing, the natural increase being negative, the number of deceased persons exceeding the number of new live births.*

**Key words:** agriculture, economic, social, development

**J.E.L. classification:** Q01, R11, R5, R58

### 1. Introduction

The increase in the quality of life is a process that will be achieved in the long term and in which man will actively participate in the production of changes by increasing the number of inhabitants in the rural environment, the development of ecological practices that will have the effect of reducing the greenhouse effect and the development of activities that will reduce the unemployment rate.

The rural environment represents the main source of procurement of agricultural or non-agricultural raw materials. Although Romania is a rich country in terms of agricultural land, in recent years there has been a high rate of abandonment of agricultural activities, but also of inadequate agricultural practices arising from the lack of specialized knowledge or due to the lack of financial resources that have determined the phenomenon of soil erosion.

The concept of sustainable development became a first objective of the European Union in 1997 after the signing of the Maastricht Treaty, and after 2001 the EU Sustainable Development Strategy was adopted.

Sustainable development represents all the forms and methods of socio-economic growth that focus on ensuring a balance between ecological, economic, social aspects and the elements of human capital.

Rural development can be described as a process that has the role of bringing about changes in a community.

After Romania's accession to the EU, small changes took place at the country level, Romania had to implement the single European regulation. Part of the regulation included the accumulation of several counties of the state in development regions so that the implementation of projects could be carried out faster, and Romania was divided into 8 development regions: Bucharest-Ilfov, Centre, North-West, West, South - Muntenia, South-West Oltenia, South-East, North-East.

Thus, Romania, as a member state of the European Union, developed the National Rural Development Program, emphasizing the improvement of activities in the rural environment by stimulating the regions with non-reimbursable European funds for the sustainable development of areas whose GDP is less than 70%.% (MADR, 2021)

## 2. Literature review

The European Union represents a political and economic unit made up of 28 member states that established a single internal market by developing highly standardized laws in all member states.

The establishment of the European Coal and Steel Community and the European Economic Community took place in 1951 with the signing of the Treaty of Paris when the foundations were laid for a great "union" of which six states were initially part: Italy, France, Germany and the from the bottom. In the years that followed, the number of countries that became members of the great European Community experienced an ascent starting in 1973 when Denmark, Ireland and Great Britain decided to join the European Community. The wave continued in the following years, in 1981 Greece, 1986 Spain and Portugal, 1995 Sweden, Finland, Austria, 2004 Slovenia, Estonia, Cyprus, Hungary, Poland, Latvia, Slovakia, Czech Republic and Malta, in 2007 Romania and Bulgaria, and in 2013 Croatia. (Fontaine, 2009).

The European Union began to be known under this name with the signing of the Maastricht Treaty in 1993.

In 1957, with the signing of the Treaty of Rome, regarding the development of the European Economic Community, the Common Agricultural Policy also appeared. (Nijkamp, 2009)

The Treaty of Rome does not explain concretely how the objectives will be achieved, thus in 1958 the ministers' agriculturists from the six member states met in Italy where they established three great principles that were the basis of CAP governance:

- **"The principle of the single market:** within the European Union, agricultural products can circulate without any restrictions;
- **The principle of financial solidarity:** common measures are financed through a common budget;
- **The principle of community preference:** original products from the EU are promoted and favoured, imposing higher prices for imported products compared to domestic production". (Zahiu et al., 2006).

Thus, in broad terms, the CAP wants to support and protect the income of agricultural producers through the price, establishing a high level of customs protection against competition from outside the EU. Since intra-Community prices were higher than world prices, exports were encouraged through subsidies. Common subsidies and measures were financed from a common budget, but the CAP thus became a construct resistant to the trends of international markets.

The proposals developed by the commission were debated and accepted by the Council in 1961, and the details were negotiated and actually put into practice from 1962, and the first steps towards the operation of the CAP and the standardization of prices began in 1964.

In 1992, a radical change took place in the CAP, the main element of this reform being the reduction of prices for the products that generated the largest surpluses, especially for beef, cereals and butter, sums of money were granted to farmers to compensate for the losses suffered by them. The compensatory payments were set per head of animal for cattle and per hectare for arable crops. (Baldwin, Wyplosz, 2006).

The 1992 reform focused on stabilizing incomes, reducing export subsidies and intervention prices, so "the reform focused on increasing capital from the market and protecting farmers, as well as supporting small farmers" (Zahiu et al., 2006).

In 1999, a new PAC reform followed, the Agenda 2000 strategic document which determined the price reduction of cereals, dairy products, beef in parallel with the increase of compensatory payments. The reform gave increased importance of the agricultural policy to the measures aimed at the quality of products and production, the development of rural areas and the protection of the environment under the same house, that of the rural development policy, which therefore became the second pillar of the CAP.

The Common Agricultural Policy aims to strengthen the competitiveness of European agriculture and develop sustainability by supporting better management of existing natural resources. Thus, the PAC supports the transfer of knowledge, the development of competitiveness, the strengthening of the environment, the promotion of social inclusion and the reduction of the degree of poverty in severely affected rural areas. (Swann, 2000)

"Agenda 2000 prepared the market for liberalization and outsourcing to Eastern Europe and included three major directions of action:

- Improving the "model agricultural European";
- The reduction of economic disparities in the states of the Union, as well as in the candidate states for accession by means of pre-accession structural funds;
- Ensuring the necessary financial resources, respecting the priorities set for the programming period 2000-2006" (Zahiu et al., 2006).

In Romania, 90% of areas are in rural areas, so following the CAP reform, rural development has acquired an important role in the improvement and economic and social support of disadvantaged regions.

### 3. Research methodology

Socio-economic growth of less developed regions is desired, it is found in all areas of a country.

Regarding the increase in the quality of life in the rural environment, the country's situation in the last three years was analysed using the most representative indicators by which the level of economic and social development can be determined.

The main objective of this work represents the realization of a thorough analysis of the eight development regions of Romania to reflect the evolution and socio-economic impact of these areas, as well as the tourism potential in the rural environment over a period of three years.

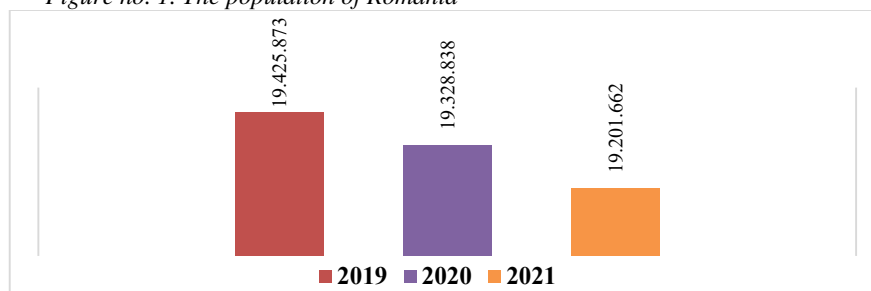
The statistical data available for the period 2019-2021 provided by the National Institute of Statistics and the specialized literature research were the basis for determining the quantitative and qualitative analysis.

### 4. Findings

Following Romania's accession to the EU, for the purpose of the economic and social development of the country through the regional development policy, the 42 counties were divided into eight development regions.

Romania in 2021 is made up of 320 cities, 2858 communes and 13,288 villages, and at the territorial level we find 42 counties, including the municipality of Bucharest.

Figure no. 1. The population of Romania



Source: Own processing based on National Institute of Statistics data

Figure 1 presents the situation of the country over a period of 3 years; thus, it was found that the population of Romania is unfortunately in a continuous annual decrease, the lowest value being recorded in 2021 (19,201.62/place). The determining factors would be the rate of external migration, the aging population, as well as the decreasing number of new live births.

Table no. 1 Resident population by development regions

Region	2019	2020	2021
North-West	2,552,470	2,547,429	2,537,017
Center	2,318,459	2,314,826	2,302,833
North-East	3,202,800	3,184,215	3,163,465
South-East	2,398,402	2,377,101	2,351,636
South-Muntenia	2,930,686	2,901,376	2,868,994
Bucharest-Ilfov	2,318,109	2,322,002	2,327,057
South-West Oltenia	1,927,215	1,910,409	1,892,078
West	1,777,732	1,771,480	1,758,582

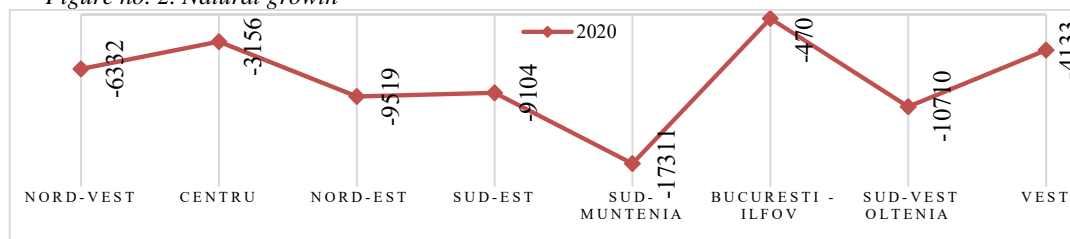
Source: Own processing based on National Institute of Statistics data

Analysing the resident population of Romania, it was determined that, with the exception of the Bucharest-Ilfov region, it is in continuous decline. The main causative factors would be continuous migration, the death rate which is much higher than the rate of new live births, as well as the lack of jobs, especially in this precarious period when the COVID-19 pandemic has caused a global disruption of all activities.

But the Bucharest-Ilfov region continues during this period to know a modest annual development, the favourable causes being given by the wider opening market, as well as numerous employment opportunities.

At the opposite pole is South-West Oltenia, where the population decreases annually, the rate of internal or external migration of the population continues to increase due to the desire for a better life.

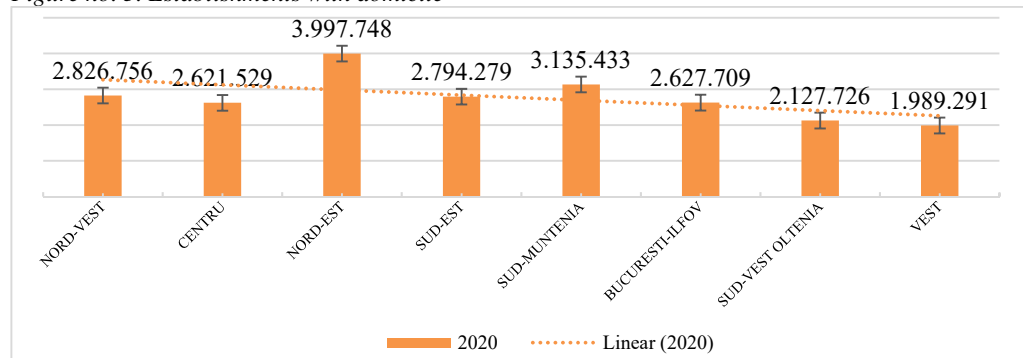
Figure no. 2. Natural growth



Source: Own processing based on National Institute of Statistics data

Analysing the last year of reference, we can see that the natural increase is continuously declining in absolutely all development regions, including Bucharest-Ilfov, which, although it holds the first place in terms of the number of people living, the indicators show that in 2020 the increase is -3205 lower than in 2019, when the increase was 633. Contrary to the migratory tendencies of Romanians, the Bucharest-Ilfov region is one of the most developed regions from an economic point of view.

Figure no. 3. Establishments with domicile



Source: Own processing based on National Institute of Statistics data

From the indicators presented in the previous graph, it can be seen that emigration at the total level of the country is continuously decreasing, but arriving at an analysis by development regions, we deduced that the massive emigrations come from the Centre, South-East and West regions.

The decreasing emigration at the country level is primarily due to the reduction of territorial gaps and disparities in recent years, as well as to the patriotism of the citizens. However, it should be remembered that in the period 2020-2021, the pandemic caused by Covid-19 broke out, which made it difficult for the population to emigrate globally due to the sanctions imposed by the authorities to reduce the spread of the virus.

Table no. 2 Registered unemployed (at the end of December)

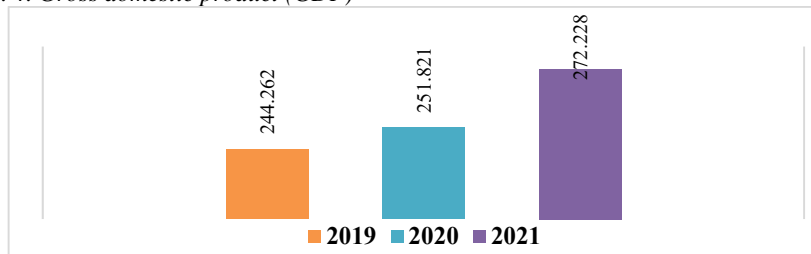
Region	2019	2020	2021
North-West	24,657	32,022	24,555
Centre	28,277	35,493	26,931
North-East	51,030	55,476	43,836
South-East	41,532	47,871	36,340
South-Muntenia	39,434	44,313	36,360
Bucharest-Ilfov	16,024	16,692	14,771
South-West Oltenia	43,024	45,823	37,800
West	13,887	18,361	14,164

Source: Own processing based on National Institute of Statistics data

With the emergence of the COVID-19 pandemic, changes took place at a global level that determined the reduction of social and physical activity, affecting all important areas of the economy, thus the imposed restrictions led to temporary or permanent stoppages of activity, registering unemployed in a number overwhelmingly large. Many businesses have decided to close their activity due to lack of liquidity that would have allowed them to pay their employees, but also for various reasons, such as the inability to carry out the activity without violating the rules imposed by the state during the pandemic, especially in the HORECA field.

According to the Ministry of Labour, on 31.12.2021, the total number of registered unemployed in Romania was 234,757 people, and the unemployment rate was 2.69, which is down compared to 2020.

Figure no. 4. Gross domestic product (GDP)



Source: Own processing based on National Institute of Statistics data

GDP is a macroeconomic indicator that presents the sum of the market value of all goods and services produced for final consumption, produced in all branches of a country's economy over a period of one year. Thus, in the last three analysed years, it was determined that Romania's GDP is in continuous growth, the factors that led to this growth are given by the numerous economic activities in all areas of the country.

Table no. 3 Cultivated area (vegetable) and Livestock numbers

Surface cultivated (vegetable)			Effective animals			
Region	2018	2019	2020	2018	2019	2020
North-West	830.31	841,476	838,534	10,235,461	9,490,376	9,486,319
Centre	585,866	576,947	569,064	11,538,032	11,777,518	12,505,932
North-East	1,207,636	1,275,621	1,292,933	15,971,553	15,438,373	15,517,494
South-East	1,781,171	1,745,808	1,745,763	13,945,489	16,045,599	15,070,807
South-Muntenia	1,870,788	1,891,769	1,869,135	21,194,525	21,775,264	17,611,025
Bucharest-Ilfov	66,829	63,561	62,821	467,902	508,439	517,544
South-West Oltenia	1,144,855	1,186,362	1,206,926	8,933,722	9,207,480	9,684,204
West	979,204.00	1,155,731	790,562	7,785,241	7,237,644	6,731,255

Source: Own processing based on National Institute of Statistics data

The agricultural sector in the last analysed years had one of the best developments since accession until now, thus the year 2020 recorded over 8.4 million cultivated ha.

The SUD-MUNTENIA region is at the top of the ranking regarding the cultivated area with 1.8 ha, and at the opposite pole is the Bucharest -Ilfov region. The differences in the number of cultivated ha is determined by the weight of the activities carried out in agriculture, the first region has numerous rural areas, where the basic labour activities are given by agriculture, where the most modern methods of efficiency of production and time are also applied, using state-of-the-art technology.

The numbers of animals shown in the table above are the sum by region of development of the following animals: cattle, pigs, sheep and poultry.

From the point of view of the heads of animals by development region, it was determined that the SUD-MUNTENIA area registered the most important meat production, although it is decreasing in 2020, compared to 2019, and the lowest production being found in the region Bucharest-Ilfov which shows fluctuating growth from year to year.

The possible causes that led to the massive decreases in meat production can be determined by several factors, such as swine fever that required the slaughter of several lines of animals to eliminate the disease, the COVID-19 pandemic that restricted the population in the first part of the year 2020, as well as the much more intense protocols imposed by the state after the beginning of the crisis caused by the pandemic.

Table no. 4 Active companies

Region	2018	2019	2020
North-West	85,847	88,065	93,137
Centre	67,087	70,080	73,958
North-East	62,160	63,704	68,736
South-East	63,232	64,518	67,787
South-Muntenia	63,262	66,199	70,099
Bucharest-Ilfov	142,118	142,514	148,930
South-West Oltenia	40,623	42,475	45,029
West	52,216	53,704	56,530
<b>TOTAL</b>	<b>576,545</b>	<b>591,259</b>	<b>624,206</b>

Source: Own processing based on National Institute of Statistics data

According to the table above, the pole of active enterprises is found in the Bucharest-Ilfov region, which also includes the Municipality of Bucharest, which represents the capital of the country.

It can be seen that the number of active enterprises during the three years analysed was in continuous expansion, in second place after the leading region, being the North-West Region with a number of over 90,000 active enterprises.

An annual increase in the number of active enterprises can be observed, even in the South-West Oltenia region which has the lowest number of enterprises throughout the three years.

Table no. 5 Tourist reception structures

Region	2019	2020	2021
North-West	1,124	1,225	1,405
Centre	2,249	2,333	2,327
North-East	1,029	1,103	1,130
South-East	1,504	1,459	1,755
South-Muntenia	811	773	789
Bucharest-Ilfov	210	194	200
South-West Oltenia	631	635	666
West	844	888	874
<b>TOTAL</b>	<b>8,402</b>	<b>8,610</b>	<b>9,146</b>

Source: Own processing based on National Institute of Statistics data

Romania is a country that has in its sphere of composition all the relief steps, a beautiful history and a multitude of places to visit, so after Romania's accession to the EU, an increasing number of tourists crossed the country's threshold.

The table above shows us that the number of tourist reception structures is in a continuous expansion in all development regions, predominated in the Centre, as well as in the South-East, these being the main tourist attractions for Romanians and foreigners.

## 5. The SWOT analysis

After the development of the diagnostic analysis of the territory, starting from the obtained information, the main elements were further identified in the form of strengths, weaknesses, opportunities and threats for each category.

The SWOT analysis represents an essential element of the planning process, having an important role in describing the objectives and priorities, thus providing a complete picture of the territory's needs.



Table no. 6 SWOT analysis

STRONG POINTS	WEAKNESSES
<ul style="list-style-type: none"> <li>• The territory is unitary</li> <li>• The relief of the territory is diversified</li> <li>• Large areas and natural meadows</li> <li>• Available workforce</li> <li>• The whole territory It is electrified</li> <li>• The existence of associative forms in the agricultural field</li> <li>• The existence of the traditions and knowledge of animal husbandry</li> <li>• Local brand development</li> <li>• Development of non-agricultural activities</li> </ul>	<ul style="list-style-type: none"> <li>• The existence of a very large number of persons developing agricultural activities without legal personality</li> <li>• Locals are involved in semi-subsistence farming</li> <li>• Total non-integration of products made on the market</li> <li>• Non-existence of product collection and packaging centers</li> <li>• People's mindset on cooperation with other partners</li> <li>• Poor development of recycling culture</li> <li>• Poor and irresponsible waste management</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• High agricultural potential</li> <li>• Sustainable exploitation of local resources</li> <li>• Promotion of traditional local products</li> <li>• Development of international relations with educational and cultural institutions</li> <li>• Sources of financing in the agricultural sector</li> <li>• Development and modernization of some enterprises</li> </ul>	<ul style="list-style-type: none"> <li>• Poor investment in rural areas</li> <li>• Low promotion of rural areas, but also of traditional products</li> <li>• Fear of association of local agricultural producers</li> <li>• Poor promotion of craft products</li> <li>• Climate</li> <li>• Pollution of areas due to the wrong location of waste</li> </ul>

Source: Own processing

The vast majority of farmers who own small and medium-sized holdings do not have knowledge in the field of management of modern production technologies and standards, they focus on the experience they have acquired from modern practices.

The actions regarding the transfer of knowledge and information actions have the role of supporting the measures for the development of competitiveness, the modernization of the agricultural and forestry sector, the commercialization of agricultural products, the fulfilment of land management objectives and the protection of the environment.

Therefore, professional training, the acquisition of skills, the implementation of effective management systems in the agricultural and forestry sectors, but also the development of environmentally friendly practices must be supported to the same extent.

## 6. Conclusions

Following the analysis carried out on all development regions, improvements were found both from an economic and social point of view in all existing areas, each region managing to develop a basic activity that it tried to capitalize on for a better living good.

However, the pandemic caused by the Covid-19 virus, as well as the imposed restrictions, created a deadlock on several branches of the economy, especially in the HORECA field, but it was determined that in 2021, the period in which the restrictions were lessened, some activities they could be resumed at a higher capacity.

In order to carry out a diagnostic analysis of the territory, we started by identifying the main elements in the form of strengths, weaknesses, opportunities and threats of each category separately, thus the SWOT analysis determines both the pluses and minuses of the territory.

From the point of view of agriculture at present, at the regional level a slight development of the agricultural sector was observed, the largest cultivated areas and the most modernized farms being found in the South-Muntenia, South-East and North-East regions, thus having a significantly high contribution to the economic growth of the region.

Also, Romania has a high tourist potential through the multitude of natural parks, as well as historical monuments and mountain areas that annually attract millions of Romanian and foreign visitors.

## 7. Acknowledgment

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# Why Is More Efficient to Combine BeautifulSoup and Selenium in Scraping For Data Under Energy Crisis

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## Abstract

*The electricity prices are often sensitive data that pose challenges in terms of collection. The volatility and soaring prices make the day-ahead electricity markets appealing for scientists. Several events took place from 2020, such as COVID-19 and military conflict in Ukraine leading to higher inflation, interest rates and energy crisis. Since 2020, the electricity prices on day-ahead market (DAM) increased even up to ten times. To perform the electricity price prediction, extensive feature engineering and historical data are required. Data sources from Romania are assessed to analyze the opportunity to extract relevant data for the electricity price and traded quantities. Thus, in this, paper, we investigate opportunity to extract data from web pages. We will suggest solutions to extract historical data from web sites that do not provide APIs or csv files. Several Python libraries such as BeautifulSoup and Selenium will be showcased, and approaches will be compared.*

**Key words:** electricity price, data scrapin, BeautifulSoup, Selenium, prediction

**J.E.L. classification:** Q47, C82, Q41

## 1. Introduction

Web “scraping” (also called “web harvesting,” “web data extraction,” or even “web data mining”), can be defined as “the construction of an agent to download, parse, and organize data from the web in an automated manner” (Tenorio de Farias *et al.*, 2021). Many websites nowadays offer such an API that provides means for the outside world to access their data repository in a structured way. APIs are great means to access data sources, if API exposes the required functionality. The general rule of thumb is to look for an API first and use it, before setting off to build a web scraper to gather the data. There are various reasons why web scraping might be preferable over the use of an API: the website somebody wants to extract data from does not provide an API; the API provided is not free (whereas the website is); the API provided is rate limited: meaning that the access is limited to a number of certain times per second, per day, etc.; the API does not expose all the data we wish to obtain (whereas the website does).

In this paper, we will show a use case aiming to extract data from a website with Python libraries, namely BeautifulSoup and Selenium. The webpage contains hourly electricity prices and traded quantities on DAM per day. The table is displayed in the middle of the page and above it, a selector for day, month and year is placed. Therefore, if we intend to extract data for a longer interval let's say from January 2019 to August 2022, the selector should be manually changed, and the Refresh button pressed more than 1300 times that is tedious and should be automatized.

## 2. Literature review

Usually, websites offer APIs or csv files with historical data, but when this is not possible, the only way is to scrape the website using dedicated tools such as BeautifulSoup and Selenium from Python (Thomas and Mathur, 2019) or curl from PHP or rvest from R. Scraping is a method to obtain data from web (vanden Broucke and Baesens, 2018; Dogucu and Çetinkaya-Rundel, 2020; Liu and Chen, 2021). Interesting use cases exist, such as: the national institute of statistics scraping the web to obtain goods (food and non-food) and services prices to calculate the consumer price indices, banks and their competitors, election, projects data to start with, price comparison, public sentiment (Subramaniaswamy *et al.*, 2017) regarding Bitcon, psychology (Landers *et al.*, 2016), patterns of depression and suicidal thoughts ([https://www.sas.com/en\\_ca/insights/articles/analytics/using-big-data-to-predictsuicide-risk-canada.html](https://www.sas.com/en_ca/insights/articles/analytics/using-big-data-to-predictsuicide-risk-canada.html)) and others (Han and Anderson, 2021). The purpose of extraction the data is to understand phenomena (Kusumasari and Prabowo, 2020), obtain valuable insights and improve the quality of life.

Our purpose is to extract data from OPCOM – the Romanian Market Operator website and to perform electricity price forecast that is useful for building strategies of the market participants, such as: electricity producers and suppliers. Numerous alternatives exist to scrape data, such as PHP, R and Python libraries (Wang *et al.*, 2021). Apart from BeautifulSoup and Selenium, Scrapy is another Python library. A notable drawback of Scrapy is that it does not emulate a full browser stack. Dealing with JavaScript will hence be troublesome using this library. CatchControl is to avoid continuously hammering web servers with requests over and over again. Moreover, graphical scraping tools are available such as Portia, Parsehub, Kapow, Fminer, Dexi. However, they showed issues with heavy loaded JavaScript. Oftentimes, these tools will fail to work once the data contained in a page is structured in a less-straightforward way.

## 3. Research methodology

In getting data from OPCOM website, we will use Python, namely BeautifulSoup and Selenium libraries. Also, we need to create a request to HTTP. There are several Python libraries that interacts with HTTP:

- "httplib2" - a small, fast HTTP client library. Originally developed by Googler Joe Gregorio, and now community supported;
- "urllib3" - a powerful HTTP client for Python;
- "requests" – preferred in this exemplification;
- "grequests" which extends requests to deal with asynchronous;
- "aiohttp" another library focusing on asynchronous HTTP.

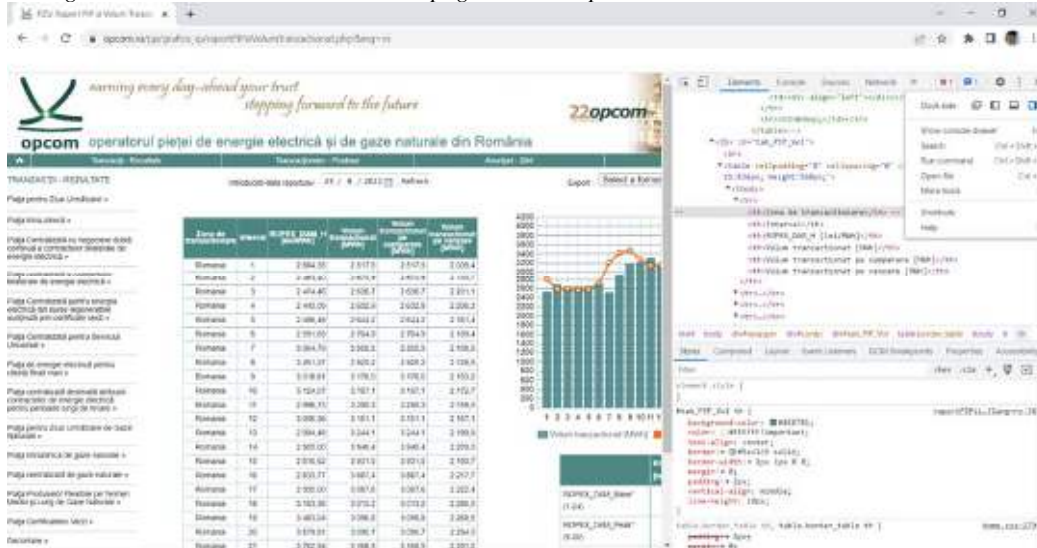
The GET method requests a representation of the specified URL. In comparison with POST, requests using GET should only retrieve data and should have no other effect, such as saving or changing user information or perform other actions. Thus, it should be safe to execute the same request multiple times. An example of http request is provided in Table 1.

Table no. 1 Example of a HTTP request

```
#pip install requests
#Import libraries
import requests
#Create an URL object
url = 'https://www.opcom.ro/pp/grafice_ip/raportPIPsiVolumTranzactionat.php?lang=ro'
#Create object page
page = requests.get(url, verify = False)
```

First, we will investigate the webpage to understand the DOM (Document Object Model) as in Figure 1.

Figure no. 1. OPCOM website and its page source inspection



Source: <https://www.opcom.ro/grafice-ip-raportPIP-si-volumTranzactionat/ro>

For the static components of the table (headers, rows and data from cells), BeautifulSoup (BS) is recommended. In Table 2, we will create an object page and obtain page information by creating a BS object called soup.

Table no. 2 BS library – creating a BD object

```
import requests
from bs4 import BeautifulSoup
#Create an URL object
url = 'https://www.opcom.ro/pp/grafice_ip/raportPIPsiVolumTranzactionat.php?lang=ro'
#Create object page
page = requests.get(url, verify = False)
#parser-lxml = Change html to Python friendly format
# Obtain page's information by creating a BS object (called soup)
soup = BeautifulSoup(page.text, 'lxml')
#soup = BeautifulSoup(page.content, "html.parser")
```

Beautiful Soup's main task is to take HTML content and transform it into a tree-based representation. Once a BeautifulSoup object is created, there are two methods necessary to fetch data from the page: `find(name, attrs, recursive, string, **keywords)`; and `find_all(name, attrs, recursive, string, limit, **keywords)` or `findAll`. In Table 3, an exemplification of `find_all` method is provided. We will create a list with table headers and these headers will become the columns of a dataframe where the data will be temporarily stored. Moreover, `find` method helped us to identify the table from where we scrape the data by its class.

Table no. 3 BS library – find and find\_all exemplifications

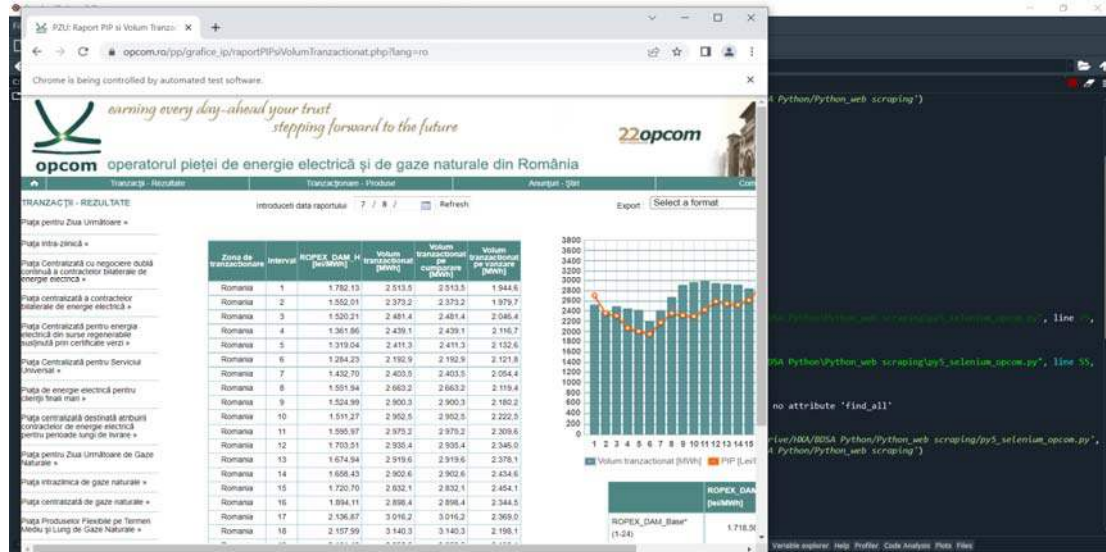
```
import pandas as pd
...
# Obtain information from tag <table>
table1 = soup.find('table', {"class": "border_table"})
# Obtain every title of columns with tag <th>
headers = []
for i in table1.find_all('th'):
    title = i.text
    headers.append(title)
mydata = pd.DataFrame(columns = headers)
```

However, requests and BS libraries are not enough to deal with script tags. Apart from data from table that can be extracted with BS, we have to manipulate the selector of date (day, month, year) and also to click the Refresh button every time the date is changed. Selenium is a powerful



web scraping tool that was originally developed for the purpose of automated website testing. Selenium works by automating browsers to load a website, retrieve its contents, and perform actions like a user would when using the browser (as in Figure 2). There are some options that Chrome has that can stop displaying of the webpage (headless mode). As such, it's also a powerful tool for web scraping. Selenium can be controlled from various programming languages, such as Java, C#, PHP, and of course, Python.

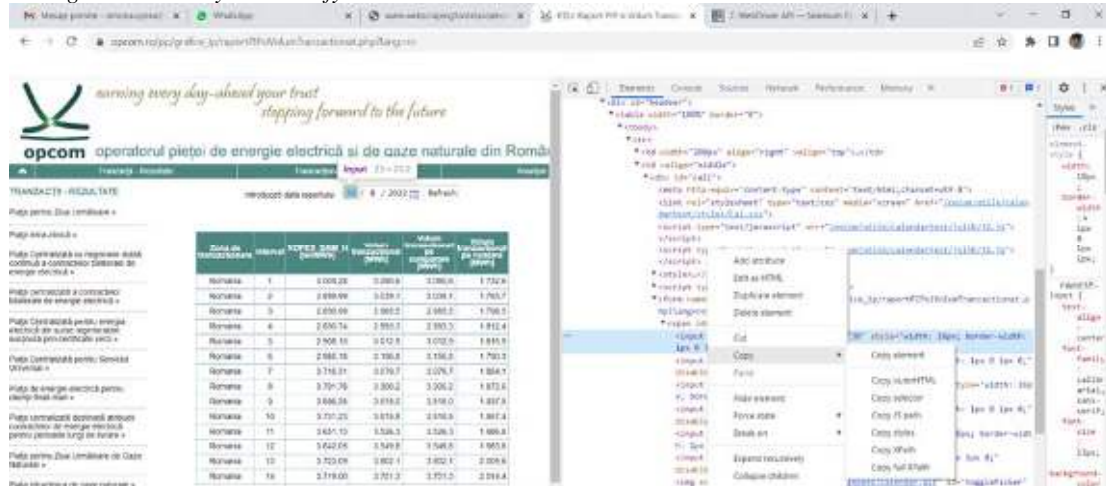
Figure no. 2. Selenium showing up the webpage it investigates



Source: <https://www.opcom.ro/grafice-ip-raportPIP-si-volumTranzactionat/ro>

It's important to note that Selenium itself does not come with its own web browser. Instead, it requires a piece of integration software to interact with a third party, called a WebDriver. WebDrivers exist for most modern browsers, including Chrome, Firefox, Safari, and Internet Explorer. When using these, a browser window will open up on your screen and it will perform the actions the specified in the code. chromedriver.exe has to be downloaded run and its path inserted into Advanced System Setting Environment variables PATH. The easiest way to make sure Selenium can see this executable is simply by making sure it is located in the same directory as your Python scripts. Finding elements with Selenium (Table 4) is almost similar with BeautifulSoup. An element can be identified by other characteristics if the name and ID are not available, such as CSS selector or XPath as in Figure 3.

Figure no. 3. Ways to identify an element



Source: <https://www.opcom.ro/grafice-ip-raportPIP-si-volumTranzactionat/ro>

Table no. 4 Methods to find elements in Selenium

Selenium version check: find_element_by_* is deprecated in the latest versions	
Instead, find_element(By.*) sau find_elements(By.*)	
find_element(By.ID, "id")	
find_element(By.NAME, "name")	
find_element(By.XPATH, "xpath")	
find_element(By.LINK_TEXT, "link text")	
find_element(By.PARTIAL_LINK_TEXT, "partial link text")	
find_element(By.TAG_NAME, "tag name")	
find_element(By.CLASS_NAME, "class name")	
find_element(By.CSS_SELECTOR, "css selector")	
Methods above will raise a NoSuchElementException exception in case an element could not be found. BeautifulSoup simply returns None in this case.	

Source: Authors' contribution

#### 4. Findings

In this section, we will compare two approaches in scraping data from a webpage. Selenium can handle both static and dynamic parts of the page. In other words, Selenium can extract the data from table, change the date and click automatically on Refresh button. However, the best approach is to combine Selenium and BeautifulSoup libraries. Selenium is the best to dynamically send data to input fields and press buttons, whereas BS is the best to grab data from HTML tags. Why to use this combination and bother with both libraries? Tasks can be done only with Selenium? The answer is yes, but the process is much slower! When both Selenium and BS are used the execution time to extract data for one month is 20 seconds as in Figures 4 and 5.

Figure no. 4. Using BS and Selenium to scrape data

```

1 from bs4 import BeautifulSoup
2 import pandas as pd
3 from selenium import webdriver
4 chrome_options = webdriver.ChromeOptions()
5 chrome_options.add_argument('--headless')
6 chrome_options.add_argument('--no-sandbox')
7 chrome_options.add_argument('--disable-dev-shm-usage')
8 driver = webdriver.Chrome(chrome_options=chrome_options)
9 from selenium.webdriver.common.keys import Keys
10 driver.get("https://www.opcom.ro/sp/grafice-la/raportPDPsiVolumeTranzactionet.php?lang=ro")
11
12 def my_func(i,j,k):
13     day = driver.find_element(By.NAME, 'day')
14     day.clear()
15     day.send_keys(i)
16     month = driver.find_element(By.NAME, 'month')
17     month.clear()
18     month.send_keys(j)
19     year = driver.find_element(By.NAME, 'year')
20     year.clear()
21     year.send_keys(k)
22     button = driver.find_element(By.NAME, 'button')
23     button.send_keys(Keys.ENTER)
24     page_source = driver.page_source
25     soup = BeautifulSoup(page_source, 'html')
26     tabel = soup.find('table', {'class': 'border-table'})
27     headers = []
28     for i in tabel.find_all('th'):
29         title = i.text
30         headers.append(title)
31     mydata = pd.DataFrame(columns = headers)
32     for j in tabel.find_all('tr')[1:]:
33         row_data = j.find_all('td')
34         row = [i.text for i in row_data]
35         length = len(mydata)
36         mydata.loc[length] = row
37     return mydata
38
39 df = pd.DataFrame()

```

Figure no. 5. Execution time when using both BS and Selenium

```

17 day.send_keys('')
18 month = driver.find_element(By.NAME, 'month')
19 month.clear()
20 month.send_keys('')
21 year = driver.find_element(By.NAME, 'year')
22 year.clear()
23 year.send_keys('')
24 button = driver.find_element(By.NAME, 'button')
25 button.send_keys(Keys.ENTER)
26 page_source = driver.page_source
27 soup = BeautifulSoup(page_source, 'lxml')
28 table = soup.find('table', {'class': 'border-table'})
29 headers = []
30 for i in range(1, 12):
31     title = i.text
32     headers.append(title)
33     mydata = pd.DataFrame(columns = headers)
34     row_data = []
35     for j in range(1, 12):
36         row_data = j.find('tr')
37         length = len(row_data)
38         mydata.loc[length] = row_data
39     return mydata
40 df = pd.DataFrame()
41 for k in range(2022, 2023):
42     for j in range(1, 12):
43         for i in range(1, 12):
44             df1 = my_func(i, j, k)
45             df = pd.concat([df, df1])
46             print('Values read' + str(i))
47
48 df.to_csv('C:/Users/Adrian/Desktop/BS/Python/Python_web_scraping/resultado_selenium.csv', index=False)
49 time_load_meters = (time.time() - start)

```

In comparison, only with Selenium, the execution time is heading to 117 seconds, that is almost 6 times slower as in Figure 6.

Figure no. 6. Execution time when using Selenium

```

1 driver = webdriver.Chrome('chromedriver', options=chrome_options)
2 from selenium.webdriver.common.by import By
3 from selenium.webdriver.common.keys import Keys
4 import time
5 start = time.time()
6 driver.get('https://www.opcom.ro/sp/grafice/la/raportPDP/VolumTranzactiunet.php?lang=ro')
7 def my_func(i, j, k):
8     day = driver.find_element(By.NAME, 'day')
9     day.clear()
10    day.send_keys('')
11    month = driver.find_element(By.NAME, 'month')
12    month.clear()
13    month.send_keys('')
14    year = driver.find_element(By.NAME, 'year')
15    year.clear()
16    year.send_keys('')
17    button = driver.find_element(By.NAME, 'button')
18    button.send_keys(Keys.ENTER)
19    table = driver.find_element(By.CLASS_NAME, 'border-table')
20    headers = []
21    for i in range(1, 12):
22        title = i.text
23        headers.append(title)
24        mydata = pd.DataFrame(columns = headers)
25        for j in range(1, 12):
26            row_data = j.find('tr')
27            length = len(row_data)
28            mydata.loc[length] = row_data
29        return mydata
30 df = pd.DataFrame()
31 for k in range(2022, 2023):
32     for j in range(1, 12):
33         for i in range(1, 12):
34             df1 = my_func(i, j, k)
35             df = pd.concat([df, df1])
36             print('Values read' + str(i))
37
38 df.to_csv('C:/Users/Adrian/Desktop/BS/Python/Python_web_scraping/resultado_selenium.csv', index=False)
39 time_load_meters = (time.time() - start)

```

The entire code to extract data from OPCOM website is provided in GitHub.

## 5. Conclusions

In this paper, we propose a method to extract data from websites that do not provide APIs or csv files. We also discussed other alternatives to extract data from web and other goals for such endeavour. The website contains electricity prices and traded quantities that were extracted using both BeautifulSoup and Selenium libraries. The historical data is essential when forecast is required. However, we simulate a case where only Selenium was used and showed that the execution time increase from 20 to 117 seconds, almost six times. Therefore, we suggest to use both Selenium and BS to accomplish the task.



## 6. Acknowledgement

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## Global Evolution of Research on Sustainable Development and Carbon Dioxide Emissions: a Bibliometric Review

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### Abstract

*This article aims to analyze and synthesize the research conducted over time of scientific publications in the field of sustainable development and carbon dioxide emissions (CO2 emissions) by investigating the most relevant articles, authors, journals, countries, and organizations.*

*We applied a quantitative research methodology by conducting a bibliometric analysis related to sustainable development and CO2 emissions. Using the VOS viewer program, we mapped this research field using co-occurrence keywords, highlighting the most important connections between these two concepts. This software graphically displayed the data and identified four clusters/research lines concerning sustainable development, economic growth, CO2 emissions, and environment.*

*The analysis includes the most relevant 258 publications indexed in the Web of Science Core Collection database from 2000 to 2022, including 63 countries. The main findings indicate that the scientific interest in the field of sustainable development and CO2 emissions has progressively increased in the last three years (60% of the articles).*

**Key words:** bibliometric analysis, sustainable development, CO2 emissions, VOS viewer

**J.E.L. classifications:** M14

### 1. Introduction

Our study examines 258 publications published between 2000 and 2022. We collected data from the Web of Science (WoS) and visualized it using the VOSviewer program tools like keyword co-occurrence or bibliographic coupling. The present analysis contributes to the literature on sustainable development and CO2 emissions because it structures and synthesizes all the previous research in this field. Additionally, it offers helpful details regarding pertinent contributions, authors, journals, and research directions. A mapping of a scientific field is useful to researchers because having a map of a discipline's conceptual framework can be of great interest in the pursuit of a holistic view of a field of study, improving the understanding of relationships between paradigms and the most studied topics and, thus, identifying essential work still to be done.

In the next section of the article, we present a short overview of the scientific literature in the field of the topic, and then we describe the methods and data we used. The 4th section contains the results of the bibliometric analysis, and in the last section, we outline the main conclusions.

### 2. Literature review

The most significant problem of our time - climate changes - pose a danger to natural life, security, and prosperity (Ahmed et al., 2019). Human activity has been linked to a pronounced rise in CO2 emissions worldwide during the past few decades

The Inter-Governmental Panel on Climate Change (IPCC) declared in 2013 that CO2 emissions are the biggest source of global warming. The "Kyoto Protocol," which was signed by more than 100 nations in 1997, set a goal of lowering CO2 emissions in order to protect developed economies from the harmful impacts of global warming<sup>1</sup>. Initially, developing nations did not pay much attention to reducing CO2 emissions, but, as a result of their fast economic development, these nations now show a major concern for doing so (Pang, 2015).

Furthermore, Yang et al. (2020) showed in the context of developing nations that an increase in economic growth is positively correlated with CO<sub>2</sub> emissions, which are dangerous to the environment. The theoretical underpinnings suggest that CO<sub>2</sub> emissions pose great risks to the prosperity of humans on this planet (Hasanov et al. 2021). Academics believe that fundamental human needs such as health, food security, and economic development could be hindered as CO<sub>2</sub> emissions rise. They recommend that countries around the world take action to reduce their CO<sub>2</sub> emissions by engaging in activities that are friendly to the environment.

Nowadays, the term CO<sub>2</sub> emissions widely appear in the economic literature associated with the environmental quality across the globe and ecological footprint.

Although it recently brought together a variety of disciplines and interests, including ecology as well as environmental, economic, and social elements, the idea of sustainable development has its origins in ecology. Researchers from several disciplines approach the study of sustainable development from various angles and with various emphasizes (Ramos and Caeiro, 2010).

Environmentalists and ecologists focus on healthy survival of people as well as the sustainability of ecosystems and the local environment while studying sustainable development from the perspectives of ecological environment pollution, biodiversity, and ecosystem optimization (Liu, Brown et al, 2017).

Economists also employ economic theories and methods to explore ways to activate economic power to promote sustainable development. Researchers like Rais et al. and Zhang et al. approached their study from this angle.

Sociologists emphasize the value of creating a structural system that incorporates the market, policy, moral standards, science, and technology, as well as other elements, in order to maximize the cohesion of nature, humanity, and society on the path to sustainable development.

Although there are several definitions of sustainable development, the fundamental goal remains the same: integrating economic, social, and environmental progress while maximizing the welfare of all future generations.

### 3. Research methodology

The purpose of this research is to carry out a bibliometric mapping of the research conducted over time in scientific papers on sustainable development and CO<sub>2</sub> emissions by using data extracted from the WoS platform. We chose the WoS Core Collection because is an internationally renowned source that respects the highest standards and provides more than 15,000 of the most important and relevant journals and more than 50,000,000 classified documents.

The methodology involves identifying, organizing, and analyzing the interrelation between sustainable development and CO<sub>2</sub> emissions by searching the most frequently used terms in this specific research field.

We chose a bibliometric analysis because it is a set of methods used to study or measure information, especially in big datasets like WOS, and it is a quantitative research assessment of academic output. A bibliometric analysis contains two main procedures: a performance analysis and a science mapping (Cobo et al. 2011).

The science mapping displays the structural and dynamic aspects of science by representing the cognitive structure of research. Regarding the science mapping, our study examined the architecture of connections and various components of analysis, clustering for the analyzed fields, the relevance of the key issues revealed, and their relationships in multiple settings (clusters).

According to Cobo, the most essential steps in conducting a bibliometric analysis are the following: "data retrieval, preprocessing, network extraction, normalization, mapping, analysis, and visualization" (Cobo et al., 2011).

*Figure no. 1 Diagram of the methodology used*



*Source:* (Cobo et al., 2011)

In order to carry out the bibliometric analysis of sustainable development and CO2 emissions, we ran an advanced search on the keywords: "SUSTAINABLE DEVELOPMENT" AND "CARBON DIOXIDE EMISSIONS" in the Topic. The search in WOS was performed on 1 20 October with no time limit. and covers 2646 papers.

The publications were filtered by research area criteria (economics, management, business, business-finance), resulting only 285 publications. Then, we applied the filter of document types (excluding the other forms of publications: proceedings papers, early access, book chapters, review articles, and editorial materials), so the final result was 258 articles of the most important publications that make up our sample The procedure for choosing samples is shown in the following diagram.

Figure no. 2 Diagram of the Wos CC research



Source: own generation

We used the VOS viewer application to generate science mapping by visualizing the networks between sustainable development and Co2 emissions in order to build a quantitative analysis of the relevance of these two concepts in the existing research. Through several linkages, such as co-authorship, co-occurrence, citation, bibliographic coupling, and co-citation, VOS viewer may display the structure and networks of various types of things, including authors, references, keywords, journals, organizations, and nations.

#### 4. Findings

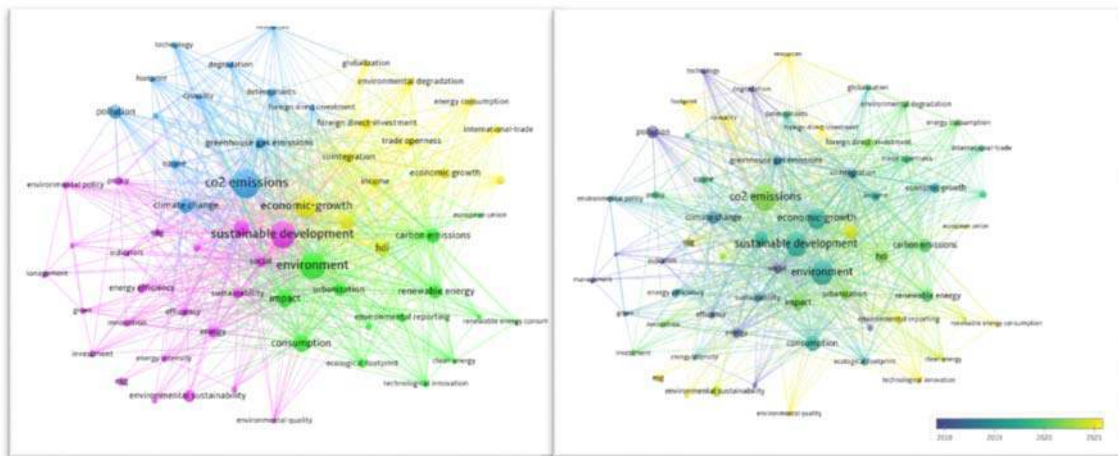
In order to generate a science mapping, the 258 articles regarding sustainable development and CO2 emissions were exported into a plain text format (txt), including full records and cited references, in the VOS viewer software for further analysis, to identify the existing correlations.

We conducted many analyses to collect the most important data on the researched subject. We present data on the number of publications to provide a broad overview of the sustainable development and CO2 emissions. Second, we concentrate on the top journals, authors, and universities. The subsequent subsections analyze the various VOSviewer maps, starting with a keyword co-occurrence analysis, moving on to a bibliographic coupling of references and authors, and concluding with a co-authorship study of organizations and countries.

Using co-occurrence analysis, from the 258 publications, the algorithm retrieved 111 keywords with at least five occurrences, from which the program only chose the 60% of terms (65) that were highly relevant to our research and included them in the final analysis. Using the Thesaurus function, common words like article, author, data, model, paper, study, theory, value, and year or synonyms were dropped from the list because.

Colored circles served as labels for the 65 keywords. The number of times a term appears in the titles and abstracts is associated with the size of the letters and circles. The letters and circles get bigger the more frequently a keyword appears <sup>2</sup>.

Figure no. 3 VOSviewer co-occurrence map – association strength and overlay display

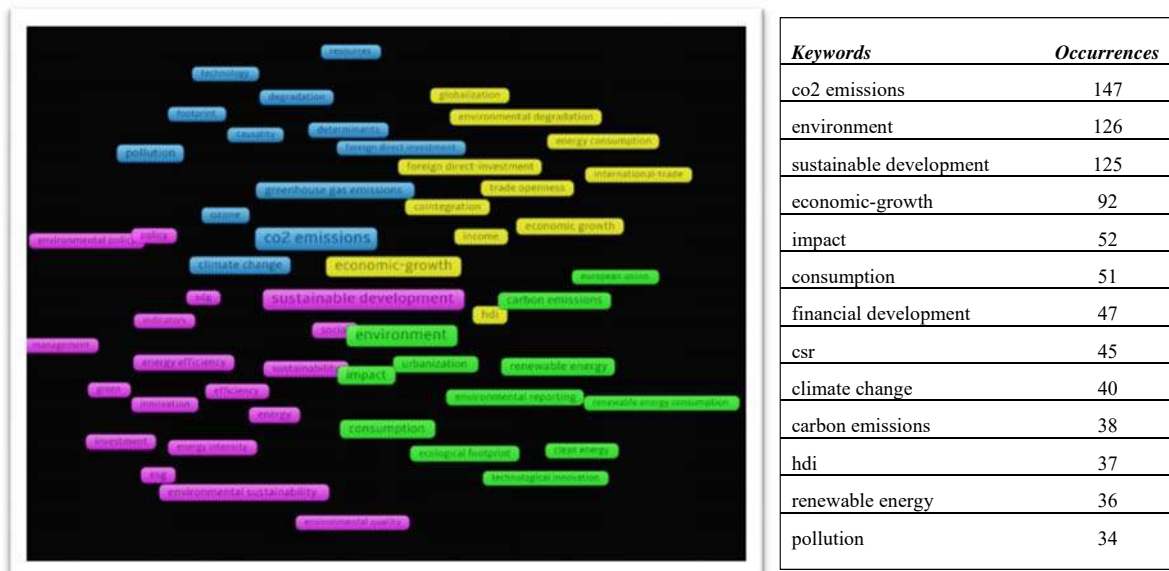


Source: own generation using data from WOS database

The co-occurrence network is grouped into 4 clusters (fig. no. 3) by their relevance, every cluster might be thought of as a topic: sustainable development, economic growth, CO2 emissions, and environment. The overlay display identifies the significant research fields for the long-term future by illustrating the main trends in recent years: ESG, technological innovation, and environmental sustainability.

The **purple cluster** – sustainable development - compresses 23 terms, the most significant cluster with 1.798 link strength and 414 occurrences. The most relevant keywords are: CSR, ESG, SDG, green, and sustainability. The **green cluster** – environment- represents 14 terms, having the biggest link strength - 2.744 units and 407 co-occurrences. The main keywords in this cluster refer to environmental reporting, clean energy, ecological footprint, and renewable energy. The **blue cluster** – CO2 emissions- contains 13 keywords, 318 co-occurrences, and 1.108 link strength, and it refers to climate change, greenhouse gas emissions, pollution, and resources. The **yellow cluster** – economic growth - consists of 13 terms, with 341 co-occurrences and 2.234 link strength.

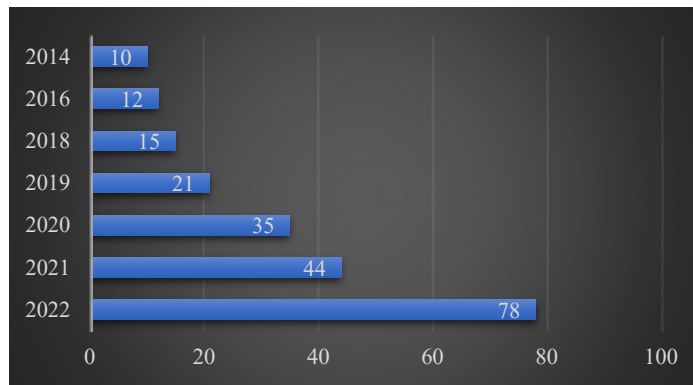
Figure no. 4 Summary of the most important keywords in clusters



Source: own generation using VOS viewer

The years with the most published articles are 2022 -78, 2021 – 44, and 2020 with 35 publications. We can notice a rise in the scientific interest in CO2 emissions and sustainable development, as evidenced by the increasing number of published studies over the last three years.

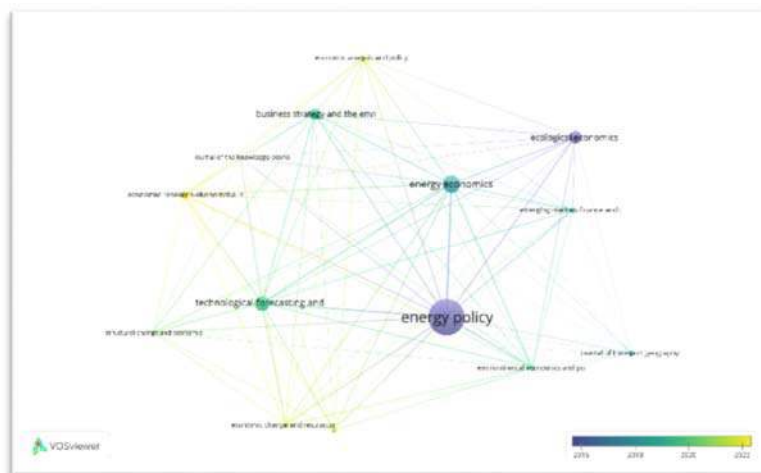
Figure no. 5 Analysis using publication years criteria



Source: own generation using data from WOS database

The next type of visualization provides a quick overview of the most important journals. We can visualize that the total link strength indicates that the most productive journals are Energy Policy, with 45 articles published, followed by Technological Forecasting and Social Change, with 20, and Energy Economics, with 17.

Figure no. 6 VOSviewer bibliometric coupling journals



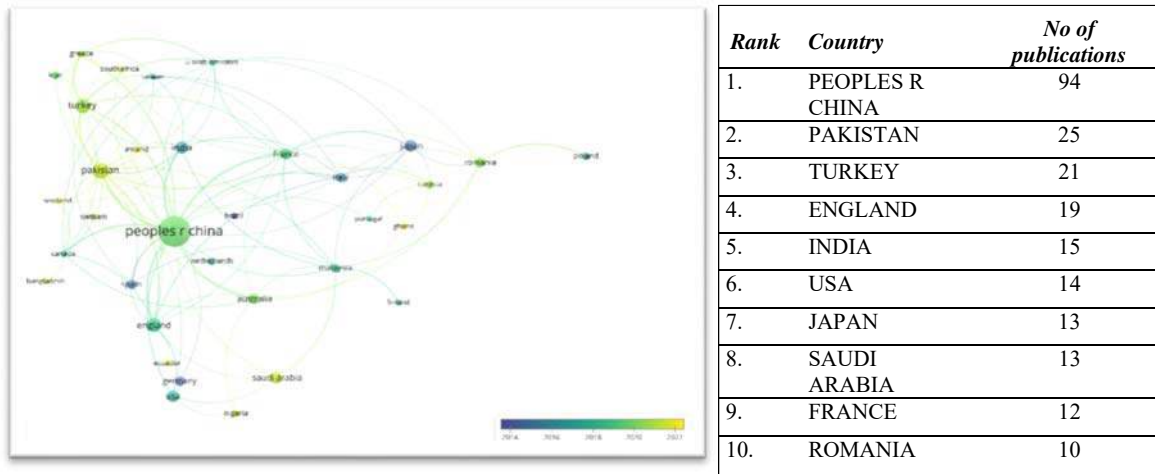
Source: own generation using VOS viewer

Then, we analyzed the country criteria, and we remark that the authors writing in the field of sustainable development and CO2 emissions mostly belong to the People of China (94), Pakistan (25), and Turkey (21).

The next diagram presents the co-authorship analysis and displays the collaboration networks between different countries. The node's size indicates the importance of that item (in this case, the number of publications), while the distance reflects the degree of collaboration. According to the total link strength, the People of China is far away the country that collaborates the most with other countries when publishing about sustainable development and CO2 emissions.



Figure no. 7 Co-authorship network of countries

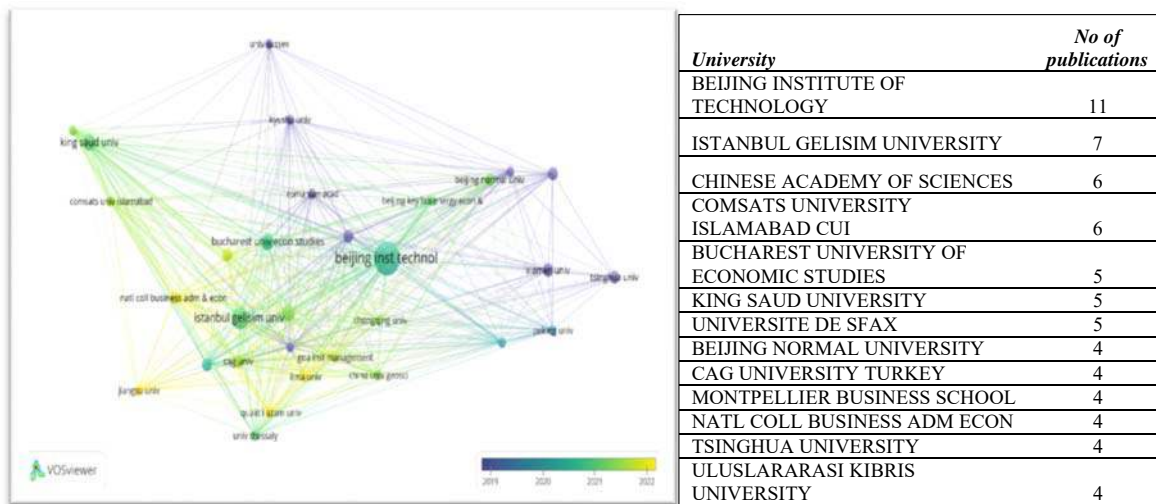


Source: own generation using VOS viewer

Regarding the co-authorship analysis of organizations, we find that the most productive institutions by number of published documents are Beijing Institute of Technology with 11, Istanbul Gelisim University with 7, and with 6 publications, both Chinese Academy of Science and Comsats University Islamabad Cui. However, the total link strength indicates that the ones that collaborate most with other organizations are King Saud University and Istanbul Gelisim University.

Regarding the overlay map of the co-authorship network of universities, we can notice that there is a new current belonging to research about sustainable development and CO2 emissions at Ilma University, National College of Business Administration and Economics, and Quaid I Azam University.

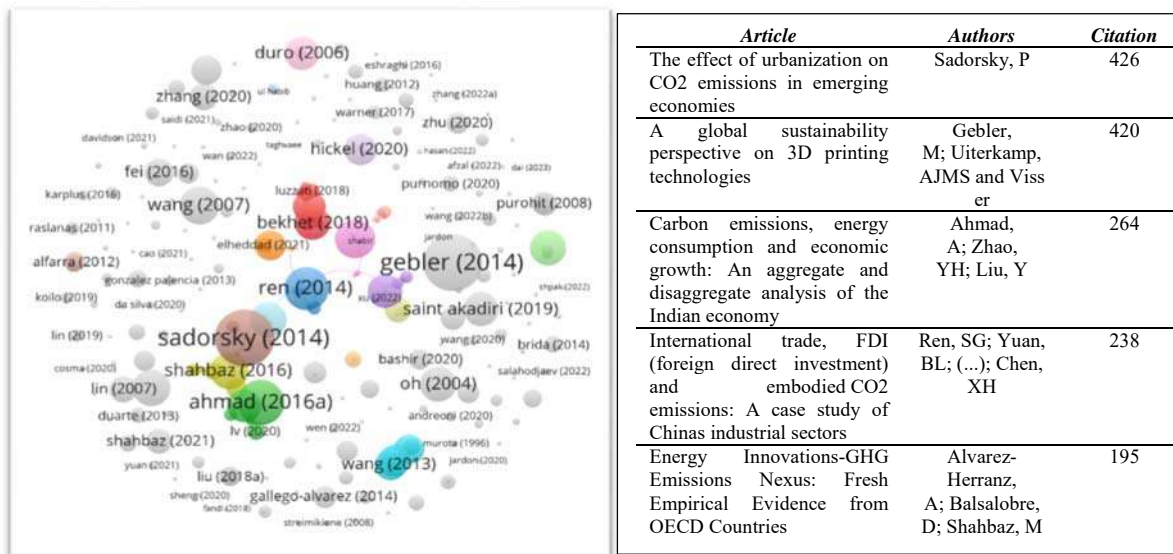
Figure no. 8 Co-authorship network of universities



Source: own generation using VOS viewer

The following figure represents the bibliographic coupling where we can analyze groups of authors and their research interests. This analysis is also helpful in identifying relevant authors that might specialize in one of the streams of research. The most cited authors are Sadorsky, Gebler, and Ahmad. Also, the most productive authors writing about sustainable development and CO2 emissions are Hao and Shahbaz, with 5 publications.

Figure no. 9 Bibliographic coupling of authors



Source: own generation using VOS viewer

## 5. Conclusions

The goal of this article was to analyze the evolution of research articles on sustainable development and CO2 emissions on a worldwide scale. The study examined 258 publications from 63 countries between 2000 and 2022. This article has mapped the literature in sustainable development and CO2 emissions using bibliometric methodologies.

The exponential increase in the number of articles published suggests the topic's relevance. The years with the most published papers are 2022 -78, 2021 – 44, and 2020 with 35 publications. We can notice that there is a rise in scientific interest in the field of CO2 emissions and sustainable development, 60% of the articles was published over the last three years. With an average of 29.38 citations per item, the number of citations also reflects the topic's importance.

The most cited articles were written by Sadorsky and Gebler et. al with 426 and 420 citations. Additionally, Also, Hao and Shahbaz have contributed to the research with the most publications - 5 articles.

Energy Policy, with 45 articles published, followed by Technological Forecasting and Social Change with 20, and Energy Economics with 17, are the most productive journals in this discipline by the number of articles published.

The analyses focusing on keyword co-occurrence emphasize a total of four research lines in the literature: sustainable development, economic growth, CO2 emissions, and environment.

Regarding the country criteria, we find that People of China is far away the country that has published the most about sustainable development and CO2 emissions, followed by Pakistan (25) and Turkey (21). We remarked that almost 40% of the publications belong to the People of China (94).

The next diagram presents the co-authorship analysis and displays the collaboration networks between different countries. The node's size indicates the importance of that item (in this case, the number of publications), while the distance reflects the degree of collaboration. According to the total link strength,

In what concerns the co-authorship analysis of organizations, we find that the most productive institutions by the number of published documents are Beijing Institute of Technology with 11, Istanbul Gelisim University with 7, and with 6 publications, both Chinese Academy of Science and Comsats University Islamabad Cui. Also, the overlay analyses showed a new current belonging to research about sustainable development and CO2 emissions at Ilma University, National College of Business Administration and Economics, and Quaid I Azam University.



Overall, the research's analysis reveals an exponential rise in the scientific community's interest in sustainable development and CO2 emissions, as seen by the consistent growth of publications, authors, and citations.

This study was only linked to a selected bibliography from the WOS platform, additional databases, such as Scopus or Google Academic, were omitted. This last point represents a limitation of the research. Similarly, the analysis has only considered the articles, disregarding other factors such as proceedings papers, early access, book chapters, review articles, and editorial materials.

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# Human Capital Effects Analysis on Income in Developing Countries

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## Abstract

*The human capital theory teaches that education makes it possible to reinforce the productive potential of the labor force, which contributes to reducing the gaps between individuals' incomes. Given this conclusion, the main question that holds our attention is to know why the increase in the education level in developing countries has not led to a significant and continuous decline in income inequality. Is this downward rigidity due to the low quality of education in these countries? The main objective of this research is to show that investments in both education quantity and quality can significantly reduce the income inequality level. To achieve this objective, we reexamine the relationship between education and income inequality with a composite human capital index defined from information on education quantity and quality.*

**Key words:** education, income, inequalities, macroeconomics

**J.E.L. classification:** E24

## 1. Introduction

Extreme world's poverty eradication is one of the major axes of the Sustainable Development Goals (SDG). This objective can be achieved through policies that promote a more equitable distribution of the fruits of growth among individuals. An equitable wealth distribution among individuals promotes inclusive growth, a process in which all population categories contribute to and benefit from the economic growth involved in the process. However, institutions that favor corruption lead to a vicious circle, the result is the continuous increase in the gap between the incomes of the rich and poor people. High inequalities in the income distribution make growth non-pro-poor and consequently lead to an increase in the poverty rate. Several studies have highlighted the income inequality role in explaining poverty persistence. Bandyopadhyay (2022) also agrees by emphasizing the existence of a positive relationship between income inequality and poverty. An effective strategy for reducing the poverty rate would be to develop mechanisms to promote equitable income distribution among individuals.

In research work oriented towards understanding the mechanisms for reducing income inequalities, the generally proposed instruments are the institutions of governance and human capital. Focusing on studies that link human capital and income inequality, it emerges from the increase in the average of education years leading to a reduction in income inequality. In most of these countries, the improvement in the average education years has not been followed by a continuous income inequality reduction. From 2001 to 2021 income inequality decreased while both the average number of years of education over time and the education access have significantly improved for all population categories. These observations and the conclusions of the human capital theory in the relationship between education and income inequality should naturally lead us to obtain a continuous and self-sustaining decline in the income inequality level in developing countries.

## 2. Literature review

Further development of Bandyopadhyay (2022) work on the relationship between economic growth and income inequality led to the emergence of trickle-down theory in public debate. According to this theory, initial income inequalities should ultimately lead to the realization of

egalitarian societies. The transition from an unequal society to an egalitarian one has been achieved thanks to a significant income from wealthy individuals through their consumption or investment. The income inequality-economic growth-poverty triangle could be seen as an extension of the trickle-down theory, as it establishes a link between income inequality, economic growth, and poverty. From the analysis of the triangle of Brown et al. (2020), it appears that economic growth and the reduction of income inequalities are both channels that the decision-maker can exploit to reduce the level of poverty. The conclusions of the work of Ehrenberg et al. (2020) are also in line with those of Brown et al. (2020).

They highlight the positive effects of reducing income inequality on poverty. Based on these relationships, we can postulate that an effective strategy for reducing the level of poverty in developing countries would be to develop mechanisms that make it possible to reduce income inequalities. In the related literature, human capital would be among the mechanisms, one of the most commonly cited. A review of the major works makes it possible to group the studies that relate human capital and income inequalities into three groups. In the following, we discuss the conclusions of this work.

Analyzing the effects of human capital derived from education on income inequalities, the first group of researchers concludes that investment in education guarantees a supply of highly qualified labor which in turn leads to downward pressure on individual income gaps. In the same dynamic, Taylor et al. (2015), find that the expansion of education and the increase in its level have contributed to a significant reduction in income inequalities in the world. The analyzes conducted by the second group of researchers concluded that human capital derived from education has no significant effect on income inequality.

With this in mind, Shahbaz et al. (2021) studied the effects of education on income inequality in 100 countries. He deduces from his analysis that neither the improvement in average levels of education nor its expansion has produced a significant effect on income distribution. He deduces from his analysis that neither the improvement in average levels of education nor its expansion has produced a significant effect on income distribution. Bento (2022) points out that education plays a rather important role in determining the level of income of individuals, but it has no effect on its distribution. Fraumeni (2021) also show that education has no direct effect on income inequality. For them, education acts as a signal and allows employers to select the best employees during the recruitment process. Finally, Ehrenberg et al. (2020) consider that the convergence of education levels in developing countries has not led to a significant reduction in income inequality in this part of the world.

The third group of researchers explains the differences between individuals' incomes through education expansion and the improvement of its level. In this dynamic, Bank (2020) rely on the case of China to show that the education expansion has played an important role in the income inequality increase. Bank (2020) also reached similar conclusions to those discussed above. These results are contrary to the human capital theory prediction from the developing countries and could be explained by the strong disparities in the educational institutions quality. Indeed, in these countries, a tiny fraction of the population generally has access to higher-quality education while the majority attend low-quality educational institutions. This heterogeneity in the quality of the training received by individuals would be the source of differences in their productivity level and therefore in their income. Looking at the research findings discussed in this section, we find that there is a lack of consensus on the nature of the relationship between human capital derived from education and income inequality. Another observation is that the effects of human capital on income inequalities is essentially articulated around the effects of the education quantity without taking into account its quality.

From the conclusions of the presented work, it cannot be argued that a policy that promotes an increase in the average education years number would systematically lead to a reduction in income inequality. These facts makes an original contribution by weighting the years of schooling according to two different parameters: the quality of the education received, based on the scores on the harmonized test, and a variable return rate to the education years.

### 3. Research methodology

We use data from several sources. Data on income inequality was provided by the World Income Inequality Database (WIID). Education information comes from World Economic Forum website. Population data is taken from the Penn World Table 9. The information on the quality of institutions and the openness degree comes respectively from the databases of Transparency International and the UN Conference on Trade and Development (UNCTAD). Empirical studies on income inequality are often complex due to lack of data. In the specific case of this study, the information available does not entirely cover the period selected (2001-2021). To remedy this problem, we reorganized the data on five (5) years time intervals. Since income inequality slowly evolves, we'll use five-year observations for close dates. Despite this organization, cases of missing data still exist. To address this concern, we carried out imputations by combining two methods: stationary completion and nearest neighbor. Concretely, this technique consists of a first step in selecting the k most frequent observations for which the distances in terms of time with the missing value are the smallest possible. In the second step, we make a linear combination of the retained information and use the obtained results to fill in the missing data. The equation that allows to obtain the missing values is the following:

$$y_m = y_i^* = \frac{1}{k} \sum_{i=1}^k y_i \quad (1.1)$$

$y_m$  represents the missing data,  $y_i^*$  corresponds to the estimated values and  $y_i$  represents the information about eligible neighbors.

Table 1 presents the variables used to estimate equation (1.6). Table 1.1 below presents the variables used to estimate equation (1.6). In this equation, inflation, quality of institutions, trade openness, and population size are the control variables. We expect inflation to have a positive sign while for the other variables a negative one.

Table no. Variables Used

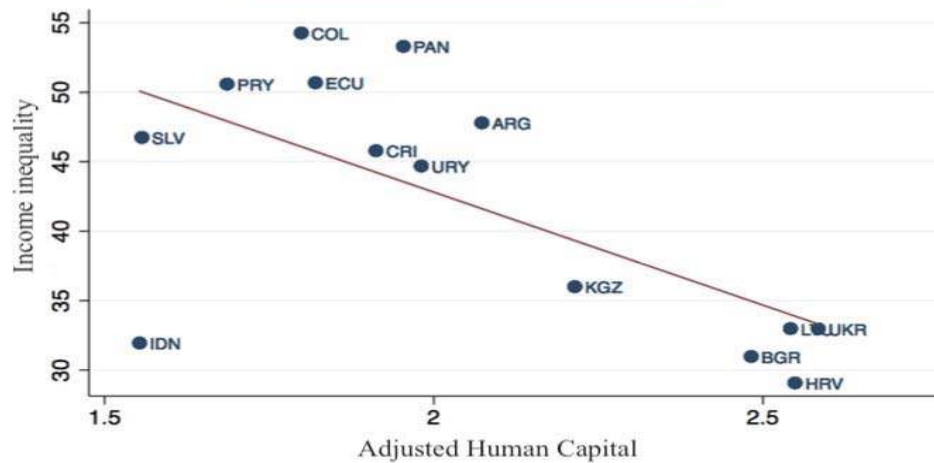
Description	Variable
Gini Index	Gini
Adjusted human capital index	ajust. hum.
Unadjusted Human Capital Index	hum PWT
Education Years Number Average	Education
Education Access Inequalities Index	Ed. Ineq.
Population Concentration Index	Pop. Ind.
Institutional Quality	Inst. Qual.
Trade Openness Degree	Trade Open.

Source: Bandyopadhyay (2022)

#### *Correlation Between Human Capital and Income Inequality*

Based on the defined index, we will analyze the correlation between human capital adjusted and income inequality. Figure (1.1) below illustrates this correlation. It is obtained from data collected in 14 developing countries. From this graphical representation, we find the existence of an inverse relationship between adjusted human capital and income inequality. From this graphic, we discover the existence of an inverse relationship between adjusted human capital and income inequality. In other words, investment policies that improve the level of education in its quantity and quality components could help reduce income inequality. In the next section, we empirically analyze this relationship.

Figure no. 1 Human capital and income inequality



Source: Bandyopadhyay (2022)

#### Econometric Model

In this section, we empirically analyze the adjusted human capital on income inequality effects. To do this, we use the following econometric model:

$$I_{it} = \gamma_0 + \gamma_1 \tilde{h}_{it} + \gamma_2 X_{it} + v_{it} \quad (1.2)$$

The model above, it represents income inequality. it is the adjusted human capital index.  $X$  represents the vector of control variables and  $v_{it}$  is the error term. Given that our human capital index is defined using education data, endogeneity problems related to this variable can alter the quality of the results obtained with the Pooled OLS method. We showed that the existence of measurement errors on education leads to a non-zero correlation between the education variable and the error term. This non-zero correlation leads de facto to a bias in the "OLS" results. In equation (1.2), simultaneity is also another problem that can bias the "OLS" results.

Indeed, while it is widely documented in the literature that education influences the level of income inequality, these can influence the levels of education attained by individuals. For example, more affluent individuals invest more in their education or in that of their children. By doing so, they can persevere in their studies compared to those who are less well off. Given the arguments put forward above, it would be endogenous. Under these conditions, the use of "OLS" estimators produces biased results. However, we have not been able to effectively take into account the measurement errors in education for lack of a suitable instrument. The measurement errors on education would be the source of a downward bias in the obtained results with "OLS" method. For this reason, we expect the coefficients of the "3SLS" to be larger than those of the "Pooled OLS".

#### 4. Findings

Following the above discussions, we empirically estimate the effects of adjusted human capital on income inequality. The results of the various estimates are reported in Table 1.2. These results are obtained with "Pooled OLS" and 3SLS. They are also organized into two blocks. The first block presents the results of the "Pooled OLS" estimations and the second, the results obtained with the 3SLS method. In our comments, we are interested in the results of the "3SLS" because they are relatively less biased about the econometric problems discussed previously. The results obtained with the saturated model indicate that improving adjusted human capital by 1% leads to a reduction in income inequality by 0.685% (column 4). The greater value of this coefficient would be linked to certain variables such as the quality of institutions in the saturated model contributes to increasing the yield of the human capital model. Focusing on the results obtained with the control variables, we find that the estimated effects on the quality of institutions are in line with the conclusions of the related literature. In this literature, it is pointed out that good-quality institutions lead to a reduction in income inequality. Strong institutions can indeed reduce the corruption level to reduce income inequality through more efficient social spending and pro-poor tax systems. Furthermore, in the

obtained results, we find that the increase in the degree of trade openness and the improvement in the population's spatial distribution also lead to an income inequality level reduction. These results could be justified in a context where the institutions are of good quality.

In this case, an improvement in the trade openness would be accompanied by pro-poor growth; the resulting increase in the incomes of the poor leads to a reduction in the gaps between the level of their income and that of the rich. A better distribution of the population favors the process of decentralization and/or deconcentration. A better population distribution favors the decentralization and/or deconcentration process.

The powers transfer or delegation can in turn accelerate the good policies implementation (investments or income transfers) in favor of the poor, which can significantly contribute to reduce the gaps between the individuals incomes (rich and poor). The positive coefficient of inflation is also consistent with the economic theory predictions. Thus, we find that an increase in the inflation rate leads to a rise in income inequality. This result is justified in the developing countries context where many of the individuals' income is not indexed. Under these conditions, a general increase in the prices leads to a greater drop in the individuals purchasing power with non-indexed income compared to that recorded for individuals with indexed income. Consequently, inflation will be likely to widen the gap between the incomes of the two groups of individuals, especially if it is unforeseen.

Table no. 2 Human Capital and Income Inequality

Dependent variable: Income inequality				
	Pooled OLS		3SLS	
	(1)	(2)	(3)	(4)
Pop. Ind.		-0,091***		-0,103***
		(0,027)		(0,024)
Inflation	0,504***	0,442**	0,504***	0,435***
	(0,143)	(0,186)	(0,141)	(0,139)
Trade Open.		-0,134**		-0,127**
		(0,067)		(0,051)
Inst. Qual.		-0,209**		-0,282***
		(0,087)		(0,079)
Human capital	-0,669***	-0,606***	-0,678***	-0,685***
	(0,160)	(0,161)	(0,144)	(0,145)
$R^2$	0,37	0,45	0,36	0,43
N	70	70	70	70

Note: \* p<0,1 ; \*\* p<0,05 ; \*\*\* p<0,01

Source: Personal Computation

### Robustness Testing

As discussed, one of the limitations of using the education levels to approximate human capital in a data panel study is the underlying assumption of the education quality homogeneity across countries. In this section, we define another adjusted human capital index using education expenditure per capita as a proxy for education quality. More specifically, the definition of this second index of adjusted human capital is based on the work of Brown et al. (2020):

$$\tilde{h}(s) = \tilde{A}(s)e^{\Phi(s)} \quad (1.3)$$

An (s) represents investment expenditure on education. In the above expression, we allow A(s) to vary to reflect the differences found in efforts to invest in education quality across our sample countries. Explicitly, A(s) is defined as follows:

$$\tilde{A}(s) = p^{\phi_p} m^{\phi_m} k^{\phi_k} l^{\phi_l} \quad (1.4)$$

p, m, k, and l represent respectively the student-teacher ratio, expenditure on academic materials, school infrastructure expenditure (classrooms, gymnasiums, laboratories, etc.), and teacher training expenditure. The  $\phi_i$  (i = p, m, k, l) are corresponding elasticities. Since data on expenditure on academic materials and school infrastructure are not available, it becomes difficult to determine A(s) based on specification (1.3). Bandyopadhyay (2022), develops an alternative functional form that relates the quality of education to education expenditure per student. According to him, these sorts of expenses strongly explain the quality of the training students received since they reflect the investment efforts in the teachers training, in the acquisition of academic material and in the infrastructures construction. Consequently, the education quality expression developed in equation (1.6) can be redefined by the following formula:

$$\tilde{A}(s) = D^{\phi_d} \quad (1.5)$$

D represents education expenditure per student and  $\phi_d$  is an education expenditure elasticity. Its value is equal to 0.2, by taking the product of (1.2) and (1.9), we obtain an index of adjusted human capital defined as follows:

$$\tilde{h}(s) = D^{\phi_d} e^{\phi_s s} \quad (1.6)$$

The above-defined index is used to test the robustness of the results discussed in the 4.4.4 subsection. By estimating equation (1.6) with the index defined by function (1.6), we obtain the results shown in Table 1.3. Focusing on the results in column (4), we find that an improvement in the adjusted human capital level by 1% translates into a reduction in income inequality by 0.528%. Based on all of these results, we can deduce that investments that education improvements can reduce developing countries' income inequality levels.

Table no. 3 Human capital and income inequality

Dependent variable: Income inequality				
	Pooled OLS		3SLS	
	(1)	(2)	(3)	(4)
Pop. Ind.		-0,050		-0,086***
		(0,027)		(0,032)
Inflation	0,663***	0,570**	0,681***	0,444**
	(0,139)	(0,228)	(0,145)	(0,191)
Trade Open.		-0,083		-0,142*
		(0,078)		(0,078)
Inst. Qual.		-0,093		-0,223***



		(0,109)		(0,112)
Human capital	-0,505***	-0,446***	-0,562***	-0,528***
	(0,091)	(0,120)	(0,122)	(0,145)
$R^2$	0,39	0,41	0,39	0,37
N	65	65	65	65

**Note:** \* p<0,1 ; \*\* p<0,05 ; \*\*\* p<0,01

*Source:* Personal Computation

## 5. Conclusions

The economy's human capital level is an education investment function formed by the individuals who compose it. In the related literature, it is shown that improving the level of education of the population, through its positive effects on economic growth and income inequality, largely determines the level of economic development. and social of a nation. The literature showed that improving the population's education level benefits the nation's social economic development. One of the essential questions in development economics is to understand why some countries succeed more than others in building more egalitarian societies. The argument of differences in investment efforts in education has been very often invoked in the literature to explain this duality. However, this argument does not seem to be unanimous among researchers. Indeed, while a large number of studies have concluded that improving the human capital level resulting from education has a positive and significant effect on income inequality, some studies have concluded that there are statistically insignificant effects and others themselves have concluded the existence of surprising negative effects.

A common denominator that we have exploited in literature is the use of the average number of education years as a proxy for human capital. Due to the low quality of educational institutions in most developing countries, the approach has a limit, since the number of years of study attained by an individual might not reflect his real level of knowledge and therefore its effective human capital. We resumed the analysis of the relationship between human capital and income inequality with a new index defined based on the quantity and quality of education. The results obtained show that investments that improve education in its quantity and quality components can significantly reduce income inequalities. An extension of this chapter also allowed us to analyze the effects of human capital inequalities on income inequalities. The analysis results have shown that the increase in inequalities in the human capital distribution leads to an increase in income inequalities. From all of the findings discussed above, we can conclude that investments that improve education quantity and quality are needed to build a more egalitarian society.

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## The Priorities of Romanian Coastal and Maritime Tourism From The Perspective of Land and Sea Interactions

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### Abstract

*Maritime Spatial Planning (MSP) is an integrated approach to the long-term management of maritime areas, in order to ensure sustainable development and use of marine resources, advocating the need for the sustainable growth as far as maritime economies are concerned. MSP is based on an integrated and participatory decision-making process which involves stakeholders from all sectors of the marine environment, tourism being one sector which requires support from a variety of stakeholders. The aim of this paper is to form a picture of the perception of the MSP stakeholders regarding coastal and maritime tourism, i.e., to see whether it is a priority from the perspective of analyzing land-sea interactions (LSI) in the Romanian Black Sea coastal area. Their views regarding the priorities and role of tourism sustainability in the local economy are needed, considering that LSI is strongly connected to the economic benefits of MSP.*

**Key words:** coastal and maritime tourism, stakeholders, Romanian coastal area, Land-Sea Interaction (LSI), Maritime Spatial Planning (MSP)

**J.E.L. classification:** O20, R10.

### 1. Introduction

Maritime Spatial Planning (MSP) is an integrated approach to the long-term management of maritime areas, so as to ensure sustainable development and use of marine resources, advocating the need for the sustainable growth as far as maritime economies are concerned (Directive 2014/89/EU). It seeks to balance the economic, environmental/ecological and social objectives by integrating the different activities taking place in the marine environment, so that conflicts can be avoided, and compatibilities encouraged (Friess and Grémaud-Colombier, 2021, p. 2). MSP can help reduce the effects of coastal development on the marine environment by supporting land-sea interactions to be sustainable, equitable and effective.

The coastal areas are complex environments which accumulate high anthropogenic pressures caused by socio-economic activities (Stan, 2014, p. 53), these activities being very important for the economy of many countries, as they provide jobs and other benefits in industries such as tourism, agriculture, fisheries, energy production, transport, shipping, oil and gas, etc. At the same time, they are directly impacted by urbanization, industrialization, agriculture and aquaculture, as well as climate change (Doxaran *et al*, 2019, p. 1), therefore rapidly becoming essential tools for a sustainable tourism management (Hanafiah, Jamaluddin, and Kunjuraman, 2021, p. 2).

This paper analyzes stakeholders' perceptions of land-sea and sea-land interactions regarding the tourist activities performed in the Romanian coastal area in terms of ecological, economic and social priorities.

### 2. Literature review

Maritime Spatial Planning (MSP) is a planning process which focuses on the long-term management and sustainable use of the maritime environment, its main purpose being the management of spatial uses and conflicts in marine areas (Directive 2014/89/EU). MSP is a holistic

approach which considers the complexity of human activities, their interconnections, and their impact on the marine environment, therefore, understanding the relationships between the multiple human pressures and the state of the ecosystems is crucial to the development of spatial plans (Petrișor *et al*, 2020, p.3).

In order to assist planners in the implementation of the MSP Directive, eight key LSI marine development sectors have been defined: fisheries, minerals and mining, aquaculture, desalination, ports and shipping, tourism and coastal recreation, offshore energy and marine cables and pipelines, (Creamer *et al*, 2020, p.11). MSP can be used to identify and manage the conflicts between various maritime activities and to identify and develop sustainable development opportunities in the coastal areas.

Tourism is the main driver of the coastal areas' economy, and it can play a decisive role in the development of local economies. Coastal tourism and maritime tourism are interconnected. Thus, coastal tourism, which is defined as any form of tourism that takes place near the sea, depends mainly on the physical environment and the various natural resources, such as fisheries, aquaculture and water quality (Mejjad, Rossi and Pavel, 2022, p. 1). It encompasses the full range of tourist accommodation and eating facilities, sandy beaches, entertainment venues, leisure and recreational tourist activities taking place in the coastal area. Maritime tourism refers to a certain form of tourism which includes any tourist activity related to the sea and coastline, such as various boat trips, cruises, as well as activities such as water skiing, windsurfing, underwater fishing, scuba diving, swimming, boat tours, jet ski activities (Diakomihalis, 2007, p. 421).

Maritime Spatial Planning (MSP) is based on an integrated and participatory decision-making process which involves stakeholders from all sectors of the marine environment, given that tourism is a sector which cannot develop alone; it requires support from various stakeholders (Hanafiah, Jamaluddin, and Kunjuraman, 2021, p. 2). The stakeholders involved in MSP can be broadly divided into two categories: public stakeholders and private stakeholders. Collaborative planning relies on the inclusion and interaction of stakeholders (Erkkilä-Välimäki *et al*, 2021, p. 2), in order to understand sustainability and the aspirations of various groups in the pursuit of durability (Dimitrovski *et al*, 2021, p. 2).

Coastal and maritime tourism is an important part of MSP, as it provides economic benefits to the coastal communities, offering opportunities for recreation and relaxation. It is therefore important to consider the potential impact of tourist activities when developing MSP, as MSP enables integrated, forward-looking and consistent decision-making regarding the activities in the marine environment (Pataki and Kitsiou, 2022, p. 2).

The implementation of the MSP Directive at Member State's level implies the development of MSPs. In this regard, Romania and Bulgaria have carried out, in the 2019-2021 period, the project "Cross-border Maritime Spatial Planning for Black Sea - Bulgaria and Romania (MARSPLAN-BS-II)", in order to develop national and regional/cross-border maritime spatial planning for the Black Sea area, these plans being essential for achieving better coherence between land and marine planning. In view of the implementation of the project, several studies have been carried out regarding the ongoing and prospective endeavors, activities and usages designed for the Romanian and Bulgarian Black Sea coasts (Aivaz, Stan and Vintilă, 2021; Aivaz *et al*, 2021; Stan, *et al*, 2021a; Stan, *et al*, 2021b; Stan and Vintilă, 2022; Stan, 2022; Stancheva and Stanchev, 2021; Stancheva *et al*, 2021), tackling environmental, socio-economic and technical issues faced by both public and private entities.

Therefore, the Land-Sea Interactions (LSI) analysis within MSP provides a platform for the stakeholders to communicate their interests in the marine space. Whereas dynamic changes in the composition of the marine stakeholders can be expected due to new and emerging uses of the sea (Zaucha and Kreiner, 2021, p.3), the role of the MSP stakeholders is to provide information and feedback on the proposed plans and to participate in the decision-making process.

### 3. Research methodology

This research endeavors to create a picture of the perception of the MSP stakeholders regarding coastal and maritime tourism, namely whether it is a priority in connection with the land-sea interactions (LSI) analysis in the Romanian Black Sea coastal area.

The methodology for investigating LSI within MSP is the result of certain pilot projects carried out in Europe and it is a process divided into 4 key steps: LSI delineation, value chain analysis, governance analysis and recommendations for good management of LSI (Creamer *et al*, 2020, p.13).

Within the MARSPLAN-BS-II project, the partner National Institute for Marine Research and Development "Grigore Antipa" has drafted a 65 question-questionnaire in order to implement Activity 2.3 "Integration of Land-Sea Interactions (LSI) in MSP for the cross-border region". The questionnaire was administered online to the MSP stakeholders by all the partners involved in the MARSPLAN BS II project and it was construed by the research team members from "Ovidius" University of Constanța.

The questionnaire was developed into three sections, and it considered land-sea interactions and their mutual impact from a two-way perspective: (1) land-to-sea assessment, i.e., how land-based improvements and developments affect and assist marine developments and how they influence the environment; (2) sea-to-land assessment, i.e., how the sea supports or influences land-based activities, particularly with regard to ensuring the welfare of coastal communities. When processing the questionnaire, the perceptions of public and private entities regarding LSI within the Romanian coastal area in the context of maritime spatial planning were taken into account (Vlasceanu *et al*, 2021, p. 242). The grouping of the variables which resulted from the questionnaire's questions was carried out according to the scale of activity - international, local and national - of the participating organizations.

Methodologically, for each marine activity or natural process it was necessary to establish the ecological, economic, and social value, by using a numerical set from 3 to 0, which was marked according to how high priority the marine domain or process was considered. In this sense, the value/priority can be High (score 3), Medium (score 2), Low (score 1) and Not Known (score 0). The data processing, the systematization of results, and obtaining the indicators used for the statistical analysis were performed using the Statistical Program for the Social Sciences (SPSS).

#### 4. Findings

A first part of the LSI within MSP investigation is based on assessing how land-based improvements and developments affect and assist marine developments and how they influence the environment with respect to *coastal and marine tourism, sports and recreational activities*, as evaluated by the MSP stakeholders.

In terms of the question "*To what extent can coastal and marine tourism, sports and recreational activities (tourist facilities, bathing areas, water sports, etc.) be considered an Ecological Priority?*", 62.80% of MSP stakeholders rated it as High, 23.50% - Medium, 7.80% - Low and 5.90% - Not Known (Table no. 1).

Table no. 1 Stakeholders' assessment regarding the ecological priority of coastal and marine tourism

			The scale on which the organization operates			Total
			International	Local	National	
To what extent can coastal and marine tourism, sports and recreational activities be considered an Ecological Priority?	3	Count	6	15	11	32
		% within The scale on which the organization operates	60.0%	71.40%	55.00%	62.80%
	2	Count	3	5	4	12
		% within The scale on which the organization operates	30.00%	23.80%	20.00%	23.50%
	1	Count	1	0	3	4
		% within The scale on which the organization operates	10.00%	0.00%	15.00%	7.80%
	0	Count	0	1	2	3
		% within The scale on which the organization operates				

	% within The scale on which the organization operates	0.00%	4.80%	10.00%	5.90%
Total	Count	10	21	20	51
	% within The scale on which the organization operates	100.00%	100.00%	100.00%	100.00%

Source: Author's own processing

Coastal and marine tourism, as well as sports and recreational activities, can have a positive impact on the environment if they are managed responsibly and in accordance with the principles of sustainable coastal and marine management, in order to reduce the vulnerability of the coastal area and its inhabitants to natural hazards and to preserve key economic processes and the biological diversity (Braşoveanu, 20, p. 20). These activities can contribute to the conservation and protection of marine and coastal biodiversity by creating jobs, stimulating the local economy, and promoting responsible practices. One can see that for entities at the local level these activities represent, in a percentage of 71.40%, a high priority, as tourism and sports and recreational activities provide benefits to the local communities and local economies. In this sense, ecosystem services need to be integrated into the planning decisions (Stan *et al*, 2021a, p. 635), while public and private entities must ensure that measures are taken to protect the natural habitat and to avoid the pollution caused by these activities. Moreover, it is important to promote the social responsibility of coastal and marine tourism and of sports and recreational activities in terms of supporting local communities.

As regards the question *"To what extent can coastal and marine tourism, sports and recreational activities (tourist facilities, bathing areas, water sports, etc.) be considered an Economic Priority?"* 66.70% of the surveyed entities, regardless of the scale on which the organization operates (international, local, national), view it as a High priority, 23.50% - Medium, 2.00% - Low and 7.80% - Not Known (Table no. 2).

Table no. 2 Stakeholders' assessment regarding the economic priority of coastal and marine tourism

			The scale on which the organization operates			Total
			International	Local	National	
To what extent can coastal and marine tourism, sports and recreational activities be considered an Economic Priority?	3	Count	7	16	11	34
		% within The scale on which the organization operates	70.00%	76.20%	55.00%	66.70%
	2	Count	3	3	6	12
		% within The scale on which the organization operates	30.00%	14.30%	30.00%	23.50%
	1	Count	0	0	1	1
		% within The scale on which the organization operates	0.00%	0.00%	5.00%	2.00%
	0	Count	0	2	2	4
		% within The scale on which the organization operates	0.00%	9.50%	10.00%	7.80%
Total			10	21	20	51
			100.00%	100.00%	100.00%	100.00%

Source: Author's own processing

As can be seen, the local entities give a high score to this criterion, 76.20%, since these activities play an important role in the coastal and marine economy. Coastal and marine tourism is an economic activity which generates important revenue for the coastal economies. It offers entertainment and recreational opportunities, as well as financial benefits.

Coastal and marine tourism is an economic development priority, as it can provide opportunities for economic growth and sustainable jobs creation. The communities which have the privilege of a seaside location can earn income from accommodation, restaurant, leisure and entertainment facilities, given that the trend to build new tourism facilities and infrastructure in the fragile coastal area is still rising (Papageorgiou, 2016, p. 44).

Another coastal and marine economic priority is the development of infrastructure. Investments in infrastructure can include the development and modernization of ports, maritime transport facilities, the construction of beach facilities and ports - dams, as well as upgrading tourist facilities in order to boost tourism and trade in the Romanian coastal zone (Stan, Vintilă and Țenea, 2014, pp. 579-579; Filip, Stan and Vintilă, 2016, p. 526; Stan, Aivaz and Ionițiu, 2019, p. 112). These investments contribute to increasing revenue and developing the local economy.

In terms of the question *"To what extent can coastal and marine tourism, sports and recreational activities (tourist facilities, bathing areas, water sports, etc.) be considered a Social Priority?"*, 52.90% of all respondents assess it as a High priority, 33.40% - Medium, 3.90% - Low and 9.80% - Not Known (Table no. 3).

Table no. 3 Stakeholders' assessment regarding the social priority of coastal and marine tourism

			The scale on which the organization operates			Total
			International	Local	National	
To what extent can coastal and marine tourism, sports and recreational activities be considered a Social Priority?	3	Count	7	10	10	27
		% within The scale on which the organization operates	70.00%	47.60%	50.00%	52.90%
	2	Count	3	6	8	17
		% within The scale on which the organization operates	30.00%	28.60%	40.00%	33.40%
	1	Count	0	2	0	2
		% within The scale on which the organization operates	0.00%	9.50%	0.00%	3.90%
	0	Count	0	3	2	5
		% within The scale on which the organization operates	0.00%	14.30%	10.00%	9.80%
Total	Count		10	10	21	20
	% within The scale on which the organization operates		100.00%	100.00%	100.00%	100.00%

Source: Author's own processing

Coastal and marine tourism should be a social priority, as it provides benefits to local communities and economies, being a source of income for the people living around the coastal areas (Mejjad, Rossi and Pavel, 2022, p. 1). Sports and recreational activities, such as water sports, fishing, sailing, and swimming provide opportunities for recreation and entertainment, prevention of health problems, as well as opportunities to explore marine and coastal ecosystems.

It is noteworthy that international entities regard these actions as main priorities (70.00%), given that recent analyses (Aquino, 2022, p. 1) have shown that social entrepreneurship is a strategy which answers the call for community-centered tourism development. This opinion of the stakeholders can be explained by the fact that coastal and marine tourism, sports and recreational activities are very important from a social perspective as they can also help create jobs and stimulate the local economy.

The second part of the LSI within MSP investigation is based on the sea-to-land assessment, i.e., how the sea supports or influences shore-based activities, particularly for the purpose of ensuring the welfare of the coastal communities with regard to *maritime tourism*, as assessed by the MSP stakeholders.

As regards the question "*To what extent can maritime tourism be considered an Ecological Priority?*", the distribution of stakeholders' answers on the assessment of this priority are: 37.30% - High, 29.40% - Medium, 17.60% - Low and 15.70% - Not Known (Table no. 4).

Table no. 4 Stakeholders' assessment regarding the ecological priority of maritime tourism

			The scale on which the organization operates			Total
			International	Local	National	
To what extent do you consider maritime tourism (yachting, various boat trips, cruises) to be an Ecological Priority?	3	Count	3	10	6	19
		% within The scale on which the organization operates	30.00%	47.60%	30.00%	37.30%
	2	Count	4	7	4	15
		% within The scale on which the organization operates	40.00%	33.30%	20.00%	29.40%
	1	Count	3	3	3	9
		% within The scale on which the organization operates	30.00%	14.30%	15.00%	17.60%
	0	Count	0	1	7	8
		% within The scale on which the organization operates	0.00%	4.80%	35.00%	15.70%
Total		Count	10	21	20	51
		% within The scale on which the organization operates	100.00%	100.00%	100.00%	100.00%

Source: Author's own processing

Maritime tourism can have a positive impact on the natural environment if properly planned and managed. Maritime tourism involves activities for tourists, such as yachting, various boat trips, cruises on the Black Sea. The ecological priority in maritime tourism implies that the stakeholders, i.e., the government, public administrations, tourists, local communities and, implicitly, the tourism industry, should do their utmost to protect and preserve marine biodiversity by promoting responsible environmental practices, given that only healthy marine ecosystems increase the resilience to the impact of climate change and ensure a sustainable development of activities (Machado and de Andrés, 2023, p. 1).

In terms of the question "*To what extent can maritime tourism be considered an Economic Priority?*", according to the analysis of the data, regardless of the scale on which the surveyed organization is operating (international, local, national), the following assessments were obtained: 45.10% - High, 35.30% - Medium, 9.80% - Low and 9.80% - Not Known (Table no. 5).



Table no. 5 Stakeholders' assessment regarding the economic priority of maritime tourism

			The scale on which the organization operates			Total
			International	Local	National	
To what extent do you consider maritime tourism (yachting, various boat trips, cruises) to be an Economic Priority?	3	Count	4	13	6	23
		% within The scale on which the organization operates	40.00%	61.80%	30.00%	45.10%
	2	Count	5	6	7	18
		% within The scale on which the organization operates	50.00%	28.60%	35.00%	35.30%
	1	Count	1	1	3	5
		% within The scale on which the organization operates	10.00%	4.80%	15.00%	9.80%
	0	Count	0	1	4	5
		% within The scale on which the organization operates	0.00%	4.80%	20.00%	9.80%
Total	Count		10	21	20	51
	% within The scale on which the organization operates		100.00%	100.00%	100.00%	100.00%

Source: Author's own processing

Maritime tourism can be an important economic priority. It can contribute to local development by creating jobs and stimulating the economy, which is confirmed by local entities, which assigned a high score to this criterion, 61.80%, considering it a high priority. Maritime tourism can generate additional local and national revenue through the taxes collected, as well as through an increased demand for local services and products. These activities provide business opportunities and economic benefits in several ways: they create jobs in the maritime sector, and provide business opportunities for companies in the respective field and those with related activities. Moreover, maritime tourism can contribute to the development of local infrastructure through the creation of ports and facilities for ships. These ports can be used to provide transport services, as well as for the development of other port activities, such as maritime trade and the transport of goods (Stan and Vintilă, 2022, pp. 371-372; Stan, 2022, p. 161).

As regards the question "To what extent can maritime tourism be considered a Social Priority?", the public and private organizations gave the following structure of the scores: 29.40% - High, 41.20% - Medium, 13.70% - Low and 15.70% - Not Known (Table no. 6).

Table no. 6 Stakeholders' assessment regarding the social priority of maritime tourism

			The scale on which the organization operates			Total
			International	Local	National	
To what extent do you consider maritime tourism (yachting, various boat trips, cruises) to be a Social Priority?	3	Count	4	7	4	15
		% within The scale on which the organization operates	40.00%	33.30%	20.00%	29.40%
	2	Count	4	9	8	21
		% within The scale on which the organization operates	40.00%	42.90%	40.00%	41.20%
	1	Count	2	2	3	7
		% within The scale on which the organization operates	20.00%	9.50%	15.00%	13.70%

	0	Count	0	3	5	8
		% within The scale on which the organization operates	0.00%	14.30%	25.00%	15.70%
Total		Count	10	21	20	51
		% within The scale on which the organization operates	100.00%	100.00%	100.00%	100.00%

Source: Author's own processing

While maritime tourism is a social priority for many countries, as it can have a positive impact on the local economy, the environment and people's lives, at the level of the Romanian coastal area stakeholders have a more balanced view regarding this activity. Thus, maritime tourism, considered an economic catalyst for coastal destinations (Lam-González, León, and de León, 2019, p. 1), is a medium social priority (42.90%) for local entities, even though it can provide opportunities for the coastal communities: job creation, quality of life services for the residents, development of investment programs and projects.

## 5. Conclusions

Maritime Spatial Planning (MSP) is a process related to managing the use of marine space, including land-sea interaction (LSI). It is a process based on an integrated approach to decision-making, which takes into account the economic, environmental/ecological, social and cultural values of the sea and coastal areas (Directive 2014/89/EU). It aims to reduce the conflicts between uses, to prevent the degradation of the marine environment and to ensure sustainable development and activities.

Tackled in terms of the connections with the general national economy, it may be noticed that tourism behaves as an element able to invigorate the world's economic system. The progress of tourism entails particular demands for products and services, thus enhancing production. Moreover, tourist demand entails an offer adjustment process, which, in turn, boosts the technical and material base of this area and, indirectly, invigorates the sections involved in the construction, development and equipment of accommodation and food units, the refurbishment and modernization of road networks, the development of the means of transportation, leisure facilities, etc. (Aivaz and Micu, 2021, p. 324; Aivaz and Căpățână, 2021, p. 289).

In the context of Maritime Spatial Planning (MSP), in order to effectively promote sustainable development and tourism development in the Romanian coastal area it is necessary to involve local administration, business stakeholders and members of the local community (de Bruyn and Meyer, 2022, p. 87). Their views regarding the priorities and the role of tourism sustainability in the local economy are needed, given that LSI is strongly connected to the economic benefits of MSP (Creamer *et al*, 2020, p.13).

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## Aspects Regarding The Implementation Status of Social Projects at Regional Level

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### Abstract

*In order to reduce the economic and social development gaps between the Member States, structural funds are allocated in the European Union, which are non-reimbursable financing instruments, being a main source of funding, which helps reduce the disparities between the Member States through the development of sustainable projects. This paper focuses on the case of Romania and it aims to examine the implementation status of the social projects contracted at regional level through the Human Capital Operational Programme of the European Social Fund for the 2014-2020 period. As regards Romania, the implementation of these projects leads to the development of communities and vulnerable groups in each development region. An extremely important role in the implementation of projects is played by local and regional authorities that must support local sustainability by stimulating investments, creating jobs, and improving infrastructure.*

**Key words:** structural funds, social projects, development regions, Romania

**J.E.L. classification:** B55, F66, I18, I38.

### 1. Introduction

European non-reimbursable or structural funds, which are non-reimbursable financing instruments, are allocated at the European Union (EU) level in order to reduce economic and social development gaps between the Member States. These are a main source of funding which helps reduce the disparities between the Member States through the development of sustainable projects.

At EU level, for the 2014-2020 programming period, the regulation of the Structural and Investment Funds (ESI Funds) aims to establish a clear connection with the *Europe 2020 Strategy* (European Commission, 2010, p. 3), so as to boost smart, sustainable and inclusive growth in the EU (European Commission, 2015, p. 8).

As regards Romania, the implementation of structural funds has been a basic instrument in terms of economic recovery so as to reach the level of the other European economies (Gelămancă and Zai, 2013, p. 77), with ESI funds being the main source of funding of the Operational Programmes whose main objective is the implementation of the Economic and Social Cohesion Policy at national level (Ministry of European Investment and Projects).

Recent studies on the impact of the structural and cohesion funds on the Member States have revealed that these are a cornerstone of EU regional cohesion policy (Scotti, Flori, and Pammolli, 2022, p. 1), with European Social Fund (ESF) being one of the two most important funds of the Cohesion Policy promoting and supporting the local development of all the Union's territories (Giua, Hoxhaj, and Pierucci, 2022, p. 533).

This paper focuses on the case of Romania and it aims to examine the implementation status of social projects contracted at regional level through the Human Capital Operational Programme of the European Social Fund for the 2014-2020 period.

## 2. Literature review

The absorption of EU funds refers to the extent to which the Member States of the European Union use the funds allocated by the EU for various projects and activities representing an opportunity to support economic and social growth and to reduce development gaps (Stan and Cojocaru, 2022, p. 467). This process implies funding the projects and their implementation, which means committing the necessary resources and managing them. The absorption of EU funds can be assessed via several indicators, including the degree of absorption of funds, the level of efficiency of the spending and the degree of achievement of the objectives. These indicators are essential when assessing the performance of programmes and projects financed from EU funds.

The European Social Fund (ESF) aims to reduce the disparities in terms of living standards and of prosperity in the regions and Member States of the EU in order to make it easier to get a job (or to get a better one), to integrate disadvantaged people into society and to ensure a fair life for all (fi-compass, 2015, p. 2). ESF promotes high levels of employment and of job quality; improved access to the labour market; geographical and occupational mobility of the workers; adaptation of the workers to the changes in industry and to changes in the production systems which are necessary for sustainable developments; a high level of education and training for all; transition from education to employment for young people; combating poverty; social inclusion; gender equality, non-discrimination and equal opportunities; implementation of reforms, in particular in the fields of employment, education, training and social policies (European Commission, 2015, p. 219).

The European Social Fund, being one of the oldest structural instruments of the European Union, must be implemented through projects, by public and private entities (Dănescu and Dogar, 2012, p. 901), by investing in people and their skills - employed and unemployed, young and old.

Thus, through the Operational Programmes, projects are funded with a view to reducing the disparities between the European regions and countries so as to raise the living standards of the communities. The aim of implementing these projects with non-reimbursable sums is to ensure for the European citizens the right to reasonable living conditions and to bring all regions to the same level of social and economic development, reducing the disparities that have arisen over time. The programmes can be seen as complex systems which are materialized through projects (Stan, 2013, p. 19), with a correspondence between the project and the programme, each implemented project contributing to a greater or lesser extent to the achievement of one or more objectives and indicators defined at the operational programme's level.

Over time, various economic and social problems have been identified in Romania, which have been more or less solved, depending on their characteristic manifestations. These issues include social exclusion, poverty, high unemployment, migration, marginalized communities, disadvantaged communities in rural areas, etc. In order to mitigate the effects of these social problems, non-reimbursable funding is granted from the European Social Fund through the Operational Programmes to eligible entities so as to eliminate these major discrepancies.

In this regard, for the 2007-2013 programming period, the Sectoral Operational Programme Human Resources Development (POS DRU), approved by the European Commission, defined European Social Fund's intervention in Romania as having the objective of developing human capital and increasing competitiveness. By 31 December 2014, 3,767 funding contracts were concluded with the beneficiaries, with a total eligible amount of approx. 4.67 billion euro, of which approx. 4.21 billion euro represented EU's contribution and payments were made for a total amount of 2.26 billion euro, of which 1.63 billion euro represented the amount reimbursed from the ESF and the state budget (AM POS DRU, 2015).

For the 2014-2021 programming period, the Human Capital Operational Programme (POCU) set out the investment priorities, the specific objectives and actions undertaken by Romania in the field of human resources, thus continuing the investments made through the European Social Fund in the 2007-2013 period, while also contributing to achieving the objective of reducing the economic and social development disparities between Romania and the EU Member States. This programme allocated funds to the social field for combating poverty, education and prevention of school drop-out, development at the level of discriminated or marginalized communities (e.g., Roma), provision/creation of jobs especially for young people, programmes implemented in the field of healthcare or screening for diseases, combating social exclusion and poverty, etc. From the European



Social Fund, for the 2014-2020 period, the amount allocated was €4.37 billion and €732 million from the state budget. The total amount allocated to Romania for Priority Axis 4: Social inclusion and combating poverty was €1,047,023,965 for the less developed regions, of which €65,852,595 represents performance reserve; €63,168,893 for the Bucharest-Ilfov Region, of which €4,118,209 - performance reserve (Ministry of European Investment and Projects).

At the end of the 2014-2020 programming period, the European Social Fund+ (ESF+) was launched, which together with the European Regional Development Fund (ERDF) would finance in Romania the same investment priorities regarding social inclusion of vulnerable people and poverty reduction at regional and national level.

In the 2021-2027 programming period, the Operational Programme Inclusion and Social Dignity (POIDS) comes with a set of integrated measures that support the implementation of national and local strategies so as to contribute directly to supporting the process of poverty reduction and to supporting vulnerable groups in overcoming social exclusion. The overall objective of the programme is to support the social inclusion of people belonging to vulnerable groups, especially those at high risk, including by reducing the rural-urban poverty and social exclusion gap and increasing access to quality services for vulnerable people (Ministry of European Investment and Projects).

Social problems at local and regional level are solved with the participation of public and private actors, including civil society (Aivaz *et al*, 2021, p. 156; Stan *et al*, 2021a, p. 137; Stan *et al*, 2021b, p. 629). Thus, eligible entities which can access non-reimbursable European funds are local public authorities and their associations, educational institutions, research institutes, public institutions, national companies, trading companies, NGOs.

In this context, local and regional authorities have a key role to play in supporting local and responsible sustainability - "sustainable communities". (Petrișor, 2017, p. 144) by stimulating investment, creating jobs and improving infrastructure (Aivaz, 2021a, p. 8; Aivaz, 2021b, p. 17). This will help reduce social and economic vulnerability, although sometimes local actors have found ways to operate under the umbrella of global sustainability in an unsustainable local way (Petrișor, Susa and Petrișor, 2020, p. 167).

### 3. Research methodology

The aim of this paper is to examine the implementation status of social projects contracted at regional level through the Human Capital Operational Programme, within the European Social Fund, for the 2014-2020 period, Priority Axis 4 - Social inclusion and combating poverty. The interventions supported under this investment priority aim to achieve four specific objectives, namely: reducing the number of people at risk of poverty or social exclusion from the marginalized communities with a Roma minority population; reducing the number of people at risk of poverty or social exclusion from marginalized (non-Roma) communities; improving the digital literacy of people from disadvantaged communities (e-inclusion); reducing the number of people from vulnerable groups who have overcome vulnerable situations through the provision of appropriate social/medical/socio-occupational/training services, etc. which meet specific needs with a view to socio-occupational integration (Ministry of European Investment and Projects).

The research at regional level considers the 8 Development Regions of Romania through which the absorption of European funds is facilitated (Stan, 2014, p. 42), namely: *North-East Development Region* (Bacău, Botoșani, Iași, Neamț, Suceava and Vaslui counties), *South-East Development Region* (Brăila, Buzău, Constanța, Galați, Vrancea and Tulcea counties), *South-Muntenia Development Region* (Argeș, Călărași, Dâmbovița, Giurgiu, Ialomița, Prahova and Teleorman counties), *South-West Oltenia Development Region* (Dolj, Gorj, Mehedinți, Olt and Valcea counties), *West Development Region* (Arad, Caraș-Severin, Hunedoara and Timiș counties), *North-West Development Region* (Bihor, Bistrița-Năsăud, Cluj, Sălaj, Satu Mare and Maramureș counties), *Centre Development Region* (Alba, Brașov, Covasna, Harghita, Mureș and Sibiu counties) and *Bucharest-Ilfov Development Region* (Bucharest municipality and Ilfov County).

This research used data provided by the Ministry of European Investment and Projects and the database "List of contracted POCU projects by region of implementation, as of 28 February 2022". The database examined in this research includes the list of contracted projects by region, county and

locality, by type of contracting beneficiaries, etc. The implementation status of social projects at both national and regional level was assessed and measured through the following aspects: the absorption rate of the allocated budget, the degree of achievement of general and specific objectives, the co-financing rate and the actual implementation status as evidenced by the number of finished/unfinished projects.

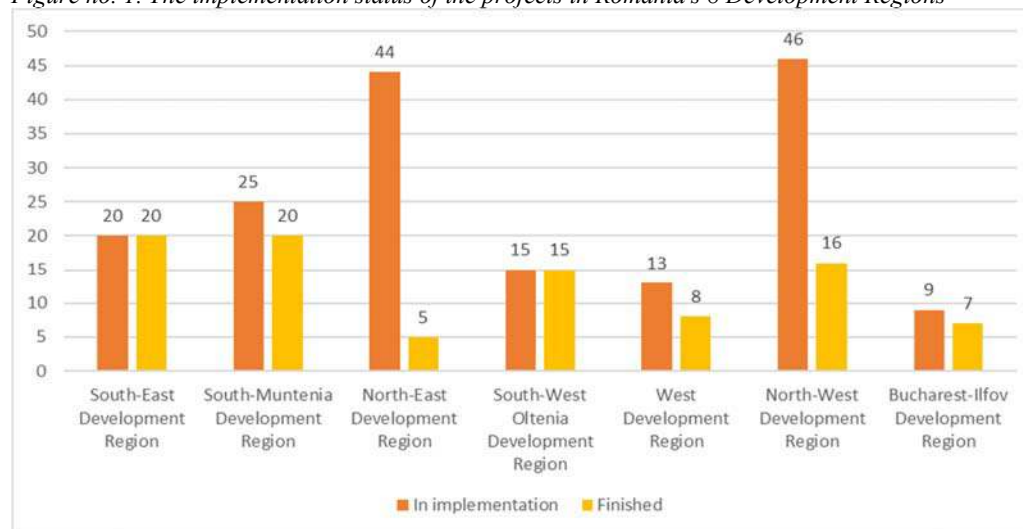
#### 4. Findings

In the 2014-2020 programming period, for the Human Capital Operational Programme, financed from the European Social Fund, a total of 2,543 beneficiaries from all counties of the country contracted eligible projects (Ministry of European Investment and Projects), in general, the results being related to social inclusion and combating discrimination, substantial reduction of the percentage of poverty which is very high among marginalized communities in Romania, in particular targeting young people, children, Roma persons, or other disadvantaged communities (Pârvu and Niță, 2020, p. 63).

A first indicator investigated is the *implementation status* of the contracted and implemented projects at the level of each development region.

Figure no. 1 graphically shows the status of all regions' contracted POCU projects which are being implemented or finished/completed. At the moment of data collection, out of the 172 projects with a status of "in implementation", 136 had an average completion date of July 2023. Thus, it can be seen that in none of the development regions is the number of finished projects higher than the number of those still in progress, indicating the fact that delays in their completion have occurred and the deadline has been exceeded.

Figure no. 1. The implementation status of the projects in Romania's 8 Development Regions



Source: Author's own processing

In the year 2022, 198 projects were being implemented with the deadline being the end of the year. Moreover, the total number of finished projects is 91, with an average completion deadline of June 2021.

As can be seen from the graph, the North-West Region occupies the first place with the most social projects in the implementation stage, followed by the North-East Region. The regions with the most projects completed by 2021 are the South-East Region and the South-Muntenia Region. The regions with the fewest projects completed by 28 February 2022 are North-East, West and Bucharest Ilfov. At national level, there are major differences between the Bucharest-Ilfov area and the other development regions, even if some of them, namely those in the West of the country, are slightly more dynamic.



The projects financed from the Human Capital Operational Programme, Priority Axis 4 - Social inclusion and combating poverty, for the 2014-2020 programming period, take into account the following specific objectives (Ministry of European Funds, 2015):

- ✓ Specific Objective 1: Decreasing the percentage of people at risk of poverty and social exclusion from marginalized communities with a Roma minority population (minimum 10% of the total population at community level) at risk of poverty and social exclusion, through the implementation of special and adapted to the needs measures;
- ✓ Specific Objective 2: Significantly reducing the number of people at risk of poverty and social exclusion from marginalized (non-Roma) communities, by implementing integrated and specific measures;
- ✓ Specific Objective 4: Decreasing the number of people belonging to vulnerable communities through the provision of social / healthcare / socio-occupational / training services adapted to the specific needs;
- ✓ Specific Objective 9: Increasing the number of people benefiting from healthcare programmes and services aimed at prevention, early detection (screening), early diagnosis and treatment of major diseases; IP (iv) Increasing access to accessible, sustainable and high quality services, including healthcare and social services of general interest;
- ✓ Specific Objective 15: Decreasing the number of elderly and disabled people placed in residential institutions through the provision of community-based social and healthcare services, including long-term services; IP (iv) increasing access to accessible, sustainable and high-quality services, including healthcare and social services of general interest;
- ✓ Specific objective 16: Strengthening the capacity of social economy enterprises to operate in a self-sustainable manner; IP (v) promoting social entrepreneurship and occupational integration in social enterprises and promoting social economy and solidarity so as to facilitate access to employment;
- ✓ Specific Objective 18: Integrated Specific Objective 4.12, 4.13, 4.14; IP (iv) increasing access to accessible, sustainable and high quality services, including healthcare and social services of general interest.

The development of the regions varies according to factors such as the degree of industrialization, the level of education, the level of healthcare and infrastructure, the standard of living, the access to resources and availability of resources. These factors can create gaps between the regions in terms of their level of development.

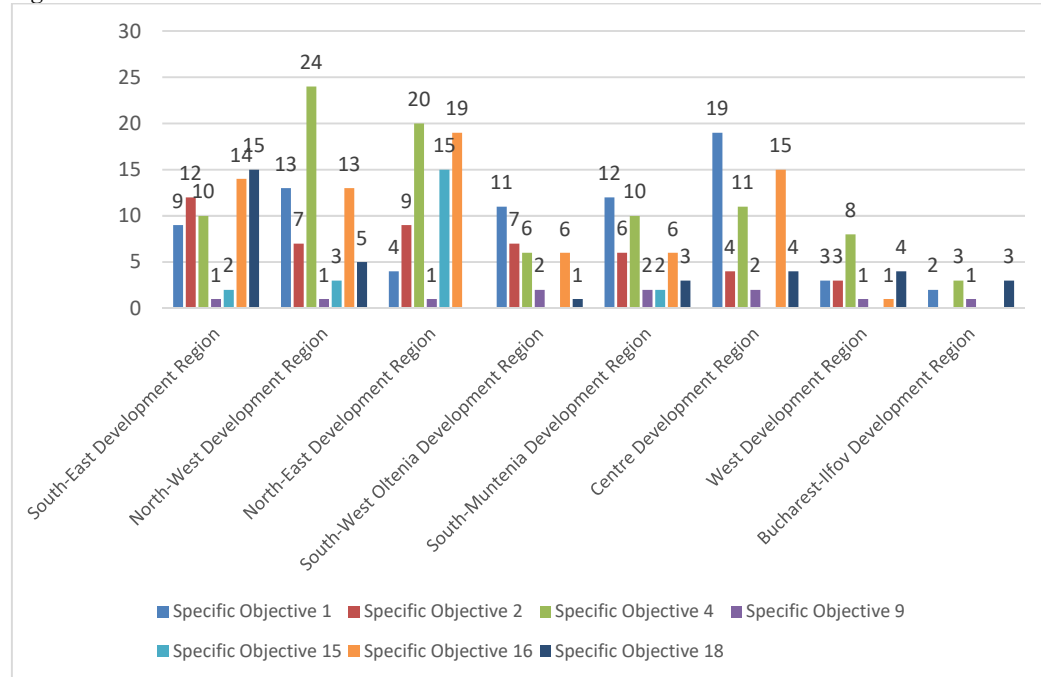
Tackling social issues at regional level requires a holistic approach to the development factors, the defining components of social development being education, healthcare, consumption, and social interaction, which are strongly structured at local level (Sandu, 2011, p. 3).

Thus, *the number of contracted projects* is a general indicator which aims to analyze the situation of the contracted projects at national and regional level.

Figure no. 2 indicates the fact that most projects were implemented under Specific Objective 4. Thus, 94 projects were aimed at providing health services - improving access to quality health services and adequate healthcare for people belonging to vulnerable groups (provision of quality healthcare, medicines, medical advice and medical education); providing social services - offering social assistance and counselling for people belonging to vulnerable groups (financial assistance services, case assistance, assistance with food shopping and other necessities); provision of socio-occupational services – providing occupational support and assistance for people belonging to vulnerable groups (provision of occupational counselling, job search assistance, assistance in obtaining an income and career counselling); provision of vocational training programmes - provision of vocational training and skills enhancement programmes for people belonging to vulnerable groups (educational programmes, vocational training programmes and support programmes for improving employability skills).

Under Specific Objective 1, a total of 73 projects were also funded, which were aimed at creating employment opportunities, improving access to education and vocational training, developing social support and community development programmes and encouraging community participation in the decision-making processes for people at risk of poverty and social exclusion from marginalized communities with a Roma minority population at risk of poverty and social exclusion.

Figure no. 2. The number of projects contracted under each specific objective of Priority Axis 4 at regional level



Source: Author's own processing

For the 2014-2020 programming period, the total number of contracted projects was 355 at national level. Of these, 68 projects were contracted in the North-East Development Region, followed by the North-West Development Region, with 66 projects. The social problems in the North-East Development Region are the high level of poverty, in some areas almost half of the population is living below the poverty line, poor and underdeveloped infrastructure, which makes public services and access to education, healthcare, water and sanitation limited, internal and external migration, both of young people, who are leaving to be able to more easily find a job and of older people, who are moving to less poor areas, limited access to education and vocational training, which is reflected in the high level of unemployment in the area. In contrast, we find the Bucharest-Ilfov Development Region where very few projects have been implemented (9) compared to the other development regions.

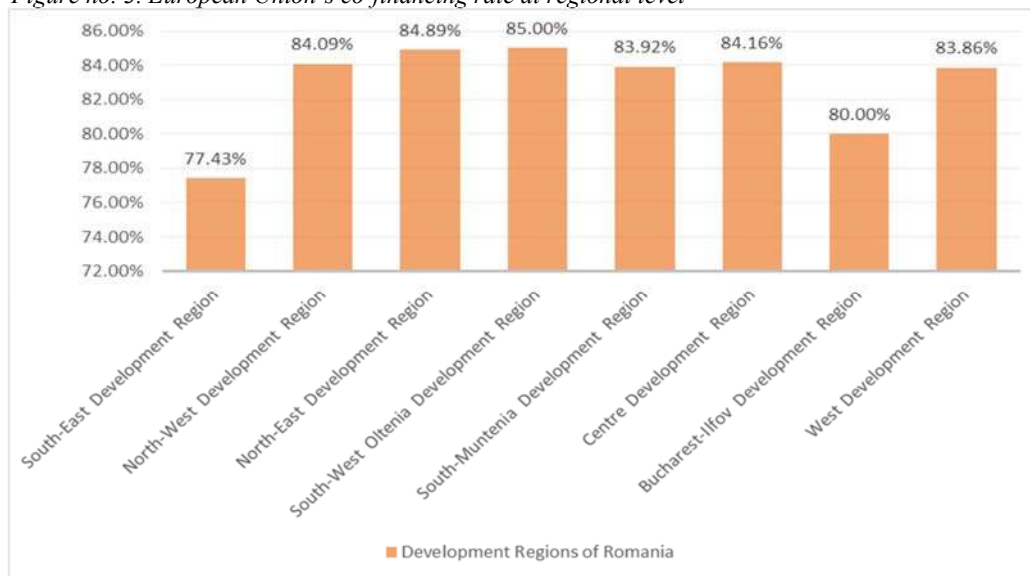
Of interest to macro-regional analyses is a country's absorption capacity, which is defined as its ability to spend the structural funds allocated to it effectively and efficiently.

In this respect, this research also took into account the EU *co-financing rate*, which represents the percentage financed from the total amount of eligible project expenditure.

Figure no. 3 shows the comparison between the 8 Development Regions of Romania in terms of the co-financing rate of the projects contracted from the POCU for priority axis 4.

It can be seen from the graphical representation that the South-East Region has the lowest co-financing rate, i.e., 77.43% of the total eligible expenditure of projects financed from the European Social Fund, the rest of the funds for the implementation of the projects being covered by the state budget and the beneficiary's own contribution. Thus, the South-East Region has received POCU funding from the European Social Fund (ESF) for projects which will contribute to improving qualifications, developing entrepreneurial skills and promoting social inclusion. Furthermore, research and development projects are funded to support the sustainable economic and social development of the region.

Figure no. 3. European Union's co-financing rate at regional level



Source: Author's own processing

On the other hand, the highest co-financing rate is in the South-West Oltenia region, at 85%. Social problems in the South-West Oltenia Region are: the underdeveloped infrastructure, poverty, low education level, economic underdevelopment and gender inequality. In decreasing order, the North-East Region comes next, which shows that this region is underdeveloped, as confirmed by the previous graphs.

## 5. Conclusions

Even though considerable efforts and progress have been made, regional disparities still exist in Romania and considerable funds still need to be invested in projects that would prove to be efficient and sustainable over time. These investment projects should be implemented both in the current and in the next programming period (2021-2027).

At present, public administration is facing many challenges arising from social, economic and political evolution trends. As regards the Romanian public administration, a solution for integrating or managing these challenges is the absorption of EU funds. From this point of view, harnessing the principles of the new public management can considerably increase the absorption of EU funds at national level, as governments are increasingly relying on various societal actors to tackle social challenges (Merlin-Brogniart *et al*, 2022, p. 1). The learning principle, learning from past experiences, the evaluation principle, the principle of applying learning to administrative practices are a few of the directions that underpin the improvement of administrative capacity.

In this context, public authorities have an extremely important role to play in implementing projects so as to increase access to social, educational and healthcare services for people at risk of poverty and social exclusion from marginalized communities, in order to stimulate the local economy and create winning opportunities for the citizens and businesses in their area, by increasing the degree of absorption of EU funds, which would also automatically lead to regional development (Buda, 2017, p. 6)

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## The Touristic Capitalisation of Cultural Services Offered by Natura 2000 Sites. Experiences from Romanian Less Developed Regions

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### Abstract

*In order to protect the geographical areas with valuable ecosystems and for their sustainable valorisation in economic purposes, in the last 20 years in Romania have been delimited many protected natural areas, which were integrated into the European network of Natura 2000 sites.*

*This study aims to identify solutions for a better capitalization of the tourist potential offered by Natura 2000 sites, located in non-traditional tourist areas. At the same time, using the results of the evaluation of ecosystem services we aim to provide policy makers an instrument to integrate environmental objectives, into the development policies of neighbouring communities with the Natura 2000 sites. To this end, the authors realised an adaptation of the integrated European system of tools for assessing ecosystem services, to the case of cultural services identified in 15 Natura 2000 sites, located in the North East Development Region of Romania.*

**Key words:** ecosystem services, economic valorisation, sustainable tourism

**J.E.L. classification:** Q26, Z32

### 1. Introduction

In the last 20 years, on the Romanian territory, numerous natural protected areas with fragile and valuable ecosystems have been identified, being integrated in the European network for sites Natura 2000. Thus, if in 2007, the network of Natura 2000 sites counted 273 Sites of Community Importance (SCI) and 108 Special Protection Areas (SPA), in 2011 the network was extended to 408 SCI and 148 SPA, while in 2018 it reached 435 SCI and 171 SPA. In 2011, the Natura 2000 sites on Romania's territory occupied a surface of 54,067 km<sup>2</sup>, representing 22.68% of the national territory (Geacu et al., 2012). Their ecosystems are complex and offer a wide range of benefits (services), which have an essential role in supporting the economic performances and directly or indirectly contribute to the human welfare (Constanza et al., 2014). Some ecosystem services are essential for the survival of humankind, such as the supply ones (food, water, energy etc.) or the regulating ones, while others are enjoyed for recreation, such as the cultural ones (Small et al., 2017). A major role in the promotion of the concept of ecosystem services, in providing a baseline for the description of different services the ecosystems offer to people and in highlighting the way in which the degradation of ecosystems endangers human welfare was played by Millennium Ecosystem Assessment (2005).

The management of lands and ecosystems depends on the demand of ecosystem services, expressed by the society at a certain time. The functions of the ecosystems are subjected, on one hand, to natural pressures (climate changes), and on the other hand to anthropogenic pressures, namely the management practices which influence the destination of lands and determine changes in the biological diversity existing on a certain field (Wolff et al., 2015, Cumming, 2016).

The evolutions that took place on an economic and social level have led to changes in the ways lands are used and to a greater interest in establishing natural protected areas. Within these ones, the valuable ecosystems will be preserved and will represent spaces which provide cultural services such as: the development of recreational activities, the conservation of the cultural identity, getting and harnessing some products which reflect the cultural identity of the region/ area, showcasing spiritual and religious values etc. (Willemen et al., 2010, Plieninger et al., 2013, Wolff et al., 2015). Under these circumstances, the interest in the reevaluation of lands/ natural reserves has increased from the perspective of the cultural services offered by ecosystems (Holmes, 2008, Sikor et al., 2013). In the case of ecosystem cultural services, the benefits for the society are capitalized on by the residents of the geographical area where the site is located, while if we refer to the regulating services, their benefits lie on more extended areas and their consequences are felt in neighboring or far away areas.

## 2. Literature review

The entire process of evaluating the ecosystem services by taking into consideration the ecological, social and economic benefits, is a highly complex and subjective one (Talmaciu, 2015). At the same time, it proves its use in solving conflicts that may occur between the potential beneficiaries of services offered by the ecosystems, in order to set up compromises between these and to ensure a more sustainable management of ecosystems (Small et al., 2017).

In crisis conditions, the local exploitation of tourist resources remains a solution that ensures the resilience of destinations (Talmaciu and Manolescu, 2021). Educational tourism and ecotourism have become fields of increased interest in recent years; local, national and international projects are implemented for the development of these forms of tourism with certain advantages for actors in the field of tourism (Manolescu and Borza, 2015, Marinescu, 2017, Zeybek and Arslan, 2015). Countries with a relatively low tourism potential or regions considered non-traditional from a tourism point of view are oriented towards forms of niche tourism, exploiting their tourism resources locally (Manolescu and Talmaciu, 2021).

One of the greatest challenges in the process of evaluation of the ecosystem services is the evaluation and valorization of non-tangible benefits that are by definition intangible and subjective. In order to define these, Millennium Ecosystem Assessment (2005) uses the concept of cultural services which is composed of: touristic and recreational services, landscape and educational services, medical and health services, spiritual and religious context, values and identity of the cultural heritage. One of the main ideas found in Millennium Ecosystem Assessment (2005) related to cultural and recreational services provided by ecosystems is that nature and ecosystem conditions influence and shape the human activities, the knowledge systems, religions, inherited values, social interactions and recreational services closely connected to the respective ecosystem. The importance of cultural services and values of the ecosystems must be taken into consideration in the planning and management processes of landscaping, thus contributing to a better understanding of the way communities influence ecosystems and the way in which these, in their turn, are intertwined with the cultural, spiritual and religious systems (Tengberg et al., 2012, Neculaesei, 2016).

Cultural identity is at the interface between nature and culture, between the tangible heritage and the non-tangible one, between biological and cultural diversity. Thus, the concept of landscape (ecosystem) and of geographical location represents a bridge between the results of the ecosystems' functioning and the cultural values they produce (Tengberg et al., 2012, Gee and Burkhard, 2010). The approach of ecosystem services from the perspective of values and the identity of the cultural heritage implies taking into account certain non-material benefits people capitalize on by means of ecosystems such as: the cultural diversity determined by the variety of ecosystems, the informal (traditional) or formal knowledge systems, the spiritual and religious values, the educational values offered by the ecosystems or by the components or processes that are born inside them, inspirational values (the ecosystems represent a rich source of inspiration for art, folklore, architecture, national symbols, etc.), the esthetical values provided by the natural frame specific to ecosystems, the social relations influenced by the types of ecosystems whose existence depends on them (agricultural systems, pastoral, forest or aquatic/fishing ecosystems), the feeling of the place according to which members of a community identify themselves with the place they live in (they feel profoundly attached to it), the values and cultural identity, recreational values and ecotourism (Tengberg et al.,



2012, Pascua et al., 2017, Borza and Manolescu, 2015). Thus, when evaluating the ecosystem services, we should not take into consideration only their physical or spatial parameters, but also their psychological, social, historical, religious, identity or traditional connotations (Lewicka, 2008, Tengberg et al., 2012, Tătărușanu and Medeleanu, 2022).

The tight connection between man and nature has an important place in the spiritual and religious context of many traditional societies, be it Christian, Hebrew, Buddhist, Muslim, etc. (Nelson, 2013, Thathong, 2012). The interaction between people and nature gave birth to beliefs, spiritual and religious practices while songs, dances, prayers and religious rituals were perpetuated, specific to the place and associated with the features of the ecosystems (Pascua et al., 2017). The spiritual relationship between man and environment can play an important role in the protection of the natural reserve. The ecological crisis is seen by certain authors as a consequence of the crisis of the human spirit, stating that if the "spiritual pollution" in the peoples' minds diminishes, the pollution of the environment will also decrease (Thathong, 2012, Cremo and Goswami, 1995). Thus, it is underlined the importance of the conservation of the spiritual world values in order to solve certain problems related to the environment. The sacred context of the area, the heritage and the religion, combined with the physical features of the natural landscape can provide a solid base for the development of tourism, especially by attracting tourists/pilgrims who seek to live authentic experiences unspoiled by modernity (Andriotis, 2011).

The environment, through its components and available resources, represents one of the most important providers of medical and health services. In a nutshell, the ecosystem services produce essential benefits, since they also have the ability to contribute to people's welfare and implicitly, to human health. In accordance with Millennium Ecosystem Assessment Report (2005), human health depends on the services and products of the ecosystems, while the dependence on the ecosystem goods and services lies beyond the health area, to cultural, social and economic needs. Nowadays, there is a topic which is increasingly discussed, namely the relaxation tourism by means of different types of activities which require the direct contact with natural factors; they have the role to support a mental and physical state adequate to a healthy human lifestyle. The specialty literature has underlined and described the beneficial effects of nature and landscaping as well as the need to connect to nature in order to have a balanced physical and emotional state of health (Huijbens, 2017). It has also analyzed the way in which the types of landscapes and the health programs can contribute to the improvement of the relationship between emotions and life satisfaction, whose lack significantly affects the quality of life in itself (Lee and Kim, 2017). By simply admiring the landscapes and making direct contact with nature, on a short term important contributions can be made to reduce stress, with benefits for the mental health (Huijbens, 2017). Significant associations have been identified between the experience of relaxation holidays, touristic satisfaction and life satisfaction in general, given the fact that open air activities are medically proved to be beneficial for human health (Talmaciu et al., 2020, Lee and Kim, 2017).

Ecological education has become a priority for more and more institutions (Borza, 2020) with an education role all around the world. At global level, within educational institutions, special programs intended for ecological education have been designed, supporting and promoting learning by means of, about and for nature. The educational programs organized by the educational institutions have as goals the significant improvement of knowledge and attitudes in regard to the direct and indirect relationships with the environment. The ecological education can be a very useful guide when attempting to reach a compromise between modern society and nature in order to have a more sustainable human welfare (Farber et al., 2002).

Human experiences related to the environment (ecosystems) are highly complex social constructs, they have symbolic dimensions and are multidimensional (Winthrop, 2014). Under these circumstances, the methodology to evaluate the cultural services provided by ecosystems has its limits in terms of highlighting all the socio-ecological interactions which can occur between people and ecosystems (Small et al., 2017). As regards the evaluation and valorization of cultural services offered by ecosystems, the literature is faced with certain challenges: the evaluation methods are in rare occasions comparable because they were developed to solve some specific problems; the quality and repeatability are seldom feasible since these methods are based on provisional data; the lack of certain data regarding the persons who benefit from cultural services and their location; certain obstacles highlighted by researchers related to the interdisciplinary nature; the long time and high



costs to collect detailed data (Small et al., 2017).

### 3. Research methodology

Our analysis included 15 Natura 2000 sites (12 sites of SCI type and 3 sites of SPA type) from the North-East development region of Romania, a region poorly developed and which can be considered non-traditional from a touristic point of view. Two out of the three counties where the sites are located belong to the last category at national level in terms of number of tourists while the touristic infrastructure is weak. For each of these sites a complex study was undertaken, which included the identification and evaluation of the value of ecosystem goods and services. To decide on the usefulness and consequences of measures and actions directly related to the management of ecosystem services, it is necessary to make a comparison between the current state and the alternative state of the use of ecosystem services, based on two types of scenarios: Business as Usual Scenario (BAU) and the Sustainable Ecosystem Management Scenario (SEM).

Of the 4 categories of ecosystem services (supply, regulatory, cultural and support services), using the instruments used at international level for the evaluation (McCathy and Morling, 2014), we took into consideration only the first three categories (the last one being found in the products and services provided). We started from the yearly total value of the ecosystem services, we conducted estimations for the following 5 years for 2 scenarios (SEM and BAU) and then, taking into account as constant the value obtained at the end of year 5, we calculated the net present value (NPV) associated to each component and the total one for a 25-year horizon.

We used information from the following sources: the city halls of the towns in proximity of the sites, the local action groups, the agencies for environmental protection, the agricultural agencies, the county statistical agencies, the INS Tempo Online database. Various other types of informal knowledge (local, traditional or indigenous) gathered from the population living in the areas close to the sites were also used.

The stages of the descriptive and economic analysis are as follows:

1. the identification and description of the main habitats within the site in their current state;
2. the identification of ecosystem services within the site in their current state and of the population benefitting from these services;
3. the definition of alternative states by identifying the evolution of habitats and ecosystem services in their alternative states;
4. the determination of yearly and total values, for each component and for each site in particular;
5. the correlative analysis.

The variables under consideration are the size of the site (small - up to 1,000 ha, average - 1,001-5,000 ha, big - over 5,000 ha), its type (SCI or SPA), the type of the main habitats located on the territory of the sites (homogenous - a main habitat with over 70% weight or mixed - several habitats with a significant weight), the diversity and the nature of the natural and anthropic resources found on the sites' territory, viewed in terms of the importance of the anthropic and natural resources (low, average, high).

### 4. Findings

In a synthetic way, the results of the descriptive and economic analysis are presented in table no. 1. For the sake of comparison with other studies, relative indicators were preferred. For a more accurate highlight of the superiority of SEM compared to BAU, we grouped the sites by size (small, medium and large) so as to differentiate the adequacy of SEM or BAU scenarios. For each of the 3 groups we considered the importance of the anthropic heritage and the attractiveness of the area, as main variables of comparison.

Of the 15 sites analyzed, 5 are of large dimension, 3 medium and 7 smalls. By grouping the sites by size and the favorability analysis of the two scenarios, we notice that:

1) The sites in the category of large ones (5 units) are composed of lake, forest, meadow and crops. Their anthropic importance is predominantly medium, being high only for SCI12 (forest) and low for SPA2 (with mixed composition). The attractiveness of the sites from this group is low and medium. Various differences are identified for the SEM and BAU scenarios, both for the total NPV and for the cultural component, with the specification that the largest differences are registered for the cultural component. Thus, for this group of sites it proves that the BAU scenario can remain viable compared to SEM, excepting the cultural component, only if the BAU scenario focuses on activities that protect the site's resources for the purpose of the cultural capitalization.

2) In the medium-sized sites (SCI3, SCI10, SCI11) characterized by habitats composed of lakes and meadows, anthropogenic habitats predominate at medium level, the attractiveness of the area is medium and even low, while NPV differences are large for the important anthropic heritage medium (5.08 and 5.95) and low for high anthropic heritage. Regarding the cultural components, the differences are very large and large for the SCI10 and SCI11 sites (with values of 15.46 and 29.93) and very small for the SCI3 (2.74). Given the anthropic importance of these sites and the low degree of attractiveness, given the relatively small differences for the two scenarios regarding NPV, we consider that in these sites the economic activity specific to the BAU scenario can have continuity, but only in compliance with related restrictions to protect the biodiversity. The SEM scenario is the solution resulting from the relatively high percentage of the cultural component and from the differences registered between the NPV and the cultural component.

3) For the small sites (7 units) with predominantly forest and meadow habitat, the anthropic importance of the heritage is predominantly low and partially medium and only for SCI 8 it is high, and the attractiveness of the sites is medium and low. The differences in scenarios for NPV are significant, especially in forested sites, which indicates the predominance of the SEM scenario for these sites. For the cultural component, the differences in scenarios are greater, respectively this component holds significant percentages in the group of these sites, which indicates the orientation mainly towards the SEM scenario.

In conclusion, the SEM scenario is preferable for the analyzed sites, especially regarding the cultural component, and the BAU scenario can be considered viable especially for the SPA sites and given that the continuation of the economic and social activities is done in compliance with the principles of sustainable development and an equilibrated level of exploitation, oriented towards predominantly ecological activities. Thus, for all 15 sites under analysis, one can notice the long-term superiority of the SEM scenario over the BAU scenario, with percentages varying from 0.84% to 13.97%. For the cultural component, the differences between the two scenarios are much higher, varying from 1.65% to 33.67%. Greater differences occur for the small-size sites with a homogenous structure from the point of view of the habitats. Smaller percentages occur in the case of SPAs, which are easier to be capitalized on through business.

Though apparently a paradox, the importance of natural and anthropic resources is not strongly correlated with the NPV difference for the cultural component. This apparent paradox can be explained by the capping of the touristic offer specific for the non-traditional areas from a touristic point of view as well as by the current valorization of these resources. Even if the proportion of the cultural component from the total net present value of the ecosystem services is very low, the role of this component can be decisive for making up the minds of the decision makers to preserve the natural area of the areas.

Identifying and assessing the socio-economic benefits associated with Natura 2000 sites is useful for several reasons, and first of all we refer to the awareness of the importance of conserving the environmental factors, thus making it possible to ensure the continuity of the socio-economic activities in the sustainability conditions. In this sense, the local population near the sites, and not only, must be informed about the values of the nature indicated by the direct and indirect benefits that they determine. Also, demonstrating the socio-economic importance of a site can significantly increase its support, fact which allows the positive changes in the favor of the Natura 2000 policy objectives (WWF, 2012).

In estimating the socio-economic value of the nature, the literature (WWF, 2012) mentions that it must take into account four guiding principles:

- 1) the biodiversity benefits that are multiple and cannot always be converted into monetary units;
- 2) the environmental services and the benefits that they bring are defined by their users, so it is considered that there are no services if there are no beneficiaries, some services being potential;
- 3) the identified benefits must be used in a sustainable manner, respecting the general objectives of the biodiversity conservation and the management plans specific to the Natura 2000 sites;
- 4) the environmental services are often interrelated, and these connections must be understood to avoid the overestimating the total value of a Natura 2000 site.

*Table no. 1. The results of the descriptive and economic analysis of the studied sites*

<b>Code/ Type (SCI/ SPA)</b>	<b>Dimen- sion</b>	<b>Habitat type</b>	<b>Anthropic heritage importance</b>	<b>Landscape attractiveness</b>	<b>Total NPV difference SEM – BAU (%)</b>	<b>Cultural component NPV difference SEM – BAU (%)</b>	<b>Cultural component percentage (%)</b>
SCI 1	Small	Forest	Low	Average	13.97	24.18	3.28
SCI 2	Big	Mixed (lake, forest, meadow)	Average	Low	12.74	19.97	0.08
SCI 3	Average	Mixed (meadow, lake)	High	Average	1.44	2.74	5.37
SCI 4	Small	Meadow	Low	Low	10.42	29.47	5.81
SCI 5	Small	Meadow	Low	Low	1.16	15.07	1.19
SCI 6	Small	Forest	Low	Average	10.13	28.55	4.20
SCI 7	Small	Forest	Average	Average	3.71	29.43	19.94
SCI 8	Small	Mixed (forest, meadow)	High	Low	5.29	1.65	22.59
SCI 9	Small	Meadow	Average	Average	8.29	33.67	46,28
SCI 10	Average	Lake	Average	Average	5.08	15.46	13.95
SCI 11	Average	Meadow	Average	Low	5,95	29.93	7,24
SCI 12	Big	Forest	High	Average	7.24	24.06	2,11
SPA 1	Big	Mixed (crops, forest)	Average	Low	0.84	23.38	2.99
SPA 2	Big	Mixed (lake, meadow)	Low	Average	6.58	6.84	0.57
SPA 3	Big	Mixed (meadow, forest)	Average	Low	4.39	24.19	1.19

*Source:* author's calculations

Among the benefits provided by the ecosystems of the Natura 2000 network, benefits determined by the implementation of the SEM and BAU exploitation systems - in a sustainable manner, we mention:

- maintaining the water reserves
- avoidance of the water pretreatment
- reduction of soil erosion
- avoiding or reducing the impact of the natural hazards (floods, landslides, floods)
- benefits for the public health: clean air and water, regeneration, optimism
- the possibility of attracting new investments and European funds

- production and promotion of local brands
- development of the eco-tourism and agrotourism
- generating new jobs
- relaxing and spending free time in an optimal natural framework
- promoting the natural heritage and the culture
- opportunities for education, infrastructure, health, etc.
- supporting the entrepreneurship through small specific businesses of animal husbandry, collecting and processing fruit / plants from sites, making meat and milk products obtained in an ecological system, honey production, traditional non-alcoholic and alcoholic beverages, etc.

About the benefits resulting from the predominant orientation to the SEM or BAU scenarios - for the sites where these scenarios are viable, we mention that these benefits are in line with the principles of a sustainable development and are visible mainly on the medium and long term.

In principle, the main benefits obtained are ecological and social. In agreement with the European Commission, the Natura 2000 sites, identified in the categories of SAC (special areas of conservation) which are areas of Community importance, SCI and SPA benefit by the same level of protection, even if there are the content differences (European Commission, 2000). It is important to note that it is recommended to correct the confusion observed in the association of the nature conservation actions with those of the nature reserves protection - in which the economic and human activities are systematically excluded. In the Natura 2000 sites these activities are not excluded, but only approached from the perspective of a win-win relationship between the environmental and socio-economic factors.

The benefits of exploiting Natura 2000 sites in SEM scenarios do not exclude the economic activities, but only their approach is different, in the sense that the man with his specific activities is perceived as an integrant part of the nature. Thus, a first major benefit is identified, namely, a balanced human-nature relationship that is based on adaptations or modifications in order to protect the species and habitats for which the site has been designated. In most cases, the economic activities have continuity, but acquire a new approach from the perspective of exploiting the resources of the designated sites (European Commission, 2000). Moreover, also in line with the proposals of the European Commission, for some sites it is even recommended to continue those economic activities that support the conservation and protection of site resources: periodic mowing, grazing, control of bush milling etc.

## 5. Conclusions

By comparing the SEM and BAU scenarios for each of these sites, for all the ecosystem services, it was highlighted the context in which the elements that can be associated with the touristic valorization can represent the critical factor. This context is unquestionable for the decision makers in order to preserve the natural character of the sites. Despite the fact that the evaluation of both Natura 2000 sites and related ecosystemic services is not a usual/ current practice in less developed regions, it is considered that ecosystemic evaluation procedures highlight the numerous values of these programs, reflected in the pillars of sustainable development: economic, social and environmental. Thus, our proposition is that through future research materialized by partnerships with public institutions responsible with these sites management, we will be able to extend the steps of ecosystem assessment, so that their intrinsic qualities can be better utilized, improving at the same time the measures of protection and conservation of the resources at risk of total degradation or loss. In a society dominated by constant change and evolution visible in multiple fields such as economy, social skills, culture, education, spirituality etc., reconsidering the ecosystemic values is not just an approach adjacent to the continuous flow of evolution, but an imperious change we have to make.

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## The Dynamics of Taxation Applied to Multinational Enterprises in the European Union

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### Abstract

*The taxation of multinational enterprises is often a sensitive subject due to the implications it can have on foreign direct investments on the one hand and on the budget of a country and PIB on the other.*

*In this paper we will focus on the dynamics of taxation of multinational enterprises in the European Union, following the evolution of corporate tax rates in the member states in order to notice the differences and to determine if the practice of lower or higher tax rates has a different impact on GDP of a country.*

*We hope that the results of our research will represent a basis for decisions on tax rates in the situation where the application of a lower or higher tax rate can have a significant impact on a country's GDP.*

**Key words:** corporate tax, GDP, multinational enterprises, European Union

**J.E.L. classification:** E01, F23, F36

### 1. Introduction

In recent years, the taxation of multinational enterprises has been a topic of interest at the negotiation tables of the world's countries.

Since globalization allowed the large-scale development of big companies beyond the borders of their countries, the tax system was one of the selection criteria, and some countries aimed to become attractive from this point of view.

In the created context, multinational enterprises have chosen to enter in the promising markets even bypassing the burden of tax system through various methods of reducing or avoiding taxation. One of these being the allocation of profit to a preferential tax system.

Considering these realities, the representatives of the countries of the world initiated negotiations within OECD/G20 to establish a uniformity of tax system at the global level regarding the taxation of multinational enterprises. The negotiations took into account the allocation of a part of company's profit to the countries where it was made and to create a global minimum tax.

Under these conditions, through this paper we will analyze the dynamics of taxation of MNEs in European Union, to follow its evolution and effects during the period 2012-2021.

The purpose of the paper is to find out if the practice of lower or higher tax rates of multinational enterprises determines an influence to be considered on the GDP of a country.

This paper is a part of a larger research through which we aim to determine the impact will have the new tax reform plan proposed by the OECD/G20 in the European Union.

## 2. Literature review

Certainly, the motivation behind the efforts to create a uniform system of taxation at the international level has several reasons that have been considered by most of the world's states. In an attempt to define these reasons and to appreciate their importance and necessity, it would be advisable to start from the basic theory of multinational companies so that we can end up discussing about tax systems and their possible weaknesses.

Based on the pioneering work of Buckley and Casson (1976) and other contributors to multinational enterprise theory such as Rugman (1981), Hennart (1982) and Teece (1985), in the paper of Foss et al (2019) it was appreciated that the basic idea of the multinational company assumes the internalization of transactions across the borders of the countries in order to maximize the value obtained while reducing transaction costs (Foss et al, 2019).

Therefore, the choice of a foreign market by a multinational company implies taking strategic decisions aimed at increasing the company's competitiveness. In this sense, a multinational company aims to use their advantages to exploit all the targeted resources of respective location in order to increase its competitiveness over a company that operates only in the country of origin. For this to happen, the benefits of exploitation must exceed the cost of entering the foreign market (Zvirgzde et al, 2013).

Among the selection criteria targeted by multinational enterprises is the tax system of the host country. In the specialized literature, various papers have been developed regarding the taxation of multinational enterprises and its impact on the attractiveness of the location where the company proposes to place investments. Research results indicate that the level of taxation inhibits foreign investment and companies' decisions to enter that market (Lawless et al, 2017).

However, some foreign markets are quite promising for companies that choose to operate in several countries, even if they are subject to different or unfavorable tax rates and regulations, they have developed a set of tax avoidance procedures, fact which has a negative impact on the budgets of host countries (Blouin, 2012).

One of the weaknesses of taxation systems of countries with high tax rates is the allocation of profits of the companies to another jurisdiction with lower tax rates, called a tax haven.

Any country can become a tax haven if it reduces its tax rates. Such an approach can be taken when it is desired to attract foreign investments and the profits of multinational enterprises from jurisdictions with high tax rates (Blouin, 2012).

In the European Union, the emphasis has always been on integration and harmonization, even from the perspective of taxation systems, whose discussions have always been considered sensitive, due to the impact they can have on foreign investments. However, over time the attempted harmonization strategies did not have the desired effect and thus the member states face the erosion of the tax base and the profit transfers of multinational enterprises (Nerudova et al, 2019).

Therefore, it is most likely that the motivation behind the efforts to create a uniform system of taxation at the international level is relevant due to the existing weaknesses in the current systems.

## 3. Research methodology

In this paper, we aim to find out if there are significant differences in terms of the dynamics of taxation applied to multinational enterprises in the European Union states and to determine the contribution of corporate taxes collected to the GDP of four member countries of the European Union, which present different tax rates, smaller and bigger. For this we will use the following data:

- the evolution of corporate tax rates
- the evolution of corporate taxes collected at the state budget
- the evolution of GDP.

With the help of these data, we propose a quantitative analysis to observe whether there are major differences in the contribution of corporate taxes collected to a country's GDP, taking into account the corporate tax rates applied by the member states of the European Union.

We will elaborate this analysis using the unifactorial linear regression model to determine the contribution of the collected corporate taxes to GDP growth.



Therefore, we will consider the equation of the linear regression model:

$$Y = a + bx + u$$

$Y$  represents the real values of the dependent variable, in our case the GDP;  $x$  represents the real values of the independent variable, respectively the corporate tax collected;  $a$  and  $b$  are parameters of the model; and  $u$  is the residual variable that shows us the influence of other factors on  $Y$ .

For our research, we need to know that the econometric model is linear, so we will determine the linearity of the model with the help of the correlogram that shows the relationship between variables  $y$  and  $x$  and also estimate the parameter  $b$ , which shows the influence of corporate taxes collected on GDP, if the estimators calculated by the least squares method are of maximum veracity.

To estimate the parameter  $b$ , we will use the following formula:

$$\hat{b} = \frac{n \cdot \sum y_t x_t - \sum x_t \cdot \sum y_t}{n \cdot \sum x_t^2 - \sum x_t \cdot \sum x_t}$$

In the formula for estimating the parameter  $b$ ,  $n$  represents the number of observations. In our case, there will be 10 observations because the research will be developed over a period of 10 years, respectively 2012-2021.

#### 4. Findings

In the following table, we will present the data we collected regarding the evolution of the corporate tax rate in the European Union.

*Table no.1. The Dynamics of Taxation Applied to Multinational Enterprises in the European Union in the period 2012-2021, in percentage rates (%).*

Country	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Austria	25	25	25	25	25	25	25	25	25	25
Belgium	33	33	33	33	33	33	29	29	25	25
Bulgaria	10	10	10	10	10	10	10	10	10	10
Croatia	-	20	20	20	20	18	18	18	18	18
Cyprus	10	10	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
Czechia	19	19	19	19	19	19	19	19	19	19
Denmark	25	25	24.5	23.5	22	22	22	22	22	22
Estonia	21	21	21	20	20	20	20	20	20	20
Finland	24.5	24.5	20	20	20	20	20	20	20	20
France	33.33	33.33	33.33	33.33	33.33	33.33	33.33	31	31	27.5
Germany	15	15	15	15	15	15	15	15	15	15
Greece	20	26	26	26	29	29	29	28	24	24
Hungary	19	19	19	19	10	9	9	9	9	9
Ireland	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
Italy	27.5	27.5	27.5	27.5	27.5	24	24	24	24	24
Latvia	15	15	15	15	15	20	20	20	20	20
Lithuania	15	15	15	15	15	15	15	15	15	15
Luxembourg	22.05	21	21	21	21	19	18	18	17	17
Malta	35	35	35	35	35	35	35	35	35	35
Netherlands	25	25	25	25	25	25	25	25	25	25
Poland	19	19	19	19	19	19	19	19	19	19
Portugal	25	25	23	21	21	21	21	21	21	21
Romania	16	16	16	16	16	16	16	16	16	16
Slovakia	19	23	22	22	22	21	21	21	21	21
Slovenia	18	17	17	17	17	19	19	19	19	19
Spain	30	30	30	28	25	25	25	25	25	25
Sweden	26.3	22	22	22	22	22	22	21.4	21.4	20.6

Source: European Commission, TEDB - "Taxes in Europe" database, [Accessed 25 November 2022].

According to Table no.1., the states of the European Union do not show a uniformity of corporate tax rates in recent years, the states practicing different rates in the range of 9% and 35% and some countries such as Belgium, Denmark, France, Sweden did not practice constant levels of rates in the period 2012 – 2021.

Also, the lowest rates are found in countries such as Hungary (9%, 10%), Bulgaria (10%), Cyprus (10%, 12.5%) and Ireland (12.5%) and the highest rates are found in countries such as Malta (35%), France (33.3%), Belgium (33%), Spain (30%), Greece (29%, 28%) and Italy (27.5%).

In order to analyze the contribution of corporate taxes collected to a country's GDP, taking into account the corporate tax rates applied by the member states of the European Union, we chose the first four countries according to GDP, respectively: Germany, France, Italy and Spain, countries that, according to Table no.1., practice different tax rates.

*Table no.2. The evolution of corporate tax rates, corporate taxes collected at the state budget and GDP in Germany, France, Italy and Spain in the period 2012-2021.*

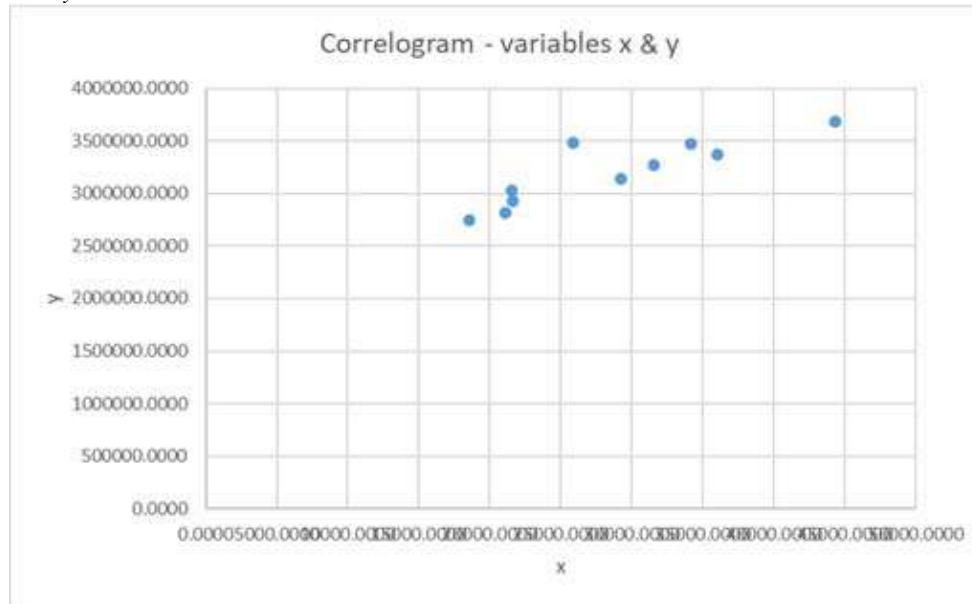
Country	Ind	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Germany	CTR (%)	15	15	15	15	15	15	15	15	15	15
	CTC (mil. euro)	18,53 2	21,10 7	21,62 2	21,55 1	29,22 3	31,56 3	36,03 5	34,11 7	25,84 1	44,30 1
	GDP (mil. euro)	2,745 ,310	2,811 ,350	2,927 ,430	3,026 ,180	3,134 ,748	3,267 ,160	3,365 ,450	3,473 ,268	3,485 ,430	3,681 ,750
France	CTR (%)	33.33	33.33	33.33	33.33	33.33	33.33	33.33	31	31	27.5
	CTC (mil. euro)	47,55 9	49,53 6	49,52 9	49,67 4	49,72 5	57,92 0	55,12 5	59,27 7	55,20 5	61,15 8
	GDP (mil. euro)	2,088 ,804	2,117 189	2,149 ,765	2,198 ,432	2,234 ,129	2,297 ,242	2,363 ,306	2,437 ,635	2,310 ,469	2,500 ,870
Italy	CTR (%)	27.5	27.5	27.5	27.5	27.5	24	24	24	24	24
	CTC (mil. euro)	35,65 7	38,32 5	31,06 3	31,81 9	34,45 7	34,50 6	31,05 4	32,74 1	31,90 3	28,33 4
	GDP (mil. euro)	1,624 ,358	1,612 ,751	1,627 ,485	1,655 ,355	1,695 ,786	1,736 ,592	1,771 ,391	1,796 ,648	1,660 ,621	1,782 ,050
Spain	CTR (%)	30	30	30	28	25	25	25	25	25	25
	CTC (mil. euro)	20,76 6	19,51 6	19,42 3	22,48 3	23,10 5	24,14 7	27,52 4	23,76 0	20,79 9	30,73 2
	GDP (mil. euro)	1,031 ,104	1,020 ,677	1,032 ,688	1,078 ,892	1,114 ,420	1,162 ,492	1,203 ,859	1,245 ,513	1,116 ,989	1,206 ,842

*Source:* European Commission, TEDB - "Taxes in Europe" database, [Accessed 25 November 2022]; Eurostat, GDP and main components, [Accessed 25 November 2022]; Eurostat, Tax revenue statistics [Accessed 25 November 2022].

In Table no. 2., the Ind column presents the analyzed indicator: CTR means the Corporate Tax Rate and is expressed in percentage rates (%), CTC means Corporate Tax Collected and is expressed in millions of euro and GDP is Gross Domestic Product expressed in millions of euro.

Therefore, with the help of the data from the table, we obtained the following results:

Graph no.1. Correlogram regarding the relationship between GDP and corporate tax collected in Germany



Source: Own processing based on the data from table no. 2.

The correlogram shows us that the links between the variables in the case of Germany can be approximated by a straight line, which denotes the linearity of the model.

Figure no.2. The influence of corporate taxes collected on GDP in Germany

Dependent Variable: GDP

Method: Least Squares

Sample: 2012 2021

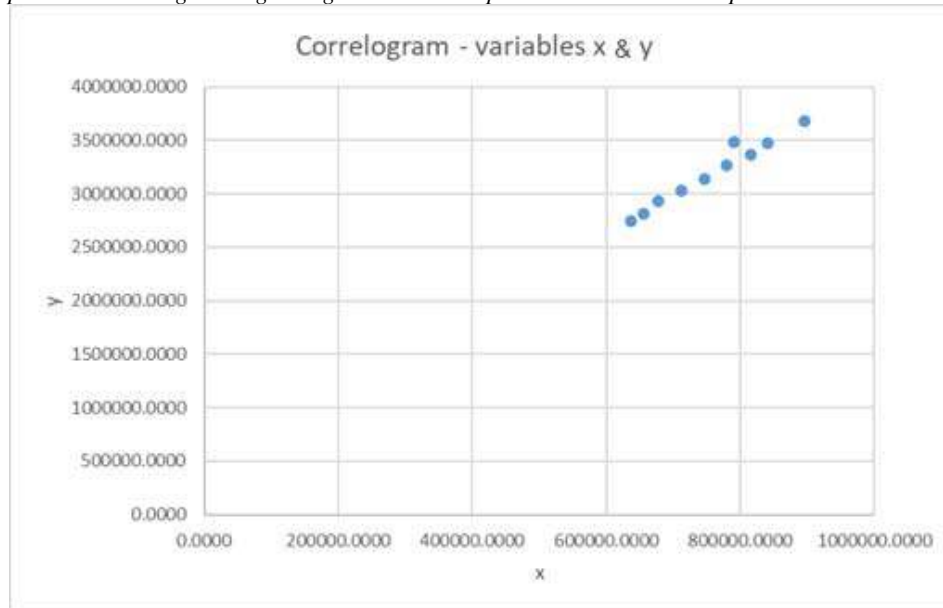
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2239691.	192161.8	11.65524	0.0000
CTC	33.53798	6.528443	5.137211	0.0009
R-squared	0.767381	Mean dependent var		3191808.
Adjusted R-squared	0.738303	S.D. dependent var		313758.4
S.E. of regression	160507.3	Akaike info criterion		26.98692
Sum squared resid	2.06E+11	Schwarz criterion		27.04744
Log likelihood	-132.9346	Hannan-Quinn criter.		26.92054
F-statistic	26.39093	Durbin-Watson stat		1.651773
Prob(F-statistic)	0.000888			

Source: Own processing in Eviews, based on the data from table no. 2.

According to Figure no. 1, if the corporate taxes collected in Germany increase by one unit, then Germany's GDP will increase by 33.53798 units (estimation of the parameter  $b$ ).

Graph no.2. Correlogram regarding the relationship between GDP and corporate tax collected in France



Source: Own processing based on the data from table no. 2.

The correlogram shows us that the links between the variables in the case of France can be approximated by a straight line, which denotes the linearity of the model.

Figure no.2, The influence of corporate taxes collected on GDP in France

**Dependent Variable: GDP**

**Method: Least Squares**

**Sample: 2012 2021**

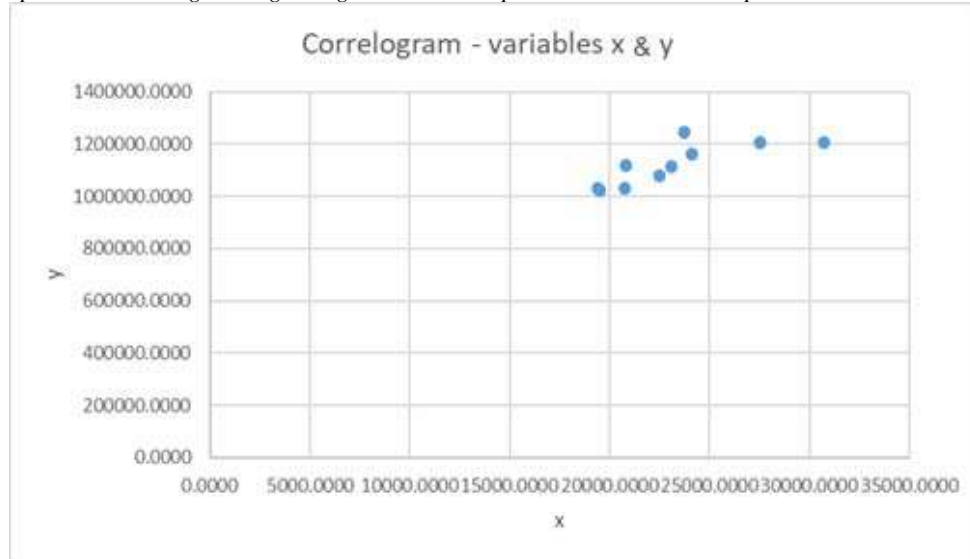
**Included observations: 10**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	850759.0	182552.3	4.660358	0.0016
CTC	26.53832	3.401424	7.802120	0.0001
R-squared	0.883844	Mean dependent var		2269784.
Adjusted R-squared	0.869325	S.D. dependent var		137249.3
S.E. of regression	49614.26	Akaike info criterion		24.63880
Sum squared resid	1.97E+10	Schwarz criterion		24.69932
Log likelihood	-121.1940	Hannan-Quinn criter.		24.57241
F-statistic	60.87308	Durbin-Watson stat		2.591817
Prob(F-statistic)	0.000052			

Source: Own processing in Eviews, based on the data from table no. 2.

According to Figure no. 2, if the corporate taxes collected in France increase by one unit, then France's GDP will increase by 26.53832 units (estimation of the parameter  $b$ ).

Graph no.3. Correlogram regarding the relationship between GDP and corporate tax collected in Spain



Source: Own processing based on the data from table no. 2.

The correlogram shows us that the links between the variables in the case of Spain can be approximated by a straight line, which denotes the linearity of the model.

Figure no.3. The influence of corporate taxes collected on GDP in Spain

**Dependent Variable:** GDP

**Method:** Least Squares

**Sample:** 2012 2021

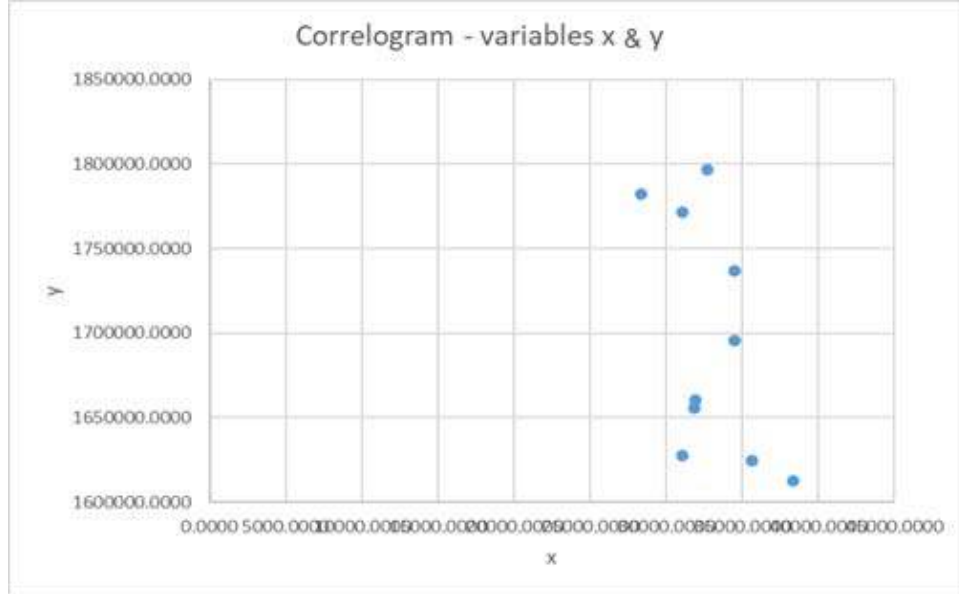
**Included observations:** 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	708085.3	114724.0	6.172077	0.0003
CTC	17.79347	4.886998	3.640983	0.0066
R-squared	0.623649	Mean dependent var	1121348.	
Adjusted R-squared	0.576605	S.D. dependent var	81128.02	
S.E. of regression	52789.03	Akaike info criterion	24.76285	
Sum squared resid	2.23E+10	Schwarz criterion	24.82337	
Log likelihood	-121.8143	Hannan-Quinn criter.	24.69646	
F-statistic	13.25675	Durbin-Watson stat	1.225316	
Prob(F-statistic)	0.006580			

Source: Own processing in Eviews, based on the data from table no. 2.

According to Figure no. 3, if the corporate taxes collected in Spain increase by one unit, then Spain's GDP will increase by 17.79347 units (estimation of the parameter  $b$ ). In the case of Spain, it is important to consider that the results are less significant compared to Germany and France due to the assumptions underlying the least squares method.

Graph no.4. Correlogram regarding the relationship between GDP and corporate tax collected in Italy



Source: Own processing based on the data from table no. 2.

Also, in the case of Italy, the links between the variables do not form a straight line, so the model does not denote linearity and the estimation of the parameter  $b$  of the model generates a negative value, a fact which implies that there is a negative relationship between GDP and the corporate taxes collected in Italy.

## 5. Conclusions

Regarding the dynamics of taxation of multinational enterprises, we found that in the European Union, the member states do not present a uniformity of tax rates, different rates are practiced between countries, some having low percentages of 9% and others high percentages of 35%.

Also, 17 of the 27 analyzed states ( $\approx 63\%$ ) of the European Union did not present a constant level of tax rates in the period 2012-2021, there were changes in rates and a tendency for rates to decrease in 14 of the 17 countries ( $\approx 83\%$ ).

Regarding the impact of corporate taxes collected from the budget of the member states on the GDP. From the four analyzed countries, we found that a constant tax rate of 15% in Germany generated more GDP (it generated 33,53798 units of GDP) compared to a higher and fluctuating rate in the range of 33.33% - 27.5% in France (it generated 26.53832 units of GDP).

In Spain, which practices high and fluctuating rates of corporate taxes in the range of 30% - 25%, it was found that the impact on GDP was 17.79347 units generated, being as small as in the case of France, which still practice high rates. But the results cannot be significant in the case of Spain, as they are in the case of France and Germany, due to the assumptions underlying the method used.

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## An Analysis of Business Performance In Romania's IT Sector

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### Abstract

*Competitiveness, financial performance and operational performance are determinant factors of business performance. This study focuses on the comparative analysis of the evolution of these indicators in the Romanian IT sector in the 2019-2021 period. The results presented visually in this paper support the idea of a divergence between physical productivity and revenue productivity, by analyzing their possible development in the context of the numerical analysis of the businesses existing on the market. The results of the present study contain interesting conclusions and converge towards the awareness of the need for further research into the factors which influence business interest, its performance or efficiency.*

**Key words:** business performance, IT sector, net profit, labor productivity

**J.E.L. classification:** M15, M20, M21

### 1. Introduction

The increasing use of information and communications technology over the last three decades in more and more sectors of activity is a dominant characteristic of today's economies (Castellacci and Tveito, 2018, pp. 308-325). In order to create competitive economies, governments' objectives have focused on maximizing the effects and benefits of digitization and the whole ITC industry on the one hand, and on the other hand on minimizing the risks arising during the digital transformation.

According to a study published by the International Trade Administration of the United States (ITA, 2022), Romania ranks first in Europe and sixth in the world in terms of the number of certified IT specialists in relation to the total population, surpassing even the United States and Russia. At the moment, in our country there are about 179 thousand people employed in the IT and Telecommunications sector, i.e., about 2.7% of the total number of employees. According to the information provided by the Employers' Association of the Software and Services Industry (ANIS, 2021, p. 67), of the total number of employees in this sector, the largest share, of about 67%, belongs to the software and IT services industry, which in 2019 employed around 120 thousand people and in 2020 more than 130 thousand. One coordinate which indicates the importance of the ITC sector at European level is the vote to establish the EU Cybersecurity Competence Centre in Bucharest in December 2020.

The National Institute of Statistics of Romania published on 7 December 2022 the report presenting the Gross Domestic Product for the third quarter of 2022, which recorded an increase of 4% by gross series and 4.7% by seasonally adjusted series compared to the same quarter of the year 2021. A significant contribution to this growth was made by the *Information and Communications* sector, with a +6.9% share in GDP formation.

It is estimated that in the coming years the share of the IT&C sector in the formation of the Gross Domestic Product could reach 10%, as both private companies in different industries and state institutions continue to invest in digital transformation (ANIS, 2021, p.8).



The IT sector is among the most dynamic in the Romanian economy in terms of the number of new companies, and compared to other European countries, the growth in the number of companies in the IT sector places Romania at the top of the ranking. The key element of the Romanian industry, which helps us to position ourselves favorably compared to most Central and Eastern European countries, is the access to human capital: we have many IT specialists at a relatively low cost, a reality which reinforces the IMF's observation that a country's human resources are a strategic component for economic growth and development (IMF, 2018, p.64).

Our paper starts by reviewing the research on the importance, the development potential of the IT sector and the growth impulse it gives to the economy in general (Rus, M. -I., 2013, p. 942; Rus, M. -I., 2016, p. 187). It then explores the dynamics of the main financial indicators of Romanian businesses operating in the IT sector. Considering the significant contribution of the *Information and Communications* sector branch to the formation of the GDP, the evolution of the financial indicators of profitability is analyzed in close correlation with the indicators of labor productivity of the employees working in Romania. The results of the analysis complete the direction of the research aimed at exploring the differences between income, financial performance and operational performance.

## 2. Literature review

Taking into consideration the fact that the ITC sector is directly linked to automation and digital transformation, increasing the efficiency of this sector can provide a considerable boost to the economy (McKinsey Report, 2017, p.1). Although the process of digital transformation differs from country to country, from company to company, most studies have shown that digital transformation uses technology as a means to accelerate economic development and raise living standards, not as an end in itself (Kwon and Park, 2017, p. 12586-12587).

According to the approach presented by Rüßmann M. in the report *Industry 4.0: The future of productivity and Growth in Manufacturing Industries*, Industry 4.0 includes research and innovation, reference architecture, standardization and system security as fundamental elements. According to this report, the transformation of the economy into Industry 4.0 can be made possible by providing the right substructures, supported by sensors, machines, jobs and information technology (Rüßmann et al, 2015, p. 12).

Specialized literature recognizes that the IT and telecommunications industries have great potential in terms of increasing productivity and income (Aivaz, 2021a, p. 8), this only being possible if companies are efficient. At the same time, there is growing concern that successive waves of investment in digital technologies will contribute to job losses, wage stagnation and rising wage inequality (OECD, 2017, p. 8). From a historical perspective, it is certain that major technological innovations have always been accompanied by extensive labor market transformations (OECD, 2017, p.7-8), with mobility and flexibility changing the labor experience (Tofan and Aivaz, 2022, p. 418). More recently, *cloud computing* has changed the relationship between employees and employers. In a world based on cloud-based data storage, employees can share resources and collaborate more efficiently, while accessing information from wherever they are. This helps the company greatly as it can easily find cheap and skilled workers. Jääskeläinen (2015, p. 67) pointed out that cloud technology supports employees; they can work when it is convenient for them, with flexible working hours improving employee satisfaction and business efficiency. This transformation is often supported by online platforms which facilitate interaction and intermediary transactions, partly or entirely online, with the comparison of supply and demand for goods (eCommerce), of services and information often taking place in real time (Folea, 2019, p.1-2).

Economic efficiency, on the one hand, means achieving maximum economic effects with a given consumption of resources, and on the other hand, the minimum consumption of resources means achieving the best results. Based on this double expressing manner, Buder and Felden (2012, p.4340) distinguish between quality (effectiveness) and needed effort (efficiency). Often, in the economic literature, the efficiency of firms is placed under the same umbrella as the term's competitiveness and productivity.

Iordache et al (2017, pp.1-2) argued that operational and technical process skills are seen as fundamental aspects of the 21st century economy, learned through schooling and industrial or organizational training in the workplace. These skills are particularly held by technology and IT experts, who add value to the companies.

Information and communications and the role they play in the productivity of the companies and in their development has been researched in many studies for two decades ago. (Colecchia & Schreyer, 2002; Oliner & Sichel, 2000, p.13; Kretschmer, 2012). The potential of ICT is based on the fact that they are general-purpose technologies (Bresnahan & Trajtenberg, 1995) which lead to technological improvement, and their diffusion throughout the economy plays a role in facilitating innovation. The ICT sector enables closer relationships between firms, their customers, suppliers and collaborators. Another key element brought by IT companies is the reduction of geographical barriers. In addition to this, they facilitate the creation of new knowledge and its faster dissemination through more efficient information transmission processes, both within and between the companies and sectors (Kretschmer, 2012).

A series of empirical studies (Stiroch, 2001; Pilat *et al.*, 2002; Belorgey *et al.*, 2006; Sobhani, 2008; Shapiro and Mathur, 2011; Chen *et al.*, 2006; Savulescu, 2015, pp. 1-2; Hofman *et al.*, 2016, etc.) have shown that the impact of ICT on productivity and economic growth varies across countries. Different results of past studies might be due to differences in productivity levels across countries, but also to gaps over time, especially when ICT spending or ICT investment is used for development.

Hodrob and Awad (2016, p. 1-2), analyzing the impact of ICT on the economy, point out that the role of technology and information on people, governments, and organizational change, by transforming information into knowledge and innovation, acts as a key driver of productivity growth and economic growth.

At the national level, the Employers' Association of the Software and Services Industry (ANIS) conducted an extensive study in 2021 on the software and IT services industry and its impact on our economy. According to this study, Romania's competitive advantages in this sector are the existence of a large base of specialists and relatively low labor costs. In light of this, the national software and IT services industry has favorable conditions for further accelerated development that could lead the software and IT services industry to reach a total contribution (through direct, indirect and induced effect) of 10% to GDP in 2025, of which approx. 6.5% exclusively through direct contribution (from around 4% in 2020). In terms of the number of employees, the software and IT services industry has become an important part of the Romanian labor market, with the highest growth rate in the last 5 years. However, the industry is facing a shortage of specialists, which is an impediment to further accelerated growth. In addition to these characteristics, Romania faces a considerable innovation gap, with the lowest performance in Europe, especially in terms of the share of R&D expenditure in GDP. Therefore, the development strategy of the software and IT industry requires dedicated public measures in order to start the transition towards an innovation-based economic model, major investments in education and research and in supporting companies in the ICT sector.

### 3. Research methodology

The performance of the managerial activity of Romanian IT companies can be revealed by the structure and evolution of the level of some result indicators which highlight the overall effectiveness of the managerial act, as well as by a series of overall or partial efficiency indicators calculated on the basis of data from the accounting balance sheets of the companies using the ratio method. As other specialized studies have also shown, extending the analysis of the dynamics of financial indicators by economic activity branches allows the creation of valuable reference bases for the development of comparisons between territorial areas (Munteanu, 2021, p. 61) or business categories. At the same time, such an analysis can provide important clues on the future evolution of the sectoral economy (Munteanu and Aivaz, 2017, p. 436), the potential for financial development or the impact on employment. Our study contributes to the sphere of quantitative data research by presenting a series of chromatic maps which allow structuring the study results and complementing them with visual representations.

To this end, in a first phase it was necessary to build a database by selecting a set of economic and financial indicators from the balance sheets of the Ministry of Public Finance: net turnover, net profit, number of employees. Given the emergence of the global pandemic crisis and the reconfiguration of the entire world economy, the analysis of this sector focused on the 2019-2021 period.

According to Romanian legislation, the development of statistical studies at the economic level by categories of activities is possible due to the classification of each activity carried out by companies, since their legal establishment, according to a system implemented at the national level. The Classification of Activities in the National Economy (CAEN) is a nationally established statistical structuring of activities in Romania. The classification is established on several levels. The general classification is identified by alphabetical codes, groups of related activities being identified by a 2-digit numerical code, and each division of sub-activities receives a 4-digit numerical code. As a general rule, each company is obliged to declare only one main activity (to which a 4-digit CAEN code is assigned) at the time of its establishment and, optionally, it may declare several secondary activities.

Our study focuses on the analysis of financial indicators reported through the annual financial statements of companies operating in the IT sector in Romania, classified according to the main activity declared by each entity at its establishment.

For the analysis of the managerial efficiency of the IT sector in Romania, more specifically, of the companies included according to the CAEN classification in Division **62 Information technology service activities**, the companies that declared one of the categories shown in Table 1 as their main object of activity were taken into account.

Table no. 1 The division of CAEN classification 62 Information technology service activities

CAEN Code	Name of CAEN class
6201	Custom software development activities (client-oriented software)
6202	Information technology consultancy activities
6203	Management activities (management and operation) of the means of calculation
6209	Other information technology service activities

Source: ONRC/National Trade Register Office

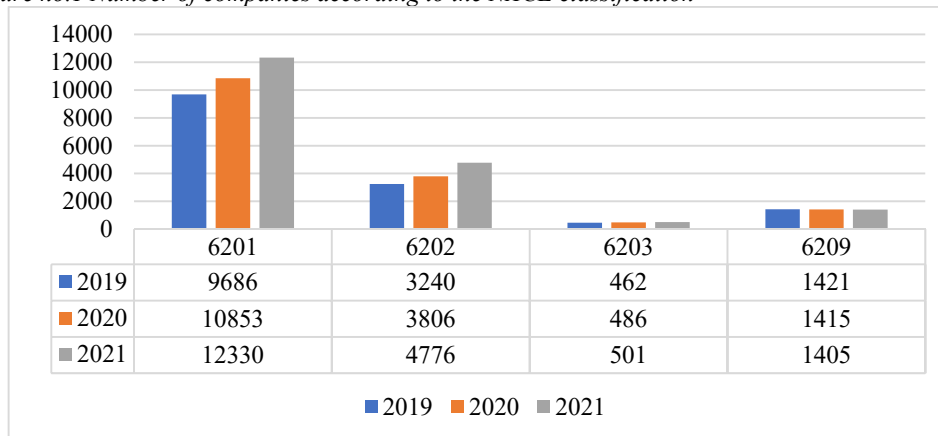
The construction of a unified database involved selecting from the balance sheets of IT companies, for the analyzed years, the indicators reported in all balance sheet forms: net turnover, net profit and average number of employees. Data processing was carried out using the SPSS software.

#### 4. Findings

The number of companies in CAEN Division 62 *Information technology service activities*, by the 4 classes, is represented in Figure 1. It can be seen that most companies are registered in Division 6201 *Custom software development activities (client-oriented software)*, with the number of companies in this division increasing in 2021 compared to 2019 by 2644.

The fewest firms are found in CAEN 6203 *Management activities (management and operation) of the means of calculation*, with only 462 companies registered in 2019 and an increase of only 39 companies in 2021. On the other hand, the graphical presentation of the number of companies in Figure no. 1 shows an increasing interest in business development in the IT sector, with the number of companies established in the four sub-branches of CAEN activities increasing throughout the analyzed period.

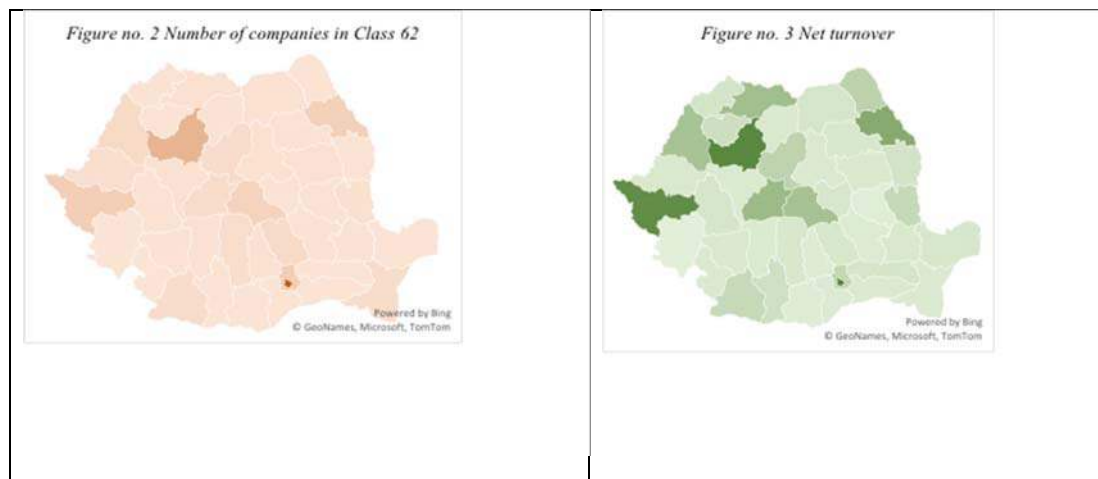
Figure no.1 Number of companies according to the NACE classification



Source: authors' own processing

The next stage of our analysis was to create color maps that allow us to identify the geographical areas where most IT businesses are concentrated. Subsequently, the numerical concentration of businesses was analyzed against the evolution of financial indicators, i.e., the geographical areas where IT activity generates the most revenue, profit, number of jobs or shows the best job predictability.

Figure 2 shows the total number of firms in Romania in category 62 *Information technology consultancy activities*, grouped by county. Most firms are registered in Bucharest, with 6,176 registered in 2021. The counties with most companies in the same CAEN category are Cluj, with 2,360 registered firms, Ilfov with 1,070 registered firms, Timis, with 1,026 firms, followed by Iasi County, with 953 firms.



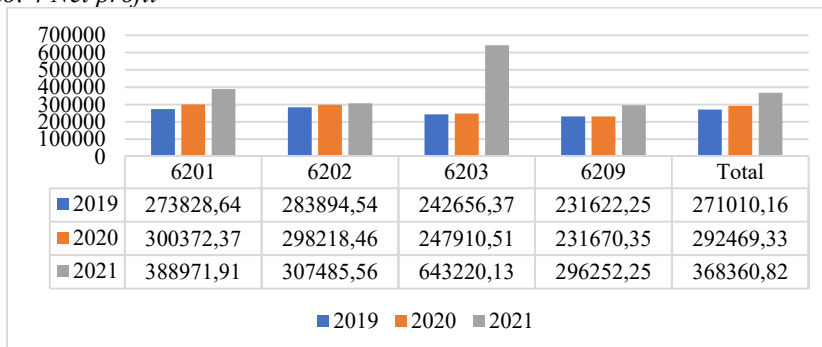
Source: authors' own processing

Figure no. 3 shows the distribution and territorial concentration of income generated from IT activities in Romania. The analysis intended to show the information in the clearest way, the chromatic maps being chosen in order to identify the geographical areas where the highest IT turnover was recorded and the corresponding allocation of the most pronounced chromatic shades. The areas with less pronounced shades show areas where although the number of companies may be significant, the turnover generated is not as high. From the perspective of the evolution of turnover in the 2019-2021 period, the analysis showed that the peak period of the pandemic, felt in Romania in 2020, has meant a slight decrease in the global turnover achieved compared to the year 2019. The decrease in turnover in 2020 was recovered in 2021, with global turnover reported by businesses developed in the IT sector increasing compared to 2019.

Net turnover is the total amount obtained from the sales of the products and services provided over a given period of time. In other words, turnover is the total income earned by a company from its activities.

The companies in Bucharest County are leaders in terms of net turnover, recording a level of 3383859 lei in 2021, followed by businesses in Cluj and Timis.

Figure no. 4 Net profit

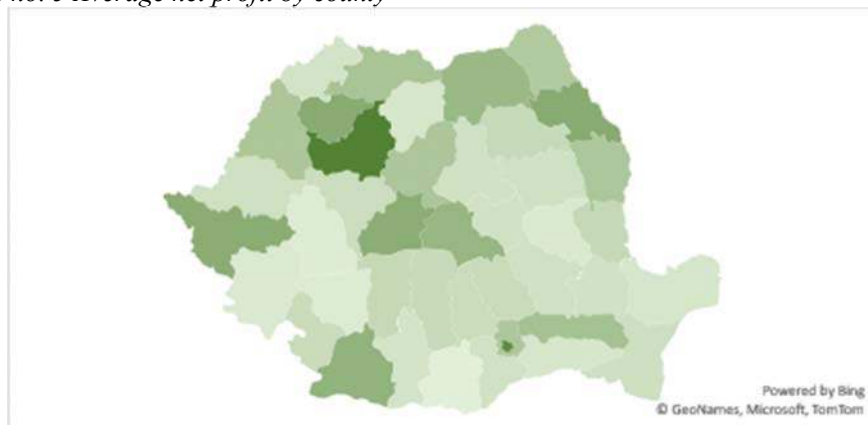


Source: developed by this paper's authors based on ANAF data

Net profit is the result of a company's business activity, measured in the difference between revenues/income and expenses, i.e., the profit remaining after all expenses, including taxes, have been deducted; basically, this indicator is a reflection of the company's performance. The evolution of the indicator is shown in Figure no. 4.

The highest net profit was recorded in 2021 by companies in the CAEN 6203 division, and the lowest was in the year 2019 in the CAEN 6209 division - representing 36% of the highest value recorded.

Figure no. 5 Average net profit by county

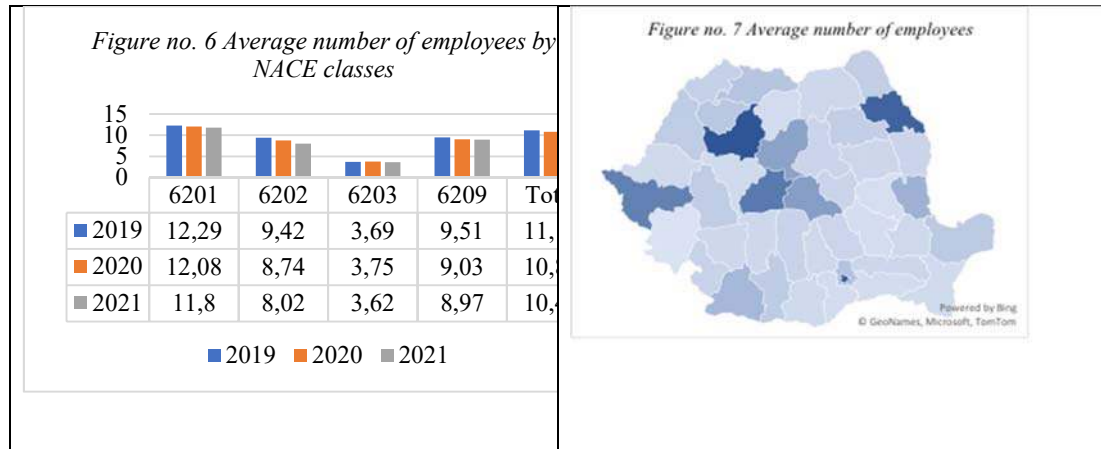


Source: developed by this paper's authors based on data publicly provided by ANAF

The average net profit recorded by the companies in Romanian counties is graphically represented in Figure no. 5, the 1st place being occupied by Bucharest in the year 2021, with a value of 473657,40 lei, and the lowest value was recorded in Gorj in 2019, with 79472,06 lei. Figure 5 shows that Bucharest and Cluj are the areas with the highest levels of profitability in IT compared to the rest of the geographic areas in Romania.

The average number of employees by CAEN class is shown in Figure 6, with the highest number in 2019 in CAEN class 6201 - *Custom software development activities (client-oriented software)*. The pandemic period has set a slightly downward trend in the average number of employees in IT in all the sub-branches analysed. Even though the pandemic period led to a pronounced expansion of

home-based work, the impact of this period also seems to have led to a decrease of around 7% in the average number of IT employees in 2021 compared to 2019.

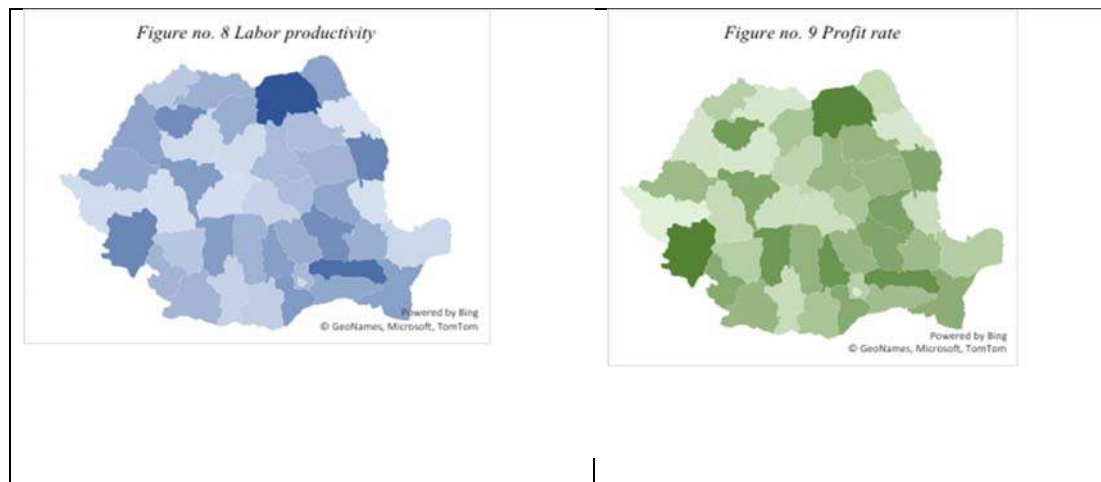


Source: developed by this paper's authors based on ANAF data

The average number of employees, organized by counties of the country is represented in Figure no. 7, where we can see how the first place was held by Cluj County, followed by Bucharest and Iasi.

Labour productivity is a concept used to measure worker efficiency and is calculated as the value of output produced by a worker per unit of time, such as one hour. By comparing individual productivity with the average productivity, it is possible to identify whether a particular worker is underperforming or not. The extent to which labour productivity or managerial performance impacts the financial performance of businesses (Barrero, 2022, pp. 640) has prompted research from various perspectives.

At the level of the CAEN codes in class 62 *Service activities in information technology*, the highest value of labour productivity in 2021 was obtained by code 6203 *Management activities (management and operation) of the means of calculation*.



Source: developed by this paper's authors based on data publicly provided by ANAF

Labour productivity within the companies registered under CAEN code 62 in Romanian counties is illustrated in Figure no. 8. The analysis of centralized ANAF data shows interesting results. Although the observation of chromatic concentrations carried out in the previous steps does not show notable results, the labour productivity calculated in Suceava county is the highest. Moreover, the results suggest that although turnover and profitability are highest in Bucharest, Cluj and Timis, the productivity of workers in these areas is low compared to other counties. The results confirm research

showing that increased labour productivity is not a determining factor in achieving the best financial performance results (Foster *et al.*, 2008, p. 394).

Profit rate is an indicator which measures the relative size of profit. It is calculated by relating the profit margin to a reference variable, such as total cost or turnover. The following formula can be used to calculate the profit rate in relation to turnover:

$$R_{Pr/CA} = \frac{Pr}{CA} * 100$$

R Pr/CA – Profit rate in relation to turnover;

Pr – profit;

CA – turnover.

The highest Rate of profit was in 2021 under CAEN code 6203, double than that of 2019 under the same CAEN code and more than triple compared to the lowest value recorded in 2019 by CAEN code 6201.

The distribution of the profit rate by geographical area is presented in Figure 9. It is interesting to note that Suceava and Caraş Severin were the counties with the highest profit rate, whereas Bucharest, Cluj and Timiş did not have high results of this indicator compared to the rest of the counties.

## 5. Conclusions

The results of our research show interesting evolutions of the financial indicators obtained in the IT sector in Romania, in the period close to the beginning and the aftermath of the pandemic. The IT sector stands out for its dynamism, rapid technical evolution, and flexibility to macroeconomic challenges. The results presented visually in this paper are in line with research results showing the divergence between physical productivity and income productivity developed by Foster *et al.* and considered as inspirational for multiple research directions. As previous studies have shown, the evolution of profitability indicators, price-fixing so as to achieve a predicted level of turnover, compared to labor productivity, employment rate or numerical concentration of businesses, show peculiarities and distinct concentrations in different territorial areas (Aivaz, 2021b, p. 17; Mirea et Aivaz, 2016, p. 201).

Existing specialized literature often suggests that price-fixing is strongly influenced by the entry of new competitors on the market. The relationship between the evolution of turnover figures and the increase in the number of competitors on the market suggests that their impact resonates differently in the sphere of profitability compared to labor productivity. As we have shown, the results of this study are interesting both in terms of their territorial perception and in terms of understanding competitiveness in the context of the dynamics of economic performance.

Competition as an evolution engine is a generally accepted assumption in economics. The numerical development of businesses in certain geographic areas raises curiosity about increasing IT efficiency and performance in those areas. The dynamics of profitability, price levels, work performance show peculiarities and distinct determinant factors. The conclusions of the present research point to the need for further research into the factors which influence business interest, its performance and efficiency.

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## Business performance in IT. A multivariate regression analysis

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### Abstract

*For the analysis of the performance of IT companies in Romania we have opted for a linear regression model in which the dependent variable entitled Result, which can be either profit or loss, was explained through the influence of the following variables: Non-current assets, Current assets, Stocks, Debts under 1 year, Debts over 1 year, Net turnover, Personnel expenditure, Research and development/R&D expenditure, Innovation expenditure. An entire series of positive relationships between the variables chosen is noted as an expression of the presence of a development strategy based both on the growth of the company's turnover and its superior exploitation, and on growth via external sources. In addition to these aspects, the high level of personnel, R&D and innovation expenditure has a dynamic influence on the results of these companies due to the high added value obtained by the overqualified labor.*

**Key words:** business performance, multivariate regression, IT companies, financial indicators, productivity.

**J.E.L. classification:** M15, M20, M21

### 1. Introduction

As a rule, a company's performance is analyzed in order to put together a clear picture, with the aim of highlighting the positive and the negative elements that influence *the results*. Based on the results, the company's short-, medium- and long-term strategy is developed. The strategy is the beacon that guides the company's entire activity for the next period and outlines the exact directions to be followed.

Increasing a company's financial performance is a difficult goal to achieve, especially in times of financial crisis, health crisis and armed conflicts between countries, which have characterized the last 3 years. This subject has been widely analyzed within various economic fields, such as accounting, finance and management, and it remains an open topic for the companies which seek to increase turnover, assets, profit and to optimize their results (Mirea et Aivaz, 2016, p. 201; Munteanu et Aivaz, 2017, p. 436; Munteanu, 2021, p. 61).

The IT and telecommunications industry in Romania are an area which is increasingly found on the agenda of public and private entities, especially from the perspective of digitization and development of the digital economy (Tofan et Aivaz, 2022, p. 418). In the early 2000s, this branch of the economy received an impressive boost from policy makers following the decision to exempt directly productive employees from paying income tax on their salaries. This tax relief was the first step towards a strong growth of this sector, which has become increasingly important in the structure of our country's economy.

## 2. Literature Review

Economists have long emphasized the importance of investing in technology, especially information technology, considered a key driver of economic performance and growth.

As early as 1942, Schumpeter spoke of *creative destruction*, describing the process in which new innovations replace the existing ones that have become obsolete. Over time, similar ideas were put forward and studied by Nelson in 1959, Helpman in 1998, Brynjolfsson and McAfee in 2014.

In 1957, Solow formulated a paradox of ICT productivity, arguing that ICT has no impact and is not associated with improvements in productivity. His argument has been firmly contradicted by subsequent empirical research. Thus, Jason *et al.* in 2003 (p.1) show that at both company and country level, higher investment in IT is associated with higher productivity growth. Recent specialized literature reviews by Polák (2017, p. 38), Cardona *et al.* (2013, p. 4-5) and Brynjolfsson (1993, p. 4) have focused more on the economic impact of ICT.

The effect of IT on a company's performance has been extensively studied at the level of companies, fields and national economy, with most of the initial economic literature supporting the idea that ICT has a considerable and favorable impact on productivity (Niebel, T., 2018, p. 1; Timmer and van Ark, 2003, p. 2-3).

Globally, approximately \$500 billion is estimated to be spent annually on building IT infrastructure (Gartner, 2015), and \$4.6 trillion is projected to be spent in 2023 (Gartner, 2022). IT spending in emerging economies, such as India, reached approximately \$87 billion, recording an annual growth of 9% in 2017 (Gartner, 2017). The large sums invested in technology raise the question of IT's contribution to a company's growth. Although a whole series of studies have addressed the issue of the role played by IT in the advanced economies, official data on the developing economies is largely insufficient or ambiguous (Niebel, 2018, p.1). Perhaps this is one of the reasons why the impact of ICT on sustainable development remains contested, its complexity proving to be an enigma for the researchers (Alataş, 2021, p.2-4).

Technological progress is related to the IT industry and it is believed that it can contribute to structural changes (Acemoglu, 2022 pp. 1-3), and the arrival of emerging technologies can directly replace factors of production (Acemoglu, 2022 p. 1-3).

Pantelis Koutroumpisa *et al.* (2020, p.1), who conducted an analysis of a panel of European companies, considered that the level of capital invested in R&D within ICT companies has a greater effect on revenue compared to the companies not operating in the field of ICT. At the company's level, the results suggest that, surprisingly, smaller and older ICT companies invest more in R&D. Therefore, small but mature companies tend to dominate niche markets and their small size in terms of number of employees allows them to be flexible and adaptable. This helps them respond to technological opportunities so as to develop innovative products and services that lead to performance (Koutroumpisa P. *et al.*, 2020, p.1).

The relationship between a company's performance and its strategy was outlined by Michael Porter (1980, p. 4), who considered that the major determinant factors of generic strategies are the following: suppliers, potential newcomers on the market, buyers, competitors within the industry, and producers of substitutable products. In Porter's view, a generic strategy is composed of three main strategies, namely: *cost leadership strategy*, *differentiation strategy* and *concentration/focus strategy*. He argues that it would be advisable for each company or organization to pursue only one of these strategies; otherwise, it risks wasting company resources in a futile attempt to grow the business rapidly and falling short of obtaining performance (Porter M., 1980, p. 35-37).

Over the past 10 years, the Romanian IT&C industry has maintained a steady nominal production growth compared to the national average. The industry has been found to be more resilient to external factors (Stan, 2021, p. 225), recording positive developments even in times of crisis, such as the 2008-2011 economic recession, the 2020 health crisis and the armed conflicts of the last year (ANIS, 2022).

According to ONRC (National Trade Register Office, 2022) and Ministry of Finance data, in 2019, 18,183 companies with the CAEN code belonging to the IT sector were registered in Romania, i.e., *CAEN 62 - information technology service activities*. In 2020 the number of these companies increased by 1,626, reaching 19,809 registered companies. Moreover, the turnover of these companies increased by RON 2.9 billion: from RON 29.5 billion to RON 32.4 billion. The profit recorded by the IT companies increased by 0.8 billion lei: from 3.9 billion lei in 2019 to 4.7 billion

lei in 2020. These data reported in 2021 indicate the upward trend that companies in the Romanian IT sector have been following, reflecting the performance of this sector and its importance for the national economy.

The best performing company in 2021 in the Romanian IT sector is IBM Romania, which approached a turnover of 1 billion lei; more precisely, it recorded a turnover of 984.02 million lei, with 3,291 employees (Ministry of Finance, 2022).

### 3. Research methodology

In the analysis of the performance of Romanian IT companies we have opted for a linear regression model in which the dependent variable entitled *Result* (which can be profit or loss) was explained by the influence of the following variables: *Non-current assets*, *Current assets*, *Stocks*, *Debts under 1 year*, *Debts over 1 year*, *Net turnover*, *Personnel expenditure*, *Research and development expenditure*, *Innovation expenditure*.

The research of the relationship between the *Financial result* and the influencing factors was carried out using the multiple linear regression analysis, which is a generalization of the simple linear regression model, in which the variation of the resultative or endogenous variable results from the simultaneous variation of the factors, following the model of a linear equation (Pintilescu, 2007, p. 180).

This study aims to determine the influencing factors acting on the financial result, a variable which represents an important pillar in the evaluation of a company's performance.

### 4. Findings

The statistical description of the variables, shown in Table no. 1, was made using the mean and the standard deviation of the variance. N represents the total number of analyzed companies.

Table no. 1 The statistical description of the variables

	Mean	Std. Deviation	N
Result	350551.5634	1754816.56351	1278
Total non-current assets	231449.25	1006568.657	1278
Current assets	1346017.87	7621184.544	1278
Stocks	29560.64	271688.595	1278
Debts under 1 year	684113.42	7464835.412	1278
Debts over 1 year	83180.46	683180.794	1278
Net turnover	2169569.71	10729800.018	1278
Personnel expenditure	1111276.22	7198819.781	1278
R&D expenditure	8775.30	226901.479	1278
Total innovation expenditure	15461.32	484398.654	1278

Source: Author's own processing

In order to check the strength of the connections between each independent variable and the dependent variable (the financial result), we have constructed the correlation matrix shown in Table no. 2. The output provided by the SPSS program shows the Pearson correlation coefficients and the significance (Sig.) for each correlation coefficient. One can see that the correlation coefficients on the main diagonal are equal to 1, since each variable is perfectly correlated with itself.

The correlation coefficients between all independent variables and the dependent variable are significant as the significance level (Sig.) for each correlation coefficient is less than 0.05.

Table no. 2 Pearson correlation

		Result	Total non-current assets	Current assets	Stocks	Debts under 1 year	Debts over 1 year	Net turnover	Personnel expenditure	R&D expenditure	Total Innovation expenditure
Pearson Correlation	Result	1.000	.210	-.016	.416	-.362	.088	.363	.191	.200	.198
	Total non-current assets	.210	1.000	.644	.433	.535	.244	.579	.570	.166	.165
	Current assets	-.016	.644	1.000	.189	.895	.206	.763	.797	.395	.404
	Stocks	.416	.433	.189	1.000	.067	.190	.151	.082	.105	.094
	Debts under 1 year	-.362	.535	.895	.067	1.000	.091	.522	.607	.327	.334
	Debts over 1 year	.088	.244	.206	.190	.091	1.000	.211	.078	.128	.114
	Net turnover	.363	.579	.763	.151	.522	.211	1.000	.955	.214	.220
	Personnel expenditure	.191	.570	.797	.082	.607	.078	.955	1.000	.186	.196
	Research and development expenditure	.200	.166	.395	.105	.327	.128	.214	.186	1.000	.967
	Total Innovation expenditure	.198	.165	.404	.094	.334	.114	.220	.196	.967	1.000
Sig. (1-tailed)	Result	.	<.001	.286	<.001	<.001	<.001	<.001	<.001	<.001	<.001
	Total non-current assets	.000	.	.000	.000	.000	.000	.000	.000	.000	.000
	Current assets	.028	.000	.	.000	.000	.000	.000	.000	.000	.000
	Stocks	.000	.000	.000	.	.008	.000	.000	.002	.000	.000
	Debts under 1 year	.000	.000	.000	.008	.	.001	.000	.000	.000	.000
	Debts over 1 year	.001	.000	.000	.000	.001	.	.000	.003	.000	.000
	Net turnover	.000	.000	.000	.000	.000	.000	.	.000	.000	.000
	Personnel expenditure	.000	.000	.000	.002	.000	.003	.000	.	.000	.000
	Research and development expenditure	.000	.000	.000	.000	.000	.000	.000	.000	.	.000
	Total Innovation expenditure	.000	.000	.000	.000	.000	.000	.000	.000	.000	.

Source: Author's own processing

As expected from the theory, there is a positive correlation between the *Financial result* and the *turnover* (0.363), as an expression of the presence of a development strategy based on the growth of the company's turnover and its superior capitalization. One can say that the best way to maximize profits is to concentrate the managers' efforts on increasing economic efficiency. At the same time, the strong positive influence of non-current and current assets on the result is observed, which indicates the need for expensive infrastructure, the high share of certain licenses, know-how, brands in the company.

The existence of direct connections between the dependent variable and short- or long-term debt reflects on the one hand the financial risk and on the other hand the companies' connections with other units with a view to growing through external sources.

Moreover, personnel, R&D and innovation expenditure exert a positive influence on the *Financial Results*, due to the high added value obtained by this overqualified labor.

At this stage of the analysis, Table no. 4, which shows the SPSS *Model Summary* output of the multiple linear regression, shows that all 8 models are significant as the significance level (Sig.) is less than 0.05 for each model.

Table no. 4 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Sig. Change	Durbin-Watson
					R Square Change	F Change	df1	df2		
1	.416 <sup>a</sup>	.173	.172	1596475.85599	.173	266.871	1	1276	<.001	
2	.571 <sup>b</sup>	.326	.325	1441899.17010	.153	289.248	1	1275	<.001	
3	.823 <sup>c</sup>	.677	.676	998635.21305	.351	1384.069	1	1274	<.001	
4	.868 <sup>d</sup>	.754	.754	871212.49733	.077	400.921	1	1273	<.001	
5	.881 <sup>e</sup>	.776	.775	832521.50855	.022	122.074	1	1272	<.001	
6	.895 <sup>f</sup>	.802	.801	782962.77620	.026	167.122	1	1271	<.001	
7	.910 <sup>g</sup>	.828	.827	729904.35240	.026	192.500	1	1270	<.001	
8	.916 <sup>h</sup>	.839	.838	705605.15162	.011	89.977	1	1269	<.001	1.911

a. Predictors: (Constant), Stocks

b. Predictors: (Constant), Stocks, Debts under 1 year

c. Predictors: (Constant), Stocks, Debts under 1 year, Net turnover

d. Predictors: (Constant), Stocks, Debts under 1 year, Net turnover, Total Innovation expenditure

e. Predictors: (Constant), Stocks, Debts under 1 year, Net turnover, Total Innovation expenditure, Personnel expenditure

f. Predictors: (Constant), Stocks, Debts under 1 year, Net turnover, Total Innovation expenditure, Personnel expenditure, Debts over 1 year

g. Predictors: (Constant), Stocks, Debts under 1 year, Net turnover, Total Innovation expenditure, Personnel expenditure, Debts over 1 year, Current assets

h. Predictors: (Constant), Stocks, Debts under 1 year, Net turnover, Total Innovation expenditure, Personnel expenditure, Debts over 1 year, Current assets, Total non-current assets

i. Dependent Variable: Result

Source: Author's own processing

Table no. 5 ANOVA presents the estimates of the two components of the variance (the variance explained by the regression model and the residual variance), the corresponding degrees of freedom and the estimates of the explained and residual variances, the calculated Fisher test value and the significance of the test.

The estimated correlation ratio variables for each model and the corresponding determination ratio in Table no. 4 show the proportion in which the dependent variable is explained by the independent variables.

Table no. 5 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	680183693535981.500	1	680183693535981.500	266.871	<.001 <sup>b</sup>
	Residual	3252186062560899.000	1276	2548735158746.786		
	Total	3932369756096880.500	1277			
2	Regression	1281551404754892.000	2	640775702377446.000	308.203	<.001 <sup>c</sup>
	Residual	2650818351341988.500	1275	2079073216738.815		
	Total	3932369756096880.500	1277			
3	Regression	2661844860231270.000	3	887281620077090.000	889.708	.000 <sup>d</sup>
	Residual	1270524895865610.500	1274	997272288748.517		
	Total	3932369756096880.500	1277			
4	Regression	2966148478753025.500	4	741537119688256.400	976.978	.000 <sup>e</sup>
	Residual	966221277343855.100	1273	759011215509.706		
	Total	3932369756096880.500	1277			

5	Regression	3050756652985992.500	5	610151330597198.500	880.332	.000 <sup>f</sup>
	Residual	881613103110888.000	1272	693092062194.094		
	Total	3932369756096880.500	1277			
6	Regression	3153207725062546.000	6	525534620843757.700	857.273	.000 <sup>g</sup>
	Residual	779162031034334.600	1271	613030708917.651		
	Total	3932369756096880.500	1277			
7	Regression	3255764094252330.000	7	465109156321761.440	873.018	.000 <sup>h</sup>
	Residual	676605661844550.600	1270	532760363657.126		
	Total	3932369756096880.500	1277			
8	Regression	3300561774636128.000	8	412570221829516.000	828.656	.000 <sup>i</sup>
	Residual	631807981460752.500	1269	497878629992.713		
	Total	3932369756096880.500	1277			

a. Dependent Variable: Result

b. Predictors: (Constant), Stocks

c. Predictors: (Constant), Stocks, Debts under 1 year

d. Predictors: (Constant), Stocks, Debts under 1 year, Net turnover

e. Predictors: (Constant), Stocks, Debts under 1 year, Net turnover, Total Innovation expenditure

f. Predictors: (Constant), Stocks, Debts under 1 year, Net turnover, Total Innovation expenditure, Personnel expenditure

g. Predictors: (Constant), Stocks, Debts under 1 year, Net turnover, Total Innovation expenditure, Personnel expenditure  
Debts over 1 year

h. Predictors: (Constant), Stocks, Debts under 1 year, Net turnover, Total Innovation expenditure, Personnel expenditure  
Debts over 1 year, Current assets

i. Predictors: (Constant), Stocks, Debts under 1 year, Net turnover, Total Innovation expenditure, Personnel expenditure  
Debts over 1 year, Current assets, Total non-current assets

Source: Author's own processing

The output in Table no. 6 shows the parameters of the multiple regression model which were tested using the Student test, taking into account the estimators obtained through the least squares' method and their distribution law. In SPSS, the decision is made based on the significance of the test: if Sig t < 0.05, H<sub>0</sub> is rejected at the 0.05 confidence level, and if Sig t > 0.05, H<sub>0</sub> is accepted.

One can see that all parameters, from all models, are statistically significant and, therefore, the independent variables have a significant partial linear influence on the dependent variable. The SPSS program also performs a test using the classical approach, based on the theoretical and calculated values of the test in the t column. Applying the decision rule gives the same results.

Table no. 6 Coefficients

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	271144.320	44921.521		6.036	<.001
	Stocks	2.686	.164	.416	16.336	<.001
2	(Constant)	329148.137	40715.147		8.084	<.001
	Stocks	2.856	.149	.442	19.189	<.001
	Debts under 1 year	-.092	.005	-.392	-17.007	<.001
3	(Constant)	153898.941	28589.378		5.383	<.001
	Stocks	2.331	.104	.361	22.403	<.001
	Debts under 1 year	-.177	.004	-.752	-40.287	<.001
	Net turnover	.115	.003	.701	37.203	<.001
4	(Constant)	160931.422	24943.936		6.452	<.001
	Stocks	2.205	.091	.341	24.229	<.001
	Debts under 1 year	-.198	.004	-.842	-49.833	<.001
	Net turnover	.112	.003	.685	41.657	<.001



5	Total Innovation expenditure	1.073	.054	.296	20.023	<.001
	(Constant)	128436.208	24016.925		5.348	<.001
	Stocks	1.989	.089	.308	22.311	<.001
	Debts under 1 year	-.176	.004	-.748	-41.022	<.001
	Net turnover	.195	.008	1.193	24.575	<.001
6	Total Innovation expenditure	.972	.052	.268	18.679	<.001
	Personnel expenditure	-.139	.013	-.571	-11.049	<.001
	(Constant)	133087.858	22590.100		5.891	<.001
	Stocks	2.063	.084	.319	24.553	<.001
	Debts under 1 year	-.166	.004	-.706	-40.494	<.001
7	Net turnover	.245	.008	1.499	29.148	<.001
	Total Innovation expenditure	.966	.049	.267	19.741	<.001
	Personnel expenditure	-.213	.013	-.874	-16.204	<.001
	Debts over 1 year	-.479	.037	-.186	-12.928	<.001
	(Constant)	102179.606	21176.754		4.825	<.001
8	Stocks	1.742	.082	.270	21.335	<.001
	Debts under 1 year	-.263	.008	-1.118	-33.058	<.001
	Net turnover	.219	.008	1.336	27.070	<.001
	Total Innovation expenditure	.745	.048	.206	15.410	<.001
	Personnel expenditure	-.235	.012	-.966	-19.032	<.001
9	Debts over 1 year	-.576	.035	-.224	-16.338	<.001
	Current assets	.149	.011	.647	13.874	<.001
	(Constant)	79571.034	20610.041		3.861	<.001
	Stocks	1.395	.087	.216	16.035	<.001
	Debts under 1 year	-.269	.008	-1.143	-34.866	<.001
10	Net turnover	.216	.008	1.318	27.614	<.001
	Total Innovation expenditure	.793	.047	.219	16.876	<.001
	Personnel expenditure	-.241	.012	-.990	-20.156	<.001
	Debts over 1 year	-.612	.034	-.238	-17.856	<.001
	Current assets	.140	.010	.608	13.433	<.001
11	Total non-current assets	.277	.029	.159	9.486	<.001

a. Dependent Variable: Result

Source: Author's own processing

The regression equations for the *Results* variable, obtained from the results in Table no. 6, are as follows:

Model 1:  $Results = 271144.320 + 2.686 Stocks$

Model 2:  $Results = 329148.137 + 2.856 Stocks - 0.092 Debts under 1 year$

Model 3:  $Results = 153898.941 + 2.331 Stocks - 0.177 Debts under 1 year + 0.115 Net turnover$

Model 4:  $Results = 160931.422 + 2.205 Stocks - 0.198 Debts under 1 year + 0.112 Net turnover + 1.073 Total Innovation expenditure$

Model 5:  $Results = 128436.208 + 1.989 Stocks - 0.176 Debts under 1 year + 0.195 Net turnover + 0.972 Total Innovation expenditure + Personnel expenditure$

Model 6:  $Results = 160931.422 + 2.205 Stocks - 0.198 Debts under 1 year + 0.112 Net turnover + 1.073 Total Innovation expenditure - 0.139 Personnel expenditure - 0.479 Debts over 1 year$



Model 7:  $Results = 102179.606 + 1.742 Stocks - 0.263 Debts\ under\ 1\ year + 0.219 Net\ turnover + 0.745 Total\ Innovation\ expenditure - 0.235 Personnel\ expenditure - 0.576 Debts\ over\ 1\ year + 0.149 Current\ assets$

Model 8:  $Results = 79571.034 + 1.395 Stocks - 0.269 D\ Debts\ under\ 1\ year + 0.216 Net\ turnover + 0.793 Total\ Innovation\ expenditure - 0.241 Personnel\ expenditure - 0.612 D\ Debts\ over\ 1\ year + 0.140 Current\ assets + 0.277 Total\ non-current\ assets$

Model 8 contains all the variables introduced in the study. The multiple correlation coefficient (R) for this model is 0.919 and the coefficient of determination (R<sup>2</sup>) is 0.839. These values show that 83.9% of the variation *Results* obtained by IT companies can be explained by the factor variables introduced in the model. The remaining, up to 100%, represents the influence of other factors not included in the model.

## 5. Conclusions

Companies, especially IT companies, are in a constant competition for the most important resource, namely qualified people. This is why these companies need a clear definition of their objectives, including a description of the organization's product, market, main technology areas, so as to reflect the values and priorities of the decision-makers (Rus, M. -I., 2013, p. 942; Rus, M. -I., 2016, p. 187).

The analysis at the level of Romania has shown that the market for information and related activities is particularly complex, with financial results being influenced by an entire series of financial indicators (Aivaz, 2021a, p. 8; Aivaz, 2021b, p.17) which, as seen in the regression models used, determine the level of profit or loss.

This research aimed to determine the influencing factors acting on the *financial result* of Romanian IT companies. Following the analysis, carried out with the help of linear regression model, we can conclude the following: there is a positive correlation between the *Financial Result* and *Turnover*, highlighting the importance given to the increase of turnover by entrepreneurs in order to raise the performance level of their companies. All the variables introduced in the linear regression model were found to have a considerable impact upon the *results* of IT companies.

The importance given to digitization in the past 10 years and its forced implementation in various economic sectors in the last three years - due to the COVID-19 pandemic and the conflict context between Russia and Ukraine – have led to the issuance of supportive internal and external policies and has determined the accelerated growth of the IT sector in the Romanian economy. With the role of the IT sector projected to grow steadily until 2025, further research will be needed to create a connection between the performance of the companies in this sector and their role in the economy.

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## Competing for Dominance in Global Banking

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### Abstract

*In the last decades, banking has become an impressive global affair. This changing orientation of the big banks' activities has led to the expansion of their operations at a global scale but raised difficult issues related to their capacity to manage their liquidity and to face various financial shocks worldwide. The competition among global banks has become much more severe in recent years as customers expect higher confidence from them. This is why more and more banks should design and implement customer-centric business models, ensure a higher cybersecurity, and drive digitization across their whole organizations. The goal of the paper is to briefly analyze the competition among the largest banks of the world within the global banking system in the period 2020-2021 by taking into account their Tier 1 capital, assets and market capitalization. The paper concludes that the Chinese banks were the main actors in the global banking system in the period 2020-2021.*

**Key words:** global banking, global banks, China, United States of America

**J.E.L. classification:** F3, F65, G21

### 1. Introduction

In the last decades, banking has become an impressive global affair. This changing orientation of the big banks' activities has led to the expansion of their operations at a global scale but raised difficult issues related to their capacity to manage their liquidity and to face various financial shocks worldwide (Siegel, 2022).

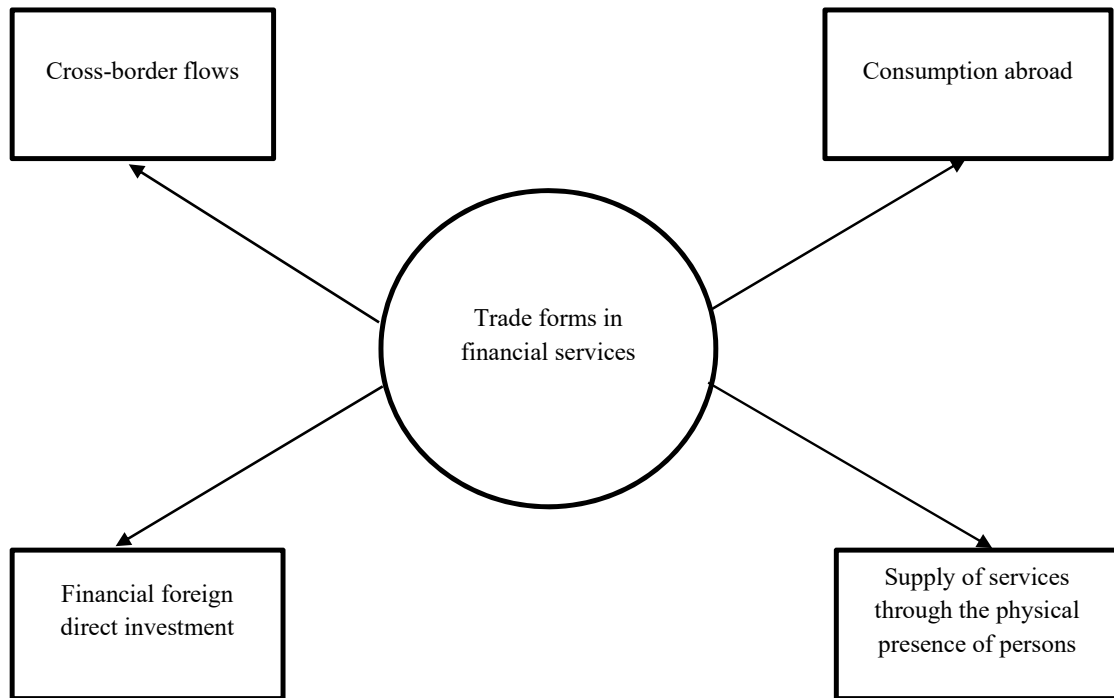
The COVID-19 pandemic intensely tested the resilience of the global banking industry. A plethora of factors, such as digital transformations (Tohănean *et al*, 2018; Adams, 2022), the fusion of technologies, and the convergence of industries (Deloitte, 2021), is challenging this industry. In this respect, the competition among banks has become much more severe in recent years as customers expect higher confidence from them (Boston Consulting Group, 2022). This is why more and more banks should design and implement customer-centric business models, ensure a higher cybersecurity, and drive digitization across their whole organizations (KPMG, 2022; IBM, 2022).

The goal of the paper is to briefly analyze the competition among the largest banks of the world within the global banking system in the period 2020-2021 by taking into account their Tier 1 capital, assets and market capitalization. The structure of the paper is as follows: the next chapter illustrates the theoretical background. The third chapter displays the research methodology. The findings are presented in the fourth chapter. The paper ends with conclusions.

### 2. Theoretical background

In the past decades, the increasing financial globalization has led to the development of global banking. It is indispensable for the function of world economy as it facilitates money transfer across national borders. Global banking is highly connected with the way trade in financial services can

appear and happen (Figure no. 1).



Source: authors' adaptation after Claessens, 2017

Acting in multiple countries, global banks are defined in the literature as “financial firms owned by developed-market households, which engage in financial intermediation and trading in the world economy” (Morelli *et al*, 2019, p. 13). They are huge and complex financial organizations (Toma *et al*, 2019a), incorporate numerous subsidiaries worldwide, develop strong networks of affiliates in foreign countries (Cetorelli *et al*, 2012), and are, most of them, too-big-to-fail banks (Toma *et al*, 2018a).

The Tier 1 capital represents the “the core capital held in a bank's reserves and is used to fund business activities for the bank's clients” (Grant, 2022, p. 1) whereas the market capitalization shows the total market value of all shares of a company. The bank's assets encompass loans, reserves, and treasury securities.

The global banking is dominated by global banks that offer a broad range of financial services all over the world. Most of them are Chinese and American banks as the People's Republic of China has proved to constitute a redoubtable competitor for the United States of America (USA) in the past decade (Ding *et al*, 2017; Toma *et al*, 2017a; Toma *et al*, 2017b; Toma *et al*, 2018b).

### 3. Research methodology

In order to attain the aim of the paper the authors used a qualitative method. In this respect, they searched for several sources of secondary data (e.g., articles, books, reports) from the domains of international banking and economics in order to obtain the needed information for deploying the literature review. The data were collected through desk research.

### 4. Findings

The global banking witnessed significant changes in the period 2020-2021. The hierarchy of the world's biggest banks after Tier 1 capital was clearly dominated by the Chinese banks in that period of time (Tables no. 1 and 2). The headquarters of the first ten largest banks are located in:

- China- five banks: Industrial & Commercial Bank of China, China Construction Bank, Agricultural Bank of China, Bank of China, Bank of Communications;
- USA- four banks: JPMorgan Chase, Bank of America, Wells Fargo, Citigroup;
- United Kingdom (UK)- one bank: HSBC Holdings;
- Japan- one bank: Mitsubishi UFC Financial Group.

*Table no. 1. The world's largest banks after Tier 1 capital at the end of 2020*

Rank	Name	Tier 1 capital (US\$ bn)
1	Industrial & Commercial Bank of China	380
2	China Construction Bank	316
3	Agricultural Bank of China	278
4	Bank of China	258
5	JPMorgan Chase	214
6	Bank of America	188
7	Wells Fargo	159
8	Citigroup	156
9	HSBC Holdings (UK)	148
10	Mitsubishi UFC Financial Group (Japan)	144

Source: (The Banker, 2020)

*Table no. 2. The world's largest banks after Tier 1 capital at the end of 2021*

Rank	Name	Tier 1 capital (US\$ bn)
1	Industrial & Commercial Bank of China (China)	508,848
2	China Construction Bank (China)	404,322
3	Agricultural Bank of China (China)	377,137
4	Bank of China (China)	341,245
5	JPMorgan Chase (USA)	246,162
6	Bank of America (USA)	196,465
7	Citigroup (USA)	169,568
8	Wells Fargo (USA)	159,671
9	HSBC Holdings (UK)	156,292
10	Bank of Communications (China)	150,742

Source: (The Banker, 2022)

In the period 2020-2021, the top of the world's largest banks after assets was also dominated by the Chinese banks (Tables no. 3 and 4). The headquarters of the first ten biggest banks are located in:

- China- four banks: Industrial & Commercial Bank of China, China Construction Bank, Agricultural Bank of China, Bank of China;
- USA- four banks: JPMorgan Chase, Bank of America, Wells Fargo, Citigroup;
- France- two banks: BNP Paribas, Crédit Agricole Group;
- United Kingdom (UK)- one bank: HSBC Holdings;
- Japan- one bank: Mitsubishi UFC Financial Group.

*Table no. 3. The world's largest banks after assets at the end of 2020*

Rank	Name	Assets (US\$ bn)
1	Industrial & Commercial Bank of China	4,913
2	China Construction Bank	4,008
3	Agricultural Bank of China	3,652
4	Bank of China	3,627
5	JPMorgan Chase	3,386
6	Mitsubishi UFC Financial Group	3,354
7	HSBC Holdings	2,956
8	BNP Paribas	2,946
9	Bank of America	2,820
10	Crédit Agricole Group	2,386

Source: (BanksDaily.com, 2020)

*Table no. 4. The world's largest banks after assets at the end of 2021*

Rank	Name	Assets (US\$ bn)
1	Industrial & Commercial Bank of China	5,521.410
2	China Construction Bank	4,749.447
3	Agricultural Bank of China	4,563.447
4	Bank of China	4,195.041
5	JPMorgan Chase	3,743.567
6	Bank of America	3,169.495
7	Mitsubishi UFC Financial Group	3,053.365
8	HSBC Holdings	2,957.939
9	Citigroup	2,291.413
10	Wells Fargo	1,948.068

Source: (The Banker, 2022)

Finally, the hierarchy of the world's biggest banks by market capitalization was slightly dominated by the American banks in the period 2020-2021 (Tables no. 5 and 6). The headquarters of the first ten largest banks are located in:

- USA- five banks: JPMorgan Chase, Bank of America, Wells Fargo, Morgan Stanley, Charles Schwab;
- China- five banks: Industrial & Commercial Bank of China, China Construction Bank, Agricultural Bank of China, Bank of China, China Merchants Bank;
- Canada- one bank: Royal Bank of Canada;
- India- one bank: HDFC Bank.

*Table no. 5. The world's largest banks by market capitalization at the end of 2020*

Rank	Name	Market capitalization (US\$ bn)
1	JPMorgan Chase	305.6
2	Industrial & Commercial Bank of China	249.9
3	Bank of America	208.3
4	China Construction Bank	180.8
5	Agricultural Bank of China	162.4
6	China Merchants Bank	149.1
7	Bank of China	127.8
8	Royal Bank of Canada	100.1
9	Wells Fargo	90.5
10	HDFC Bank	89.8

Source: (The Fifth Person, 2020)

*Table no. 6. The world's largest banks by market capitalization at the end of 2021*

Rank	Name	Market capitalization (US\$ bn)
1	JPMorgan Chase	468
2	Bank of America	359.4
3	Industrial & Commercial Bank of China	245.5
4	China Merchants Bank	193.8
5	Wells Fargo	191.3
6	Morgan Stanley	176.1
7	China Construction Bank	175.4
8	Charles Schwab	159
9	Agricultural Bank of China	158.3
10	Royal Bank of Canada	151.3

Source: (Statista, 2022)

Starting from the above-mentioned criteria (Tier 1 capital, assets, market capitalization), the evolution of the global banking system revealed several main features in the period 2020-2021 as follows:

- The Chinese and American banks were the key players and strongly competed for dominance at a global scale.
- All the world's biggest banks are located in Asia, North America and Europe.
- The Industrial & Commercial Bank of China, a Chinese colossus, was the world's largest bank after Tier 1 capital and assets.
- The total assets owned by the four largest Chinese banks surpassed \$18,000 billion. They were also the world's largest banks after assets.
- JPMorgan Chase, an old American bank, was the most valuable bank in the world.

The increasing business success and high performances obtained by these banks were based on designing and implementing competitive strategies (Toma *et al*, 2016a; Toma *et al*, 2016b) and viable business models (Cornescu *et al*, 2004; Toma *et al*, 2019b), applying modern managerial methods and techniques such as Six Sigma (Toma, 2008) and total quality management (Toma *et al*, 2009; Toma, 2013). However, the period 2020-2021 was a pandemic period that imposed banks to embrace change in their activities (McIntyre, 2022).

## 5. Conclusions

The global banking system has undergone significant transformations in the last decades. This is why banks worldwide has made numerous efforts to adapt to the new realities. Moreover, the competition among the biggest banks of the world has become tougher as globalization has covered the entire planet.

The paper attempts to broaden the scientific literature related to global banking. Firstly, it shows that global banks dominate the global banking system. Secondly, the paper analyzes the rivalry between the Chinese and American banks all over the world by taking into account specific criteria (Tier 1 capital, assets, market capitalization). Thirdly, it concludes that the Chinese banks were the main actors in the global banking system in the period 2020-2021.

Further studies might expand this research by taking into account other criteria, such as the profit and the number of subsidiaries.

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## **Section III**

### **Economic and Social Studies**

## Strategic Options in The Field of Public Health Against the Background of Limited Financial Resources

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### Abstract

*Ensuring the financial resources necessary for the optimal functioning of a vital sector for a society/nation at a given time is often very difficult. Things become even more complicated in a context of overlapping crises (financial, health, geostrategic, energy, supply flows, etc.). Referring to the attempts to make the Romanian public health system more efficient, we will show that, so far, a real reform, in the sense of performatization/streamlining of the analyzed system, has not yet taken place. A proof of this lies in the gap between our system and that of most European countries. We are also taking into account some indicators which indicate the health status of the Romanian population, compared to the level of the same indicators in other EU countries. Our findings show that the analyzed system seems to be in a state of "continuous reform" and the results remain relatively modest.*

**Key words:** public health, public strategies/policies, financial resources, medical staff/healthcare workers, budget allocations

**J.E.L. classification:** H11, H51, H70, I15, I18, M48

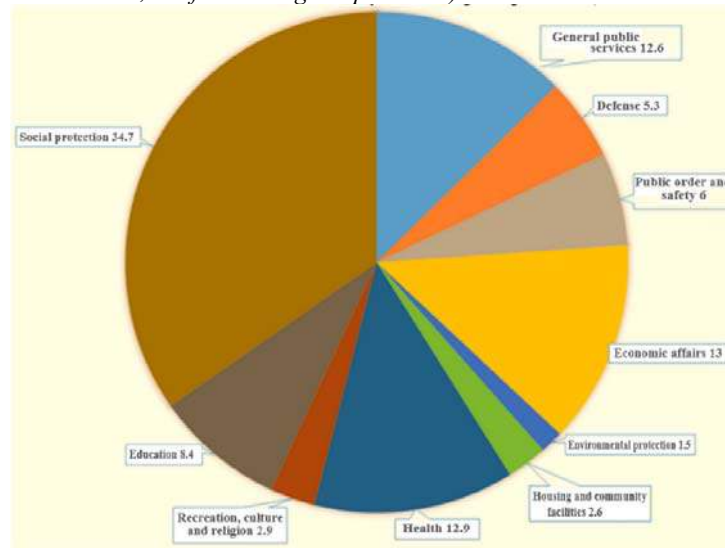
### 1. Introduction

Economic science tells us that, in general, resources are finite. There is a competition between the various social and economic sectors to obtain as many/large as possible allocations from the consolidated public budget, in an attempt to demonstrate to decision-makers the particular importance of the respective sectors' activity for the state and the society. It is true that sectors such as education, national defense, public administration, justice, transport and major infrastructure, public health, research, public order and safety, economic actions, etc. are very important and they operate on a constitutional basis; however, when it comes to the distribution of public financial resources there can be no total satisfaction.

It has always been considered that what these sectors receive is too little in relation to the tasks and requirements they have to fulfil and in order to keep pace with the constant changes in the society and the world. If we take into consideration the prolonged presence of overlapping crises (financial, health, geostrategic, energy, supply flows, etc.), the situation becomes even more complicated. Prior to this, the Romanian state budget allocations were configured as shown in Figure 1. Public criticism argued that "Romania's budgets in recent decades have focused mainly on just a few areas. Compared to the other European Union countries, Romania allocates more from its budget for security and public order, the army and bureaucracy - money which is largely earmarked for salaries -, it has among the highest spending on pensions, it gives more subsidies and directs more funds towards roadbuilding, leaving education last among its priorities (...)." (Baniţă, 2019).

According to the same source, Romania also occupied a modest position in terms of the share of health expenditure (20th place), with 12.9% of the total budget, compared to an EU average of 15.3%.

*Figure no. 1. The configuration of the Romanian state budget allocations (prior to the Covid-19 crisis, % of total budget expenditure)*



Source: (Baniță, 2019).

The source also mentions that some countries, such as Ireland, the Czech Republic, the United Kingdom, the Netherlands and Slovakia are in higher positions (with 18-20% of the total budget), and that Romania is above the EU average when it comes to spending funds on hospitals, medicines and medical products, even though the overall average health expenditure is lower due to spending on consultations and tests carried out in specialized/extra-hospital clinics, including dental clinics, with a share of 0.4%, compared to 4.9% at EU level.

The above-mentioned aspects fully justify the need for decision-makers to prioritize, optimize at macro level, based on public policies and regularly updated strategies. Obviously, in the case of Romania, as a Member State of the European Union, the influence of European legislation must also be taken into account.

As far as the field of public health is concerned, one can consider it to be undergoing a "continuous reform", even though the achieved results are relatively modest. These are reflected in the underfunding of the system, the poor availability of modern equipment, unmotivated and unstable staff (the massive emigration of healthcare workers, which occurred after 2007, is worth mentioning), resulting in the current precarious state of the population's health, with the lowest level among EU countries.

At present, actions for the implementation of policies/programs/strategies aimed at increasing the performance of the public health sector in Romania, involving all that stems from their qualitative and quantitative approach, have been completed and are being implemented. The present research is developed precisely around them, even though the authors will also try to construct a profile of the current state of the respective system, especially from a critical perspective.

Our paper is divided into the following parts: Introductory considerations on the difficulties of ensuring the financial resources necessary for sectors of major social importance, Theoretical Background, Research methodology, Shortcomings of the Romanian public health sector and the health status of the population, Strategic guidelines concerning the development of the public health sector against the background of overlapping crises and Conclusions.

## 2. Theoretical background

A glance at the articles written so far on the attempts to streamline the Romanian public health system reveals that most of them have examined the various reforms initiated by different governments. In fact, as the Ministry of Health itself argues, the reform of the Romanian health system dates back to the 1990s, starting with the adoption of the Social Health Insurance Law No. 145/1997. This changes the method of financing the health system (initially, it was done through national taxation and allocation from the state budget, through the Ministry of Health). The novelty introduced consists of *individual taxation with income withholding* and the administration of the funds collected in this manner by a newly established insurance fund managed by the National Health Insurance House (Ministry of Health, 2022).

Subsequently, a series of other changes to the legislative framework intervened, with the creation of the College of Physicians, the Hospital Association, the National Authority of Quality Management in Healthcare and some reorganizations of the system - at different levels (primary, secondary and tertiary), as well as various professional associations by medical specialties.

What we can state with certainty is that, so far, a real reform, in the sense of performatization/streamlining of the analyzed system, has not yet taken place. The proof lies in the gap between our system and that of most European countries. We are also taking into account some indicators which indicate the health status of the Romanian population, compared to the level of the same indicators in other EU countries.

Over the years, many researchers have tackled this type of issues (Besciu, 2014; Ciumaş & Văidean, 2007; Druguş *et al.*, 2015; Santini *et al.*, 2021; Scîntee *et al.*, 2022; Tamba *et al.*, 2016; Văidean *et al.*, 2010; Vlădescu *et al.*, 2008), and one of the conclusions which emerged was that for reasons related to the country's economic possibilities or the management, a public health system with relatively modest performance is perpetuated. Some of the authors of this paper have had concerns in this regard (Bostan *et al.*, 2022a,b; Bostan, 2016; Bostan & Hurjui, 2015). The findings showed that the system always appears to be in a state of "continuous reform", and the achieved results remain rather weak, requiring the introduction of at least a modern management into the sector's entities (Burciu *et al.*, 2008).

The above-mentioned aspects are reflected in the underfunding of the system, the poor availability of modern equipment, the unmotivated and unstable staff (the massive emigration of healthcare workers, which occurred after 2007, is worth mentioning), resulting in the current precarious state of the population's health, with the lowest level among European Union's member states.

## 3. Research methodology

Tackling the present topic ("Strategic options in the field of public health against the background of limited financial resources") implies the investigation of a wide range of updated specialized works, highlighting several elements specific to the descriptive method.

To a certain extent, our documentation is based on the regulatory framework in force, applicable to the financing of action programs in the field of public health, in particular the Romanian Government Decision on the approval of the National Health Strategy 2022-2030 and the Action Plan for the 2022-2030 period, with a view to its implementation, with all its annexes, including the corresponding Explanatory memorandum.

Moreover, we refer to the reports of certain prestigious institutions, which contain relevant and valuable data in support of what is presented herein, in order to give full credibility to the aspects presented in our paper. In particular, we have in mind some reports of the Romanian Ministry of Finance and Ministry of Health, as well as documents concerning the development/implementation of policies/programs/strategies, all of them originating from the Government.

## 4. Findings

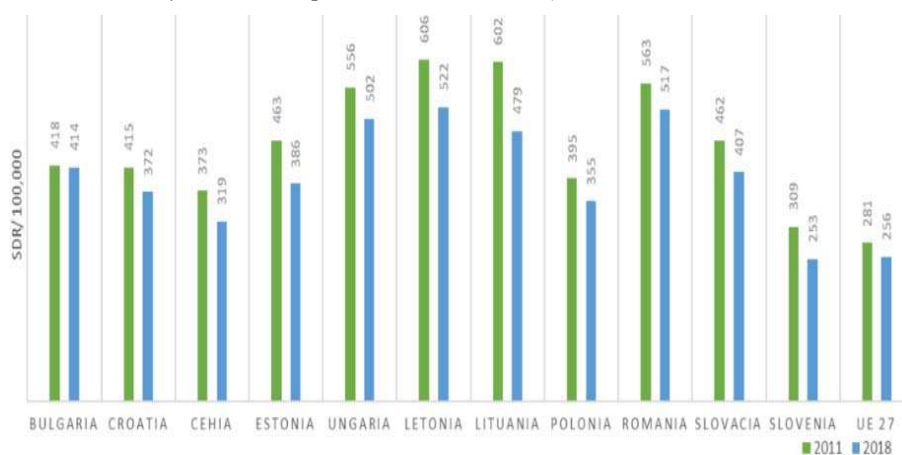
### 4.1. Some shortcomings of the Romanian public health sector and the health status of the population

In order to achieve a well-functioning public health sector that serves patients efficiently and results in preventive measures for the healthy population, the pillars of that system must be (CDR, 2018): the healthcare professionals/staff, who provide healthcare services, and the medical technology, which supports diagnosis and treatment.

What is certain is that in Romania, in this respect, the situation is far from acceptable, with implications for the health status of the population.

To a certain extent, we can become aware of this just by looking at the avoidable mortality situation, which is one of the highest among the (former socialist) EU Member States (Figure 2).

Figure no. 2. Avoidable mortality in some EU Member States, 2011 vs. 2018  
(standardized mortality rate, deaths per 100,000 inhabitants)



Source: Eurostat database.

Furthermore, Romanians' life expectancy reached just over 74 years, the second lowest in the European Union, being six years below EU average, after decreasing (temporarily) by 1.4 years in 2020 due to the impact of the COVID-19 pandemic (Figure 3).

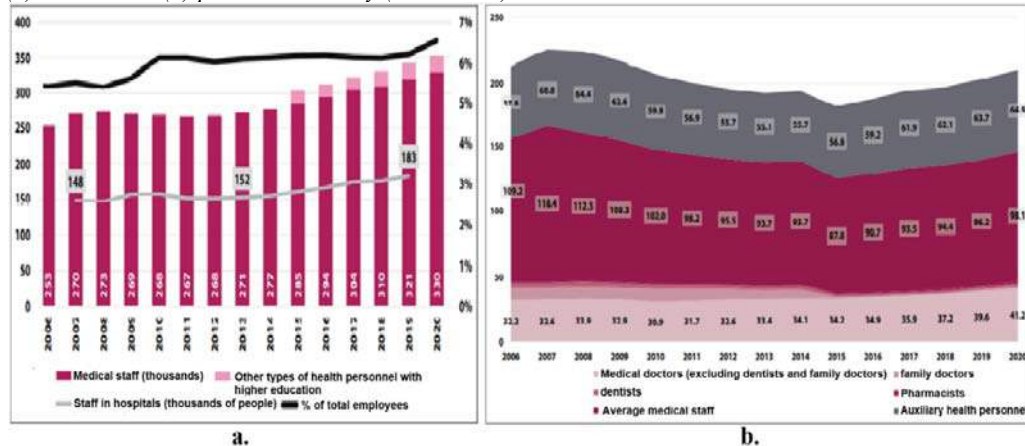
Figure no. 3. Ranking of EU Member States by life expectancy of citizens in the year 2020



Source: Eurostat database.

With the help of graphs (Figure 4.a and Figure 4.b), we are showing the evolution of healthcare staff in Romania, in total and then only in the public sector, over the last 15 years. Before the Covid-19 pandemic, 54,304 doctors were working in Romania, which meant an average of about 270 doctors/100,000 inhabitants, well below the EU average of 340 doctors/100,000 inhabitants. As regards the number of nurses, in 2022 the number of nurses/100,000 inhabitants reached 890 (calculated on a resident population of 19,023 thousand on January 1, 2021), which is in line with the EU average. In the Multiannual Strategy for Human Resources Development in Health 2022-2030 (Government of Romania, 2022a), it is mentioned that in the year 2020, 359,673 professionals were working in the national health system, to which about 27,000 employees in the administration sector of public healthcare units were added.

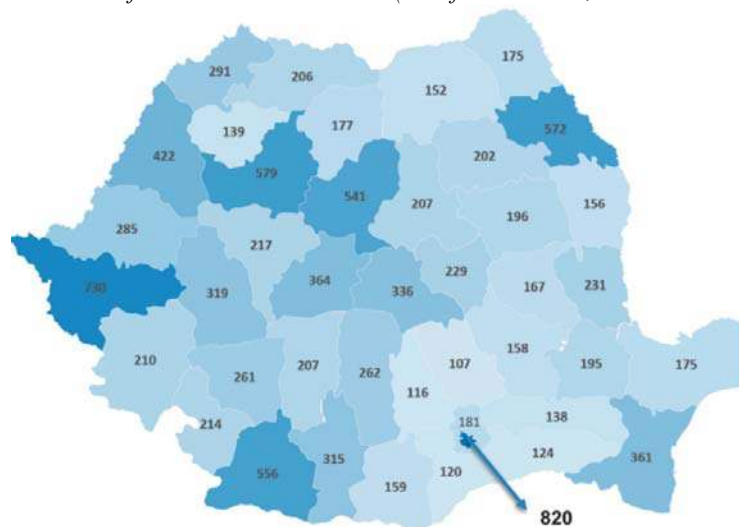
Figure no. 4. The evolution of the healthcare workforce in Romania:  
(a) in total and (b) public sector only (2006-2020)



Source: Authors' adaptation after (Guga, 2022).

Even though the number of medical staff seems satisfactory, the system is still facing certain difficulties, the same source noting that there are major disparities between localities in terms of the distribution of doctors, both between urban and rural environments and at county level (Figure 5), and also a reduced attractiveness of the vacancies in the territory for the medical staff (in 2020 the Ministry of Health reported 43,409 vacancies, representing approx. 20% of the existing positions).

Figure no. 5. Distribution of doctors at national level (no. of doctors/100,000 inhabitants)



Source: (Government of Romania, 2022b).



Moreover, if we are referring to the entities in which the activity was carried out within the health system, both public and private, based on relatively recent research (Anghelache *et al.*, 2020), it appears that these included over 63,000 healthcare establishments, of which 51,000 units in urban areas and 12,000 in rural areas.

Regarding the main categories of establishments in the health network, the same research shows that in 2019 it included 532 hospitals (compared to 524 in 2018) and 161 related establishments (for day hospitalization/outpatient services). Of the 694 hospitals and related establishments, there were only 344 large medical establishments - with more than 100 beds, and 268 are small-sized medical establishments - with less than 50 beds. In total, there were more than 12,000 independent specialized medical practices in 2019 (652 more than in the year 2018) and more than 15,000 thousand dental practices (339 more units than in 2018). Family medicine practices were approx. 11,000 (78 units less than in the year 2018), pharmaceutical units were approx. 9,900 (drugstores and pharmaceutical outlets), down by 49 units compared to the year 2018; nevertheless, the network of medical laboratories increased compared to the previous year, providing services through 4,300 medical laboratories, with 66 more units than in the year 2018.

As regards the infrastructure of the health system, it should be noted that, even if certain categories of establishments disappeared definitively (rural polyclinics), the number of establishments providing medical services has steadily increased over the last two decades, especially in the private sector. Therefore, in the year 2020, 148 hospital-related establishments were registered in this sector, with a small number of beds for *day hospitalization*, offering only day hospitalization services for a wide range of medical specialties (Andrei, 2021).

Looking also at the expenditure incurred from the National Health Insurance Fund (FNUASS), we notice that most of them are aimed at hospital treatment, leaving less than half for primary healthcare, specialist outpatient services, medicines, other medical services and technologies (Figure 6).

Figure no. 6. Structure of FNUASS expenditure, by categories of contracted services and products



Source: (Government of Romania, 2022a).

This shows that in the Romanian medical system, prevention (to which active monitoring through an integrated management plan of chronic diseases with high prevalence should be added) occupies a low position, whereas curative healthcare is massively favored. Totally abnormally, acute illness care and basic monitoring of chronic patients have become predominant here.

This explains why Romania is among the EU Member States with the highest avoidable mortality, as we have shown above, with high death rates both from causes which are preventable through public health interventions and from causes which are treatable via adequate quality healthcare.

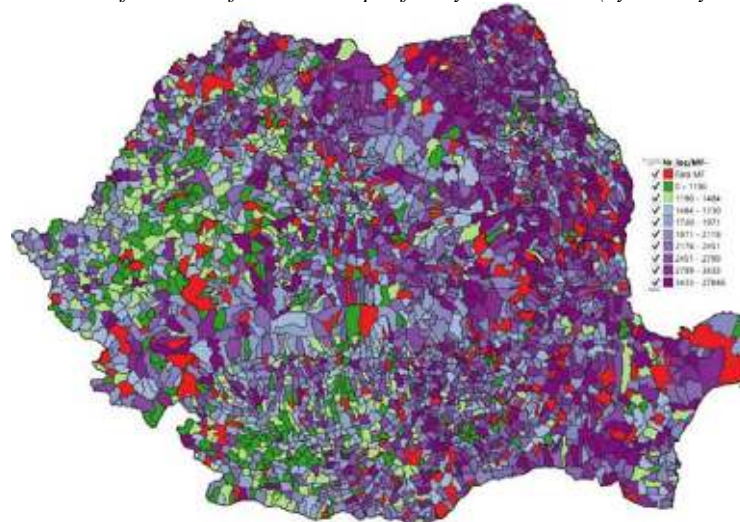
However, it should be noted that the preventive aspect is linked to family medicine (first in the contact with the future patient), an area with many shortcomings in the case of Romania. It is worth recalling that access to primary healthcare services is unequal, mainly due to the uneven distribution of family medicine practices, with poor coverage in rural areas (Figure 7).

In summary, the problems faced by the Romanian public health system are a result of the following (Government of Romania, 2020):

- delaying the reforms aimed at strengthening the capacity of primary healthcare and at developing community healthcare;
- the limited administrative capacity of the Ministry of Health and local public health authorities;
- poor investment programming and poorly integrated social, employment, health and education services.

As we have already pointed out, there are also issues with the outpatient healthcare system, which "is still under-utilized, while the transfer of hospital-based healthcare services to the outpatient healthcare system remains slow and fragmented" (Government of Romania, 2020).

Figure no. 7. Distribution of number of inhabitants per family doctors/MF (by locality, 2019)



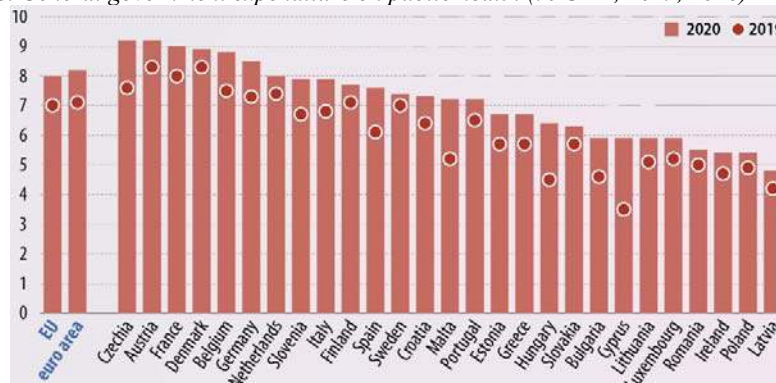
Source: (Government of Romania, 2022a).

#### 4.2. Strategic guidelines concerning the development of the public health sector against the background of overlapping crises

Prior to the onset of the overlapping crises (financial, health, geostrategic, energy, supply flows, etc.), the Romanian main decision-makers were interested in improving the financing of the public health sector.

For example, in the 2007 – 2016 period, the financing of the health sector in Romania doubled in terms of budget allocations, from 1.76 billion lei in 2007 to 4.1 billion lei in 2016. As a percentage of the allocated budget, according to the state budget law of that year, it represented 4.5% of GDP in the year 2018, ranking last in the EU, with an average allocation around 8% of GDP (CDR, 2018). Even though in the next two years it reached around 6% of GDP, the budget allocation for health remained low, compared to most EU Member States (Figure 8).

Figure no. 8. General government expenditure on public health (% GDP, 2019, 2020)



Source: Eurostat database.

Obviously, the low level of funding of the health system affects its overall performance, as well as the quality of life of Romanian patients; however, against the background of the above-mentioned crises, very large allocations from the state budget are hardly possible. Nevertheless, it is not only this type of financial resources that should be taken into account in terms of the development of the respective system. Here, we are also considering EU budgetary sources, as well as loans from the International Bank for Reconstruction and Development (IBRD). The sums to be contracted are more than significant. For example: Health Operational Programme 2021-2027 - over €4bn: ERDF + FSE+ State Budget; expenditure eligibility: January 1, 2021 - December 31, 2029 (Government of Romania, 2022b). Or else NRRP / The National Recovery and Resilience Plan, €2.46bn; Objective: Strengthening the resilience of the health system in Romania by increasing the level of access, safety, quality and functionality of healthcare services and healthcare infrastructure (MIEP, 2021).

In this context, we recall the following (Government of Romania, 2022a):

- The National Recovery and Resilience Plan (NRRP), which will be implemented until 2026 with European funding (non-reimbursable and reimbursable), stipulates reforms and major investment interventions in the healthcare system;
- The Health Operational Programme 2021-2027 ensures that the system targeted here has outstanding access to high non-reimbursable funding and/or through other dedicated sources/grants;
- Alongside these, the Ministry of Health and the National Health Insurance House will continue to implement the programmes financed via IBRD loans, namely the "Health Sector Reform Project - Improving Health System Quality and Efficiency" and the "Results-Based Programme in Romania's Health Sector".

The National Health Strategy 2022 - 2030 includes several general objectives (OG.1-OG.11), divided into three Strategic Intervention Areas, as follows (Government of Romania, 2022a). In Strategic Area for Intervention 1 - *Public Health* (3): OG.1. Sustainability and resilience of the health system; OG.2. Reducing mortality and morbidity associated with communicable diseases with major individual and societal impact; OG.3. Healthy life years and increased quality of life.

In Strategic Area for Intervention 2 - *Health services* (1)/Shifting the focus of health services from hospital to specialist outpatient clinics and from specialist outpatient clinics to primary health care; OG.4. Improving availability, equitable and timely access to safe and cost-effective health services and medical technologies. In Strategic Area for Intervention 3 - *A sustainable and predictable health system* (7): OG.5. Governance of the health system; OG.6. Ensuring financial sustainability and resilience of the health system; OG.7. Ensuring adequate human resources, their retention and professionalization; OG.8. Increasing the objectivity, transparency and accountability of the health system; OG.9. Coordinating healthcare and integrating health services; OG.10. Adequately integrating of research and innovation so as to improve the health status; OG.11. Improving the quality of health services through investment in health infrastructure. This last general objective (OG.11), being important in relation to what we have mentioned before about the success of contracting financial resources, other than the national ones, includes a specific essential objective: *Increasing the administrative capacity for planning, financing, preparing and implementing investment in public health infrastructure.*

Certainly, equally important is the specific objective of *Increasing the access to and the quality of healthcare services through continued public and private investment in health infrastructure.* Its achievement is based on actions such as (Government of Romania, 2022a):

- Developing infrastructure in primary and outpatient healthcare, especially in areas with difficult access to health services (Measure: *Building/renovating and equipping 200 integrated community centers through partnerships between the Ministry of Health and the local government*);
- Further development of hospital infrastructure in line with the Regional Health Services Plans and Regional Health Services Master Plans (Measures: *Building and equipping three new regional emergency hospitals - Cluj-Napoca, Iași, Craiova; Rehabilitation, expansion and equipping of the remaining five regional hospitals; Building and equipping 25 new hospitals; Rehabilitation and equipping hospitals of major impact within the regional hospital service networks*).

The development of the public health services' infrastructure for the prevention, control, diagnosis and surveillance of communicable diseases has also not been omitted; it involves the rehabilitation and equipping of laboratories within the National Reference Laboratories System, by upgrading all of them.

## 5. Conclusions

The national public health system, which has been the focus of our research in this paper, is today, 15 years after Romania's accession to the European Union, relatively underperforming. In any case, it is below those found in most Member States, even in the former socialist ones.

Even though the system in question has been "continuously under reform" since the 1990s, with the introduction of individual taxation with withholding from the taxpayer/insured person's income, and the administration of the funds collected in this manner by the National Health Insurance House (initially, it was carried out through taxation at national level and allocation from the state budget through the Ministry of Health), in addition to certain reorganizations of the system - at various levels (primary, secondary and tertiary), the search for an optimal formula that guarantees a broadly acceptable streamlining is still underway. In any case, the situation seems to revolve around solving two categories of causes: one related to resource allocation (depending on the country's economic potential) and another related to the management.

In the case of Romania, both categories have persisted for a long time; however, in this period (after the year 2020) the situation has become even more complicated against the background of overlapping crises (financial, health, geostrategic, energy, supply flows, etc.). These aspects are reflected in the underfunding of the system, the poor availability of modern equipment, the unmotivated and unstable staff, resulting in the current precarious state of the population's health.

Our paper emphasizes the shortcomings of the above-mentioned sector and some of the key aspects of the population's health status, highlighting the issues related to the medical staff (we recall the massive emigration of healthcare workers which occurred after 2007), the related infrastructure, the management, etc. When discussing a series of strategic guidelines concerning the development of the public health sector against the background of the overlapping crises, we are referring to the need for the proper implementation of certain programs - in the medium and long term - which rely on other financial resources than those from the state budget. Thus, we are referring to EU budgetary sources, through the MFF 2021-2027 and the NRRP, as well as to loans from the International Bank for Reconstruction and Development (IBRD).

Regarding the *limits of this research*, we have shown that these are generated by the fact that the authors make little use of comparative approaches - in relation to other countries, in the EU or outside the EU, and that there is a certain degree of uncertainty, generated mainly by the context of the overlapping crises mentioned in the paper, in terms of the actual implementation of what follows from the strategic guidelines mentioned.

Finally, it is precisely within this framework of discussion and debate that we believe *our future study and research* should be integrated. We consider that this is all the more necessary as it will be interesting to see in time whether Romania will demonstrate the necessary administrative capacity to absorb to the highest possible degree the resources allocated to it through programming.

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## The Main Characteristics of Ponzi Scams: A Case Study on Israel

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### Abstract

*In the last hundred years, Ponzi frauds have taken place in exactly the same method. The variety of fraud types reflects worldwide the creativity of the fraud initiator, on the one hand, and the motivation of investors for high returns in a short period, on the other hand. The purpose of this article is to analyze the main characteristics of Ponzi frauds and to presents a case study of Ponzi frauds in Israel. To achieve this purpose, a reviewing methodology was established, consisting in main theoretical background, a sample of 30 major Ponzi frauds around the world and a case study on Israel. The main findings are that the most used Ponzi frauds are regarding the use of a false brokerage, both Israel and around the world, while a new trend in Ponzi schemes is the cryptocurrency frauds.*

**Key words:** white-collar crimes, investment fraud, economic crime, global financial frauds

**J.E.L. classification:** D91, E26, K42

### 1. Introduction

Ponzi scams is an investment fraud through which a person, considered an economic criminal, collects money from various individuals and used the funds for personal or illegal purposes, while some of the money are intended to attract new investors. Charles Ponzi developed this type of investment fraud in the 1920s, pretending a 50% return for attracted investors by using their funds in international mail coupons. Investors are stimulated by the promise of a high return without risks or with limited ones. The fraud operator uses a part of the funds from new investors to pay the old ones in order to guarantee the sustainability of fraudulent schemes (Frankel, 2012).

In recent years, Ponzi frauds have seen an increase and it seems that this trend will continue to develop and become a major arena for fraud all over the world. The emergence of new technologies and strategies have helped to hide frauds due to the use of complex technological systems. At the same time, frauds multiply in times of economic instability. For example, the most popular and largest Ponzi scams in the United States, which involve at least 1\$ million that have been alleged by civil or criminal authorities, were recorded during the financial crisis of 2008, such as Madoff's, Thomas Petters and Allen Stanford ones (Iacurci, 2020). In addition, a period of economic uncertainty and changes, due to the global pandemic, creates an opportunity for crooks to flourish. In 2020, for the United States was a 70% increase in income frauds in comparison to the same period in 2019. It seems that the American investors lose more money in investing in Ponzi frauds than any other type of a fraud (Federal Trade Commission, 2020). In December 2020, authorities warned investors against Ponzi schemes, fake certificates of deposit, bogus stock promotions and community-based financial scams due to an increase in complaints about fraud

during the corona crisis (Office of Investor Education and Advocacy, 2020).

In times of crisis, the economic pressure tends to rise. It seems that 42% of the active fraudsters live beyond their means while committing fraud and 26% experience financial difficulty. On the other hand, in times of crisis and recession the existing frauds are revealed. Scams are discovered when cash flows dry up and fraudsters can no longer cover for the money they have stolen (Dorris, 2020). In 2019, the U.S. authorities uncovered 60 Ponzi schemes that were worth \$3.25 billion in investor funds, the highest level of financial fraud in the last decade and since the scams exposed during the financial crisis of 2008. This increase of Ponzi frauds is attributed to the booming stock market and a deregulatory agenda pushing new crooks into this business (Iacurci, 2020). However, the number of Ponzi schemes discovered is low compared to the financial crisis, when U.S authorities uncovered more than 100 cases in 2009 and more than 80 Ponzi scheme per year between 2010 and 2012 (The Ponzi Scheme Authority, 2020).

The paper's objective is to offer an analysis of main characteristics of Ponzi scams considering a sample of 30 major frauds in various countries and a case study on Israel for eight cases. This paper is structured as follows. The second section presents the main approaches and characteristics related to Ponzi frauds. The third section provide an analysis about the Ponzi frauds used in various countries and the case study on Israel. Finally, the conclusions are presented.

## 2. Theoretical background

In order to explain the mechanism of Ponzi frauds, Phelps and Rhodes (2012) resort to the following defining characteristics. The main characteristic of a Ponzi scheme is the payment mechanism of the old investors with sums of money attracted from the new investors. This mechanism involves the use of techniques and tools, such as false statements and documents in order to persuade victims to invest in a new invention, a revolutionary idea or a supposedly successful company, capable of generating very high profits and in a fast time. From here results a second defining feature according to which the fraud operator uses a false identity, pretending himself to be a specialist in business, finance, investment or trade activity, which legally represents or owns a legal company. Properly, the fraudster may be engaged into a company, but to a limited extent or he never conducted such activity. The third defining characteristics is that, after the fraud operator convinced the victims, the investors have deposited their money, while the fraud operator uses the funds for personal purposes. In addition, the apparent business or investment activity of the operator brings low or no profits.

The key to success in managing a Ponzi scheme is the fraud operator and his entrepreneurial ability. Mostly, the offender holds management positions within a legal or illegal company and finds opportunities to do business. Unlike Pyramid frauds, in which members are responsible for recruiting new ones, the Ponzi scheme assumes the existence of an operator or a main group that controls the entire operation (Springer, 2020). Based on the skills of the fraud operator, Bhattacharya (1979) believes that a Ponzi scheme has three components:

- the process of persuading investors by the operator using a supposedly successful idea or invention;
- the promising of high returns and
- the gaining long-term trust when the operator transfers money to investors at an early stage, showing that he is keeping his promises.

Springer (2020) has studied the Ponzi frauds recorded in the United States, using the federal databases. She found almost 1360 Ponzi schemes between 1962 and 2020 and grouped them in three categories, according to Table 1. Some of these schemes belong to more than one group.

Table no. 1 Ponzi schemes according to Springer (2020)

Main group	Scheme type	Cases in the USA
Intentionally committed	Affinity fraud	133
	False brokerage	400
	Cryptocurrency	Under 20
Unintentionally committed in the first place	Brokerage failure	74
	Business failure	54
Either intentional or unintentional committed frauds	Hedge funds	29
	Commodity pool	56
	Feeder funds	27

Source: own adaptation based on Springer (2020).

Most of the Ponzi frauds are committed intentionally, the fraudsters being described as sociable and charismatic, acting according to a well-defined plan. They use false documents, reports and financial statements to represent a credible and successful business in order to lure victims. However, authorities detect these types of Ponzi schemes in relation with other illegal practices such as money laundering, tax evasion or unlisted shares (Bar Lev, 2022). The main intentionally committed Ponzi scams are related to affinity fraud, false brokerages and cryptocurrency.

Fraudsters use the affinity frauds, also known as 'community-based fraud', on people with which they identify. Victims trust in the fraud operator due to the common elements between them in terms of nationality, ethnic origin, religion, profession and other elements. Most of them are recorded within religious organizations (religion-based) or between immigrant's communities. However, often there is a double relation between parts, such as religion with nationality or ethnic origin with profession. Most of the affinity frauds reviewed by Springer (2020) are regarding religion (91), followed by nationality (45) and ethnic origin (25).

On the other hand, false brokerages are illegal investment houses that were not registered. However, the fraudsters present it as licensed by authorities, while they are licensed investment advisors or traders. Almost 12% of the fraudsters from the sample reviewed by Springer (2020) are legally registered.

A new trend is taking place in the world, considering that in recent years there has been an increase in virtual currency fraud (Bitcoin and others). The world of cryptocurrencies, which are currently traded without regulation, is a fertile ground for the growth of frauds. The method is the same, but the arenas are new and the potential for loss is higher. Cryptocurrencies have grossed \$4.3 billion in digital money in 2019, more than three times as much as in 2018 has. The fraudsters are taking advantage of the fact that many people are not yet familiar with the different types of currency and are selling counterfeit currencies and services. The various types of frauds include fake token sales, blackmail frauds, and fake services. However, Ponzi frauds are the most common and cover 92% of the stolen funds (Orcutt, 2020).

Cryptocurrency is seen as Ponzi scheme because involves illegal currencies not produced and not guaranteed by governments. Being an artificial and decentralized market, cryptocurrency offer high opportunities for Ponzi frauds because investments are made anonymously through online platform and there are no authorized agencies that supervise the operations.

In the crypto world, the offer is to invest in a virtual currency, when the basis is actually a Ponzi one. Crooks use technological innovation to entice investors. These frauds are committed through trading on a conventional online stock exchange including in dollars, or through trading and purchasing products or services online. The increasing use of virtual currencies in the global market may be a convenient ground for crooks to entice investors quite easily to invest in fabricated transactions. The asset offered for investment has changed from a security to a virtual currency when, in practice, there is really no investment, and the method of fraud is the same. The change in the face of the Ponzi schemes also include the absence of the charismatic investment manager; everything is conducted online, without the need to invest in an 'image'. So far, in the crypto field, there has not been an investment manager, who seduced investors, but the principle is similar, with the currency buyers buying the currency in hopes of finding in the future others individuals, who will buy it from them at a higher price than they bought (Office of Investor



Education and Advocacy, 2013). Another fraud based on technological innovation involves unregistered websites that call themselves 'investment funds' or 'trading sites' that guarantee an extreme return through obscure strategies (Lyman, 2021).

On the other hand, Ponzi frauds committed unintentionally in the first place involve a legal and successful business or investment house that experiences financial problems at some point. In this situation, the operator starts to search solutions and decides to survive by committing fraud. Even if the fraudsters are aware by their illegal practice, they assume that they will make large profits in a short period and are then able to return the money to the victims (Dorminey et al., 2012). Here there are Ponzi scams following a failed investment house and those following business-failure. This is typical for business entities and investment houses that encountered problems during to the financial crises or previous financial events. In the business-failure situation, most of the companies are active in real estate and mortgage industries. Before becoming a Ponzi scheme, these companies made profits, but the frauds are developed during a real estate bubble or a financial crisis. The fraudsters are authorized and borrow funds from new victims in order to continue the business and to pay the old investors (Bar Lev, 2022).

Nevertheless, there are cases when the Ponzi frauds can be defined in either intentional or unintentional committed frauds. In this category, hedge funds, commodity pools and feeder funds are included.

Hedge funds and feeder funds are legal investment entities. In both cases, the victims' money are deposited in a common fund. The level of gain or loss for each participant is determined according to the amount of money deposited. The level of risk is high because these funds are sensitive to financial market fluctuations, while many of them do not function because the required level of capital has not been reached (Johnson, 2010). In the case of hedge funds, the financial status of investors matters, a high entry threshold being settled. The feeder funds are actually a fund of funds, with a complex set up so that people, who invest in such funds, as well as the owner, are not even aware that it is a Ponzi scheme.

Commodity pools are similar with hedge funds in terms of the relationship between the percentage of investment and the level of earnings for investors. The distinction is that for commodity pools there are no minimum requirements for participants (Bar Lev, 2022).

### 3. Research methodology

In order to conduct this paper, a black letter research method was used. This method involves a descriptive and detailed analysis of the main theoretical background regarding the characteristics of Ponzi schemes found in primary and secondary sources (reports, cases, newspapers and articles). The first step of this method is to collect, systematize and describe the main theoretical background regarding the characteristics of Ponzi schemes. Then, the second step involves identifying and describing the underlying theme by providing a sample of 30 major Ponzi frauds around the world and a case study on Israel. In this way, by using examples and case studies for different countries, especially Israel, it shows how Ponzi schemes are happen into practice.

### 4. Findings. Ponzi frauds in Israel and around the world

A sample of 30 Ponzi scams from various countries was analyze in order to highlight the main types of Ponzi frauds used around the world, each continent having at least one representative. Analysis of various Ponzi frauds at international level has shown that most of these frauds are intentionally committed, according to Table 2.

*Table no. 2 Ponzi frauds around the world*

Type	Countries	Ponzi fraud name	Fraud operator
Affinity fraud	Gabon	BR SARL	Yves D. Mapakou
	USA	Greater Ministries International;	Gerald Payne
		The Investment Club;	Reed Slatkin
		Capital Financial Partners	Will D. Allen

		Trickling Springs Creamery	Philip E. Riehl
False brokerage	Kenya	Amazon Web Worker	Stacey M. Parker
	New Zealand	Financial Planning Ltd.; Breathe Financial Ltd.; Impact Enterprises Ltd.	Barry Edward Kloogh
	Nigeria	No Burn Global Limited	Umanah E. Umanah
	Romania	Caritas	Ioan Stoica
	Scotland	Midas Financial Solutions	Alistair Greig
	USA	Petters Company Inc.	Tom Petters
		American National Investments	Gina Champion-Cain
		Madison Timber Properties	Ted B. Alexander; Jon D. Seawright
Cryptocurrency	China	Plus Token	Zhao Don
	Bulgaria	OneCoin	Ruja Ignatova
	Singapore		Fok Fook Seng
	Mexico		Brito and Ignacio Ibarra
	Philippines	Forsage; Million Money	Lado Okhotnikov
	South Korea	Futurenet	Stephan Morgenstern; Roman Ziemian
	USA & India	Bitconnect	Satish Kumbhani; Trevon Brown; Craig Grant; Ryan Maasen; Michael Noble
Business-failure	USA	Rothstein & Rosenfeldt	Scott Rothstein
	Russia	MMM Cooperative	Sergei Mavrodi
Hedge funds	China	Ezubao	Ding Ming
	Romania	National Investment Fund	Sorin O. Vintu
	USA	Bernard L. Madoff Investment Securities	Bernie Madoff
	USA	Stanford Financial Group	Allen Stanford
Commodity pool	Colombia	DMG	David Murcia
	Canada	Brookshire Raw Materials Management	John M. Marshall; Stephen Adams
	USA	The W Trading Group	Larry R. Mendoza
		LNA Associates	Gregory Altieri
Feeder funds	USA	GMB Capital Management	Marco Bitran
		Tate Street Trading Inc	Leonard Cipolla

Source: own processing.

The sample used reveals three types of intentionally committed Ponzi frauds, such as affinity fraud, false brokerage and cryptocurrency. These frauds were committed in countries from almost all continents, except South America. Ponzi scheme based on false brokerage are the most common fraud committed at international level; almost a quarter of the sample are of this kind. In addition, the sample shows the new trend of Ponzi scams based on cryptocurrency for various countries, while the OneCoin case was developed in three countries from three different continents. In general, cryptocurrency frauds transcend the barriers of a country, considering the emphasis on technology and online trading platforms. These finding is to extent in line with Orcutt (2020) and Lyman (2021), revealing an increase in cryptocurrency frauds and the frequent use of trading websites.

On the other hand, the sample contains some cases of unintentionally committed frauds in the first place. The Ponzi schemes based on business-failure were discovered in the United States and Russia. In addition, there are some cases of either intentional or unintentional committed frauds, such as hedge funds, commodity pool and feeder funds.

These findings are to some extent in line with Springer (2020), which presents different types of intentionally, unintentionally or both cases of Ponzi scheme in the United States. The sample used in this study includes the typologies surprised by Springer (2020), except for the Ponzi schemes based on brokerage-failure.

Half of the Ponzi scams studied in the sample are from the United States, taking into consideration the high income of population, along with the desire to get rich at a fast pace that have become a major driving force in American society. In addition, according to Table 2, men commit most of the Ponzi frauds, while women resort to cases of frauds based on false brokerage (Gina Champion-Cain with American National Investments) or cryptocurrency (Ruja Ignatova with OneCoin from Bulgaria).

The case study on Israel reveals that most of the Ponzi frauds committed here or by an Israeli fraud operator are based on false-brokerage, affinity or related to real-estate and trading.

Although regulators around the world have pushed for the regulation of investment portfolios, in Israel there is still no significant progress on the issue. The prevailing opinion in Israel is that despite artificial intelligence and technological tools, the most effective way to avoid a Ponzi scheme is through a warning to investors. Most frauds in Israel are based on a portfolio manager or an expert with multiple skills who presents clients with exceptional performance. In times of economic prosperity, the scam reaches its peak because it is easy for the fraudster to attract investors, but in times of recession everything collapses because investors want to sell and withdraw their investment and thus the scam is exposed (Boaz, 2019).

The largest fraud in Israel, which encompassed about 500 million of Israeli New Shekels (NIS), was exposed in 2021, when it became clear that the investment company EGFE deceived about 1,000 investors for 15 years. For 15 years, EGFE, controlled by Michael (Mike) Ben-Ari and his brother, was presented to the investors as an international company, offering financial services and solid and safe investments, with positive returns to more than 800 customers from Israel and around the world. In the marketing videos presented, Ben-Ari stated that the company manages \$60 million for one thousand customers. The victims claim that other people, who worked in his office, including the office's director and the firm's investor relations manager, also assisted Ben-Ari. The Ponzi scheme focused primarily on investments in municipal bonds issued in the United States by states or cities. According to the victims, Ben-Ari created a cover story, according to which his investments succeed in generating high profits, and that their money is invested in American funds such as the 'Blue River' fund, which allegedly operates from Colorado USA. In retrospect, it became clear that this fund had severed ties with Ben-Ari. Scheme was discovered when Israeli authorities began scrutinizing Ben-Ari's actions and in April 2021 Ben-Ari has arrested and released to house arrest after he posted a deposit of a bank guarantee for 2 million shekels. However, its fraud is compared with the Madoff's scheme from the United States (Birdy, 2021; Staff, 2021).

This Madoff's fraud is considered the largest Ponzi scheme in history, managed by Bernie Madoff between 1970 and 2009 in the United States through Bernard L. Madoff Investment Securities. He promised investment returns of almost \$50 billion in all, based on falsified account statement. He developed a pyramid investment strategy, through which he simply deposited investors' funds in a Chase bank account, paying off new customers with funds from earlier customers and providing his clients with falsified account statements. The scheme was discovered during the financial crisis of 2008, when Madoff could no longer maintain the scheme due to growing redemption requests from his clients. His sons denounced him to the U.S. authorities, after he confessed to them that the business is a fraud. Almost 37,000 of persons were victims of this fraud, reaching an economic loss of \$65 billion (Boaz, 2019; Henriques, 2021).

Beyond these biggest frauds, the following is a review of the largest Ponzi frauds in Israel.

*Rosenftgazinvest* was a company founded by Gregory Lerner through which he managed a Ponzi fraud. Between 2004 and 2006, Lerner introduced himself as a trader specializing in fuels and international trade. He deceived almost 2500 people by an affinity fraud scheme while, together with Smolnyanicki and Boris Bobanov, they set a plot to persuade former USSR immigrants to invest huge sums of money in *Rosenftgazinvest*. The funds was stolen using cover companies and bank accounts in Israel and abroad, hiding and covering the source of the funds and their movement. Lerner and his partners made false registrations and fictitious actions worth tens of millions of shekels. Lerner and his partners launched an extensive campaign that included so-called 'profile' and 'investigative' articles as well as advertisements, which presented them as if they were linked to the leading Russian state-owned companies in the industry, such as Gazprom (Russia's largest oil company) and Rosneft (the fifth largest Russian oil company). Lerner deceived his

investors when he claimed that Rosenftgazinvest was an attractive investment, according to which each investor could receive a monthly interest return of 2% on the original investment amount, but for those who are patient and wait a year, an interest rate of 29% per year would be guaranteed. Only after Lerner fled the country, the former USSR immigrants realized that he had deceived them, generating an economic loss of 62 million NIS. At the end of 2006, Lerner was convicted of money laundering, receiving something fraudulently and forging documents, after defrauding businesspersons and fraudulently extorting money from them when he set up companies in Switzerland and Latvia under names similar to well-known gas and oil companies. He has sentenced to 10 years in prison (Maanit, 2010).

Another affinity fraud was committed in Israel by Ilan Morgan, formerly known as Ilan Mika Arbel, through *Apollo Investment House*. If Gregory Lerner developed an affinity Ponzi scheme based on nationality, Ilan Morgan used religion as instrument. He deceived ultra-Orthodox investors from Israel between 2011 and 2012 and promised them a return ranging between 24% and 36% per year without risk, after he presented himself as having an affiliation with rabbis. Morgan stole almost 2 million shekels from customers, using some of the funds to pay the old investors and most of money for private and business proposes. The Israeli authorities stopped the fraud following the revocation of the company's portfolio management license. He was arrested in 2013 because of giving his portfolio manager false information about Canadian companies that were affiliated with him (Tucker and Maoz, 2009; Ganun, 2015).

*Eran Mizrahi Finance and Investments* was a company founded by Eran Mizrahi through which he developed a Ponzi scheme based on false brokerage between 2007 and 2012. In order to attract the funds, Mizrahi used false presentations and documents, presenting himself as a successful entrepreneur, owning an investment company specializing in foreign exchange and in accompanying client portfolios in the currency market through leading banks in Switzerland. He promised monthly returns of at least 1% to 1.5%. Mizrahi falsely stated that the company reaps high regular returns to its clients with a solid investment profile, while making false promises that the funds will be used in foreign exchange investment channels at a bank in Switzerland. During the 2007-2012 period, Mizrahi used the funds for personal needs. Mizrahi fraudulently gained the trust of the victims, appeared before them as someone who specializes in foreign exchange investments that manages to yield high returns. In order to illustrate his success, he presented his luxury apartment and cars, while he used to invited some investors to restaurants, using the attracted funds. The fraud case was discovered on May 29, 2012, when a number of investors came to the police who realized that they had fallen victim to a sophisticated fraud. Eran Mizrahi has sentenced to 12 years in prison, while its fraud has determined an economic loss of 57 million shekels (Zeiger, 2012; Guetta, 2013; Levy, 2016).

*Shimon Tsabar* was a fraud perpetrator that developed a Ponzi scheme between 2010 and 2011. He deceived 44 people and generated an economic fraud of almost 20 million NIS using a Ponzi scheme based on false brokerage. Tsabar presented customers with many false presentations, including false collateral and false bank guarantees of millions of shekels. In practice, he deceived the victims and used the funds for himself and some of them as investment profits to pay other investors in order to attract more funds. The police and fiscal authorities arrested Tsabar in March 2011 following an investigation. During the investigation, authorities received complaints from 42 different customers who claimed to have defrauded them. Tsabar has sentenced to 8 years in prison (Ganun, 2014).

*Utrade* was another Ponzi fraud from Israel that managed to sell the illusion to investors. The company acted contrary to the purpose for which the customers' money was deposited in the trading account, and contrary to the presentation made to investors. Between 2012 and 2015, Aviv Talmor used Utrade to attract investments from about 600 Israeli investors, creating an economic fraud of about 77 million NIS, the equivalent of \$22 million. He promised two major advantages to its customers; high profits (annual return around 15-20%) through an algorithmic trading program own by its company and the possibility to withdraw their funds by express request within 7-10 days. More than half of the money was not used for trading at all. Talmor reached out to these funds and used them systematically and deliberately to finance various expenses of the Utrade, as well as to establish a branching network of forex and binary options companies around the world. The fraud was discovered when the Israeli authorities froze the company's activities at the end of

2015 and discovered that its accounts had only 300,000 shekels. The suspicion arose given that a fraud of this magnitude could not work without inside cooperation. About 20 employees, including sales managers, were questioned with a warning in the case on suspicion of committing fraud and breach of trust, unlicensed investment management and money laundering. Talmor succeeded to leave the country in 2015, but he returned after a year and was arrested (Weinglass, 2018; Ganun, 2019).

*Inbal Or* was considered one of the leading forces in the field of real estate groups. She founded Or City Real-Estate, a real-estate activity that mainly sold the right to an apartment and not the actual sale of an apartment. For the 'right' to the apartment, the customer paid 100,000 shekels. In this way, Inbal Or generated an economic fraud of 10 million shekels between 2008 and 2016, without offering any guarantee or security to customers. The fraud was discovered when Inbal Or got into a legal entanglement in February 2016, when it was called in for questioning by the tax authorities on suspicion of tax evasion. The court later ruled that Or City Real-Estate was conducted according to a Ponzi scheme. In April 2016, an order was issued to liquidate all the companies it owns while in July 2018, the company was declared bankrupt (Gazit, 2016; Winer, 2019).

*Rubicon Business Group* and the non-bank finance firm Kela Fund were two instruments through which Amir Bramley developed Ponzi schemes between 2012 and 2015. Bramley was convicted of investment fraud after guaranteeing investors a high return without practical feasibility and misleading them. He purchased failed companies and withdrew funds for his private use. The fraud was discovered following an investigation, considering that Israeli authorities suspected that the number of investors reported was much smaller than the number of actual investors. Bramley was convicted for 10 years in prison of offenses committed in the years 2012-2015: theft by a licensee investor, money laundering, fraud and breach of trust. The economic fraud involved almost 340 million shekels, while the number of victims reached 550 persons (Shafir, 2021).

## 5. Conclusions

Over time, Ponzi frauds have taken place in exactly the same method and there are one of the major threats to citizens.

One of the main findings of this paper is that Ponzi frauds are performed in countries on all continents, while most of the Ponzi frauds at international level are intentionally committed, such as affinity fraud, false brokerage and cryptocurrency. In addition, another finding is that the most recorded Ponzi frauds are based on false brokerage. However, there is a new trend of Ponzi scams related to cryptocurrency and online trading platforms, considering the technology used and the possibility of committing such fraud beyond the borders of a single country.

Another result of reviewing Ponzi schemes around the world is that most of these frauds are recorded in the United States, in most cases being initiated by men.

For Israel, the case study of Ponzi frauds suggests a preference for scheme based on false-brokerage, affinity, hedge funds or involving trading and real estate. Men performed most of them, while only one case from the sample involve a woman. Mike Ben-Ari managed the largest fraud in Israel, being considered the 'Israeli Madoff'.

The results are important in the context in which most of the Ponzi frauds are committed during an economic period of uncertainty, such pandemics, economic crises or wars. Growing financial regulations and deeper and aware information about such frauds can lead to a decrease of Ponzi schemes and a reduction of economic losses. Thus, it becomes justifiable the need for a financial regulatory framework and for specialized authorities in each country and at international level. The Ponzi frauds have potential for future growth. Therefore, countries must find solutions to improve their national financial security to these situations, but also tools to reduce these frauds among citizens.

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## Sustainable Strategies in Times of Crisis

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### Abstract

*Currently, states worldwide are facing new environmental challenges due to climate change and potential increased security threats from terrorism or war.*

*The negative events of recent years have had increasingly strong boomerang effects. Thus, the Covid 19 pandemic, the invasion of Ukraine by Russia are events that generated and are generating profound political and economic effects throughout the world. We are witnessing a multitude of changes in the challenges facing the world's governments in identifying strategies to ensure global well-being and prosperity.*

*Also, there are and will continue to be great differences between developed and developing countries, stemming from their performance and economic power, but globally citizens are pressed by the same concerns, the same needs, to which they increasingly difficult.*

*Sustainable strategies are a true key to success in mitigating the crises humanity may face in the future.*

**Key words:** strategies, prosperity, pandemic, war

**J.E.L. classification:** E10, M10

### 1. Introduction

The present paper aims to present some strategies to reduce the negative effects of disasters caused by crises that humanity has faced on a global scale.

The selection of an appropriate strategy to mitigate the effects of the global crises of recent years (the 2008 recession, the world-changing Covid 19 pandemic and currently the invasion of Ukraine by Russia) must be guided by the evaluation and consideration of costs and benefits (in terms of lives saved in the future) of a wide range of possible measures.

In this sense, in order to obtain the consensus of all the decision-makers involved, a strategy to reduce the negative effects caused by the disasters to which humanity has been subjected in recent years must include a mixture of immediately visible improvements and some less visible but with benefits sustainable in the long term.

We are in a new era, which we are only beginning to understand. What are the trends in the evolution of society on a global level? Can we predict future events? Finding adequate answers to these questions, through an in-depth analysis of the global economic context, can lead to the identification of optimal strategies that could prevent world crises. In this sense, the great challenge faced by the states of the world is how to reform the governments in such a way as to keep up with the pace of new events without being overtaken by them.

### 2. Theoretical background

The theoretical context of the paper captures two important aspects. The first point is that the current technological revolution is a huge factor in tipping the balance in favor of the individual and allowing those left behind by previous revolutions to leap forward. The changes that favor individual emancipation are so powerful that they generate profound transformations. In this process the growth of prosperity has an important factor. (Burrows, 2016, p.50) The second aspect tries to capture how



recent events (Covid 19 pandemic, the invasion of Ukraine by Russia) have influenced and influence the growth of global prosperity. Therefore, the impact of the unfolding of the events that defined the crisis period in the past (the 2008 recession, the Covid 19 pandemic) and the present (the invasion of Ukraine by Russia) on the evolution of society worldwide are extremely relevant. Against the background of these events, it is essential that the strategies considered identify complex solutions to protect individual rights and well-being, while ensuring adequate levels of security globally.

The scientific literature on the topic highlights certified opinions regarding the understanding of factors or variables that could determine future events.

### **3. Research methodology**

The research method is based on the analysis of the impact of global crises and on the elements that define the process of change that are the basis for identifying the optimal strategies, which once implemented could help to know the future.

The descriptive elements in this paper that are the basis of the research aim to review some events that humanity has faced over time, as well as the changes that could cause a substantial reform at the world level.

### **4. Findings**

#### **4.1. The impact of the global economic crisis**

Examining today's world starting from the imperative need for development as a global strategic goal foreshadows new perspectives for understanding what is happening or what may happen in the coming period. (Dobrescu, 2016, p. 25). Economic competition facilitates a reallocation of affluence and chances of affirmation in the medium and long term.

Over time, the world economy has gone through various stages of crisis. In order to understand the nature of economic crises, it is necessary to take into account the economic contexts that have generated crises over time. For example, financial crises have had a devastating long-term effect because (Dobrescu, 2016, p. 32):

- presuppose the financial indebtedness of communities and states, which means a much greater subsequent effort to pay the contracted debts;
- are followed by a longer period of recovery, a period marked by modest growth rates.

We live in confusing times where the emotional has taken the place of the rational with unwanted effects and consequences on the environment, on businesses, on citizens, who are no longer seen as people but as a compact mass of individuals, a resource of financial profit. The current state of political instability affects all fields of activity.

The economic legislation necessary for the modernization of society does not follow, in the elaboration process, the logic of a clear, multisectoral strategy. Modern states have to solve a complex equation that includes components and valences ignored so far: the man, the community, the territory (over which the prerogatives related to sovereignty are exercised), the rights that are recognized to the man and the community in the territory where they live. (Costea et al, 2010, p. 27)

How decision makers define their security interests derives from collective cultural, historical and social experiences and viewpoints. Russia's war of aggression is causing terrible suffering to Ukraine: to its people, whether civilians or soldiers, who die or are forced to take refuge; on identity and culture; on cities; on the infrastructure and its material existence.

The attempt to strengthen the security of European states, undertaken over several decades, was overturned with the aggression against Ukraine. A security strategy suitable for today also includes the development of defense capabilities against the modern attack methods that, for many years, Russia has been carrying out in cyberspace, with hacker attacks and disinformation campaigns, aimed at creating divisions in society and between countries. (Rudiger von Fritsch, 2022, p. 52)

The unity of the West was on full display when the horrific images of the massacre in Ukraine went around the world. As a result, voices were heard demanding a stop to the import of gas from Russia; constant help was provided in the refugee problem; sanctions were applied to Russia. (Rudiger von Fritsch, 2022, p. 57)

The effects of the Ukraine-Russia war on the world economy have become very visible for all European states. By 2021, Russia and Ukraine exported about 30% of the world's wheat, 18% of gas and 11% of oil. Some countries in the Near East imported 75% of their wheat needs from Russia and Ukraine. (Rudiger von Fritsch, 2022, p. 60)

Global supply chains depended on exports of specialty metals from the two countries. Therefore, after the outbreak of the war the prices of these metals reached record levels. There was also a significant increase in the prices of wheat, oil and gas. (Rudiger von Fritsch, 2022, p. 62)

The Organization for Economic Cooperation and Development (OECD) predicts, as a result of the effects of the pandemic, for the year 2022 an increase in the global economy by 4.5% and for the year 2023 an increase in the global economy by 3.2%. (Rudiger von Fritsch, 2022, p. 65). But the effects of this war changed these forecasts and led to the fundamental violation of international rules, a considerable increase in inflation, starvation and poverty for many people.

#### 4.2. The process of change

At the level of the European Union, a series of actions aimed at a substantial reform of the electricity market have been initiated. Therefore, following the negotiations carried out at the level of the European Union, a series of mandatory objectives for combating climate change were identified, respectively: (Volitiru et al, 2019, p. 42)

- reducing domestic greenhouse gas emissions by at least 40% by 2030;
- energy consumption from renewable sources of 32% in 2030;
- improving energy efficiency by 32.5% in 2030;
- the continuation of the process of physical interconnection of the energy systems of the member states of the European Union, with the fulfillment of the current objective of interconnection of electricity networks of 15% by 2030.

The Integrated National Plan on Energy and Climate Change 2021-2030 (PNIESC) must cover a period of 10 years and provide an overview of the current situation in the field of energy and climate change of policies and measures in force and set national objectives for each of the five dimensions of the UE (energy security and solidarity; internal market; decarbonisation; energy efficiency; research-development-innovation) as well as appropriate policies and measures to achieve these objectives.

Table no. 1 Overview of the main PNIESC 2021-2030 objectives at the level of 2030

Share of SRE-E (SRE=renewable energy sources; E=electricity)	39,6%
Share of SRE-T (SRE=renewable energy sources; T= transport)	17,6 %
Share of SRE-H&R (SRE=renewable energy sources; H&R= heating & cooling)	31,3 %
Energy efficiency (% compared to PRIMES 2007 projection at the level of 2030)	-37,5 %

Source: Deloitte's analysis, based on the official documents drawn up by the authorities involved in the development of the PNIESC

Currently, our country cannot ignore the climate context that affects the daily life of citizens, nor the European legislation that promotes sustainable development, in harmony with nature and that takes into account the needs to mitigate the impact of climate change, but also the need to prepare and adapting to these changes. (Volitiru et al, 2019, p.3 5)

*Sustainable sources of renewable energy.* Climate change as well as those generated by the Russian-Ukrainian conflict represent a major challenge for humanity and require concerted and urgent actions. These include phasing out fossil fuels and switching to an efficient and 100% renewable energy system. as well as increasing greenhouse gas storage capacity using ecologically sustainable approaches such as maintaining natural ecosystems that generate environmental services and restoring degraded ones. To encourage a large-scale transition to the use of sustainable energy sources, government support is needed to create a structure that allows the development of variable renewable energy sources and the future storage of an increasing amount of renewable energy. (Volitiru et al, p. 30). One solution would be the installation and expansion of large-scale photovoltaic parks in urban and industrial areas.

*Bioenergy.* It is crucial that the Romanian government supports the transition of the traditional wood fuel sector towards green technologies and more efficient uses of wood. An environmentally friendly production process could also increase access to cleaner energy, reduce health risks associated with the use of rudimentary stoves, and generate substantial income for people in rural areas. The promotion of the production of high-risk biofuels (such as fuels made from vegetable oils or other edible foods) that do not provide or provide limited reductions in carbon emissions, but which seriously affect the environment in general and food prices, must also be avoided.

There is more than enough evidence, given that we are the actors of everyday life, that the changes are increasing, making the future seem more unpredictable. The Great Recession of 2008, the current Russian-Ukrainian war attest to the fact that from time to time, globally, humanity goes through more difficult times. We can consider shocks and surprises as the new normal for a number of reasons: globalization, greater interdependence, new extreme weather patterns, and dynamic new technologies reaching tipping points. (Burrows, 2016, p. 62)

Currently, many questions are emerging, the answer to which is difficult to anticipate in the future: What is the direction towards which Europe is heading? Will we live in a world where nuclear weapons will proliferate? What are the most important threats to Romania?

*The growth of education.* The education sector will be a growing social and political battleground. The economic status of individuals and countries will likely depend even more on their level of education. Overall there is a strong convergence between advanced and developing countries. The quality of education is not something that can be easily measured, constituting, over time, the subject of many discussions. (Burrows, 2016, p. 65)

Countries that promote education so much compete to build up their educational institutions, which means attracting as many foreign students as possible, both as a sign of prestige and to help fund new study programs superiors they want to establish.

Competition can have lasting psychological and social consequences. Sometimes rising and growing prosperity do not produce more security, but actually have the opposite tendency to create more insecurity. Personal stories perhaps best illustrate the internal tensions that a sudden burst of new opportunities creates. (Burrows, 2016, p. 45)

East Asian economies have prospered thanks to sustained efforts by governments to rapidly improve the quality of the workforce through education and the development of export-oriented industries. In the Middle East, education systems need to produce a more technically skilled workforce and encourage citizens accustomed to public sector jobs to accept the demands and volatility of the private sector. (Burrows, 2016, p. 50)

Information technology has proven a great democratizing force. Thus, new data storage and processing solutions could help decision-makers solve difficult economic and governance problems, allowing a more intuitive and closer interaction with the computer, increasing the accessibility and usefulness of knowledge, and greatly improving the accuracy of predictive models.

Connectivity technologies will give governments—both authoritarian and democratic—an unprecedented ability to monitor their citizens. IT can become a powerful tool in the hands of dictators if used skillfully. For example, China maintains the largest and most sophisticated Internet censorship system in the world, employing tens of thousands of people to monitor and censor material the regime deems a threat. (Burrows, 2016, p. 55)

## 5. Conclusions

The world that is being built today is no longer like the one of the past and is governed by complex scientific endeavors that encompass several sciences, such as political and military science, international economic relations, cultural studies and regional civilization. An appropriate answer to the contemporary problems of communication and development is interculturality, because dialogue between cultures, still insufficient and ineffective, ignorance and misunderstanding, often strong, remain generators of crises and conflict.

Globally, the prospects for progress in the fight against global challenges will not be uniform. Experts talk about a "culture of awakening and awareness" that must promote the healthy interests and values of a state regarding the road to the future, harmony and economic fulfillment, stability and peace. The assumption through culture can have an important role in overcoming the crisis

(caused by the invasion of Ukraine by Russia) that the states of the world are currently facing; this economic and social crisis could be alleviated through policies implemented in intercultural dialogue both at the level of the representatives of the world states and at the level of ordinary citizens.

The economic, financial and especially the social-political reality demonstrates that one of the most significant features of the time with deep implications in the process of transforming the existing patterns of social life, resides in the extent and intensity of contacts between people, between peoples and cultures, the development international collaboration, the deepening of various forms of collaboration between states. (Costea et.al, 2010, p. 25)

The global challenge generated by these circumstances entails the need to harmonize the existing attitudes in society with the new realities, and implicitly, a determined definition of the direction, goals and ways of approaching international issues, in the context of which a special place belongs to the understanding of the communication crisis phenomenon intercultural and the implementation of strategies to mitigate conflicts between states (Ukraine-Russia conflict).

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## Sustainable and Transferable Tools of an Effective Manager

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### Abstract

*The outlined portrait of managers who behave in practice as true leaders includes a series of indispensable traits: empathy, strategic thinking, vast personal experience, integrity, respect for subordinates.*

*All these traits are reflected in managerial, modern leadership tools transformed into effective leadership styles, which once put into practice lead organizations to high performance.*

*The key to long-term success for a sufficient manager is the art of delegation. In order for delegation to take place optimally, the manager must, through the leadership styles put into practice, build solid relationships with subordinates and transform into a true leader.*

*Reality shows that there are managers who do not know how to manage the organization's resources and achieve maximum performance. Such managers, through learning and training, can acquire the ability to lead in order to become efficient and perform tasks at peak performance. Without effective leadership the success of a manager is not possible.*

**Key words:** strategies, prosperity, pandemic, war

**J.E.L. classification:** E10, M10

### 1. Introduction

The present work aims to present some solutions, embodied in leadership styles, for effective managers who know how to resonate with employees and are perceived as true leaders.

The times we live in need leaders who are not just smart, but also wise. Managerial tools must create opportunities that allow managers on the one hand to lead organizations effectively and think strategically, and on the other hand to turn into real leaders who understand how people see the world.

Progress will only come from your own work experience, from trying and learning, from observing and interacting with others, from experimenting and overcoming personal limits. Self-awareness, self-control, personal discipline, determination and resilience are indispensable traits of managers who know how to be true leaders and who have high performance standards.

The manager who knows how to be a true leader thinks strategically, is interested in change, takes risks, resonates with subordinates to gain their trust, from administrator turns into an innovator.

These qualities help a manager to cross certain barriers dominated by outdated mindsets and behave in practical work as a successful leader.

### 2. Theoretical background

The theoretical context of the work captures some behaviors put into practice by leaders through leadership styles. It is true that in practical activity there is no universally valid recipe for achieving success, but the leadership styles transposed by managers represent optimal managerial tools for them to be perceived by subordinates as effective leaders.

The scientific literature on the topic presents the aspects that underlie the practical behavior of an effective manager. Theories and models in the literature are important because they can help managers connect with the real world to identify the managerial tools that can transform them into successful leaders.

### 3. Research methodology

The research method is based on the one hand on the effective analysis of the traits that underlie the behavior of an effective manager, and on the other hand on a study that highlights the impact of leadership styles in practical activity.

The descriptive elements in this paper that form the basis of the research aim to present an analysis of the sustainable and transmissible tools that an effective manager has at hand: on the one hand, the aspects that define the practical behavior of an effective manager are highlighted, and on the other on the other hand, the impact of leadership is presented, which represents the true power of an effective manager-leader.

### 4. Findings

#### 4.1. What does it take to become a successful manager?

Are you as good a manager as you should be? Have you mastered the fundamentals of being a boss? Do you know how to get the best possible results from your subordinates? Are you ready for the increased responsibility that leadership entails? Management excellence can help managers find answers to these questions.

The position of an effective manager requires not only the acquisition of new knowledge and skills, but also the passage through a difficult personal change. Thus, those who become managers must learn to perceive their work and their own person differently, they must develop new values, increased emotional maturity and the ability to make wise judgments. (Hill, Lineback, 2015 a, p. 20).

Today, becoming a manager is a difficult journey of personal transformation that involves learning from experience over a long period of time, which can mean years, a journey that most managers do not complete.

Many managers believe that most problems are caused by their lack of knowledge, experience or skills, especially the inability to manage time. Reality shows that problems are generated by the application of poor management at all levels characterized by pressures, constraints, lack of time and agitation.

The fundamental nature of management is defined by many paradoxes. Because of this a certain amount of fragmentation, conflict, tension, instability and general disorder is built into the basic nature of managerial work. How should the manager be? -bold or patient, commanding or preventive, to emphasize development or criticism. Many managerial choices depend on a full assessment of the context and the goals pursued. Even successful managers feel overwhelmed, conflicted, ambiguous, and isolated. (Hill, 2003 b, p. 30)

Most people, whether they are simple salaried employees or in leadership positions, hope to achieve success at work, but also in all aspects of life. Reality proves that there are as many approaches to success as there are successful people. The success factors that define the stories of successful people are diverse. (Carnegie, 2020, p. 42)

*Self-confidence.* The main ingredient of success is self-confidence. Self-belief is that unseen force that persuades, stirs or guides until the goal becomes a reality. (Carnegie, 2020, p. 50)

*Self-discipline,* involves the ability to control one's emotions and actions; it begins with the commitment to succeed and continues with the necessary sacrifices to ensure that the commitment materializes. (Carnegie, 2020, p. 52)

*Mobilization capacity.* Successful people mobilize and become enthusiastic about their work.

Enthusiasm is a generative force that gives a lot of power to the one who feels it, it plays an important role in the formation of principles that define precise thinking and a pleasant personality.

*Ambition* defines the key factors that guide the individual's work: focus, integrity, economy and generosity. Concentration means intelligently directed attention to the work to be done and includes all that is meant by meticulousness, accuracy, and efficiency. Integrity fosters the honesty that underlies good reputations, and such reputations build profitable businesses. Economy involves careful management of physical and mental resources; it anticipates strength, endurance, vigilance and the ability to succeed. Generosity offers sympathy, understanding and good thoughts for those around. (Carnegie, 2020, p. 60)

*Sensitivity.* Empathy - the ability to mentally put yourself in the place of the interlocutor - is essential for success. Basically, managers must be sensitive to the feelings of those they supervise; sales people must be responsive to customer reactions; elected officials must be attentive to the needs of those who voted for them. Sensitivity cultivates respect for people, a tolerant attitude, effective cooperation. (Carnegie, 2020, p. 17)

*Consistency* implies assiduous perseverance regardless of the obstacles encountered in reaching the goal. Determination is the armor that cultivates the will, the free thinking, the accumulation of knowledge.

#### 4.2. The impact of leadership

One of the challenges of the society we live in is leadership. What does it mean to be a good leader?

The real power of the leader comes from the real influence, transposed through leadership, that he exercises over the group.

Nowadays authenticity has become the gold standard of leadership. Authenticity describes a leadership style that is based on the following aspects: honesty with oneself; keeping the balance between what the leader feels and what the leader does or says and choices based on values. (George et.al, 2020, p. 65)

Research on leadership types reveals a more detailed perspective of the link between leadership and emotional intelligence on the one hand, and work climate and performance on the other. Studies conducted by specialists highlight six types of leadership that have a direct and unique impact on the working atmosphere in a company, implicitly on financial performance. (Goleman, 2017, p. 40 ):

- Authoritarian leaders mobilize people according to their vision ((such a leader uses a "come after me" approach);
- Sociable leaders create emotional bonds and harmony between people (such a leader says to the subordinate "people come first");
- Democratic leaders build consensus through participation.
- Competitive leaders aim for excellence and autonomy (such a leader will say to the subordinate: "if I have to tell him, then he is not the right person for this")
- Mentoring leaders support others to develop into the future.
- Coercive leaders demand to be listened to immediately.

*Authoritative style.* The authoritative leader is a visionary, he motivates others by showing them how their work fits into the larger vision of the organization. Authoritative leadership maximizes employee involvement in achieving results and implementing strategy. By framing individual tasks within a larger vision, the authoritarian leader defines standards that revolve around that vision.

But authoritarian leadership style will not be effective in every situation. In practice, there are situations where a manager's authority can become tyrannical, in which case the egalitarian spirit of an effective team would suffer. Also, this leadership style can be an uninspired choice for a leader who works with experts or teams more experienced than him; they may consider him smug or out of step. (Goleman, 2017, p. 50)

*Advisory style.* Mentoring leaders help employees identify their strengths and use them in the service of their personal and professional aspirations. These leaders encourage employees to think strategically and provide them with plenty of guidance and feedback. This leadership style has a positive impact on work climate and performance. It is effective for employees who want to improve their performance and for employees who want to be guided. Research recommends that this style should not be approached for employees who are reluctant to new information and work methods.

*Sociable style.* This type of leadership values the emotions of individuals more than the tasks and goals they serve. The leader creates strong emotional bonds between employees causing them to become loyal to their company. This style positively influences communication between employees; it also develops flexibility, trust and responsibility among employees.

The positive impact that sociable leadership has makes it suitable for any situation, but it is especially recommended for leaders who want to establish team harmony, increase employee morale, improve communication or repair broken trust relationships. Despite the benefits, social leadership is not enough on its own. The orientation of this style towards praising the employee can determine

that in certain situations mistakes are not corrected, in which context employees consider that the organization tolerates mediocrity.

*Democratic style.* The democratic leader allows people to express their ideas and show their involvement, thus earning their trust, respect and loyalty. Such a leader involves subordinates in the decision-making process, stimulates employee flexibility and responsibility, increases employee morale, and sets standards for evaluating employee performance.

The democratic style is recommended when the leader is faced with difficult situations and needs ideas and advice from competent employees. Therefore, democratic leadership is effective, generates innovative ideas and stimulates the implementation of the leader's strategic vision. This style is not effective when employees are not competent to get involved in the decision-making process. One of the unpleasant consequences of this style is the organization of interminable meetings in which people do not reach a consensus, the only concrete result being another meeting to achieve consensus. Some leaders use this style to delay important decisions in the hope that more debate will reveal exceptional ideas. There are also situations where, under the impact of the sudden changes that a company may face, some leaders alternate the democratic style with the excessive authoritarian style, generating confusion among employees. (Goleman, 2017, p. 58)

*Competitive style.* The competitive leader is ambitious and sets extremely high performance standards, is always concerned with doing things better and faster, and has the same demands from subordinates. Employees who are not up to the challenges are replaced with more capable ones. This style can destroy the work environment as many employees feel overwhelmed by the leader's demands for excellence and their morale suffers.

In practice, there are situations in which the competitive leader fails to clearly explain the work instructions to the subordinates, because he believes that the subordinates must know clearly what they have to do. Also, subordinates often have the impression of a competitive leader that he does not trust their work, the initiatives they take. Therefore, flexibility and responsibility disappear, and work becomes a boring routine oriented only by results. (Goleman, 2017, p. 59)

In the reward plan, the competitive leader does not provide any feedback related to people's performance and is quick to take over the tasks if the subordinates fail to achieve the expected performance. Subordinates perceive such a leader as the expert who sets the rules; therefore, under competitive leadership, people's involvement drops considerably.

*Coercive style.* Of all the leadership styles presented, the coercive one is effective in the fewest situations. The coercive style has a devastating effect on the working climate in organizations, organizational flexibility will be greatly affected, the sense of responsibility will disappear, and subordinates will accumulate a lot of resentment. Coercive leadership also has a detrimental effect on the motivational system because people feel that their work is not respected, thus making subordinates alienate from the organization. (Goleman, 2017, p. 62)

In some rare cases, coercive leadership can change bad business habits and impose new ways of working. It is suitable for all real emergency situations such as the recovery of a company; the emergence of hostile leadership; assessment of damage caused by an earthquake or fire; employees who achieve low performance and who have been warned repeatedly.

## 5. Conclusions

Analyzing the leadership styles presented so far, we can say that a leader has a better result the more leadership styles he puts into practice. Effective leaders easily switch from one style to another depending on the needs of the organization. The internal environment of organizations defines the types of styles that a manager must consider in order to achieve the best results.

In practice, the situations a leader faces, and which require effective leadership styles, differ from one organization to another:

- there are organizations where the employees were demoralized in the previous period by a boss lacking empathy;
- they are organizations that have gone through a major crisis that has left a considerable mark on the low profit obtained;
- are organizations where high-performing employees choose to leave their jobs because of repeated conflicts with their direct supervisor or because of rewards below expectations.



In addition to the leadership style translated into practice, the manager's techniques, behavior and philosophy must be easy to convey to others and sustainable. This fact denotes the manager's ability to put into practice effective leadership styles in diverse economic conditions, in the long term.

Reality shows that different situations call for different types of leadership. A basic condition of success in leadership is emotional intelligence. A manager can have a high-level training, a shrewd mind, but without emotional intelligence he cannot be an exceptional leader. As we have shown so far self-awareness, self-control, empathy and relationship management are main components of emotional intelligence. They define the behavior and channel the manager towards choosing the effective leadership style in the practical activity.

An effective manager is aware that employees think differently and must have the ability to see how subordinates think and what is important to them. Therefore, cognitive empathy gives the leader a mental insight into how subordinates think and is an effective way of communicating and interacting with subordinates. Emotional empathy, another type of empathy, also brings benefits. With the help of emotional empathy, the manager can distinguish the elements of non-verbal communication, which indicate the emotional states that the subordinates go through at every moment and cultivate a sense of understanding of the leader for those around him. The third type of empathy refers to empathic concern and defines the manager's concern for subordinates, his desire to support them.

Specialized works outline the qualities of a successful manager, the skills he must meet, as well as various categories of leadership styles but do not specify types of leadership that can guarantee success in any situation. In these circumstances, the primary role falls on the manager to demonstrate through the skills he has that he has, in practical activity, managerial tools capable of leading the organization towards performance.

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## Students' Emotional and Behavioural Adjustments as Factors Influencing Academic Success

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### Abstract

*The present study takes into consideration several important aspects connected to students' emotional and behavioral adjustment during the transition period from high school to university. Students' adjustment is part of the explanation concerning students' performance in their academic path, the decision of dropping out of university and success in their future professional life. Our study investigates students' capacity to adapt to new systems and standards as imposed by academic life. As observed by numerous researchers, adjustments to academic life involve a number of modifications on several plans, which allow students to meet the new requirements they are confronted with in order to effectively participate to courses and activities. These are varied and complex and comprise several levels of their life. Our attention is particularly focused on identifying and observing those tightly connected to their emotional and behavioral adjustments which can be improved by the academic systems.*

**Key words:** students' adjustment, emotional, behavioral, intellectual, academic success

**J.E.L. classification:** Z13

### 1. Introduction

First-year students are exposed to a multitude of changes, challenges and even transformations that go beyond the academic environment or standard academic structure, involving greater individual autonomy and determination. The concern of the universities about the way in which their students manage to accommodate and cope with these "obstacles", is reflected in the number of studies carried out, the orientation programs initiated and the counselling centers addressed to them. Individual adjustment is concerned with the capacity of a person to adapt to the surrounding environment. Our adaptive characteristic is present all along our dimensions (intellectual, emotional, social, vocational etc.) and it regulates the inner processes through which we cope with the challenges we encounter.

Education plays an important role in young people's individual development and psycho-social environment, as well as in their future studies and career opportunities. The subjects of our present study are young adults, with ages ranging approximately from 18 through 23. For them this period of their life is extremely exigent because of the transition, continuous change and exploration possibilities which open in front of them. This period is often associated with mental health difficulties derived from stress, anxiety, the feeling of loneliness etc., difficulties which in time can lead to drop out, affecting mainly the first two years of university students. For universities it is important to spot and understand these issues and be able to develop internal mechanisms in order to trigger a positive adjustment among young students. It is well known that stress is omnipresent in academic life, whether determined by a tight deadline pressure, or by the inability to accomplish the intellectual tasks imposed by the academic system. Reaching the right amount of stress in order to better focus on required tasks and not transforming this stress into a chronic condition or surpassing the right amount is a necessary condition in order to succeed.

## 2. Literature review

Initially seen as a unique variable, academic adjustment is analyzed as a multifaceted concept on the basis of four indices: "academic achievement" (comprising the motivation for learning and the ability to earn satisfactory grades), "social adjustment" (centered around the ability to establish social networks), "personal emotional adjustment" (psychological and physical conditions) and "institutional adjustment" -reflecting students' relationships with the academic environment (Baker & Siryk, 1989). The challenges faced especially by first-year students are grouped by other authors around : the capacity to "navigate a new social environment" , the possibility to acquire an institutional "orientation", the ability to "become productive members" of the community, being able to adapt to new responsibilities, managing to overcome the separation from friends and family members and being actively involved in making personal career decisions (Credé, M. & Niehorster S., 2012).

Under the comprehensive umbrella of: flexibility, transition and change, Hazard, L., and Carter, S, 2018, group first-year university students experience in six areas: *academic adjustment* (in which self-regulatory behaviors such as workload and time management skills are exercised, establishing relationships with professors etc); *cultural adjustment* (being confronted with a diverse student environment, language differences (Wu, H. P., Garza, E., & Guzman, N, 2015, p. 2), or to different belief systems; *emotional adjustment* brings challenges associated to stress management and the development of various strategies useful in handling mental health issues, emotional aspects of student's lives re-shaped by educational systems, as teaching and feeling function as a whole (Mărunțelu C. L. and Gălbează A., 2020). Any educational mission is an act of generosity which starts from limited resources, aiming at limitless innovative and creative gestures which can in time impact entire communities, a lack of adequate human capital negatively impacts economic growth (Moise-Titei A., 2016).

In the 2021 Healthy Minds Study, depression is indicated as a major condition affecting U.S. College Students (41%), 22% being screened positive for major depression. While other factors, such as loss of motivation, life change or financial difficulties may be indicated as possible reasons for dropout, more recently the number of students indicating mental health issues as a determining factor, is on the increase. *Financial adjustment*, involves developing financial skills, managing personal budget, tuition costs and even finding a part-time job. *Intellectual adjustment* triggering shifts in personal values and taking calculated risks. *Social adjustments* bringing dynamic changes in relationships, handling peer pressure and learning to live with a roommate (Hazard, L., & Carter, S, 2018).

## 3. Research methodology

The survey consisted of a specially designed Microsoft Forms Questionnaire. 55 students (aged between 19 and 23 years old) participated to the survey. The respondents are students enrolled in the academic year 2022-2023- at the Faculty of Economic Sciences, "Ovidius" University of Constanta, in their first year of study.

The survey consisted of both open and closed answer questions. In case they didn't feel comfortable with a question, students were allowed to skip it. The questions investigated students' emotional, behavioral, social and intellectual adjustment to academic life. All the answers were anonymous.

## 4. Findings

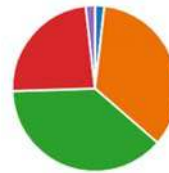
The first question investigated students' opinions about the set of acquisitions they received during the high school years and their previous work experience (if applicable) that would enable them to bridge the gap between the pre-academic and academic system with confidence, 35% of the respondents opted for "Confident", 38% for "Somewhat confident", 24% for "Unconfident", 2% chose each of the extreme options ranging from "Extremely confident" to "Extremely not confident".

Table no 1- questions 1, statistical results

1. How confident are you that your high school and/or work experience have prepared you academically for college?

[Mai multe detalii](#)

Extremely confident	1
Confident	19
Somewhat confident	21
Unconfident	13
Extremely not confident	1



Source: Question and chart processed by the author

The second question of our survey aimed to investigate if students, in case they are confronted with a college related experience, which surpasses their initial possibilities seek for help or specialised help in the campus. The options suggested where: "I will likely persist and persevere until I figure it out", (chosen by 63% of the respondents), "I will likely try to solve the problem, but if it is really difficult I will simply move on to something else" (18%), 10% opted for advice from family members or friends. Whereas 5% of the respondents decided that in this case seeking for help from resources located in campus and dedicated to them would be a suitable option.

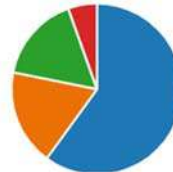
Table no 2- questions 2, statistical results

2.

When you experience a college-related challenge and are not really sure how to solve it, what best describes the action you're likely to take?

[Mai multe detalii](#)

I will likely persist and persevere...	33
I will likely try to solve the probl...	10
I will likely ask my parents or fri...	9
I will likely seek help from resou...	3



Source: Question and chart processed by the author

Considering the fact that academic life is dominated by numerous changes and transformations for which most students declared to be insufficiently prepared, (despite the exam prep programs and the Open Gates Days, initiated by the universities), we asked students opinions about a longer "pre-exposure" period, in which students become more familiar with the target faculty, 95% of the respondents opted for a positive answer to this opportunity.

Students' motivation plays an important role in guiding them along their academic path. Our aim was to investigate up to what extent this feature intensified or faded during this first semester in which they were confronted with university life. In order to better capture their thoughts, we opted for an open answer question. Out of the 49 answers we received, 8 were negative answers, most of the students confessed that they were reconsidering their initial choice and would like to attend other programmes they see as more suitable to their preferences. Two students opted for an ambiguous "I don't know", while 39 students expressed with different levels of enthusiasm their motivation and determination to pursue their studies and graduate the chosen programme, from simple "Yes" to "Yes, it's just as strong as it was because I've always known that I want this and I'm not going to give it up" or "I'm very confident that I will graduate this faculty and my determination for this goal is very high".

In order to obtain a clearer image of their concerns and sources of stress associated with their educational life, we grouped the most common worries expressed by students and asked the respondents to rank them in order of importance- the options available reflected the amount of work required in the courses, the lack of friends, the inability to handle all the obligations, making good grades necessary to continue studying, the concern of not belonging to this space. The last option comprised all previously mentioned ideas and the fact that many students ranked this last option as the most worrying indicates, in our opinion, the fact that many other various unspoken difficulties

are present in the educational and personal life of our students. In terms of quantity and variety of courses available to them, 58% of the respondents expressed their agreement, 11% strongly agreed, 27% were neutral and 4% were in disagreement with this idea.

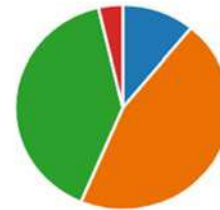
Intellectual challenges are varied, especially for first-year students, considering the existence of the so-called *impostor syndrome*, in which students affected feel they don't belong to the academic environment, the respondents were asked to indicate to what extent they feel smart enough for the academic work they are expected to be doing. 33% disagreed and 11% strongly disagreed to this idea, 27% were neutral, whereas 24% agreed and 5% strongly agreed. When asked about feeling that they fit in well as part of the college environment, 40% expressed their neutrality, 45% agreed, 11% strongly agreed and 4% were in disagreement.

Table no. 3- questions 8, statistical results

8. I feel that I fit in well as part of the college environment.

Mai multe detalii

Strongly agree	6
Agree	25
Neutral	22
Disagree	2
Strongly disagree	0



Source: Question and chart processed by the author

In terms of emotional adjustment, our intention was to investigate the students' mood and in question nine, we asked students if they have been feeling tense or nervous lately. The answers indicated that a certain amount of tension accumulated already, despite the fact that the period of exams was still distant: 4% opted for "Never", 25% for "Rarely", 36% for "Sometimes", 29% for "Often" and 5% for "Always".

The testing of the intellectual adjustment in question 10- "I have been keeping up to date on my academic work" indicated that 69% of the respondents feel confident, while 31% still encounter difficulties in this respect. As for the social adjustment, we chose to investigate their capacity of making as many new friends as they would like and their satisfaction degree concerning meeting new people, 64% indicated a positive answer, 36% a negative one.

## 5. Conclusions

Developing a supporting network dedicated not only to dealing with academic issues, but also to help develop professional connexions beyond the educational environment. In this way, students will be more alert, will be given a sense of orientation and be better advised in terms of strategies to be adopted on the long term useful when dealing with the labour market.

The aim of achieving self-determination in terms of learning and personal development and being more easily adjusted through the assimilation of adequate behaviours in terms of proper communication, being and feeling deeply involved in the academic community and making full use of resources provided by the university.

In order to positively contribute and promote an advantageous partnership to benefit students, it is important to involve and at the same time find a bridge between academics and student affairs programmes. In this respect, reducing individual responsibilities and transforming them into an advocacy for student development, being aware that fully acknowledging the unicity of the university system in terms of its mission, importance, individual culture, student body features.

Institutional agents and academics share a common personal goal- to develop in a timely manner a welcoming atmosphere for newcomers that fosters student integration, adaptation and adjustment, guaranteeing their academic success.

Developing more dedicated monitoring and tutoring programmes, with more staff, to be included in the curricula, which explain the structure and the requirements in more detail. More time for common social events- to develop a sense of community, encourage students to do things by themselves, to stop worrying about making mistakes, not to ignore their health needs and encourage them to take up healthy stress reducing activities, teaching intellectual hygiene.

We consider that the present study can be extended and offer a transversal view on students' adaptive mechanisms through correlation with a second questionnaire carried out at the end of the second semester of the first year of study, investigating the initial parameters under discussion, in this way the intervention of the academic systems and the help offered to students can be fine-tuned more efficiently and reach them in a timely manner.

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## Basing the Decisions Regarding the Optimal Variant of the Maintenance Policy Based on the Criterion of Economic Costs

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### Abstract

*By maintenance we mean a set of technical-organizational activities, whose purpose is to ensure maximum performance for the good considered (equipment, building, installation, etc.) Based on these considerations, the aim of this work is to make the most sustainable decisions in choosing maintenance methods based on economic costs. The purpose of predictive maintenance is to predict when equipment failures may occur, depending on a number of factors, followed by the prevention of these failures through correct and regular maintenance. By having these scheduled operations, excessive maintenance (an unnecessary cost) and unexpected breakdown of the equipment are eliminated at the same time. Also, the lifespan of an equipment is increased when it is maintained before defects appear.*

**Key words:** maintenance, productive potential, technical infrastructure

**J.E.L. classification:** D11, D23

### 1. Introduction

The development of human society was accompanied by a strong revolution in the technical field, being supported by the development of this type of activity. This is where the need for support activities arose from which maintenance cannot be missing.

A few definitions are instructive.

A. According to Grand dictionnaire universel XIX siecle by Pierre Larousse, Paris, 1873:

- Maintenir (to maintain) – conservation, defense, protection.....
- Entretien (maintenance) – soin qu'on consacre.....(what is undertaken to keep something in good condition.....);
- Reparation (repair) – action de remise en marche .....(action to restore operation.....);

B. According to the Encyclopaedia Britannica: (Ceașu, 1980, p.77)

- Maintenance – to hold in an existing state .....(to maintain in the existing state);
- Repair (repair) – to restore to the good condition.....(to bring back to good conditions);
- Entertain (empowerment) – to maintain in a good condition.....(to maintain in good condition).

C. A preliminary observation is that there is a significant difference between "maintenance" and "maintenence" and repair, an aspect also noted in the Explanatory Dictionary of the Romanian language:

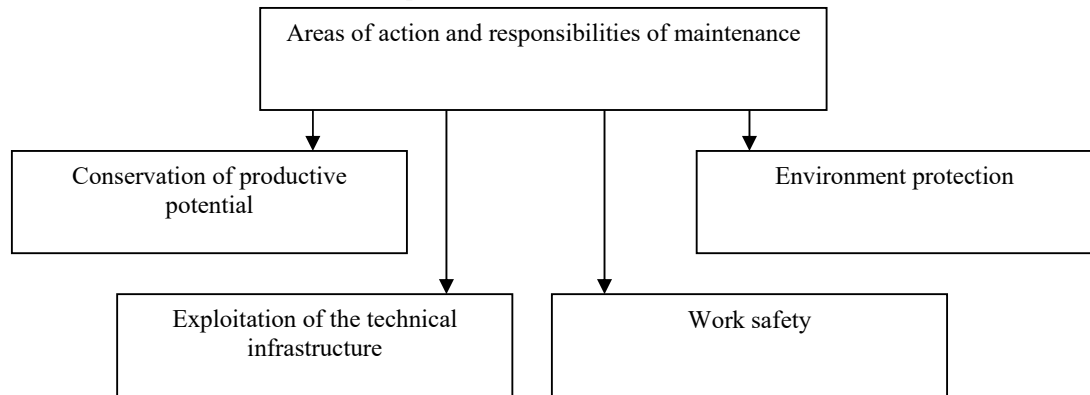
- To maintain - to keep something in the same state or form in which it is at a given moment, to make it last...;
- To maintain - to keep in good condition, in good conditions; to make last, to maintain;
- To repair – to make one's own for use, to restore, to maintain.....

The Romanian terms shown in the aforementioned dictionary originate in French; in the consequently, it can be considered that the term "maintenance" finds its justification in the current language with some remarks (Burloiu, 1997, p. 63)

- maintenance involves maintenance and repair activities;
- it is erroneous to admit that only the performance of maintenance and repair activities represents "maintenance". By maintenance we understand a set of technical-organizational activities, which aim to ensure maximum performance for the asset in question (machinery, building, installation, etc.).

These activities are grouped by areas of action and responsibility.

Figure no. 1. The areas of action and responsibility of maintenance



Source: Authors' contribution

Let's present them one by one:

a) **Preservation of productive potential.** In order to ensure the productive potential of the transport enterprise, the responsibilities maintenance is embodied in actions aimed at: (Ceașu, 1980, p. 211)

- the permanent diagnosis of the technical condition of the machines and installations;
- remedying the detected dysfunctions;
- repairing and commissioning the equipment in case of breakdown;
- carrying out installation activities, arrangement, design of new maintenance methods in order to optimally use the new equipment.

These purely technical activities will be based on strategies and management policies specific to maintenance.

The assessment of efficiency is carried out in accordance with a series of specific performance assessment indicators.

b) **Exploitation of the technical infrastructure.** The technical infrastructure means the set of sewerage, storage and distribution of the units necessary to carry out the specific activities of the company (electrical, thermal, water installations, pressurized air, steam, gas, etc.).

Within this field, activities related to: (Golea, 2008, 9.39)

- permanent diagnosis of the general state of operation of utility networks;
- designing and installing new utility networks;
- quality and quantity control of the transported fluid;
- reduction of consumption and losses in the transport and distribution of utilities.

In the spirit of the activities described above, some authors consider that in this category of activities, the operation of the company's logistics park must also be introduced, in which case the logistics function is combined with the maintenance function.

In other approaches, the logistics activity is considered to be itself a basic function of the enterprise, assisted by the maintenance function in a similar way to the production function.

In the classic organization of the majority of Romanian enterprises, there is an organization that presupposes the existence of a "mechanical-energetic" compartment and another "logistics" compartment. (Hlaciuc, 1999, p. 98)



c) **Environmental protection.** By its nature, a maintenance service must only carry out activities that are in accordance with the principles of respect for man and his environment. In this sense, the specific activities that per excellence belong to the department are: (Golea, 2012, p, 109)

- the permanent diagnosis of the technical condition of the machines and installations regarding the emanation of noxes;
- prevention of fluid leaks;
- permanent control of the level of pollution due to the specific activities of the enterprise and taking measures to bring it within the legal limits;
- maintenance and operation of recycling, recovery, filtration, etc. installations. of residual fluids.

In many maintenance management approaches, service quality is tight related to their implications on the environment.

d) **Work security.** Work security, referred to in current concepts as "safety and health at work" is the subject of multiple laws, decrees or government decisions that regulate the safe operation of machines and installations specific to each branch.

Although the rules regarding safety and health at work are addressed directly to the people involved in the management and exploitation of different types of equipment, we believe that the maintenance service has major implications in ensuring safety and health at work through specific activities such as: (Verzea et al, 1999, p. 106)

- maintaining in good working order the alarm devices specific to different types of machines or installations;
- the overall maintenance of the equipment, to prevent the occurrence of risks of accidents and occupational diseases specific to the work equipment that may endanger the operating personnel;
- the development of internal work safety rules, in accordance with any change made in the basic structure of the machinery during repair or modernization;
- carrying out studies regarding the security of the exploitation of new types of machines and the elaboration of specific rules;
- the development of quick intervention methods and in full security of personnel and fixed assets.

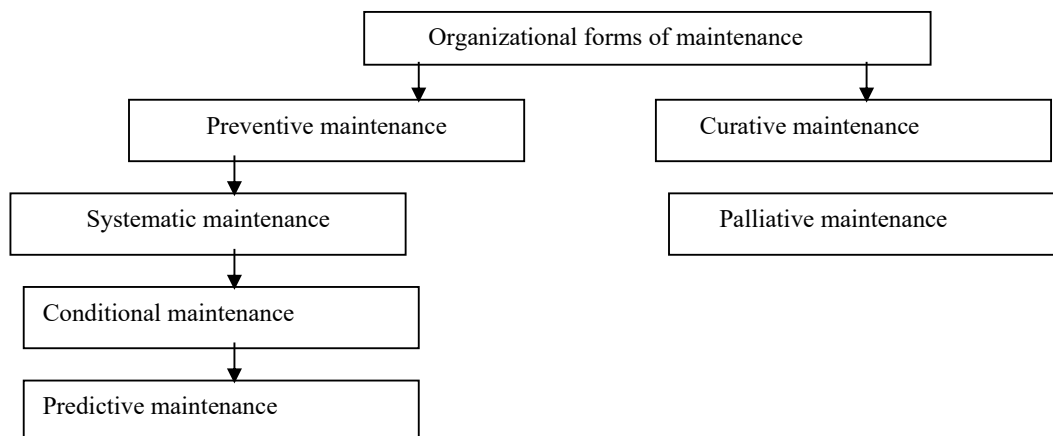
In all the maintenance activities carried out in a company, the safety of the staff will be considered above productivity or cost issues.

Moreover, in modern management, safety and health at work are considered to be active factors for motivating employees.

## 2. Theoretical background

The organization of maintenance activities is based on the following aspects: location of the enterprise; activity profile; the characteristics of the existing means of production.

Figure no. 2. Organizational forms of maintenance



Source: Authors' contribution

- **Preventive maintenance** is "maintenance whose object is to reduce the probability of failure or degradation of a good or service".

The types of preventive maintenance that we can remember are the following: (Hlaciuc, 1999, p. 83)

**Systematic maintenance** - respectively maintenance carried out through activities of maintenance, current repairs, revisions and capital repairs, constituted in a standardized technical plan of interventions specific to each type of machine.

**Conditional maintenance** - with the meaning of "maintenance carried out through the medium tracking the wear parameters of the key elements or sub-assemblies of the machines, by means of specific instruments (wear, vibration, oil analyzers etc.)" following that the maintenance interventions are carried out before the appearance of the defect.

**Predictive maintenance** - represents "subordinate preventive maintenance, the analysis of the evolution followed by the significant parameters of the degradation of the good that allows the delay and the planning of the interventions".

- **Corrective maintenance** represents "the set of activities carried out after the failure of a means of production or after the degradation of its function in an unforeseen way. These activities consist in the location of defects and their diagnosis, putting them back into operation with or without modifications and checking the proper functioning".

It is divided into two subtypes: (Lungu et al, 2004, p. 202)

**Curative maintenance** represents the set of maintenance activities corrective actions that have as their object, the restoration of a means of production in a specific state of operation, which allows it to fulfill its functions". (Bărbulescu, 1980, p. 182)

These activities can be repairs, modifications or arrangements aimed at eliminating defects.

**Palliative maintenance** represents "corrective maintenance activities aimed at allows a means of production, provisionally, to fully or partially fulfill its functions".

Troubleshooting is currently called for, this palliative maintenance mainly consisting of temporary actions that must be followed by curative actions.

A way to compare the efficiency of the previously stated systems can be achieved by means of the total average maintenance costs per unit of time.

### 3. Research methodology

The technical data necessary to run the study can be taken from the operating regulations of the machine, and those related to costs can be obtained from the economic manager.

The following data are known: (Lungu et al, 2004, passim)

- the cost of a preventive intervention on a machine is 30,000 lei;
- if the car were to break down (breakdown with medium complexity), it is estimated that putting it back into operation would cost 200,000 lei;
- at a standard operating time of 10,000 hours, the MTBF would be 200 hours;
- if a systematic maintenance would be applied, the failure probability  $F(t)$  would be 0.3 corresponding to an average duration of use  $m(t)$  of 300 hours;
- for the maintenance of this type of machine, a control device of the technological operating parameters for the main sub-assemblies can be used, which costs 400,000 lei for a guaranteed operating time of 2000 operating hours;
- a conditional intervention is estimated to have a cost of 1,000 lei, leading to a  $K_c$  coefficient of 1.5;
- the latest types of devices for general tracking of operating parameters cost 1,200,000 lei, but the manufacturer guarantees for 4,000 hours of operation, a  $K_p$  coefficient of 1.9 at the same cost of applying the method;
- part of the machines are with the normal operating time exceeded as a result, with all the efforts it is not possible to obtain an MTBF  $\square$  lower than 50 hours;
- new machines are guaranteed for a duration of operation of 1000 hours.

Based on the above information, a comparative analysis of the different maintenance policies that can be applied to the machine will be attempted.

#### 4. Findings

According to relation (1), **the average total cost for curative maintenance** per time unit is:

$$C_{11} = \frac{p + P}{MTBF} \left[ \frac{\text{lei}}{\text{ora}} \right] = \frac{30.000 + 200.000}{200} = 1.150 \left[ \frac{\text{lei}}{\text{ora}} \right] \quad (1)$$

where:

p- the cost of a preventive intervention on a machine – 30,000 lei

P - the cost of putting the machine back into operation - 200,000 lei.

MTBF – mean times of good operation – 200 hours.

If the machines were to be used beyond the normal operating time, **the average cost of palliative maintenance** per time unit relationship (2) will be:

$$C_{12} = \frac{p + P'}{MTBF'} \left[ \frac{\text{lei}}{\text{ora}} \right] = \frac{30.000 + 200.000}{50} = 4.600 \left[ \frac{\text{lei}}{\text{ora}} \right] \quad (2)$$

where:

p – the cost of a preventive repair - 30,000 lei;

P – additional cost borne in case of machine failure (lei) - P- 200,000 lei;

MTBF – the average time of good operation, after the standard period (much lower than MTBF) - 50 lei

The use of **systematic maintenance** generates the following costs:

$$C_{21} = \frac{p + P \times F(t)}{m(t)} \left[ \frac{\text{lei}}{\text{ora}} \right] = \frac{30.000 + 200.000 \times 0,3}{300} = 300 \left[ \frac{\text{lei}}{\text{ora}} \right]$$

where:

p – the cost of a preventive repair - 30,000 lei;

P - the cost of putting the machine back into operation - 200,000 lei;

F(t) = probability of failure of the considered critical element during the service period t – 0.3;

m(t)=average duration of use of the considered critical element (hours) – 300 hours

If we opt for the purchase of a measuring and control device, the cost of applying **conditional maintenance** g becomes:

$$g = \frac{P_{\text{disp ctrl}}}{Df_{\text{disp ctrl}}} \times MTBF + P_{\text{int erv cond}} = \frac{400.000}{2000} \times 200 + 10.000 = 50.000 \text{ lei}$$

The calculation data were:

P<sub>disp ctrl</sub> - control device cost - 400,000 lei;

D<sub>f disp ctrl</sub> - guaranteed operating time of control device - 2000 hours;

MTFB - the average time of good operation of the machine - 200 hours;

P<sub>interv cond</sub> - conditional intervention cost - 10,000 lei.

As a result, the average total cost of conditional maintenance is:

$$C_{22} = \frac{p + g}{Kc \times MTBF} \left[ \frac{\text{lei}}{\text{ora}} \right] = \frac{30.000 + 50.000}{1,5 \times 200} = 267 \left[ \frac{\text{lei}}{\text{ora}} \right]$$

where:

p – the cost of a preventive repair - 30,000 lei;

g- the cost of applying the conditional maintenance, expressed as the sum of the expenses for purchasing the necessary sensors and sensors and for reading, decoding and interpreting the collected data -50,000 lei;

Kc=coefficient of conditional intervention, which usually increases MTBF- 1.5.

The application of *predictive maintenance* methods will lead to expenses g calculated as:

$$g = \frac{P_{\text{disp ctrl}}}{Df_{\text{disp ctrl}}} \times \text{MTBF} + P_{\text{int erv cond}} = \frac{1.200.000}{4000} \times 200 + 10.000 = 70.000 \text{ lei}$$

The calculation data were:

Pdisp ctrl - control device cost - 1,200,000 lei;

Df disp ctrl - guaranteed operating time of control device - 4000 hours;

MTFB - the average time of good operation of the machine - 200 hours;

P interv cond - conditional intervention cost - 10,000 lei.

Consequently, the average forecast maintenance cost per time unit will be:

$$C_{23} = \frac{p + g}{Kp \times \text{MTBF}} \left[ \frac{\text{lei}}{\text{ora}} \right] = \frac{30.000 + 70.000}{1,9 \times 200} = 263 \left[ \frac{\text{lei}}{\text{ora}} \right]$$

where:

p – the cost of a preventive repair - 30,000 lei;

g- the cost of the latest devices for tracking the operating parameters -70,000 lei;

Kc=coefficient of conditional intervention, which usually increases MTBF- 1.9.

Let's make the following summary table:

Table no. 3.1 Centralization of results

Average total cost of curative maintenance per time unit	"the set of corrective maintenance activities whose object is to restore a means of production to a specific state of operation, which allows it to fulfill its functions". These activities can be repairs, modifications or arrangements aimed at eliminating defects.	1.150 $\left[ \frac{\text{lei}}{\text{ora}} \right]$
Average total cost of palliative maintenance	. Palliative maintenance represents "corrective maintenance activities intended to allow a means of production, provisionally, to fully or partially fulfill its functions". Troubleshooting is routinely called for, this palliative maintenance mainly consisting of temporary actions that must be followed by curative actions	4.600 $\left[ \frac{\text{lei}}{\text{ora}} \right]$
Average total cost of systematic maintenance	The maintenance carried out through maintenance activities, current repairs, revisions and capital repairs, constituted in a technical plan standardized by interventions specific to each type of machine.	300 $\left[ \frac{\text{lei}}{\text{ora}} \right]$
Average total cost of conditional maintenance	Maintenance carried out through the medium tracking the wear parameters of the key elements or sub-assemblies of the machines, by means of specific instruments (wear, vibration, oil analyzers etc.)" following that the maintenance interventions are carried out before the appearance of the defect.	267 $\left[ \frac{\text{lei}}{\text{ora}} \right]$
Average total cost of predictive maintenance	It represents "subordinate preventive maintenance." the analysis of the evolution followed by the significant parameters of the degradation of the good that allows the delay and the planning of the interventions".	263 $\left[ \frac{\text{lei}}{\text{ora}} \right]$

Source: Authors' contribution

## 5. Conclusions

From the data analysis it is found that:

- the most economical maintenance policy is the predictive one (263 lei/hour); however, this involves the purchase of an AMC which is currently expensive but shows its effectiveness over time;
- with a much smaller investment, you can opt for conditional maintenance, which will also lead to reduced costs, close to those of predictive maintenance - 267 lei/hour;
- if there are no funds available for the application of conditional maintenance, then systematic maintenance is the most convenient from the point of view of the hourly cost (300 lei/hour);
- curative and palliative maintenance is expensive, determining average total costs of 1,150 lei/hour, respectively 4,600 lei/hour.

If the machines are in the warranty period, we can consider that MTBF = 1000 hours, consider and consider only preventive interventions ,3,000 lei, then the average cost per time unit is:

$$C_{11} = \frac{p}{\text{MTBF}} \left[ \frac{\text{lei}}{\text{ora}} \right] = \frac{30.000}{1.000} = 30 \left[ \frac{\text{lei}}{\text{ora}} \right]$$

We should resort to replacing the machine at MTBF, but this will lead to particularly high investment costs.

The advantage of such a maintenance policy, however, is to always have an up-to-date equipment, unit costs can be kept at an acceptable level based on the increase in productivity.

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## **The Medical Profession – A Brief Approach in Terms of the Labor Market**

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### **Abstract**

*The crisis of human resources in public severely health affects the population's access to quality medical services. Through this paper, the authors attempt make some correlations with the phenomenon manifested on the labor market, namely the migration of medical personnel. The necessary clarifications are provided of the causes and effects of this phenomenon, but the extent of negative manifestations is also described, as well as some trends that have emerged following the implementation of the legislative measures of a high salary in the state health sector (2017). We also refer to the fact that concrete strategies and plans have recently been adopted regarding the development of people in the public health sector, centered on working conditions - the modernization of health facilities, the provision of new/advanced equipment, etc. -, to which it is associated with the granting of facilities for practicing the profession in isolated areas and in deficient specialties.*

**Key words:** international migration, medical personnel, scope, public health, support strategies/plans

**J.E.L. classification:** H11, H51, H70, I15, I18, M48

### **1. Introduction**

Persons working in the health sector, beyond a certain specifics related to the details of training and practice of the profession, are subject to principles, rules, laws, etc. that generally characterize the labor. As a result, we believe it is important to monitor the effects manifested over time, particularly with regard to the phenomenon of medical migration.

This is mainly because "The migration of Romanian doctors is a highly topical component of the more general phenomenon of labor force migration from Romania, and its socio-economic relevance concerns its effects on the public health system." (Dornescu & Manea, 2013).

Obviously, the phenomenon does not only affect doctors, but also other categories of staff. The problems that arise are often - if we take into account the fact that the migration of medical personnel has large-scale dimensions - of an ethical and social justice order (Cehan, 2013), these not finding quick solutions. Moreover, Professor Astarastoe estimates that the difficulties caused to the country by the migration of doctors affect the very national security of the Romanian state (Astarastoe, 2011), at a time when some countries have policies based on high funding allocations to attract doctors from countries such as Romania.

While this appreciation may no longer be as valid today, with some experts even speaking about positive effects - important remittances entering the financial system of the country of origin, the formation of connections with the diaspora, advantageous exchanges of experience in the medical field, etc. (Săcălean & Boglarka, 2016), we reveal however the idea (found in Driouchi & Kadiri,

2010) that the migration of medical personnel puts major difficulties to the economic development of the health sector, education and, above all, the general health of the population in the country from which the doctors leave.

The structure of this paper includes, following this introductory part (1): Theoretical background (2), the description of the Research methodology (3), The migration of doctors, a phenomenon specific to the functioning of the labor market. The case of Romania: Size, causes and consequences (4) (with subdivisions: 4.1. General considerations, 4.2. How the medical staff is statistically presented after the manifestation of the migration phenomenon in recent years, 4.3. recently adopted strategic elements on human resources development in the public health sector) and Conclusions (5).

Once the importance of the research topic has been revealed here, it only remains for the Bibliography at the end of the paper (6). To list the sources of our documentation, considered by the authors to be current and credible.

## 2. Theoretical background

The topic of our work has been approached in a similar way by other researchers. For example, (Stanciu & Toma 2020) treat this issue by seeing the situation as "brain drain" and "elite migration". We note that these, researchers convincingly insist, before, on the theories of migration - that of push and pull factors, the materialist theory of migration, the theory of the dual market or the segmentation of the labor market, the classical theory of assimilation and the theory of social networks - after which they stop on labor migration in the European context and the process of Europeanization.

By conceptualizing the brain drain phenomenon and the elite migration, it presents the most important elements of the mobility of Romanian doctors in France between 2007 and 2019, and finally make some recommendations to counteract the negative effects of the brain drain phenomenon among Romanian doctors. In essence, they aim at "improve working conditions for Romanian doctors and create a professional context that focuses on their motivation and professional involvement at the national level." (Stanciu & Toma 2020).

In this regard, we observe certain concordances with those found by other Romanian researchers (Botezat & Moraru, 2020; Apostu et al., 2020). Tilea et al. (2013), after deepening Health workforce mobility and Characteristics for Romania, identify the causes and effects of the phenomenon at the national level, but also make some proposals for improvement.

The causes are mainly those in the area of the health system financing, health workers' salaries, incoherent strategy of the health sector reform or shortcomings in recruitment/employment modalities. In order to avoid the risks that arise (difficult access to quality medical services, severe damage to the health of the population, storage of specialists, etc.), it is proposed that policies should target human resources (fairness in recruitment and career advancement, reward according to demonstrated performance, improving access to continuous training and specialization programs, etc.), and facilities, which would ensure access to high-performance instruments.

Păunică et al. (2017) investigated - on the basis of interviews - the opinions of doctors in the national health system regarding the perception of international migration, and found a multitude of "gaps of the health system, transformed into decision-making arguments for international emigration." However, it is clearly revealed that there is also a minimal benefit - related to the value generated by this phenomenon after the return and settlement of doctors in the country of origin. Thus, it is presumed that from this point onwards "the valorisation of experience and professional skills gained other countries' health systems begins." (Păunică et al. 2017).

Other authors (Suciu et al. 2012) report "the foreseeable impact of the financial crisis on the Romanian health system and its possible configuration in the post-crisis period". Among the explanations given for the massive migration of medical personnel are: the existence of a small number of available posts, unsatisfactory working conditions and modest remuneration for the work performed.

According to Săcălean & Boglarka (2016), it is impossible to stop the "brain drain" by administrative means, but within a certain time horizon it is possible to bring the phenomenon under control in the interest of Romanian citizens.

### 3. Research methodology

The socio-economic complexity of the the subject matter requires us to study in depth several theoretical works (articles in periodicals, books or book chapters, etc.), but also some of an applied nature, especially of a statistical nature. In order to make our work more typical in terms of the date and information it contains, we analyzed and referred to the recent reports issued by certain prestigious national and international organizations/institutions.

Certainly, the use of various statistical sources did not exclude from our part the analysis based on the interpretative method. As a result, we believe that we can provide with this paper a good picture - from the point of view of the economy of the labor force specialized in the medical field - of the migration of Romanian doctors.

If the importance of the research topic has been justified in the introductory section, it only remains for the bibliography at the end of the paper to list the sources of our documentation, considered by the authors as current and credible.

### 4. Findings. The migration of doctors, a phenomenon specific to the functioning of the labor market. The case of Romania: Size, causes and consequences

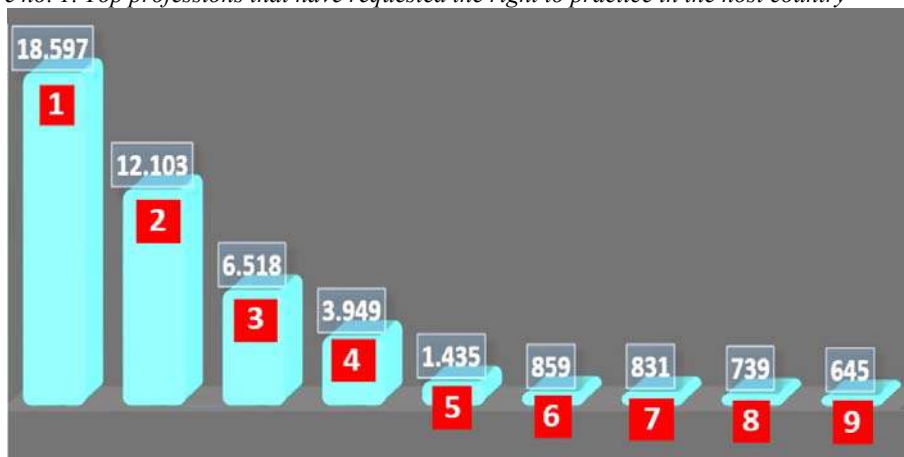
#### 4.1. General considerations

From the perspective of the sub-theme, it should be noted that the last two decades have seen a global increase in the migration of health workers, particularly doctors. The some applies to Romania, particularly after its accession to the European Union (2007).

There is nothing unusual about this, all of which is "a highly topical and important component of the wider phenomenon of labor migration", with the most common direction of movement being" particularly from countries with lower incomes and those with systems of fragile health towards countries with higher earning potential." (Săcălean & Boglarka, 2016). Understandable, the reason are economic (financial interests of the subjects, but not only, there are often other motivations as well), and those wishing to practice in other states cannot be stopped, having a whole series of rights enshrined by the Universal Declaration of Human Rights.

At EU level, the most professionals who go abroad to work abroad are nurses, followed by doctors, and after teachers come dentists, physiotherapists, electricians, pharmacists, veterinary surgeons and social workers (Figure no. 1).

Figure no. 1. Top professions that have requested the right to practice in the host country



**Legend:** (1) Medical assistant; (2) Doctor of Medicine; (3) Professor; (4) Dentist; (5) Physiotherapist; (6) Electrician; (7) Pharmacist; (8) Veterinary surgeon; (9) Social worker.

*Note: The number of departed specialists may be higher, the data presented here are only those provided by the CE for regulated professions, for which in some states it is necessary to register in special registers, obtain a practice permit, recognize the profession or equate the qualification.*

Source: European Commission' Regulated Professions Database



Knowing that important indicators characterizing the health status of the Romanian population are among the most modest in Europe, against the background of growing needs to move closer to European health care standards (Drugus et al., 2015ab; Tamba et al. al., 2016; Santini et al., 2021), we make some further references to the migration of Romanian doctors that has taken place in recent years. Surprisingly, the amendment in the salary legislation in 2017, which led to a substantial increase in income medical staff in the public system (often at a double level), was not able to stop the analyzed phenomenon, but they mitigated it. For example, the number of those who applied to certificates of conformity (official documents that allow the profession in outside Romania) decreased slightly in 2018, compared to the previous year (Neagu, 2021).

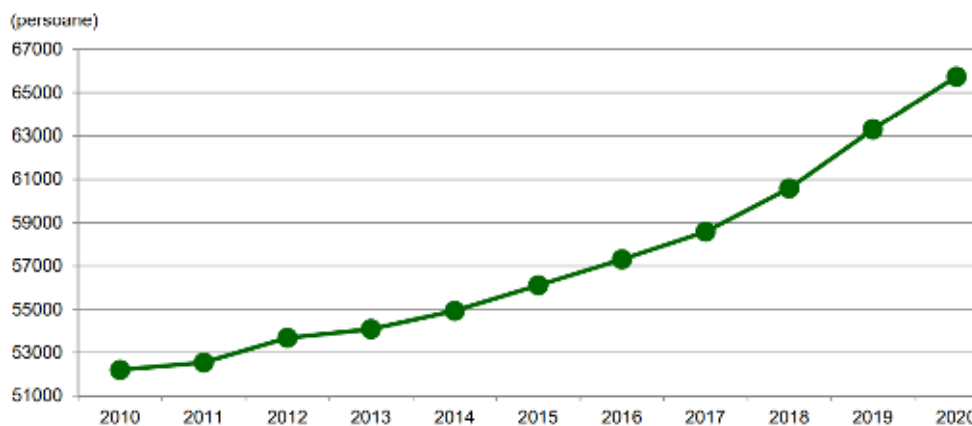
Data from the Ministry of Health (Şerb, 2022), show that the number of respective professional certificates issued at national level, by year, evolved as follows: 2016 – 1,462; 2017 – 1,374; 2018 – 1,221; 2019 – 1,099; 2020 – 858 and 2021 – 776. It should be noted that over 14,500 Romanian doctors applied to the College of Physicians the necessary documents to practice abroad in the period 2010-2016, and by the end of 2016, over 10,000 of them were working in Germany, France and UK; these countries, moreover, are also the three most important destinations chosen by Romanian doctors who leave the country (Neagu, 2021). Currently, although there has been "this salary increase in fact for all categories of doctors, not just for residents, doctors will continue to leave after the pandemic (...), because they need more than that - a more attractive work environment, modern infrastructure in efficient health systems without shortages (...), this is the main reason why a doctor still leave Romania." (Serb, 2022).

#### *4.2. How the medical staff presents itself statistically after the manifestation of the migration phenomenon in recent years*

It should be noted that the statistics on medical staff refer only to persons employed in a basic function in public or private health units, the National Institute of Statistics (INS) does not have data on accumulators (those working in several public or private health units).

What is certainly quantified is the number of doctors, which has continuously increased over the 2010-2020 timeframe (Andrei, 2021), rising by 25.9%, from 52.2 thousand doctors in 2010, to 65.7 thousand in 2020 (Figure no. 2).

*Figure no. 2. The number of doctors, in the period 2010-2020*

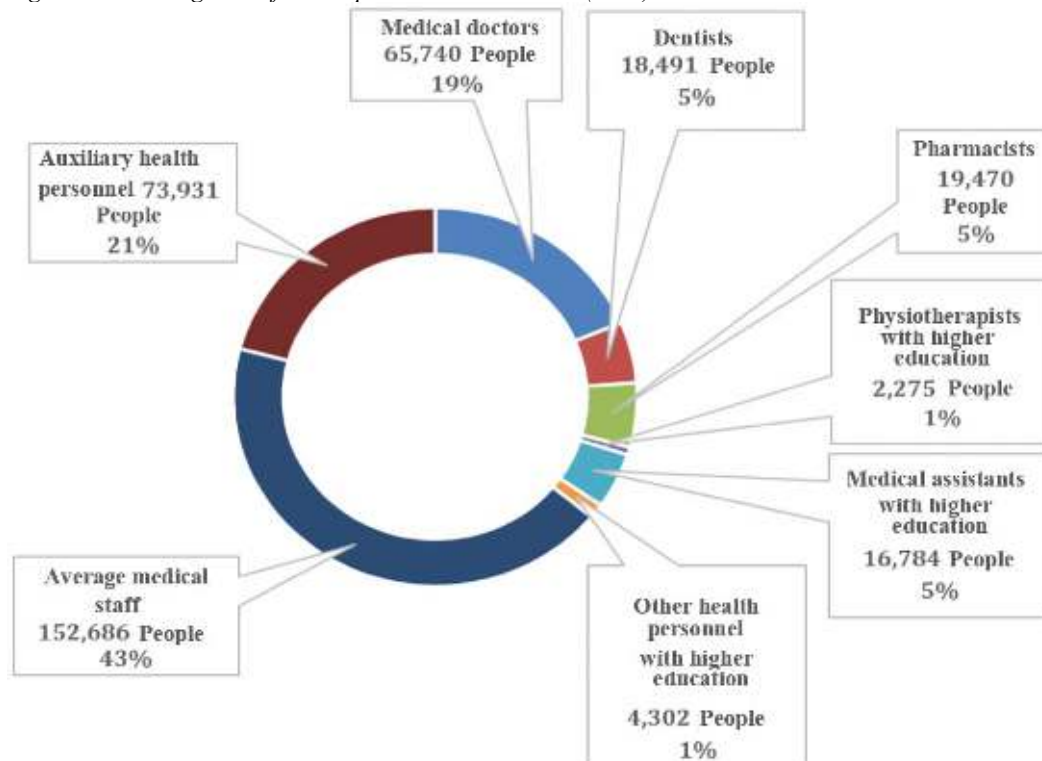


*Note: In the context of the evolution of the COVID-19 pandemic during 2020, the overburdening of hospitals and medical personnel, the number of doctors increased by 2,437 compared to 2019, the most obvious increases being directly correlated with the pandemic.*

*Source: INS, Statistical Survey on Health and Health Care Network Activity*

An important specialty - family doctors - represented, according to the same sources mentioned, in 2020, 18.9% (12,424 people) of all doctors (65,740 people), and the number of dentists increased in the period 2010-2020 from 13,0 thousand dentists in 2010, at 18.5 thousand in 2020. Figure no. 3 reflects the numerical status in 2020 for all categories of health personnel in Romania.

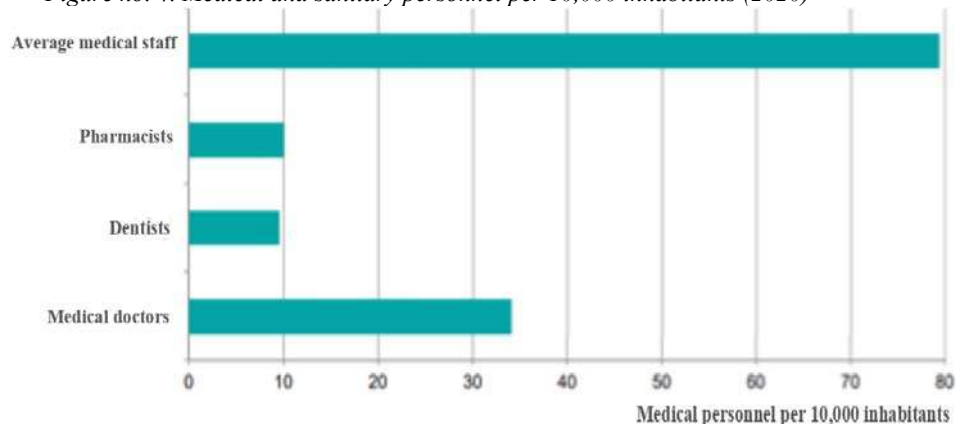
Figure no. 3. Categories of health personnel in Romania (2020)



Source: (Government of Romania, 2022)

As shown in Figure no. 4, over the 2010-2020 timeframe, the number of health personnel per 10,000 inhabitants increased from 25.8 doctors, 6.4 dentists, 6.7 pharmacists and 62.6 health workers with secondary education in 2010, to 34.1 doctors, 9.6 dentists, 10.1 pharmacists and 79.3 high school graduates in 2020.

Figure no. 4. Medical and sanitary personnel per 10,000 inhabitants (2020)



Note: The indicators were calculated with the resident population on July 1, 2020, estimated under conditions of comparability with the final results of the 2011 Population Census.

Source: INS, Statistical Survey on Health and Health Care Network Activity

With all these increases highlighted, the increase in demand for medical services has increased the need for highly qualified health personnel. In 2020, 43,409 vacancies were published in public health units (18.81% of the nationally regulated positions). However, there have been multiple cases when the positions put up for competition in poorly served localities, remained unfilled due to the non-presentation of candidates, with the following reasons: low pay, poor infrastructure and insufficient equipment of health facilities.

#### *4.3. Recently adopted strategic elements regarding the development of human resources in the public health sector*

The "Global Strategy on Human Resources for Health: Workforce 2030" is a fundamental document of the World Health Organization (WHO), from which it follows that the economic and social development of states is closely linked to universal access to health services, which is dependent on the provision of high quality human resources in the public health sector. The National Health Strategy 2022-2030 is linked to this (WHO) strategy, on the basis of which the Multiannual Strategic Plan for the Development of Human Resources for Health 2022-2030 was drawn up. Those resources include medical, management and support staff, and the said Plan provides for the following four strategic areas: (i) generation of human resources in health; (ii) their management, (iii) management of their motivation and (iv) governance of all human resources in health.

The plan aims to implement a sustainable policy for ensuring human resources in health and targets action directions such as (Government of Romania, 2022): (1) Improving governance and updating the legislative framework in the field of human resources in health to European standards and WHO requirements; (2) Improving the management of human resources in health through regulation, retention, evaluation and continuous development; (3) Updating medical and pharmaceutical university education to European requirements through skills-based professional training; (4) Improving the framework for continuing medical education and adequate postgraduate training of medical personnel; (5) Creation and implementation of an effective mechanism for planning and analyzing human resources in health.

In addition to these, there is the "Implementation of an effective management of human resources in health at the institutional level, to ensure adequate working conditions, training and motivation" (6th direction of action) for which specific objectives of great importance are established. The objectives include (Government of Romania, 2022): Creation of a new concept of a performance-based management contract concept for hospital managers, Application of performance and results-based pay policies, Improvement of working conditions: modernization of health units, provision of new equipment /advanced, adjusting unique information systems, de-bureaucratization, but also provision and facilities for exercising the profession in remote areas and in scarce specialties.

The introduction of this type of involves changing the rules for granting monetary and non-monetary benefits for work in rural and remote/disadvantaged areas (hardship allowances; allowances for housing expenses - heat, electricity; transport expenses) in order to increasing the retention of medical staff in these localities.

## **5. Conclusions**

As our paper reveals, for a relatively long period Romania has experienced an appreciable crisis of human resources in public health. This has affected the population's access to quality health services, a good part of the explanation being attributed to the migration of medical staff. We have shed light on the causes and effects of this phenomenon.

The extent of the negative manifestations is given by the fact that more than 47,000 such people, from doctors, nurses and midwives, dentists, to pharmacists, have applied for the certificates of conformity required to work in the EU countries between 2010 and 2016. This meant that in 2016, just over 54,000 doctors were still working in Romania (representing an average of approx. 270 doctors / 100,000 inhabitants, well below the EU average of 340 doctors / 100,000 inhabitants).

The legislative measure of salary increases (2017), investments in health infrastructure, as well as the development of the private health system, the massive increase in the number of places and posts advertised in the residency competition, starting in 2018, led to a decrease in the migration phenomenon in Romania. Thus, the number of doctors reached 65,740 in 2020, which represents an

average of 346 doctors / 100,000 inhabitants. It should be noted that in terms of the number of nurses, Romania is was in line with European Union average, with a number tending toward 750 nurses 100,000 inhabitants.

In order to about significant improvements in the area under review and reduce the migration phenomenon, concrete strategies and plans, with firm deadlines and responsibilities, were recently adopted regarding the development of human resources in the public health sector. We believe that among the most important elements found here is the improvement of working conditions - the modernization of health facilities, the provision of modern/advanced equipment, the adjustment of unique information systems -, to which is associated the provision of facilities for the exercise of the profession in isolated areas and in deficient specialties.

As regards *the limits of the research*, we consider that the paper has certain hints of imprecision regarding the characteristics of the phenomenon analyzed in relation to each structure of medical personnel, from doctors, nurses and midwives, dentists, to pharmacists. Then, not all those who have applied for the necessary certificates of conformity to work in the states of the European Union, countries have actually resorted to emigration there. In addition, the following period could be characterized by uncertainties, linked to unknown/unforeseen factors, of the kind explained by the manifestation of overlapping crises (financial, health, geostrategic, energy, supply flows, etc.), which would make more difficult to implement the mentioned strategic measures in the conditions of affecting the planned budgetary resources.

Therefore, *our future research* will have as a starting point the same theme, but we will try to overcome these limits indicated here.

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## Assessing ESP Writing Skills. Case Study Proposal: Assessment for Learning

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### Abstract

*This paper deals with the assessment of the students' ESP writing skills and, more specifically, with the influence that the Assessment for Learning strategies have on the development of their writing skills. The first part of the paper is dedicated to the analysis of the similarities and differences between several theoretical concepts, such as assessment, evaluation, examination, feedback, and test. Test items and scoring methods (i.e., holistic scoring, primary trait scoring and analytic scoring) are also discussed in this theoretical part. The second part of the paper presents a case study proposal based on the hypothesis according to which the employment of Assessment for Learning strategies contributes in a consistent manner to the enhancement of the learners' ESP writing skills.*

**Key words:** Assessment for Learning, writing skills, English for Special Purposes, case study proposal, reports

**J.E.L. classification:** Z12

### 1. Introduction

Teachers have been in a constant quest for the most adequate training and assessing means that would meet their learners' needs and develop their various language skills (Nadrag, 2000, p. 412), especially in the past two decades, marked by the increasing necessity to incorporate digital skills as well, in order to attain professional success (Popescu, 2020, p. 457). The task is even more difficult in the academic environment, when ESP teachers often work with heterogeneous classes (Istratie-Macarov, 2019, p. 306) and tackle various perceptual positions (Zamfir, 2020; Zamfir, 2022, p. 473).

### 2. Theoretical background

#### 2.1. Overview of several key concepts connected to the idea of assessment

When it comes to assessing activities and strategies, there are several key terms that should be clarified i.e., assessment, evaluation, exam/ examination, feedback and test. Although often employed synonymously, there are several significant differences that should be paid attention to. For instance, *Oxford Learner's Dictionaries* (online) provide the following definitions of the terms mentioned above:

Assessment is "an opinion or a judgement about somebody/something that has been thought about very carefully", while evaluation is "the act of forming an opinion of the amount, value or quality of something after thinking about it carefully". Therefore, according to this dictionary, the difference between assessment and evaluation lies in the fact that the latter implies the idea of the process that leads to the opinion or judgement of someone or something; moreover, the latter also includes the fact that the respective opinion or judgement is focused on amount, value or quality. In its turn, the word examine is defined by the above-mentioned dictionary as follows: "to give somebody a test to see how much they know about a subject or what they can do"; therefore,

according to the dictionary, this term is more specific and it clearly refers to the quantification of someone's knowledge regarding a certain subject.

Peha (2011) considers that evaluation and assessment are interconnected because, in the scholar's opinion, evaluation involves decisions underlain by the data provided by the assessment process. Thus, evaluation can be employed as an instrument in order to check whether a certain approach or teaching program is carried out as initially planned.

Exam or examination is defined by the same online source (i.e., *Oxford Learner's Dictionaries* online) as "a formal written, spoken or practical test, especially at school or college, to see how much you know about a subject, or what you can do", while the term test is "an examination of somebody's knowledge or ability, consisting of questions for them to answer or activities for them to perform". These two definitions suggest that examination and test can usually be used interchangeably, as the term examination means testing someone's knowledge of a certain subject, while the term test means examining somebody's knowledge. However, the term test is more specific, as its definition also makes reference to the examination of someone's ability (not only knowledge) and it includes several details regarding the contents of a test, such as questions and activities. As far as feedback is concerned, it is defined in the aforementioned source as "advice, criticism or information about how good or useful something or somebody's work is".

In Ur's perspective (2009, p. 33), a test is mainly focused on pinpointing the testee's level of knowledge about something or ability to perform a certain activity, defining thus the testee's knowledge level, and triggering the feedback. According to the same scholar, feedback – a type of information provided "to the learner about his or her performance of a learning task", consisting of two key elements i.e., assessment and correction – should be employed in performance enhancement. The former implies merely informing the learner of his/ her performance level, such as communicating the percentage grade that s/he acquired on an exam, giving the response "No" to a wrong answer, or the label "Fair" on a written assignment. It is noteworthy that information about the learner's performance (i.e., strengths, weaknesses, and explanations regarding his/ her mistakes) should be included in the correction process (Ur, 2009, p. 242).

Harmer (2007, p. 137) also tackles the terms assessment, and feedback, and explains that the former involves "tests, exams, comments, grades and marks, reports and even self-assessment" and that teachers should employ the means with a higher impact on the learners' achievement. Moreover, he also professes that these means contribute to the identification of the gaps that teachers should correct or fill.

As far as Brown (2003, p. 3) is concerned, in his perspective, the term test designates "a method of measuring a person's ability, knowledge, or performance in a given domain". He further explains the terms that make up his definition. Thus, a method (which, in this case, should be explicit and structured) is "an instrument – a set of techniques, procedures or items" involving the test-taker's performance; measurement – whose presence is mandatory in a test – is mainly aimed at furnishing a result to the test-taker.

In order to test individual abilities, a tester should know his/ her testees, as the test should match their abilities. Moreover, when assessing someone's knowledge, various aspects should be taken into consideration, depending on the type of the respective knowledge; for instance, the assessment of a certain piece of knowledge about language may involve the definition of a vocabulary item, mentioning or explaining a grammatical rule, etc. In its turn, the term performance is synonymous with competence, with the ability to use the respective language in certain communication contexts. Finally, the word domain makes reference to the fields of study. Thus, Brown (2003, p. 3) concludes that a properly designed test should furnish a rigorous measurement of the testee's competence and level of achievement in a certain area. He also adds that science and art hide behind the apparent simplicity of his definition, as the design of a good test is a complex process. Brown (2003, p. 4) further makes the distinction between assessment and tests, underlining that the former "is an ongoing process that encompasses a much wider domain", while the latter "are a subset of assessment", "formal procedures, usually administered within strict time limitations, to sample the performance of a test-taker in a specified domain".

In Bachman's perspective (1995, p. 49), measurement is directly connected to tests, as they both imply the quantification of observations. This scholar also distinguishes between tests and evaluation, since the former generates a particular type of behavior, while the latter involves decision making.

## **2.2. Writing tasks**

When designing tests, teachers always have to bear in their minds the fact that appropriate test items provide the success of the respective test. According to Ur (2009, p. 37), the choice of these items is influenced by various issues, such as the type of knowledge tested, the way it is administered and marked.

Furthermore, Nadrag (2019) also recalls of the three levels that should be taken into consideration when designing writing tasks, i.e. word choice, correct sentence construction and appropriate paragraph or text design.

Harmer (2007, p. 381) classifies test items into two main categories, i.e., direct (which requires testees to employ the communicative skill that is tested) and indirect (which attempts to assess a testee's knowledge and ability by reaching the elements that underlie their receptive and productive skills). The scholar also differentiates between discrete-point testing (focused on testing only one element at a time) and integrative testing (focused on testing the learners' ability to employ an array of language at any time). Since their main purpose is to provide an accurate picture of a learner's ability, proficiency tests consist of both direct and indirect and discrete-point and integrative testing. The assessment of writing skills may involve, for instance, tasks such as writing stories or various types of letters or e-mails (i.e., letters of application, letters of complaint, letters asking for or giving information, invitation letters, etc. based on information given by the test item), leaflets, instructions for a certain task, newspaper articles, etc. (Harmer 2007, p. 385).

Tests should be designed carefully, considering, according to Harmer (2007, p. 386), the following steps: assessment of the situation (test objectives, level, context, time, place, etc.); deciding the pieces of knowledge/ skills to be tested; balancing the test elements (i.e., direct and indirect items, the time dedicated to each section); weighing the test scores, in accordance with each test task; making the test work (i.e., trying it out before administering it).

Morris and Smith (1999, p. 22) define the writing skill as the ability to coherently articulate and convey ideas, opinions, emotions, and attitudes via written symbols. Thus, the mastery of this productive skill – which is generally deemed by teachers as the most challenging language skill to grasp, teach and assess compared to the other three language skills i.e., reading, listening and speaking – involves a high level of accuracy (Hyland, 2003). Other scholars, such as Swales and Feak (1994), explain that tools such as controlled lessons, authentic tasks and experiences are essential for the development of writing abilities.

## **2.3. Main scoring methods**

As far as scoring methods are concerned, when it comes to responsive and extensive writing, Brown (2003, p. 234), Hyland (2003) and Weigle (2002) identify and analyze three scoring types, i.e., holistic scoring, primary trait scoring and analytic scoring. When tackling holistic scoring, these scholars emphasize its rapidity, inter-rater reliability, emphasis on the testee's strengths, easiness of interpretation, focus on the general impression of the students' written text, and general applicability. However, it lacks diagnostic information and its scale is not equally suited to all writing genres, being thus applicable to the assessments conducted for admission or for placement into courses.

As regards primary trait scoring, it aims the assessor's attention to the main function of the written piece, depending on the genre. Thus, Weigle (2002, p. 110) explains that this type of scoring focuses on the students' ability to "write within a narrowly define range of discourse". Such instances are represented by the description of the essential characteristics of the graph (for tasks requiring graph descriptions) or by the accuracy of the stages of the procedures and their final results (for reports).



Last, but not least, analytic scoring is the most adequate for classroom use in Brown's opinion, as it involves six main writing elements and it can be adapted to various curriculum objectives, genres, levels and learner needs. Despite the disadvantage of spending more time on detailed scoring, analytic scoring provides learners with more consistent feedback, which enhances their improvement (see Brown, 2003). In his turn, Weigle (2002, p. 110) highlights the main elements taken into consideration in analytical scoring, i.e., "content, organization, vocabulary, language use, and mechanics". Salmani Nodoushan (2014, p. 132) stresses that scoring writing is a sensitive and controversial issue and the above-mentioned criterion-referenced procedures are widely used nowadays.

## **2.4. Assessment for learning**

The specialists in the field pinpoint the idea that the assessment should furnish practical information about the learners' achievement level and also about the benefits, strengths and weaknesses of the teaching methods and techniques. For instance, Hyland (2003) draws the attention to the key role played by a well-defined scoring system in the assessment process, with clearly delineated scoring and performance criteria that would allow students with low scores to understand what they should do in order to improve their performance. Salmani Nodoushan (2014, pp. 130-131) reiterates the above-mentioned ideas, underlining that the students' performance should be assessed based on crucial attributes, not on easily measurable ones.

Fatimah Fatimah and Fazri Nur Yusuf (2018, pp. 430-431) also highlight the significant part played by guidance, progress assessment and feedback in enhancing the students' performance. In their perspective, the assessment process should represent a tool employed in order to help learners evolve and strengthen their skills. This type of assessment presented by the above-mentioned scholars is known as Assessment for Learning or Formative Assessment, where teachers gather various pieces of information of their learners' ongoing progress, needs and understanding. The assessment for learning is highly marked by feedback and it focuses on notifying students about their progress, which grants them the opportunity to take the appropriate measures and action so as to enhance their performance and skills during the learning process. Questions, surveys, feedback, peer assessment, self-evaluation are some of the main strategies employed in assessment for learning, which can positively influence the learners' performance and assist the weaker ones to carry out their learning activities successfully and to obtain achievement scores. Moreover, it increases their motivation, which often reflects in the improvement of their academic achievement (see Băcă, 2020, p. 224).

This type of assessment furnishes valuable pieces of information about the students' progress and assists teachers in adjusting their teaching and learning activities, targeting instruction, and distributing resources. Dler Abdullah (2017, p. 30) also explains that the assessment as learning plays a major part in the development of metacognition for learners because it places them in the limelight, as critical interconnectors between the learning and the assessment processes, via self-reflection and critical analysis. Moreover, it allows teachers to focus on specific functional language items, which are *sine qua non* for the success on a job market (Popescu, 2021, p. 408).

## **3. Research methodology**

The hypothesis underlying this case study (mainly grounded on the theoretical aspects presented in the previous parts of this paper) is as follows: by employing Assessment for Learning strategies, such as constant feedback, questioning, peer assessment, self-evaluation, teachers can enhance the students' writing skills and obtain valuable information about their learning needs.

The research methods to be applied in this case study will be the observation and the survey.

The subjects of this study will be a group of first year BA students from Economic Sciences. At the beginning of the study, the students will sit for an initial test, in order to establish their English proficiency level. They will also be required to fill in a self-assessment questionnaire. The teacher will constantly provide students with feedback and the materials used during the case study will be adapted in accordance with the students' initial test results.

The teaching stage will stretch over a four-week period and it will be focused on teaching students how to write business reports and interpret graphs. When writing short reports and interpret graphs, students will be taught to pay additional attention to the report-writing tips and to the task analysis; they will also be taught to match the instructions with the teacher's marking guide. The teaching materials will be mainly based on: "Check Your English Vocabulary for Business and Administration" by Rawdon Wyatt (London: A&C Black, 2007), "*Market Leader. Advanced Business English*" ("Unit 3. Partnerships"), by Iwonna Dubicka and Margaret O'Keeffe (Edinburgh Gate: Pearson Education Limited, 2007) and "Career Paths: Business English" by John Taylor and Jeff Zetter (Newbury: Express Publishing, 2011). Constant feedback will be furnished to the students during this stage. Moreover, questioning, self-assessment and peer assessment will also be used. At the end of the teaching stage, the students will sit for another test, aimed at the assessment of their writing skills. They will also be required to assess themselves.

It is noteworthy that, according to Brown (2003), drawing up a text in an effective manner requires the ability to coherently develop ideas, which in its turn can be taught based on strategies such as freewriting, outlining, drafting and revising, but also on raising the learners' awareness of the task, attention to the writing genre and to the expectations of the respective genre. The text genre may trigger one or more of the following task types: compare/ contrast, problem/ solution, pros/ cons and cause/ effect (see Brown, 2003).

In order to assess the students' writing abilities for drawing up reports, the following criteria will be taken into consideration, as explained by Brown (2003, p. 23): "Conform to a conventional format (for this case field); Convey the purpose, goal or main idea; Organize details logically and sequentially; State conclusions or findings; Use appropriate vocabulary and jargon for the specific case". As far as the assessment of the students' writing abilities for the interpretation of statistical, graphic and tabular data is concerned, Brown (2003, p. 23) suggests that the following elements should be taken into consideration: the provision of efficient and accurate general description of the data; understandable and coherent language use when organizing the details; rigorous conveyance of details; data elements adequately articulated in various relationships; comprehensive and comprehensible transmission of diverse and specialized information; interpretations beyond the given data, if necessary.

For the purpose of this case study, the teacher will compare the results of the two tests and the two self-assessments (i.e., the initial and the final one), in order to analyze the students' progress. Moreover, the teacher will conduct a survey focused on the students' attitudes towards the assessment methods applied during this research.

#### **4. Findings**

It is expected that the students' scores at the test given after the teaching stage will be higher, compared to those from the initial test. Furthermore, it is anticipated that the data provided by the self-assessments and by the employment of the observation method will reveal that students get more involved in the achievement of the writing tasks when provided constant feedback and when the teacher explains and employs adequate assessment methods, adapted to the specificities of report writing and graph interpretation. It is also expected that the survey will highlight the students' positive attitudes towards these assessment methods and procedures.

Therefore, results furnished by this case study are expected to validate the hypothesis according to which adequate ESP writing assessment strategies and constant feedback, typical of the Assessment for Learning, enhance the students' writing skills and furnish valuable information about their progress and learning needs.

#### **5. Conclusions**

Regardless of the type of scoring they employ when assessing the students' ESP writing skills, teachers should have in view the final purpose of this activity, i.e., providing students with those abilities necessary in order to successfully perform real world writing tasks, in their future professional environment. Assessment should represent a tool employed by teachers not in order to

get some scores necessary for the student's academic record, but to obtain a clearer picture of the student's progress and learning needs. Assessment should highlight both the strengths and the weaknesses of the teaching and learning process and reveal new paths towards improvement and (self)development.

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# The Organizational Environment - The Importance of Data

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## Abstract

*This paper proposes to present both theoretical and practical aspects related to the importance of data and knowledge in the organizational environment.*

*In this sense, theoretical aspects related to knowledge-based systems, their components, methods and techniques of working with the help of knowledge, the concepts of knowledge processing and their development, respectively the most complex part of the work, the processes of creation, processing and development of ontological data.*

*The ontology created in the web language Owl/Rdf proposes an interesting approach to the organizational environment of an entity. The Ontosparql program aims at a dynamic processing of the knowledge embedded in the ontology, facilitates obtaining information about Protege, Semantic Web, XML, Dbpedia.*

**Key words:** organizational agents, ontology, knowledge, Class instances

**J.E.L. classification:** M1, M15, M21

## 1. Introduction

A computer that learns to understand the language used by humans through interfaces and can improve sensory perception, giving the impression that it is in contact with humans can be called an intelligent computer. In order to cope with human-specific tests, the computer needs a huge amount of information, not from a single field but from several fields related to the respective tests.

Both intelligence and information cannot be separated, they must be seen as elements that complement each other. Although people have the ability to provide useful information, showing intelligence and competence, they are still limited in knowledge unlike an intelligent system, which can sum up more knowledge both from one field and from other fields having a much larger beach of knowledge.

Considering the extraordinary advances of recent times, such as cars that do not require human drivers, computers that break the record at Jeopardy (IBM, Watson), Siri, Google Now, Cortana - they are evidence of the use of knowledge, based on exorbitant investments, all starting from an organized knowledge base with a construction that facilitates easy user access.

## 2. Literature review

In the specialized literature there are different approaches to knowledge representation methods, so according to the studies carried out by Robert MacGregor (Robert, 1991, p.65) the main representation models are: the formal logic model, the production rules model, the structured knowledge model and the of uncertain knowledge (semantic networks).

According to Luger (Luger, 2008, p.76) there is a degree of uncertainty attributed to the information taken from different databases, specialized materials, expert courses. There may be erroneous references, incomplete information or information that is already included in another specialized field.

According to Ron Brachman (Brachman, 2008, p.132), among the first concepts of knowledge representation were semantic networks, falling into this category are data structures and algorithms for general fast search.

The following concepts that were developed were represented by frameworks and rules. The structural language had different mechanisms for expressing and fitting the components in the data structure, through slots. Slots are analogous to relationships in entity-relationship modeling and properties in object-oriented modeling.

The period and area of development of knowledge representation methods overlapped strongly with that of research on data structure and algorithms associated with computer science.

In early systems appears the programming language LISP, modeled after the lambda calculus concept, being "a formal system of mathematical logic used in expressing calculations based on abstract functions, using connection between variables and substitution" (Stuart et al, 1995, p.230) .

Two concepts about which Ron Brachman states that understanding and applying them is essential, are meta-representation and incompleteness (Brachman et al, 2004, p.69).

According to R. Brachman and H. Levesque (Brachman et al, 2004, p.87) "Meta-Representation - in the field of computer science it is called "reflection". It refers to the ability of a system to have access to information regarding its own state. A good example of this would be Smalltalk's meta-object protocol or CLOS, which gives developers access to the object class and empowers them to redefine the database structure dynamically, right at runtime."

Also Brachman and Levesque (Brachman et al, 2004, p.135) define "Incompleteness - Traditional logic requires additional axioms and constraints to face the challenges of the real world, unlike the world of mathematics. It is also useful to associate a certain degree of confidence with a statement, for example the phrase: "Pythagoras is a man", with a degree of confidence of 50%, is more relevant than "Pythagoras is a man". This was among the first innovations in expert systems research, which developed by adding commercial tools and the ability to associate trust factors with rules and conclusions. In more recent studies they have called this technique: "fuzzy logic".

### 3. Research methodology and findings

#### *Ontologies*

At the beginning of their development, the knowledge base of SBCs was relatively small This knowledge was intended to solve real problems, not just to demonstrate different concepts For example, expert systems were not used for general medical diagnosis, but for certain types of diseases specific.

Over time, artificial intelligence evolved and with it, there was a need for larger, modular databases that could be interconnected and integrated, so what we call "ontological engineering" appeared, which aimed at the design and creation of databases consistent data that can be used for various projects (Berton et al., 2015, p.69).

Depending on the purpose of constructing the ontology (Frederick et al, 2002, p.139) there are several construction methods and respectively languages. Ontologies, according to some of the classic definitions, can also be represented by a dictionary. However, to be used by the semantic web, ontologies must be used by computers and thus must be expressed in languages that both computers and humans can easily understand (Ongenae et. al, 2013, p.125).

The main languages (Ivanovic, 2014, p.89) used to define ontologies are based on XML, a language that is very easily interpreted by computers. RDF (Resource Description Framework) is based on XML syntax, which uses a graph representation model to make statements about resources recognized by URIs (Uniform Resource Identifier).

URIs have a primary key value for RDF, meaning that a URI will uniquely identify a resource. RDF is intended to provide metadata about web resources (author, description, date) or knowledge representation models and allow different applications to interact.

The key element of an RDF document is the triplet (Jussi, 2004, p.167). A triplet is a sentence with a subject, predicate and object (property). The resources identified by URIs are the subject and predicate, and the object is a single resource or value.

Through RDF, several types of predefined resources can be represented, but new types of resources can also be created through the extension called RDF Schema. RDF Schema (RDFS) facilitates the creation of instances, properties and classes using RDF syntax. OWL is a language designed to define ontologies. It is a language that extends RDFs.

Protege designed in Java, at Stanford University being open-source, is a platform for the development of knowledge-based applications as well as an ontology editor. This platform stands out for a series of particularities, among which we highlight the support for RDF, its own format for storing information, a graphic interface for creating ontologies. This graphical interface allows the user to create classes, properties or instances, facilitating the design of inheritance relationships between classes, and relationships can be defined by setting the domain and co-domain of properties.

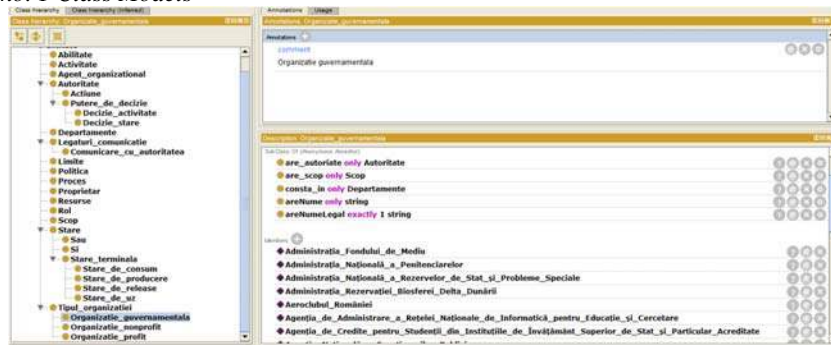
By adding plugins to Protege, the user has access to a wider variety of processing options. Certainly, the most used plugin is the one that facilitates access to the mechanisms of the OWL language. Saving, editing, creating, importing ontologies in OWL format but also working with knowledge bases through the JDBC driver in which ontologies can be stored are the options offered by it.

### Organizational ontology

Any type of economic entity is based on departments, a grouping of organizational agents (members of a department or subdivision), a set of roles that members play in the organization, and a set of goals that members try to achieve. In addition to goals, there is a set of constraints on the activities carried out by organizational agents. Thus, with the help of Protégé, we created an ontology that sums up the elements of an organizational economic environment and the relationships between them. The ontology consists of classes, subclasses, data properties, class properties and instances.

### a) Classes

Figure no. 1 Class Models

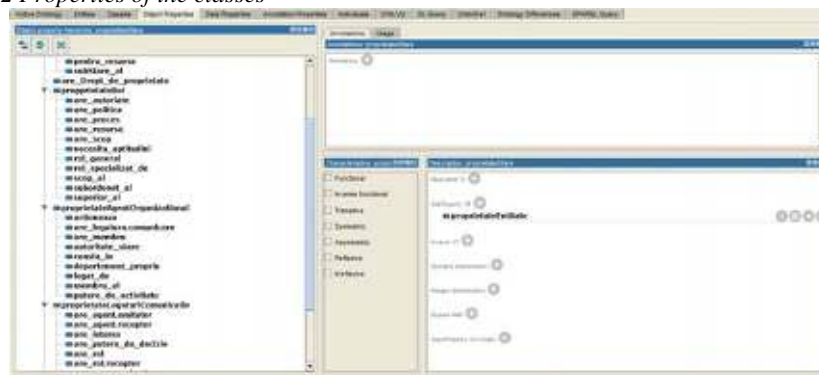


*Source:* Own elaboration

### b) Properties of the classes

Each class has certain properties that apply to both the members of the class and the members of the subclasses, facilitating the creation of a link between them.

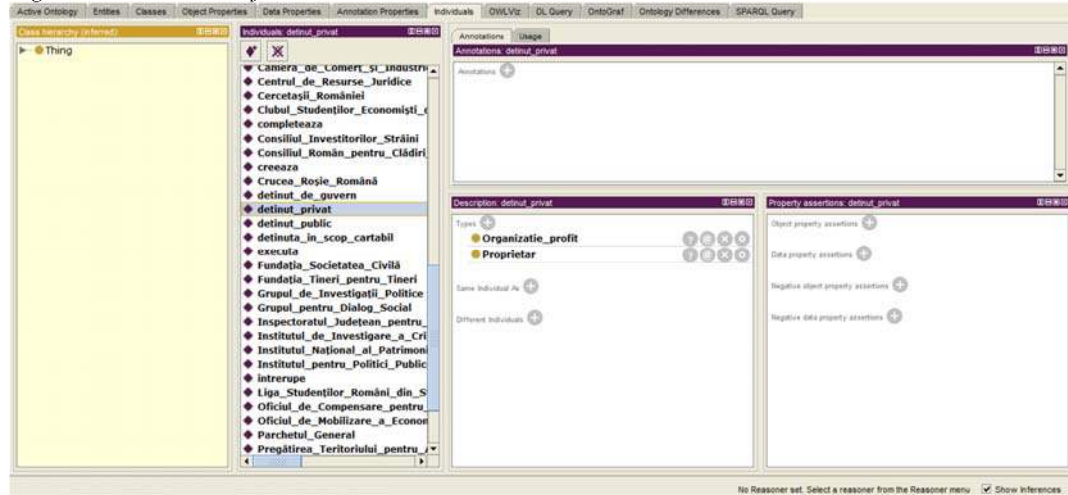
Figure no. 2 Properties of the classes



*Source:* Own elaboration

c) Class instances - define the members of a class with properties and attributes. The difference between subclasses and these is given by the fact that courts cannot have a subordinate.

Figure no. 3 Instances of classes

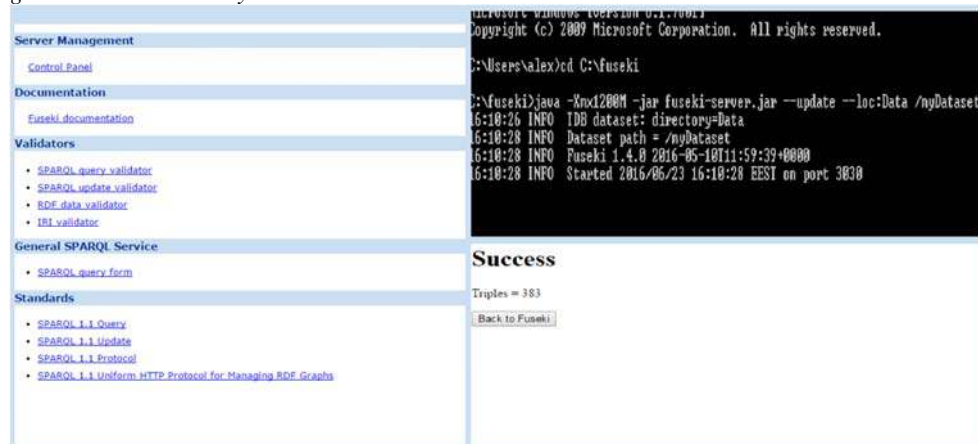


Source: Own elaboration

#### d) Ontology validation through Fuseki Serve

Once the ontology is loaded on the Fuseki server, it can be seen that the ontology is correct, the success message "triples=365" confirms that there are 365 sentences that have a subject, predicate and an object (property).

Figure no.4 Validation by Fuseki Server



Source: Own elaboration

## 4. Conclusions

Considering the very large evolution of information, the classic methods of storage no longer cope with the present, they gradually become obsolete methods, therefore it is more useful for an encyclopedia or a dictionary to be in electronic format. In order to obtain a number of advantages, modern society needs a large amount of information from different fields that must be used correctly and in a timely manner, thus ontologies make this information available.

Although artificial intelligence has taken a fairly large scale, ontologies represent an important step in the development of artificial intelligence because knowledge bases facilitate and facilitate the development of new programs that simulate human behavior.

The effort to transform Wikipedia information into ontologies in the Dbpedia knowledge base will signal a transition to a new stage in web information exchange.



For an economic entity, the Ontosparql Program, associated with the organizational ontology, can be useful because it enables the user to control the relationships between agents, their activity, the tasks they have to perform. Unlike regular databases that are quite difficult to manipulate (we are talking about updating databases), ontologies constitute a model of an organizational framework, a model that can be manipulated according to the entity's requirements.

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## Socio-Economic Issues in George Barițiu's Writings

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### Abstract

*George Barițiu (May 24, 1812 - May 2, 1893) was a Romanian politician, journalist and historian who had significant contributions in the field of economic thinking. As a promoter of the idea to assert the Romanian identity, and an activist for the Romanians to enter economic life, Barițiu advanced a series of economic claims and aspirations. At the core of his analytical pursuit there were fundamental economic issues: competition, ownership, the peasants' problem, the development of industry and of trade.*

**Key words:** socialism, individualism, guild, agriculture, serfdom

**J.E.L. classification:** B31

### 1. Introduction

George Barițiu was born near Cluj. He attended the Hungarian elementary school in Trascău (nowadays Rimetea) and then went to the secondary school in Blaj. Between 1827 and 1831 he attended *Colegiul Piaristilor* (Piarists' College) in Cluj. In 1831 he went back to Blaj and graduated from the Faculty of Theology. In 1835 he was appointed Physics teacher at the high school (here he met Simion Bărnuțiu), but after only a year he left for Brașov to pursue his teaching career (he taught Romanian and German grammar, arithmetic, history and geography) which was a successful one, over nine years long, until 1845 when he had to stop teaching. (Netea, 1966, p. 67)

One of the defining elements of his entire activity was his journalistic activity, as he was the founder of the first Romanian papers in Transylvania. The two journals that appeared in 1838 and had him as chief editor (*Gazeta de Transilvania* (The Transylvania Gazette) and its literary supplement *Foaie pentru minte, inimă și literatură* (Sheet for the Mind, the Heart and for Literature) had a crucial importance to the development of the Romanian national movement. Later on, Barițiu issued two more journals, *Transilvania* (Transylvania) and *Observatorul* (The Observatory).

His work mainly includes more than 700 articles and studies published in the journals he edited, all of them in the socio-political, economic, historic, pedagogical, literary, philosophical, and linguistic fields. (Murgescu, 1994, p. 205).

Other important titles are *Disertație despre școli, pentru toți credincioșii de legea grecească din Brașov* (Dissertation on Schools, for all the Greek Religion Followers in Brașov) (1835); *Cuvântare scolastică la examenul de vară în școala românească din Brașov-Cetate. Despre datoriile părinților și ale învățătorilor asupra creșterii tinerimii* (Scholastic Speech for the Summer Exam in the Romanian School in the City of Brașov. On the Duties of the Parents and of the Teachers in Raising the Youth) (1837); *Călindariu pentru poporul românesc* (Calendar for the Romanian People) (1852-1856); *Părți alese din istoria Transilvaniei* (Chosen Excerpts from the History of Transylvania) (1889-1891).

Along his activity as a journalist, George Barițiu had practical preoccupations in this field: he established and ran the first Romanian printing house in Brașov, as well as a paper factory in Zărnești.

As an active participant in the 1848 Revolution, as vice-president of the Great National Assembly in Blaj, George Barițiu was closely connected to the economic, social and political

realities of those times and he considered politics to be an instrument to "clearly know the needs of the times, to wisely calculate all the means to reach this goal, to rightfully apply them, to continue on the known path once it has proven to be the right one". (Bariț, 1962, p. 133)

A polyvalent intellectual personality, George Barițiu was the principal of the first Romanian high school in Brașov, the founder of a Romanian theater, a member of the Romanian Casina in Brașov (association of the tradesmen in Brașov, which later on turned into a true cultural institution), first the secretary, then the president of ASTRA (*Asociația Transilvană pentru Literatura Română*) (Transylvanian Association for Romanian Literature) și *Cultura Poporului Român* (Culture of the Romanian People), which was initially run by Andrei Șaguna, and last but not least, he was a founding member of the Romanian Academy. He was a member of the Academy for half a century and was elected its president maybe too late, in 1893, the year of his death.

## 2. Theoretical background

There is a series of studies on George Barițiu's ideas and activity. The most well-known are: *Contribuții la cunoașterea operei economice a lui George Barițiu* (Contributions to Knowing George Barițiu's Economic Works) (G. Mladenatz, 1957), *Concepțiile socio-economice ale lui G. Bariț* (G. Bariț's Socio-Economic Views) (T. Bugnariu, 1962), *Idei economice în opera lui George Bariț privind promovarea industriei la români* (Economic Ideas in George Bariț's Works on Promoting Industry in Romania) (D. Ghișe, I. Kecskes and P. Teodor, 1963), *Probleme socio-economice în opera lui Gheorghe Barițiu* (Socio-Economic Issues in Gheorghe Barițiu's Works) (Al. Bărbat, 1966), *Ideile social-politice ale lui G. Bariț* (G. Bariț's Socio-Economic Ideas) and *Viața și ideile lui George Barițiu* (George Barițiu's Life and Ideas) (Radu Pantazi, 1957 and 1964), *Viața și activitatea lui George Bariț* (George Bariț's Life and Ideas) (Victor Chereșteșiu, Camil Mureșan and George Em. Marica, 1962). Among the works in the field of economic thinking history which refer to George Barițiu a special one is that written by Virgil I. Ionescu *Eurofiliiile și americanofilia ideilor economice la români 1801-1850* (The Europhily and Americanophily of the Romanian Economic Ideas 1801-1850) (in which articles such as *Idei din economia politică* (Ideas of Political Economy), *Unele idei despre stat* (Some Ideas on the State), *Ideea unui bun econom* (The Idea of a Good Economist), and so on, are commented on). In volume VII of *Studiilor de istorie economică și istoria gândirii economice* (Studies of Economic History and the History of Economic Thought) (2005) Iulian Văcărel signed the study *George Bariț despre servituțile populației rurale și povara fiscalității în Transilvania* (George Bariț on the Servitudes of the Rural Population and the Burden of Taxation in Transylvania).

## 3. Research methodology

In our research methodology we have mainly focused on interpreting George Barițiu's views. The article is based upon quality research. In it we have explored in a backward looking approach how his ideas have influenced the subsequent development of the Romanian socio-economic realities. At the same time, we have carried out descriptive research, by closely observing the particularities that set Barițiu's thinking apart from his contemporaries.

## 4. Findings

### 4.1. Reforming the economy

George Barițiu's reforming economic ideas, which are both wide and deep, show good knowledge of the European economic thinking (F. Quesnay, A. Smith, F. List, J.B. Say) as well as knowledge of the Romanian economic views of those times (D.P. Marțian, P.S. Aurelian, A.D. Xenopol) (Malinschi, 1990, p. 54).

His main objectives in reforming the economy were the exclusion of domestic custom taxes (since a flourishing trade would intensify both the industry and the agriculture, from the perspective of the raw materials and of the markets), the dissolution of the guilds and the

establishment of a free competition among manufacturers, as well as the abolition of serfdom and of the medieval-bureaucratic centralism of the Habsburg absolutist regime.

The economic ideas of the Romanian intellectuals of those times proved their direct contact with European liberalism and an understanding of the specific conditions in Romania, among which the necessity of a national rebirth, especially by stimulating the establishment and the consolidation of a prosperous middle class.

Having the European bourgeoisie - which was the engine of the capitalist economic development - as a model, Barițiu asked for the guild system to disappear. He considered them to be anachronic both because they were unable to insure the productive needs of a modern economy, and because they represented an instrument through which the Germans and the Hungarians held the monopoly in trade and crafts and excluded Romanians. George Barițiu quoted Adam Smith and Friedrich List when he claimed that the factory system is superior to the manufacture system because it generated more diverse, more numerous and more affordable goods. Barițiu illustriously anticipated the idea of scale economies when he wrote that factories "help the great society [...]" and the parsimonious producers of raw materials" (Bariț, 1962, p.94)

George Barițiu's view on freedom and competition is expressed in the article *Lupta principiilor în Franța* (The Clash of Principles in France) (Bariț, 1962, p.94) published in issue 48 of *Foaie pentru minte, inimă și literatură* (Sheet for the Mind, the Heart and for Literature) in 1851. To sum it up, he identified two fundamental main approaches to this issue: the individualist one, and the socialist one.

He noticed that the first approach, which favored "free and limitless" competition first appeared in England under the influence of Adam Smith's writings and then extended to countries such as France, Belgium, the Netherlands and so on, and it unfolded as a horse race, as a race between "the capitalist and the pauper, between the manufacturer and the worker, between the foreman and his son, between the owner of 10,000 hectares and the owner of 10 hectares of land". (Bariț, 1962, p.142-147) But unless it is "somehow organized", free competition will polarize society, will deepen the gap between the rich and the poor, will cause small workshops and craftsmen to disappear and will increase the number of the laborers, he pointed out.

The second approach, based upon the concepts of equality and solidarity, is presented by Barițiu from the Ricardian perspective of division. Thus, Barițiu's view on economy was far wider than that of his contemporaries, as it integrated production, division, circulation and consumption. (Nicolae-Văleanu, Ionescu, Pinczes, 1981, p. 119).

He considered that each individual should get the amount of work they could do (with their hands or with their mind), but the results of their work should be divided according to everyone's needs, not according to the amount of work they have done". The emphasis is on redistributive fairness: „what one cannot consume out of what they earn should be given to the one with a healthier stomach who was not able to earn enough”.

The finesse of Barițiu's analysis is given by the nuances of his language: not all the results of the work should be redistributed, but only what exceeds consumption, "what cannot be consumed" and this should go not to anyone whatsoever, but to "the one with a healthier stomach".

As far as equality among people is concerned, socialists start from the idea that although people are not equal in physical force, power of the mind and tastes, "the equal development of the human abilities" is to be insured for the benefit of the entire society, as a form of human solidarity: "everybody is to be able to use their natural abilities for the benefit of all, and to use what their natural needs ask for". Once again Barițiu chooses his words in a certain way to express the idea that equality is to be insured in such a way that each individual should pursue not only his own interest but the interest of everybody; also, the "innate" and not the *acquired* abilities are to be satisfied. Socialists compare the life of a family to that of the society as a whole and consider that society is some sort of extended family: just as in an ordinary family the parents satisfy their own needs and provide for their children, in a society what exceeds natural needs of some should go to those who cannot produce what they need to consume in order to exist.

For Barițiu it was obvious that the developed countries in Europe considered that the Romanian provinces were inhabited by "barbaric and stupid peoples" who had to depend on the "foreign factories, interests and wishes". The trade deficit ("we get from foreigners far less than we spend") is the result of the idea that *luxury stimulates the industry*, but Barițiu noticed that this principle

applies "only where factories are within the country and the raw produces are manufactured right there on the spot". (Bariț, 1962, p.148) The Gordian knot of this situation consists in the reforming of ownership, seen not in its restricted meaning, but from a social point of view, with two aspects:

- a. in a corrupt society, the landowners had increasing debts as they refused to live "in parsimony" and preferred "lavish meals and a lazy life", so that they borrowed money "twice or three times" more than what they earned; Barițiu criticized the excessive consumption of coffee, tea and chocolate, as he was a supporter of "patriotic" traditional foods; (G. Zane, 1980, p. 351)
- b. these expenses were financed by the income from positions obtained through nepotism by "a limited number of two or three hundred families" (Bariț, 1962, p. 128)

The solution was for the elites to change their behavior and mentality. On the one hand they showed a "nauseating Epicureanism" by spending all their income "only to be able to wear a tail coat", on the other hand they ignored the national interest: "the filthy habits" acquired from the East (the Ottomans) worked as they strived to copy the French aristocracy when they were faced with "the dirty trade interest of the English and with the German manipulations". (op.cit., p. 148-149)

Without neglecting the importance of the agriculture ("Our country saves land" he wrote as a true Physiocrat), Barițiu followed the Mercantilist commercialist system when he noticed that agricultural activities could only develop "where trade was able to move produces from one place to another [...] in such a way as to have an active and not a passive state of our savings and speculations" (op.cit., p. 81)

As far as trade is concerned, Barițiu considered that it is favored by the geographical position of the country: "Nature had pointed towards the Danube and the Black Sea and from there to the east". (op.cit., p. 51) In his opinion, Transylvania's economic development depended on its free access to the south, towards the two major communication means, the Danube and the Black sea. He was fully aware of the importance of infrastructure for the development of trade, so George Barițiu supported the idea of building a railway to connect the cities of Oradea, Cluj and Brașov (\*\*, 1964, p.199). On the same line, considering Transylvania's economic interests, as secretary of the association of the tradesmen of Brașov (1850-1851), he wrote an explanatory report in favor of intensifying the economic ties between Transylvania and Wallachia. (op. cit. p. 419)

In his opinion, the positive role of trade is determined by the tradesman's fair practical and moral conduct. In the article *Neguțetoriul* (The Tradesman) (1844), Barițiu presented a model of good commercial practices, in which is prominent the idea that the tradesman must not cause an artificial rise in prices through speculative practices. (Ionescu, 1999, p. 101-102)

#### 4.2. The agrarian issue

Prior to the 1848 Revolution, there were three distinct directions in terms of interests in Transylvania. The first one was nationalistic; it was promoted by the Romanian bourgeoisie and aimed at creating an independent Romanian state. The second, the Hungarian one, wanted to make Transylvania part of Hungary. The third, the German one, served the interests of the Austrian Empire.

Barițiu identified the fight against feudalism as the fight against the Habsburg absolutism and considered that the contradiction between nobility and serfs was an ethnic one, between the Hungarians and the Romanians. He was against the view of the conservatory who claimed that "the Romanian nation had not yet reached the required maturity to deserve political independence". (Bariț, 1962, p. 131)

In Transylvania agricultural lands were owned by the dominant classes while only a small percentage of the population owned small plots of land. The economy of the principality was mainly agrarian and George Barițiu analyzed it from the point of view of the peasantry, which was a numerous but poor social category. The main issue was serfdom, and abolishing it was a national cause for him.

The anti-feudal ideas came both from Romanians and from Hungarians. Even though the majority of the serfs were Romanians, there were also Hungarian and German serfs as well. The Romanian population in Transylvania was of 1.2 million and represented the majority in relation to

the other nationalities (Hungarians, Germans, etc) which only amounted to 900,000. Barițiu drew the difference between the social and the national issues by admitting that there were renegade Romanian or German noblemen "just as tyrannical as the pure bred Hungarians" and "Hungarian aristocrats of higher humanity". (op.cit., p.301) He stated that "it was necessary to speak about aristocracy and general and serfs in general". (op.cit., p. 84)

His analysis and his ideas on the agrarian issue are remarkably impartial from the ethnic point of view and his description of the tough situation of the peasantry did not take nationality into account. (Malinschi, 1990, p. 53)

As the household industry declined and as taxation increased, capitalism infiltrated agriculture and had evil consequences: the small peasant ownership disappeared, the peasants ruined themselves because of usury and therefore the peasant household went to ruin, the labor force became exceeding especially in the countryside, people started to migrate abroad.

Barițiu put forward a program for the development of the Romanian agricultural economy which included educating the peasants to have a sense of ownership and to avoid losing it, taking measures to support the best use of the land, and establishing a system to give agricultural education.

Even though capitalism was on the verge of defeating feudalism, there were still old feudal relationships. The new ownership relationships were not clear cut and agriculture was done in a primitive and traditional way. So, we can say that Barițiu foreshadowed C. Dobrogeanu-Gherea when he spoke of "the new serfdom". (\*\*\*, vol. IV, p. 724)

The fight between landowners and trading bourgeoisie was mirrored in economic thinking and created a dichotomy of economic ideas, which went between theoretically substantiating the idea of maintaining the agrarian state and developing a national industry by promoting the free trade policy. Just as G. Zane observed, all the leaders of the Revolutions in the Romanian Principalities were supporters of the free trade (Zane, 1980, p. 138).

George Barițiu's stand on free trade clearly shows his patriotism. In his article *Chestiunea tarifelor și a convențiilor comerciale* [The Issue of Tariffs and Commercial Conventions], Barițiu agreed with P.S. Aurelian: "This theory can be beautiful as an ideal; in reality, in the practical life of most peoples and states, it would mean atrocious slavery and sure national death by depletion for that particular people". (\*\*\*, 2010, p. 143)

Even though there is such a clash of opinions, there is a common interest to achieve the fundamental objective: the creation of an independent unitary state by means having a revolution. But for Barițiu, this revolution was not to be violent and anarchic. It was to be „a total change of those laws and governments which could no longer be put up with, which made the people groan in pain without being able to escape just like that". (Bariț, 1962, p. 126)

#### 4.3. The population issue

The relationship between population and economic development was at the core of George Barițiu's analysis, especially given the fact that in his times the Romanians in Transylvania wished to assert their national identity. In his article *Despre împoporare* (On Populating) (1846), George Barițiu, as a liberal and as an illuminist, proved his art in explaining the population issue. First of all, he noticed the ability of the population for self-regulation: statistically speaking, the fact that more men are born than women is counteracted by the fact that a lot of men die because of wars and revolutions. Also, when there is no "moral education to keep righteous morals", "the demon of indulgence" comes and the population deceases.

Barițiu's liberalism arises from his conviction that governments should let nature take its course and be only concerned with making people happy by insuring their "full security". And the most important instrument to do so is to guarantee that each individual has the right "to have ownership of their land". This should be doubled by measures such as the fair division of wealth ("labor" is to be divided according to everyone's strength), the exclusion of things such as monopolies, nepotism, favors and bribe, the freedom to exert "spiritual powers".

As a true patriot, Barițiu was constantly concerned with the faith of the Romanian people and clearly opposed all philosophical ideas that, in his opinion, were harmful for Romanians. Thus, he wrote: "pessimism would be a deadly poison for the state of Romania and for the Romanian nation

in general" as he referred to Arthur Schopenhauer's philosophy (Pantazi, 1964, p. 268). This Buddhist inspired philosophy "has thrown until now millions of human beings into the abyss of unhappiness" because it promotes "a terrifying maze of ideas, concepts, fantasies, mixed with preconceived opinions" which induce the idea that "life has no price as the total pain is greater than the total pleasure", and the only solution is the "run away from life". The danger of such ideas getting spread out (which had led to an increase in the number of abortions in countries such as Germany or Austria) is twofold: on the one hand, it exhorts to resignation just as the need to intensify the fight for national freedom was greater than ever, and on the other hand, it led to the decrease in number of the population as they claimed that "it was good to cut down population growth".

Given the way he tackled these issues, from a mainly moral perspective, we can say that George Barițiu was very close to the Mercantilist view, according to which the power of a country is given by the size of its population: through "monogamy, supported by religion, science, agriculture, a healthy industry, our number will constantly grow[...]", he said just before finishing his plea during his public speech at the Romanian Academy in April 1880 with a double urging message which is truly visionary: *Make children and fight luxury!*

## 5. Conclusions

George Barițiu was an intellectual dedicated to promoting the national cause of his fellow citizens. He brilliantly combined political, journalistic and literary means to achieve his purpose. Beyond his remarkable revolutionary activity, through his works, George Barițiu was a prominent figure among the founders of the Romanian modern culture.

George Barițiu was a representative scholar in Transylvania and played an essential role in the ideological life of the Romanians in Transylvania. Since he had no economical training and education, his place in the history of the Romanian economic thinking is given by his progressive attitude and mentality he showed as part of the struggle for social and national freedom, by his liberal economic direction of thinking and by the ageless validity of the ideas he put forward. For instance, when discussing poverty, he identified its cause as being the lack of certain skills and certain knowledge in manufacturing and selling domestic products, as a direct consequence of not having "a real technical and commercial" school. (Bariț, 1961, p. 50-51)

The economic issues that were at the core of his analytical research (analyzing the material status of the Romanian people, eradicating poverty by removing its causes, surpassing economic backwardness by creating a unified and independent national economy) and the way he handled and solved them place George Barițiu among the most prestigious representatives of the Transylvanian school of economics.

Taking his economic and political views into considerations, we can place George Barițiu next to Mihail Kogălniceanu, as a liberal-democrat who promoted the interests of the industrialist bourgeoisie. (\*\*\*, 1964, p. 689) Alongside 1492 other people, he was one of the signatories of the *Pronouncement of Blaj* in May 1868. And as an expression of his progressive attitude, after 1878, Barițiu became an important advocate of moderate liberalism.

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## Simion Bărnuțiu and His Socio-Political Ideas

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### Abstract

*Simion Bărnuțiu (July 21, 1808 - May 24, 1864) was a Romanian politician and scholar who followed the tradition of the Transylvanian School (Școala ardeleană) and the German Rationalism. He is considered to be the ideologist and the political leader of the Romanian Revolution of 1848 in Transylvania. He was mainly preoccupied with philosophy and legal science and had a significant contribution to establishing the principles of political and legal organization for the new Romanian unified state, but also to proposing solutions for the Romanian economic problems.*

**Key words:** nationalism, nation, agriculture, serfdom, land ownership

**J.E.L. classification:** B31

### 1. Introduction

Simion Bărnuțiu was born in Bocșa (Sălaj). He attended elementary school in Șimleu (1817-1820) and then secondary school in Carei. Between 1826 and 1829 he studied philosophy and theology in Blaj. Between 1829 and 1842 he taught history and philosophy in Romanian at high school in Blaj and was also a theological seminary educator and secretary of the consortium. Because he strongly protested against the decision of the Diet of Cluj to introduce the Hungarian language in the schools and the administration of Transylvania, he was dismissed as a teacher and he decided to study law in Sibiu (1847).

He was an active participant in the 1848 Revolution and the author of the *March Proclamation* and of the *May Speech*, in which he set the major directions of the revolution. Together with August Treboniu Laurian, Timotei Cipariu, George Barițiu and other revolutionaries, he fought for the abolition of serfdom, for the freedom and the sovereignty of the Romanian nation.

Given the circumstances of those times, he found refuge in Vienna, then in Pavia, where he continued his law studies and obtained a PhD (1854). In 1855 he became a teacher at the academic secondary school in Iași and in 1860 a university professor. After settling in the capital of Moldavia, he got involved in achieving the national goals of the Moldavian revolutionaries and of those in Wallachia and fought for the unification of the Principalities under one ruler. He died of pneumonia and rheumatism at only 56 years of age.

Simion Bărnuțiu's work includes a series of published papers as well as some manuscripts. His most important piece of writing is considered to be *Discursul de la Blaj* [The Speech at Blaj] (May 2/14, 1848). He published in *Foaie pentru minte, inimă și literatură* [Sheet for the Mind, the Heart and for Literature] a series of cultural, political, historical and economical articles. Among his published papers are: *Argomenti di giurisprudenza e di scienze politiche* [Legal and Political Arguments] (1854), his PhD thesis; *Dreptul public al românilor* [The Public Law in Romania] (1867), his most important law paper; *Dreptul natural privat* [Private Natural Right] (1868); *Dreptul natural public* [Public Natural Right] (1870); *Pedagogia* [Pedagogy] (1870); *Psihologia empirică și Logica* [Empirical Psychology and Logic] (1871). Among his manuscripts the following are worth mentioning: *Enciclopedia filozofiei teoretice* [The Encyclopedia of Theoretical Philosophy], *Istoria filozofiei* [The History of Philosophy], *Politica* [Politics], *Etica* [Ethics], *Logica* [Logic], *Metafizica* [Metaphysics].



## 2. Theoretical background

Both his biography and his nationalistic, legal and socio-political ideas were the topics for many research papers. Among the most distinguished ones we can mention the following: *Viața și ideile lui Simion Bărnuțiu* [The Life and Ideas of Simion Bărnuțiu] (G. Bogdan Duică, 1924); *Simion Bărnuțiu. Omul și gândirea* [Simion Bărnuțiu. The Man and His Thinking] (Radu Pantazi, 1967); *Filozofia politico-juridică a lui Simion Bărnuțiu* [Simion Bărnuțiu's Political and Legal Philosophy] (Petre Pandrea, 1935); *Europeanul Bărnuțiu* [Bărnuțiu the European] (D. D. Roșca, 1944); *Simion Bărnuțiu. Suveranitate națională și integrare europeană* [Simion Bărnuțiu. National Sovereignty and European Integration] (Ioan Chindriș, 1998).

A synthetic image on Bărnuțiu's work is given by studies dedicated to him, such as: *O enciclopedie a gândirii politice românești, vol. I: 1821-1918* [An Encyclopedia of the Romanian Political Thinking, vol. I: 1821-1918] (2018), *Istoria filozofiei românești, vol. I* [The History of the Romanian Philosophy, vol. I] (1985), *Din istoria pedagogiei românești, vol. III* [From the History of the Romanian Pedagogy, vol. III] (1957) and *Idees avansees dans l'oeuvre de Simon Bărnuțiu* [Ideas Presented in Simion Bărnuțiu's Work], signed by Miron Constantinescu (1964).

## 3. Research methodology

In order to identify the specificity of Simion Bărnuțiu's ideas in the context of his times, we have used the descriptive method. After having synthetically analyzed the contents of Simion Bărnuțiu's writings, we have tried to place his legal, political, social and economic views within the contemporary national and European currents of thinking. Using the descriptive research method, we had the possibility to approach his intellectual background and political activity from a quality point of view. The result of our research was the fact that we have managed to emphasize one-to-one causative relations with his socio-political principles. To write our article, we have employed several different scientific research methods, such as induction, deduction, analysis, synthesis, and comparison.

## 4. Findings

### 4.1. The national issue

Simion Bărnuțiu was a representative figure of the revolutionary intellectuality in Transylvania. He was „led by the metaphysics of the Enlightenment (*Aufklarungsphilosophie*), which was dominant in those times and by the principles stated in the Declaration of Human Rights” (Pandrea, 1935, p. 52).

A representative of the Romanian bourgeoisie in Transylvania that through revolution fought to obtain the role of the dominant class, Simion Bărnuțiu asked for the abolition of serfdom, equality of rights, but also for acknowledging the Romanian nation as a self-standing nation, that was to take part in governing proportionally to its numeric weight.

A valuable illuminist, Simion Bărnuțiu can be considered the first great Romanian liberal thinker, given the fact that he considered freedom to be a right above all privileges. For him, the path towards a free and just society started with freedom, which was insured by the social contract, and the factor to grant its force was equality. Freedom was the main topic of Bărnuțiu's thinking.

The distinctive element in the Romanian liberal landscape of those times, which sets Bărnuțiu aside from many of his fellow thinkers, was the fact that he considered the Habsburg monarchy to be a possible ally in the fight against the dominance of the Hungarian nobility over the Romanians of Transylvania (the same opinion was shared by Bishop Andrei Șaguna who tried hard not to offend the interests of the imperial court in Vienna).

Just as P. Maior, Gh. Șincai and Gh. Lazăr, Simion Bărnuțiu was what history takes down as “intelligence” (professors, lawyers, doctors, teachers, priests, civil servants in administration and justice), a social category which had a significant role in the revolutionary movement and in promoting the capitalist economic relations in the Principalities.

Simion Bărnuțiu stated a fundamental principle of the Romanian socio-political thinking as early as 1848. It is the principle of equal rights: "the Romanian nation does not wish to rule other nations, nor does it wish to suffer the rule of others, but it wishes equal rights for everything". (Zane, 1980, p. 291)

By everything he thought and wrote about, Simion Bărnuțiu constantly advertised the thesis of the Roman origins of the Romanian people and of the Latin origins of the Romanian language: "The Latinist school direction Simion Bărnuțiu follows represents national fanaticism, sacred solemnity crowned by the laurels of erudition and academic rhetoric" (Pandrea, 1935, p. 147)

Simion Bărnuțiu wanted an autonomous Transylvania in which the use of the Romanian language in schools and administration was to be granted. Language is the cornerstone of any language. Without it, a people loses its character and nationality, as Bărnuțiu noticed. (Hitchins, 1998, p. 275) „Language is the most valuable wealth of an innocent individual and of an uncorrupt people”, it is an inner treasure „closely linked to the personality of each individual and the nationality of each people”, wrote Simion Bărnuțiu in his article *O tocmeală de rușine și o lege nedreaptă*. [A Shameful Bargain and an Unjust Law] (Cornea, Zamfir, 1969, p.377)

The situation in Transylvania was totally different compared to the other Romanian provinces. Romanians in Transylvania had no civil and political rights whatsoever, as the ruling class was made up mainly of privileged representatives of other nations. The political program of the 1848 revolutionaries had this reality as its starting point and identified as a possible solution for the political, legal and administrative disagreements the simultaneous and integral solving of the political and of the socio-economic problems (national liberty and abolition of serfdom, respectively). From this very perspective, in the opinion of some researchers, from a practical point of view, Simion Bărnuțiu considered that reaching the nationalistic and patriotic goal (proclaiming the freedom and independence of the Romanian nation) was a priority, and he believed that the economic problems would automatically be solved (abolition of serfdom, development of trade and industry) (\*\*\*, 1964, p.134)

Bărnuțiu included elements of economics into his philosophy lectures. One example is the logical reasoning related to taxation and income distribution that Bărnuțiu presented in *Psihologia empirică și Logica* [Empirical Psychology and Logic]. He wrote: "All citizens are to bear the tasks of the country. The noblemen are citizens. Therefore, noblemen are to bear themselves the tasks of the country"; then "All citizens are to share the goods and also the tasks of the country", and "Peasants are citizens. Therefore peasants are to share the tasks of the country". By emphasizing a logical contradiction, Simion Bărnuțiu planned on demonstrating the necessity of reforming economic practices, which were essentially unfair: even though noblemen had huge income, they did not pay taxes, while the peasants, who paid so many taxes, had no benefit out of the "wealth of the country" (social transfers, in modern terms) (Pantazi, 1967, p.70)

Simion Bărnuțiu's attitude towards the Orthodox Church and towards religion in general shows an intertwining relation between his rationalistic and liberalist ideas and his nationalistic ones, according to the current social realities of those times. Far from being an atheist or an anti-clericalist, he looked upon the church as an essential social player, as it had the role of keeping and continuing national customs and traditions; to do so, the Church had to have a representative leadership, by creating a diocesan synod (Hitchins, 1998, p. 277)

Simion Bărnuțiu was a liberal by training and by attitude. He created "a school". His oratorical style, his talent of putting forward his convictions, his pedagogical vocation, all attracted numerous followers, but also many critics. The most virulent of his critics was Titu Maiorescu. He contested the fundamentals of the liberal view on the modernization of Romania, based upon the fact that the Western European institutions were to replace the local ones. He believed that in Romania there were no historical fundamentals to have generated the necessity for the national institutional structure to evolve and transform, just as there was no training and mentality to help the adaptation to the new.

#### 4.2. The agrarian issue

Simion Bărnuțiu's stand on the problem of the peasants was as clear as it could be. In his chapter titled *Despre necesitatea împrăștiării țăranilor și a unei noi organizări a vieții economice în România* [On the Need for Peasants to Become Owners of the Land and for Economic Life in Romania to Have a New Organization] from his course of *Public Law* taught at the University of Iași (1860-1864), he used arguments taken from the Roman law to emphasize the need for peasants to become owners of the land: "Strongly ask for serfdom to be abolished, because, when working for nothing on the landlords' land for about ten hundred years, you have already paid about one hundred times for the land that gave you your daily bread. Moreover, you have paid in honesty for nothing, as the land was yours" (Zane, 1980, p.131).

Simion Bărnuțiu believed that "the Romanian state owed the Romanian nation" the reform of the institution of property which was "feudal and hostile to the Romanian nation". He referred both to the property owned by Romanians and to that "which served the foreigners". Making the peasants owners of the land and highly compensating landlords for that was simply not just in Bărnuțiu's view as it was not the case for peasants to "buy" their own emancipation.

His legal view naturally extended into a socio-economic approach based upon the idea that the state was to regulate the competition between the small landowners and the big landowners, Romanians and/or foreigners. To that effect, he put forward four sets of measures. (\*\*, 2010, p. 169-173)

- Creating funds for each community to pay for the current expenses of the community and to lend to the members of the community; setting up regional and national banks; building communications means (we notice again the nationalism and the patriotism in Bărnuțiu's analysis, as for him the banks and the communications means had to have Romanian ownership);
- Banning the selling of agricultural land to members of other communities and keeping it in the property of the community;
- Banning the system of hereditary leasehold (*embatic* or *emfiteuse*) and farming leasehold (*colonat*);
- Imposing the rule according to which the big landlords were to sell their land to Romanians only.

Bărnuțiu was permanently concerned with the consequences of making peasants landowners since there was the risk for them to get extensive surfaces of land and not be able to insure their economic independence in the absence of a legal framework meant to protect them from the competition of the big landlords.

Generally speaking, the representatives of the Romanian school of economic thinking had identified the practical solution: promoting a rational agriculture. To this end, Bărnuțiu wrote: The time has come for people in the field of agriculture to stop believing that a heavenly or earthly power can help them unless they help themselves by adopting better means than before" (op.cit., p. 163)

In his article *Observațiuni statistice despre cultivațiunea pământului Europei* [Statistical Observations on Europe's Crop Land] (1853), Simion Bărnuțiu tackled the issue of agriculture. To begin with, he noticed that there were two completely different situations in Europe: the first one, in which agricultural land was exploited almost to its full potential (England, Germany, France, Belgium, Switzerland, Denmark), and the second one, in which agricultural production was high because the fertility of the soil made up for the lack of industry (Russia, Poland, Ukraine, Turkey, Spain, Portugal).

The fact that he was not a trained economist did not prevent Simion Bărnuțiu from voicing an idea that was both innovative and valuable in those times: the essential role of the industry in the development of a modern and efficient agriculture. Later on in his analysis he identified a series of causes that prevented the progress of agriculture:

- Physical causes: climate, terrain, poor fertility of the soil;
- Moral causes: a hostile mentality against agricultural activities (the Spanish, the

Portuguese, the Turks, the Jews), the proclivity towards manufacturing activities (the Russians);

- The lack of practical agricultural knowledge (especially agricultural chemistry) as a result of the lack of specialized schools;
- Political causes: a very small number of landlords who owned the lands, the excessive dissipation of agricultural land, the high taxation, grazing someone else's pastures, the system of hereditary lease (*embatic*);
- Local causes: insufficient labor force, inappropriate infrastructure, absenteeism.

Simion Bărnuțiu's views were concise, clear, scientific and analytic, objective. In the end he crossed the t's and dotted the i's when referring to serfdom: "Blessed are the countries where this predatory means has been wiped out!" (Cornea, Zamfir, p. 381-385)

In a sequel of this article, Simion Bărnuțiu analyzed the agriculture in Transylvania through the two fundamental economic views of those times, protectionism and free trade. Being aware of the abolition of the Corn Laws in England, the Romanian author went beyond the obvious and realized that adopting the measures of free trade which favored industry to agriculture meant that "the focus was on the public benefit (that is national interest) more than on the loss of private beneficiaries" because, since England was mainly an industrial country, this free trade policy allowed it "to rule the world due to its industry". In other words, the free trade policy was an instrument of the English economic imperialism...

Transylvania was in a completely different situation. There was a severe lack of food, and famine was constantly lurking. Domestic agricultural production was totally insufficient (agriculture was rudimentary, there was a lack of solidarity and farmers refused to build associations, there were no agricultural schools and therefore there was no modern scientific knowledge to exercise this basic activity). There was no money to import agricultural produces; the road infrastructure was archaic, while exports only included raw materials such as salt and timber. Under such circumstances, an agrarian reform was compulsory and it had to come along the establishment of a strong and sovereign national state that was to adopt measures for the development of the domestic agriculture and to protect it against the foreign competition. (\*\*\*, 2010, p. 162-163)

## 5. Conclusions

Simion Bărnuțiu found in philosophy and law the fundamental principles to support social and national freedom. The true civilization is fed by a twofold source: Christianity and the spiritual legacy inherited from Ancient Greece (rationalism) and from Ancient Rome (Roman law). Thus, Bărnuțiu placed Roman law at the basis of Romania's legal edifice and claimed the *ubique et semper* validity of the Roman political organization (the republic) which was to be a model in the process of reforming the Romanian state.

Simion Bărnuțiu's name is inseparably connected to the first scientific approach of legal concepts and their study in an academic environment (Iași, 1856 și București, 1959): "The Romanian nation has lived with its Romanian right, its laws, its domestic, religious and political customs and traditions, under the rule of the Goths, the Huns, the Avatars, and so much so since the establishment of the Romanian states; [...] the greatness of the Romanian nation, which was claimed by those barbarians, has triumphed" (\*\*\*, 1966, p. 318). The right of the Romanian people to choose its own destiny and to elect its rulers and the creation of certain democratic institutions were among the ideas that the Transylvanian jurist put forward, ideas which contributed to generating a favorable climate for the development of the Romanian legal and political philosophy.

In time, the rationalism, the progressism, and the patriotism of Bărnuțiu's writings have endured and they have given them perpetual value. Nicolae Iorga mentioned the fact that Simion Bărnuțiu was "a man with a single vision and with a single mission" and, just like any other old Transylvanian, did not see anything around him, being locked up in his great theory (Iorga, 1967, p.253-254). Iorga mentioned the fact that Bărnuțiu did not have any descendents, but from a cultural perspective, we believe that we are all his rightful descendents.

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## The Impact of Digitalization in the HR Department: A Post-Pandemic Qualitative Analysis

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### Abstract

*The impact digitalization has on organizations has been a topic of interest for many years and will continue to be due to its complexity. As long as digitalization evolves, so will organizations, and there will always be new areas to uncover.*

*In this paper, we aim to offer an answer to the question what is the impact of digitalization, by analyzing one of the main departments of an organization, Human Resources. Our research comes in addition to the existing ones by approaching the topic from a qualitative perspective and considering the post-pandemic period. We conducted qualitative research, interviewing 20 HR professionals from Romania who work in IT&C companies. The interviews were semi-structured and were conducted in the period September-November 2022.*

*We hope that our research will bring a new perspective on this topic and will be continued in the future.*

**Key words:** Digitalization, productivity, HRM, Covid-19

**J.E.L classification:** M12, M15, M50

### 1. Introduction

From the appearance of digitalization, organizations started a long process of evolution, which raised a high interest from researchers. As the impact of digitalization on organizations continues to be studied, many companies nowadays invest in digitalization to gain a competitive advantage. One of the reasons behind this is the relationship between digitalization and productivity. Even though the opinions might be divided, it is believed that digitalization has contributed to increasing an organization's productivity.

Human Resources is one of the main departments that have been visibly impacted by digitalization. The professionals working in this area have an extended responsibility, as they need to implement and promote digitalization. They are among the first employees who need to upgrade their skills in order to adopt changes caused by digitalization in their departments and organization. Furthermore, they also need to fulfill their role as business partners and create and implement a strategy to help all employees embrace the changes brought by digitalization.

A crucial moment in the evolution of organizations has been the Covid-19 pandemic, which has contributed to the acceleration of digitalization. Due to the limitations implemented and the risks caused by the pandemic, organizations had to find new ways to fulfill their goals, and many turned to digitalization for it. For example, before the Covid-19 pandemic, most employees from public organizations could only work from their offices. During the pandemic, they could continue fulfilling their duties from home due to digitalization. The same situation was encountered in some private organizations like banks.

In light of a post-pandemic era, it is of interest to determine the impact that digitalization continues to have. Due to its mission, we decided to concentrate our research on the Human Resources department.

In order to be able to understand better and support such a complex process, it is required first to analyze and understand the impact of digitalization in the Human Resources department.

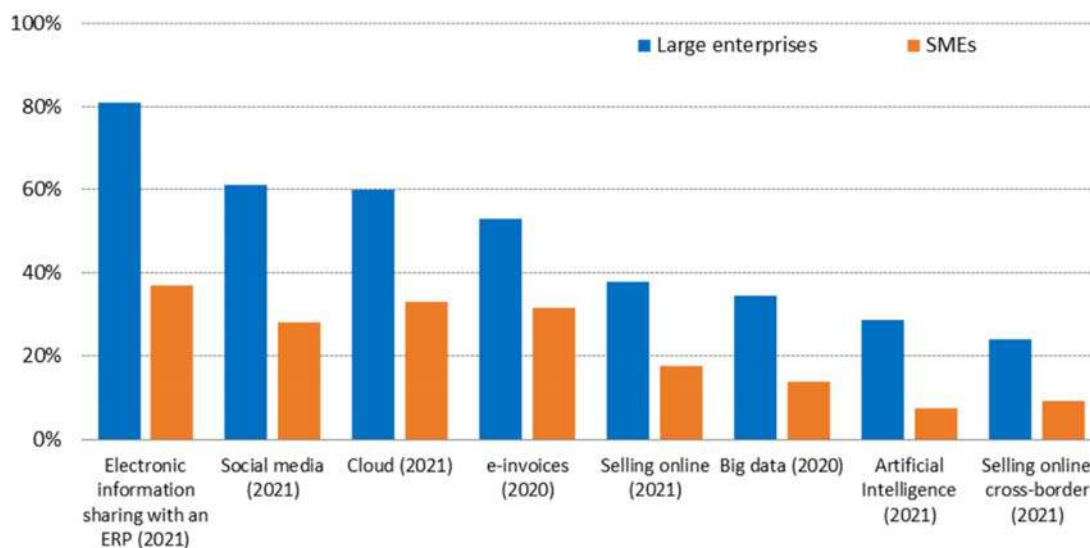
## 2. Literature review

Although digitalization is a concept adopted in everyday vocabulary many years ago, there still exists confusion around it. Due to this, digitalization is sometimes confused with other concepts like digitization. Hence it is required to define the concepts to bring clarity to their usage.

Digitization is the concept used to describe the action of converting information into a digital form by using digital tools. It can be used to define the action of storing and processing information using computers.

Compared with digitization, digitalization is a more complex concept. It describes the entire process of implementing digital technologies in an organization, from how it organizes its business to how it communicates with its clients and has long-term effects on an organization (Demyen, 2021). Based on the definition presented, digitization can be considered part of digitalization. As can be noticed, digitalizing an organization takes time and requires many resources. This is why organizations have a different percentage of digitalization. Some of them embrace it with more ease than others. For example, in the European Union, large enterprises have a higher percentage of adopting digital technologies than small ones, as seen in Figure 1.

Figure no. 1. Adoption of digital technologies (% enterprises) in the European Union

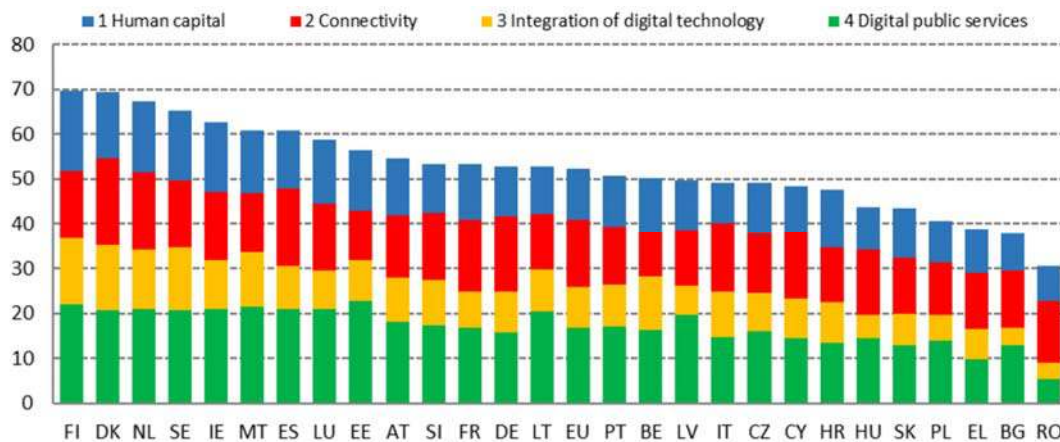


Source: (DESI, 2022, Eurostat, European Union survey on ICT usage and e-commerce in enterprises)

Nowadays, when discussing digitalizing organizations, some main technological trends are taken into consideration: big data, cloud, artificial intelligence, process automation and robotics and so on. These trends are adopted by organizations from different industries, not only IT&C. Even though the adoption of digital technologies is desired by private and public organizations, like the European Parliament, a large number of factors are affecting this process, to name a few: high financial costs, the complexity of implementing different digital solutions, lack of digital skills of both employees and customers.

From the digitalization perspective, Romania is one of the European countries that faces many challenges. According to the data provided by DESI (2022), Romania is among the low rank from the digitalization perspective, with a large gap between it and other European countries, as seen in Figure 2. When discussing digitalization, the main criteria that are taken into consideration are the digital skills of the human capital, digital connectivity infrastructure, integration of digital technologies, which refers to the usage of electronic information sharing, social media, big data analysis, artificial intelligence, cloud services, and digital public services, which refers to both digitalization of public organizations and use of digital tools to access public services.

Figure no. 2. Digital Economy and Society Index 2022 - DESI scores



Sources: (DESI 2022, European Commission)

One of the reasons why digitalization is considered a key element in the evolution of an organization is due to its influence over productivity. The relationship between digitalization and productivity has been widely debated for decades. Some studies prove a positive impact of digitalization on productivity, and others claim that there is no influence between the two.

In a study performed in 2019, Cettè et al. demonstrated that productivity is higher in organizations with a high digital technology adoption. Thus, productivity can increase in organizations with a high digitalization adoption. During this study, it was also discovered that digitalization varies based on industry. For example, the services industry has a higher digitalization rate than manufacturing.

However, despite the differences between industries, there could be demonstrated a higher impact of digitalization on productivity in the manufacturing industry than in the services one due to the increased number of repetitive tasks, which can be replaced with digital tools (Cettè et al., 2020).

Despite this discovery, digitalization still has a visible impact on productivity in all organizations. Digitalization is impacting all departments, including the Human Resources one, which transforms and increases in complexity along with the changes undergone by the organization. If decades ago, the Human Resources department was seen more as a support department for the organization, now it is considered a partner for the business. Nowadays, the responsibilities of this department extend from mainly recruitment and performance review to employee development, talent succession plans, and many more.

The role of the Human Resources department or Human Resources Management (HRM), as it is known, has increased in importance once organizations started to adopt digital technologies (Rana, 2019). The new HR professionals need to be able to facilitate the proper human capital strategy to support the digitalization process of the organization, promote and adopt change faster than other employees, offer guidance to other departments and employees, who have taken some HR responsibilities, and so on. The digitalization of HR is, on the one hand, about HR operations, and on the other hand about the transformation of the workforce and the way jobs are done (Verlinde, 2018).



For example, due to digitalization, managers can access data about employees and perform activities that were once specific only for HR professionals. The border between the HRM responsibilities and those of managers is now blurred due to digitalization and HR professionals need to adapt to the specific context of their organization.

During the past decades, the digitalization of HRM has been deeply analyzed, especially due to its effects and implications on the entire organization (Rana, 2019). Some of the specific activities of the HRM function, like recruitment, were of particular interest due to the visible changes brought by digitalization. For example, nowadays, job portals, the company's website, and career page, social media platforms have become indispensable for recruitment. If in the past people used to apply for jobs via newspapers, now they can do it using a company's career page.

The digitalization of HRM increased in attention during and after the Covid-19 pandemic. If before the pandemic an important element of HRM activities used to be face-to-face interactions, during the Covid-19 situation, they were replaced with online ones. For example, recruitment activities continued only in a digital environment, candidates attended interviews using digital communication tools, and new employment contracts were signed using digital signatures.

The global new context created by the Covid-19 pandemic has been challenging for HR professionals. On the one hand, they had to adapt their activities to the new context and accelerate the digitalization of their function, and on the other hand, they had to support the entire company to adapt to the new context (Gigauri, 2020). Furthermore, a huge responsibility has been placed on HR professionals' shoulders concerning employees' well-being. In the context of remote work, where employees have to work from home with their families, the borders between professional and personal life have been blurred, and many employees need support to find their balance.

The challenges faced by the HRM function during and after the Covid-19 pandemic have been numerous, to name a few: employees' well-being, maintaining safety for all employees, upgrading employees' digital skills, maintaining a healthy organizational culture (Peasly et al., 2020; Giuge et al., 2020; Gigauri, 2020). Implications brought by these changes to HRM function are still being studied by researchers and will also be addressed in this paper.

### **3. Research methodology**

In this paper, we aim to clarify the impact of digitalization in the HR department after Covid-19. As mentioned before, HRM has a critical role in the functioning of an organization, so it is considered of high importance to have visibility over the effects of digitalization to optimize an organization's performance. By acknowledging the effects, new measures to sustain digitalization can be adopted.

In order to answer our main research question, what is the impact of digitalization in the HR department, we chose as a time frame the post-pandemic period, as we considered it to be of high importance for organizations nowadays. The research topic was addressed from a qualitative perspective by performing qualitative research, which used the method of semi-structured interviews.

We chose to analyze the impact of digitalization from the perspective of employees working in HR, that have at least four years of experience in this domain in order to be able to compare the situation before and after the pandemic. Based on the data provided by Eurostat, we chose Romania as our main country for the first stage of research due to its low percentage of digitalized companies. In the future, we plan to continue the research in other countries and compare the findings.

In choosing the respondents, we used as main criteria besides their work experience, the type of company where they work. We choose respondents who work in companies with more than 500 employees and have as their main activity domain the IT&C industry in order to ensure that our respondents have access to digital tools. The decision was taken based on the data provided by DESI and Eurostat. We chose companies from the same industry in order to be able to compare the collected data, even though this is another limitation that our study has. In the future, we would like to collect data from employees who work in other industries and compare the results.

The semi-structured interviews were conducted with 20 respondents, all females, aged between 25 and 38, who have roles in recruitment, learning & development, and HR operations. The respondents were four specialists from learning & development, six respondents from HR operations, and ten from recruitment.

The questions addressed during the semi-structured interviews were divided into themes based on the literature review. The themes can be seen in Table 1. The interviews were conducted using digital tools from September 2022 to November 2022. The identity of the respondents was kept anonymous.

*Table no. 1. Themes of the semi-structured interviews*

Themes	Number of questions
Usage of digital tools before and after Covid-19	3
Workload volume before and after Covid-19	2
The relationship between digitalization and productivity	4
Wellbeing appreciation	2

*Source:* Authors' contribution

#### 4. Findings

The results obtained from the conducted semi-structured interviews offered a better understanding of the impact of digitalization in the HR department after Covid-19. From the daily activities perspective, the differences are not very big between before and after the pandemic are not very big. Our respondents consider that their main responsibilities remained the same, but how they perform their duties has changed. The usage of digital tools has increased in their daily job. For example, some replaced face-to-face interactions with virtual ones, including after Covid-19.

Significant differences were noted from the productivity perspective and well-being appreciation. Some respondents appreciated that they feel more productive because digitalization has helped them perform certain tasks, and now they have more time to focus on other things. Even though digitalization positively impacts their activities, we also noticed some negative effects, which affected our respondent's well-being.

During our research, we noticed that all our respondents knew how digitalization impacted their profession. Furthermore, as HR professionals, they were also aware of the changes that digitalization brought to the entire organization and how they contributed as partners.

##### *Usage of digital tools before and after Covid-19*

As employees of IT&C companies, our respondents were used to having access to digital tools. The companies where they worked invested for years in digitalization and promoted the usage of digital tools. For our HR respondents, it is common to use computers to perform their activities, to use different software solutions to track candidates and employees, and to use digital tools to communicate internally. In time, they noticed an increase in digitalization in the companies where they work.

Even though they were used to using digital tools in their daily activities, our respondents did notice a difference after Covid-19. Most of them appreciated that their usage of digital tools increased after the pandemic. One of the most obvious areas where this happened is communication.

*Before Covid, we were used to having face-to-face meetings with the Hiring Managers with whom we worked. Even though we had two days of work from home per week, we made sure to schedule the meetings for when we were at the office. We continue to have a hybrid way of working, but almost all our meetings are virtual. I was surprised to notice that I was having a virtual call with participants at the office at the same time as me, but we were taking the call from different meeting rooms (R05, Talent Acquisition Specialist).*

Another respondent commented similarly:

*During Covid, we had to work from home, so we got used to communicating only virtually, and we started to use often our internal tool, Teams. If I had something to say to a manager, I was writing to him on Teams, I was not waiting to have a call with him. Now that you have asked me, I realize that even if I'm at the office and can talk directly with someone, I prefer to text that person on Teams. I do that for confidential and random matters, like sharing a joke (R04, IT Recruiter).*

Another aspect we noticed from the answers we received is the change in the attention offered to digital tools. The companies where our respondents worked realized the importance of having the proper digital tools after the pandemic and started investing more in them. For example, five of our respondents have been involved in auditing new providers and choosing other tools.

*During the pandemic, when we switched to virtual interviews, we realized how important an Applicant Tracking System is. The one we were using was ok but not the best, so at the end of 2021, we implemented Workday. It took us a few months to learn how to use it and ensure that we were all using it the same way, but now it is easier to do our job. Hiring managers can access the entire recruitment process and do not need us to find out what they need about a candidate (R07, Senior IT Recruiter).*

#### *Workload volume before and after Covid-19*

From the workload volume perspective, the answers we received were not enough to conclude. All our respondents considered that their role responsibilities remained the same, but how they do their job changed. For example, for our respondents who work in learning and development, their activity had moved almost entirely in a digital environment:

*Before Covid, I used to do all the trainings face to face, conduct research interviews face to face. My job was all about face-to-face human interaction. When Covid came, I was terrified and wondered how I could do my job while maintaining the quality...I remember that during my first online trainings, I was shaking and had difficulties keeping my audience active. It was easy for everyone to read an email while they were listening to me...and it was not like I could do something because I was not near them. After two years since Covid, almost all my trainings are online, and I structured them in such a way that I manage to keep everyone active (R01, L&D Specialist).*

Among our respondents from HR operations, we also noticed a significant change in how they do their activities. If before the pandemic most of them used to take care of all the documents needed by employees, physically, now they are using digital tools:

*It is much easier for me now when we have a new hire, and a candidate needs to sign the employment contract. In the past, I had to call the candidate and ask him or her to come to our office to sign the contract. Now I send them the contract using a secured system that we have. I don't need to wait for candidates to come after 6 pm, I do everything while sitting comfortably in my house (R11, Senior HR Operations Specialist).*

#### *The relationship between digitalization and productivity*

Digitalization has significantly changed how our respondents perform their duties. During our research, we wanted to investigate their perception of their productivity in relationship to digitalization.

Our respondents consider themselves more productive since digitalization has erased time and place limitations. They appreciated that now they could attend meetings anytime and anywhere. The most increased appreciation regarding productivity was noticed among our respondents, who work in recruitment:

*Before Covid-19 I was having all my interviews face to face at the office...it was nice to see the candidate in person, but now when I think about it, I realize that I was wasting a lot of time. If the candidate was not good for the job, I still had to spend one hour with him or her. I could not end the interview sooner, knowing they came all the way to the office. Now, if a candidate is not good, I can end the interview sooner (R08, Senior Talent Acquisition Partner).*

Another aspect noticed regarding the relationship between digitalization and productivity was the increase in the number of tasks that can be performed daily. Due to digitalization, our respondents can perform more tasks per day. For example, the learning and development specialists can organize more trainings per day because all the participants are attending the training online and do not have space limitations, and the recruitment specialists can organize more interviews per day for the same reason.

*During the pandemic, we switched to full virtual interviews, and we have continued that way. For example, it is much easier to schedule all the interviews that I have only in two days. That is easier for me because all I have to do is connect online, but it is also easier for the candidates. Now they do not need to take a day off to visit our office. They can attend a half an hour interview during their lunch break or anytime they are free during the day. We have to just click on a link and connect (R09, Senior IT Recruiter).*

#### *Wellbeing appreciation*

During the semi-structured interviews, all our respondents appreciated the positive effects digitalization had on their work. However, when it came to their well-being, their opinions were divided. Some respondents noticed that having no time and space limitations made them work overtime or answer emails and messages after working hours. In time they realized that this affected their personal life, as it became harder for them to disconnect from work and keep a balance between the time spent at work and their one. While focused on supporting other employees in maintaining a work-life balance, they neglected their well-being.

*I was so focused on proposing and implementing well-being practices in the company that I did not realize I was neglecting myself. I do not know when I started accepting on-the-spot meetings after 6 pm or when I started to answer emails and work on different projects very late in the evening (R19, Senior HR Operations Specialist).*

Other respondents perceived the opposite regarding their well-being. They are using the flexibility offered by digitalization to their advantage. For example, they installed on their mobile phones the needed applications, and now they do not have to sit for eight hours only near their laptop. They organize their schedule in order to be able to participate in different family activities and so on.

*Now when I take D. to his swimming classes, I use that time to work from my phone if something urgent needs my attention. I have all my work on my phone too (R06, Senior Talent Acquisition Partner).*

The interview data revealed that overall our respondents experienced positive effects of digitalization over their work. For most of them, using digital tools and having online interactions has become the standard way to do their work.

## **5. Conclusions**

By applying qualitative analysis, we started a journey to answer the question what is the impact of digitalization in a post-pandemic period. We focused our research on the HR department as we considered it vital for the excellent function of an organization in the context of digitalization and the post-pandemic era. HR professionals must focus on their function while ensuring that the entire organization works correctly.

For our research, we chose to limit ourselves to HR professionals based in Romania, one of the European countries with a low digitalization percentage, in order to add value to the academic world by offering insights about digitalization's impact. The results that we had were similar to the ones presented by other researchers from different countries. The Covid-19 situation accelerated the digitalization of the HRM function and brought changes in how daily activities are performed.

Digitalization's most significant impact on the HR departments after the Covid-19 pandemic was in the communication process. Before the pandemic, most of our respondents had mainly face-to-face interactions. After the pandemic, they switched to a virtual one and continued that way. For

example, even though recruitment specialists can attend face-to-face interviews, they prefer to continue to have them online as it helps them be more productive compared with the pre-pandemic period.

Another significant result was the discovery of higher usage of digital tools. Many of our respondents' activities are now done with the help of different software solutions. Furthermore, their companies started investing more in digital tools. These changes have also contributed to an increase in their productivity. At least, this is how our respondents perceived it.

Similar to other researchers, we also discovered digitalization's harmful effects on some of our respondents. By having no space and time limitations, some of our HR respondents faced work-life balance challenges. Even though they are aware of all the implications digitalization has on well-being, they focus more on helping other functions and neglect themselves.

Given the results, we can conclude that the impact of digitalization in the HR department after the Covid-19 pandemic is positive. We want to continue our research by collecting data from HR specialists from other industries and countries.

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## The Covid-19 Electronic Registry: Its Implementation within Medical Institutions in the Republic of Moldova

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### Abstract

*Due to the Covid-19 pandemic, the Republic of Moldova suffered serious socio-economic consequences. From March 2020 to 2021, another high risk was identified: the Code Orange alert at the national level for long periods of time. The form of the disease, the impact of people's comorbidities, and the post-Covid consequences meant a longer average duration of the treatment and a shorter average life expectancy. In 2020, a team of researchers from the Republic of Moldova initiated the scientific research with the title "Evaluation of the state of health and assessment of the quality of life of patients included in the COVID-19 Electronic Registry", which focused on hospital management, in terms of the process of treating the respective disease and determining the effects of this pandemic. The purpose of the research was to develop the electronic register and the electronic card for recording the patients with Covid-19 virus.*

**Key words:** Covid-19, health status, health assessment, life expectancy, quality of life

**J.E.L. classification:** I3

### 1. Introduction

Affected by the pandemic and the severe drought, the economy of the Republic of Moldova decreased in the period 2020-2021, its GDP declining by 7.0 percent compared to the previous period. The main factors that determined this decline in GDP were the low level of consumption, by 7 percent, followed by the reduction in investments and the increase in product stocks. Quarantine measures caused trade and industrial production to stop in the Republic of Moldova, and severe drought impacted agriculture. The level of employment reached its lowest value in the last five years. In 2021, the country's economy gradually began to recover, but most of the short-term economic and social development indicators were still in the negative sphere (HG/GD R. MOLDOVA, 2020).

According to Professor Svetlana Gorobievschi, the health status of the population is a key element of the human capital of each country, being an essential component of the quality of life (QoL). Life expectancy, morbidity, mortality, the subjective assessment of well-being, the level of health expenses, etc. outline differentiated health diagnoses, with particular relevance in the context of QoL assessment (Gorobievschi, 2013, p.9; see also Gorobievschi et al., 2016 ).

### 2. Literature review

Health is a fundamental resource for individuals, communities, and societies as a whole. A good level of public health contributes indispensably to economic growth and the development of human society. Quality of life (QoL) refers to the physical, psychological, and social repercussions of a pathology on a patient's life (Gorobievschi, 2020, pp. 197-198). The field of health (see Buta and Nădrag, 2016), viewed from the QoL perspective refers both to the state of health and to health

care services (access, use, characteristics, etc.). At the same time, the life expectancy of the population, the mortality rate, the morbidity, the share of expenditure in GDP for health care services represent only a few of the indicators used in QoL research (Gorobievski, 2020, p.199).

In connection with the pandemic phenomenon in the Republic of Moldova, specialized literature shows that it has had a much more profound/significant impact compared to other European countries, including the neighboring states, such as Romania, Ukraine, Bulgaria. Actually, the Republic of Moldova was one of the countries most affected by the Covid-19 pandemic, being indicated in orange on a map of the European Center for Disease Prevention and Control.

For this purpose, in June 2020 a team of researchers from the Republic of Moldova initiated the scientific research with the title "Evaluation of the state of health and assessment of the quality of life of patients included in the COVID-19 Electronic Registry", which focused on hospital management, in terms of the process of treating the respective disease and determining the consequences of this pandemic for public health and quality of life (QoL) at the level of post-Covid-19 patients. This idea was reinforced by the Ministry of Health and received the status "Expression of Interest", under the title "Evaluation of the state of health and assessment of the quality of life of patients included in the COVID-19 Electronic Registry", the activities taking place in the period 2020-2021, at "Nicolae Testemițanu" State University of Medicine and Pharmacy – USMF, in the Republic of Moldova.

Thus, the composition of the working group was established, and competent people from different fields were selected: medical, economic, statistical and IT. The working group of the Expression of Interest included the following scientific staff: Assoc. prof. Tudor Costru, Ph.D. in Medical Sciences ("Nicolae Testemițanu" State University of Medicine and Pharmacy – USMF), Head of Science Department, coordinator; Assoc. prof. Raisa Puia, Ph.D. in pharmacology (USMF "Nicolae Testemițanu", Department of Social Medicine and Management), senior researcher; Assoc. prof. Galina Buta, Ph.D. in Medical Sciences ("Nicolae Testemițanu" State University of Medicine and Pharmacy), senior researcher; Stanislav Groppa, Academician of AȘM, lead consultant; Prof. habil., economist Svetlana Gorobievski, PhD, UTM (Technical University of Moldova, Department of Manufacturing Engineering), economic issues consultant; Assoc. prof. Stela Cojocaru, Ph.D. in Medical Sciences ("Nicolae Testemițanu" State University of Medicine and Pharmacy), medical researcher; Alina Ungureanu, medical researcher (USMF "Nicolae Testemițanu", head researcher, Scientific Center of Medicine), Andrei Vataman, IT specialist.

The multidisciplinary character of the working group emerged from the complexity and variety of problems posed by this virus. What the Covid pandemic caused in human society (including in the Republic of Moldova) has so far been little known and researched. In addition to the fact that, in essence, the occurrence and treatment of this disease is an indisputably medical problem, the correct mechanism for overcoming the pandemic situation by the states has a socio-economic character. This fact is evidenced by the seriousness of the disease and its socio-economic consequences, as well as by the high costs to stop the negative impact of the disease, which a state with an economy in transition cannot overcome by itself.

According to statistical data from June 2022, in the Republic of Moldova, 255.83 thousand people were infected with Covid-19, of which 6134 died and 248.73 thousand people got treatment. We should take into account that at the moment the population of the Republic of Moldova is around 2 million people, while the disease rate was 12.8%, and the death rate was 3.1%, which placed the Republic of Moldova in the red contamination zone for a long time. The patients without changes in their health status at the moment of their discharge from hospital were further monitored by family doctors/general practitioners or were transferred to suitable hospitals (depending on their comorbidities) [[www.gov.md](http://www.gov.md)]. However, the aspects related to the further treatment of these patients were not included in the objectives established in the Expression of Interest.

General conclusion: the forms of hospital discharge of post-Covid-19 patients with comorbidities exposed to treatment (according to medical protocols adapted to their comorbidities), directly influence the form of the disease, the health status at their discharge from hospital and QoL (which, in the end, is assessed by relaunching their capacity for work) (Costru et al., 2022).

The electronic registry of COVID-19 patients was developed for the strict record-keeping and follow-up of the progress of the treatment of patients hospitalized in public medical – sanitary institutions (IMSP), i.e., hospitals in the municipality of Chișinău, for the period 2020-2021, in

order to evaluate the dynamics of the state of health at admission and the assessment of their quality of life (QoL) at the moment of their discharge from hospital, which corresponds to the RM 2030 Strategy (Costru et al., 2022). The purpose of the research was to determine the interdependencies between the health status of the patients and the form of the disease caused by Covid-19, which in turn are dependent on the comorbidities which are present.

### 3. Research methodology

In the research, the team was guided by the scientific concept that public health can be approached from several perspectives. In the QoL approach, an impressive number of QoL indicators and indices have been developed.

The health dimension was tackled from the positions recognized by domestic scholars (S. Gorobievski, C. Zamfir, L. Stoica, I. Mărginean, A. Bălașa, A. Rojco, G. Buta, T. Danii, O. Lozan, A. Timuș et al.) and international scholars (F. Hayek, H. Bruno, I. Brown, M. Friedman, P. Drucker et al.) through subjective and objective indicators (Gorobievski, 2013).

In the field of health, objective indicators illustrate two dimensions: health status and health care services. The health dimension is measured by means of the following objective indicators: life expectancy, general mortality rate, mortality rate by cause of death, morbidity rate, the incidence of COVID in the population, health expenditure, other indicators, as well as the number of employees in medical institutions/medical personnel, the provision of the institution with adequate medical equipment, the number of health institutions, the planned expenses for the treatment of patients in relation to GDP. They characterize the medical system trained for the treatment of patients with COVID-19.

For the evaluation of subjective indicators, the focus is on how people evaluate their own health status, the perceived constraints imposed by the health status, satisfaction with their own health, access to health services, etc.

The QoL perspective widens the range of indicators by evaluating the indicators obtained on the basis of clinical and paraclinical investigations during the patient's hospitalization. The objective indicators were obtained on an individual level from the data of the software "Evaluation of the state of health and assessment of the quality of life of patients included in the COVID-19 Electronic Registry" (symptoms of the patients with COVID-19 during hospitalization and at hospital discharge) and they refer to doctors' perceptions, medical assessments regarding health status, perceived constraints imposed by health status and access to health services.

The purpose of the Expression of Interest was achieved by:

- designing and creating the software "Electronic Registry of COVID-19 patients" for USMF "Nicolae Testemițanu";
- drawing up the standardized form for patients with Covid;
- developing the research methodology of the quality of life of patients with COVID included in the registry;
- drawing up pre-established analytical reports within the research;
- drawing up proposals for improving the quality of life of patients with COVID-19, etc.

The SOFTWARE "Evaluation of the state of health and assessment of the quality of life of the patients included in the COVID-19 Electronic Registry" has been implemented, as follows:

The working group of the Expression of Interest "Evaluation of the state of health and assessment of the quality of life of patients included in the COVID-19 Electronic Registry" from the Republic of Moldova, considered it appropriate to evaluate the QoL of a patient who suffered from Covid based on the clinical indicators, manifested by the patient during treatment stages: at hospital admission, the active treatment period and the discharge from hospital stage and health indicators during these periods. At the same time, the team considered it important to evaluate the quality of life of patients with Covid in dynamics, according to the form and severity of the disease suffered by patients who have the following forms: asymptomatic, average condition and severe condition.

As mentioned above, according to the power of influence on the QoL, health indicators directly and indirectly influence the patient's QoL: objective (quantitative) indicators – come from the external environment, and subjective (qualitative) indicators – come from the internal environment



of the IMSP (Gorobievski, 2022). According to the collaborators' opinion, the established subjective indicators of the state of health at admission, exposed by the patients and confirmed by diagnosis, simultaneously become objective indicators of the state of health. They were introduced in the Patient's Personal Electronic Record, as follows (Gorobievski, 2022; Gorobievski et al., 2021):

- Health status, assessed by the patient;
- His/her satisfaction/dissatisfaction with the state of health;
- Self-report of a chronic illness or disability;
- The perception of limitations in daily activities due to the state of health;
- The inability to work lately, due to health reasons;
- The number of days when he/she was unfit for work/school in the last period;
- Past/present health problems/issues (diabetes, asthma, hypertension, etc.);
- The existence of a long-term treatment caused by comorbidities;
- The motivation for hospitalization of the patient with COVID;
- The patient's physical suffering/symptoms (myalgia, fatigue, dyspnea, etc.) that had affected daily activities before hospitalization.

#### 4. Findings

Based on the objective and subjective indicators mentioned above, the state of health at the moment of hospital admission was established. Since the objective indicators have different units of measure and are not commensurable, it was proposed to evaluate the state of health according to the subjective indicators, which are the consequence of the former. The state of health at admission was established according to the degree and depth of the symptoms mentioned by the patient. Thus, after performing the Covid test at admission, the form of the disease was established and the patients were grouped into four groups according to the state of health/QoL (Gorobievski et al., 2021):

- mild form (asymptomatic) – satisfactory state of health;
- average form of the disease – relatively satisfactory condition;
- relatively serious – serious health condition;
- severe form – very serious state of health.

The collection and analysis of these indirect indicators were necessary for assessing the vulnerability of each patient according to: age, sex, specialty, place of residence and his/her epidemiological links depending on the risk factors (objective indicators, dependent on the social and demographic environment of the country, standard of living and field of activity). At the same time, these are the indicators that indirectly influence the state of health or QoL.

Resulting from the fact that the SARS-CoV-2 virus pandemic caused a global health crisis, a defining one for our times, it is one of the greatest challenges that humanity has ever faced (in terms of the dimensions and severity of the disease; in terms of the devastating consequences on social and economic level). The infection with a new type of coronavirus (COVID-19) is characterized by great clinical and management challenges, which can be properly addressed by having available complex and relevant data from the territory of the Republic of Moldova.

In this context, within the Expression of Interest "Evaluation of the health status and assessment of the quality of life of patients included in the COVID-19 Electronic Registry", the software "Electronic Registry of COVID-19 Patients" was developed.

Electronic registries play an important role in the assessment of health status and, indirectly, determine its improvement through rapid access to information, proving to be a relatively simple, inexpensive and effective tool for making medical decisions, for establishing the form of the disease and the appropriate treatment of patients, which is stipulated in the RM/Republic of Moldova E-health Strategy. Health monitoring tools allow establishing the effectiveness and safety of applied treatments, dynamically tracking their results.

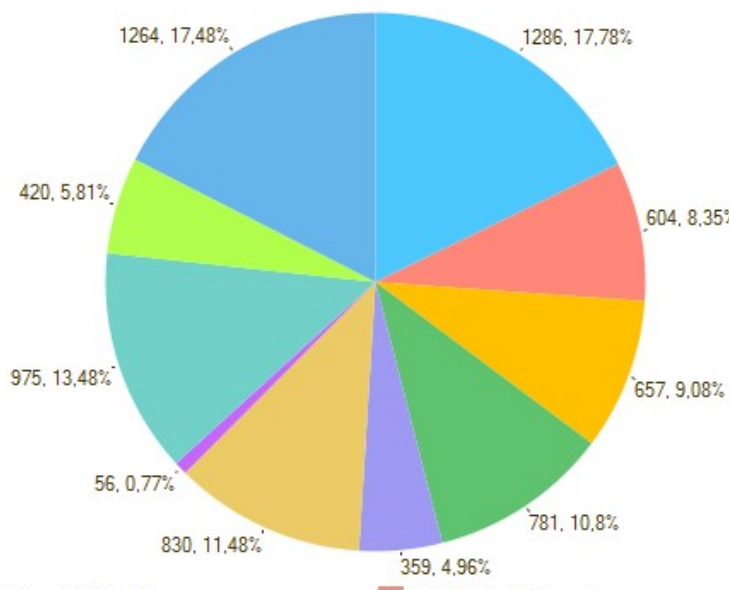
Thus, as part of the project, a new tool was developed to create the electronic informational database of patients with COVID-19, hospitalized in public medical – sanitary institutions of the Municipality of Chisinau. The implementation of the electronic Registry of COVID-19 patients

started in February 2021, when the process of organized data collection was initiated according to the standardized form about hospitalized patients with the COVID-19 infection and it included only a certain number of patients hospitalized in IMSP:

- SCR Institutul de Medicină Urgentă/ SCR Institute of Emergency Medicine;
- SCR Institutul Mamei și Copilului/ SCR Mother and Child Institute;
- SCR Boli contagioase „Toma Ciorbă”/ SCR Contagious diseases “Toma Ciorbă”;
- SCR „Tudor Moșneaga”;
- SCR al Ministerului Sănătății Muncii și Protecției Sociale/ SCR of the Ministry of Health Labor and Social Protection;
- Spitalul Clinic Municipal (SCM) „Gheorghe Paladii”/ Municipal Clinical Hospital (SCM) “Gheorghe Paladii”;
- SCM „A. Mihail”; SCM „Sfânta Treime”;/ SCM “Holy Trinity”;
- SCM Boli Contagioase Copii;/ SCM Children’s Contagious Diseases;
- SCM Maternitatea Municipală/ SCM Municipal Maternity.

During 4 months of 2021 (February-May), in the 10 hospital centers involved in the project, the data of a total of 7232 patients with COVID-19 were collected (see Figure.1). One of the research objectives of the Project was the distribution of cases of patients with the new type of Coronavirus depending on the degree of inclusion in the work field, in order to evaluate the level of dissemination of the infection depending on the population density and living conditions (Gorobievski et al., 2021).

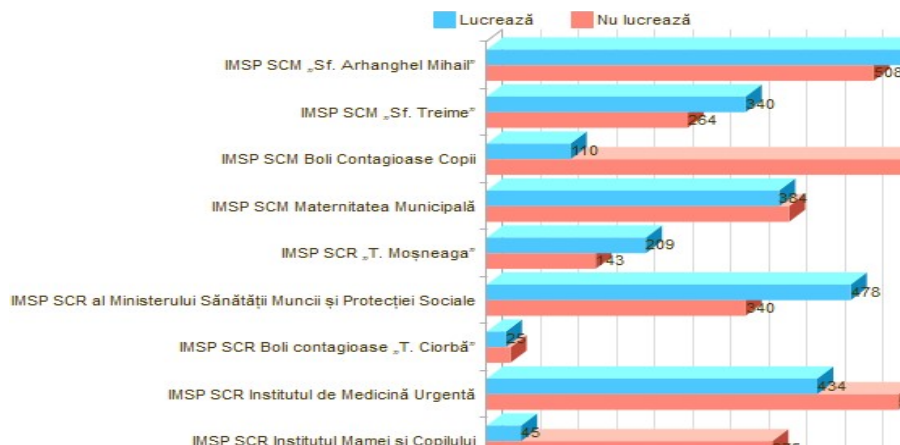
*Figure no. 1. The number of patients infected with the new type of coronavirus included in the COVID-19 Electronic Registry*



Source: (Gorobievski, 2020)

As one can see in Fig. 2, the number of patients infected with the Coronavirus was in most cases higher among patients included in the labor market (blue color), compared to patients affected but not participating in the labor market (brown color).

Figure no. 2. Dependence of the number of patients according to employment/their participation in the labor market

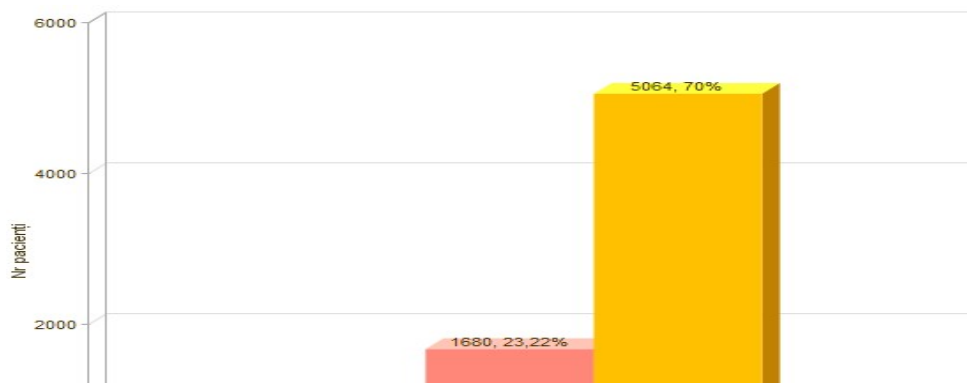


Source: (Costru. et al., 2022; Gorobievski et al., 2021)

The data in Fig. 2 provide us with eloquent information regarding the role of population density in the process of spreading the COVID-19 infection. This conclusion does not refer to IMSP SCM Children's Contagious Diseases and IMSP Mother and Child Institute, where children were the patients.

Thus, the information obtained in the implementation process of the project "Evaluation of the state of health and assessment of the quality of life of the patients included in the COVID-19 Electronic Registry in the Republic of Moldova, through the lens of the Electronic Registry of patients with COVID-19, will serve as a source for the elaboration of the Evaluation Reports of the current situation at the municipal level regarding the degree of impairment of the persons employed (in the field of work/on the labor market). As a component of the platform for the initiation of research conditioned by the COVID-19 pandemic, the Electronic Register will allow obtaining data and evidence regarding the impact of the COVID-19 infection on the health status and quality of life of hospitalized patients. Thus, if we sum up the characteristics of the health status of the population, based on the data of the Electronic Registry, we can state with certainty that the quality of life of the Republic of Moldova's population (physical, mental and social well-being) decreased considerably during the pandemic period (2020-2021), most members of the society being severely affected.

Figure no. 3. Distribution of patients with the new coronavirus type, included in the COVID-19 Electronic Registry, according to the form of disease (%)



Source: (Costru. et al., 2022; Gorobievski et al., 2021)

The degree of damage to the patient's health during hospitalization was directly dependent on the form of the disease. The analysis of the collected data revealed the following distribution of patients, according to the form of the disease (see Fig. 3). In the structure of hospitalized patients according to the severity of the disease, most patients had the average form with a 70% incidence; then followed the incidence of the severe form, i.e., 23.22%; the third place went to the mild form, with an incidence of 6.15%; the critical form of the disease ranked fourth - with an incidence of 0.62%.

The electronic registry of COVID-19 patients allows the evaluation of the effectiveness of the medical services provided through the lens of real data obtained from patients, such as the average length of hospitalization. Thus, the data of the electronic registry of COVID-19 patients indicated a minimum length of hospitalization of 10.58 days (Municipal Clinical Hospital, Municipal Maternity, Chisinau) and a maximum of 16.82 days (Municipal Clinical Hospital "Arhanghel Mihail", Chisinau) (see Fig. 4). We believe that the length of hospitalization of patients with the new type of coronavirus depends on the degree of technical equipment of the SCM with diagnostic techniques and the degree of competence of the medical staff in the respective field (Gorobievski et al., 2021). If we carried out a thorough analysis of the structure of the medical staff according to the level of education and professional categories, including the level of technical equipment of the SCM, we would easily confirm this.

Figure no. 4. Average duration of hospitalization of patients included in the COVID-19 Electronic Registry, no. of days



Source: (Costru. et al., 2022; Gorobievski et al., 2021)

Also, the form of the disease influenced the duration of hospitalization of patients, as follows: mild - 15.68 days, average - 15.59 days, severe - 14.99 days, critical - 11.71 days (see Figure 5).

Figure no. 5. Average duration of hospitalization of patients included in the COVID-19 Electronic Registry according to the form of the disease, no. of days

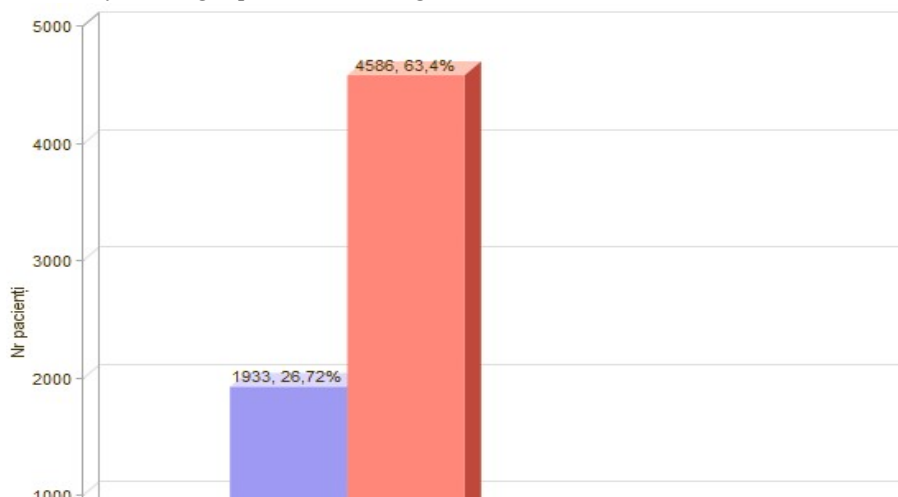


Source: (Costru. et al., 2022; Gorobievski et al., 2021)

The analysis of statistical data confirms the fact that the average length of hospitalization of patients with the critical form of the disease was influenced by the high share of deaths in the total number of discharged patients, namely, 7.15% (Gorobievski et al., 2021).

One of the project's research objectives aimed to assess the health status of patients upon discharge. The results revealed that during the studied period the health status of the patients at the moment of hospital discharge was, as follows: for patients discharged with a healing status - 26.72%; with an improvement – 63.4%; no change in health status – 0.66%; discharged with worsening status - 2.7% and deceased patients - 7.15%, Fig. 6 (Gorobievski et al., 2021).

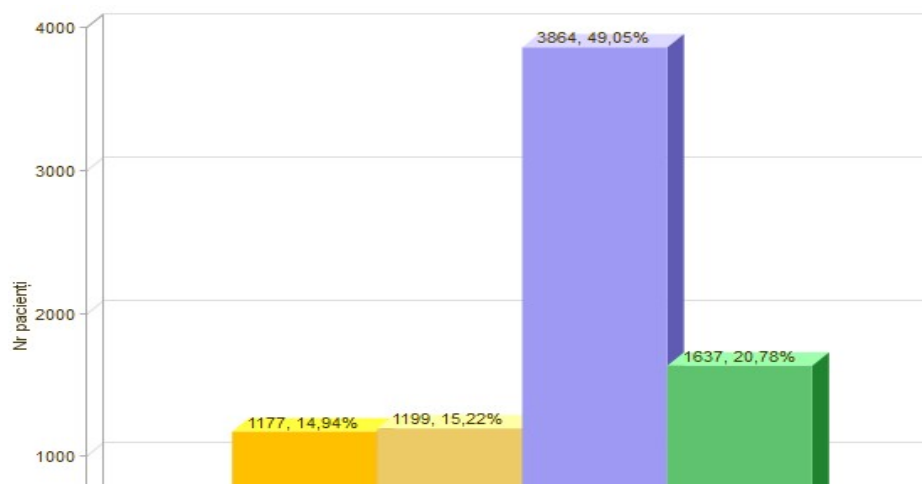
Figure no. 6. Share of discharged patients according to health status



Source: (Costru. et al., 2022; Gorobievski et al., 2021)

According to another research objective, measurements were made to determine work capacity in discharged patients, through which we were to determine evidence of its connection with the given infection and other causes. The results thus reported that the ability to work was totally lost in 14.94% of patients; temporarily lost – 15.22%; low – 49.05% and work capacity was completely restored in 20.78% of discharged patients (see Fig. 7).

Figure no. 7. Share of patients discharged by work capacity, % of the total



Source: (Costru. et al., 2022; Gorobievski et al., 2021)

Although many patients recovered well enough to be discharged from hospital within 10.58 to 16.82 days, however, a large proportion of them, i.e., 79.22 % continued to exhibit various clinical symptoms which led to a moderate or considerable decrease in work capacity and quality of life over long periods.

## 5. Conclusions

The study carried out by the working group of the Expression of Interest aimed to evaluate the impact of the COVID-19 infection on the health status of patients hospitalized in the clinics of the Republic of Moldova and the assessment of functional factors that could affect health-related QoL. (Gorobievski et al., 2021)

Knowledge about the health status of patients during the acute period of COVID, depending on age, sex, profession, form of the disease, etc. is essential for understanding the consequences of the researched disease, the selection of therapeutic management and the assessment of the need and effectiveness of recovery measures, including their influence on health-related QoL.

We are certain that the evaluation of the quality of life of patients in hospitals should be considered as a basic dimension of the quality of hospital services, as well as of clinical efficiency and patient safety in the administered treatment.

The introduction of quality of life concepts at the level of hospitals and patients with COVID-19 will ensure the improvement of communication between the hospital and the ambulatory care services, which will contribute to increasing the level of health of population, increasing the satisfaction of patients with the treatment and of the medical staff, with the results obtained.

It is important to mention that the results of the implementation of the Covid-19 Electronic Registry in the activities of medical institutions in Chişinău were presented and appreciated by national and international authorities in the field of research and innovation, such as:

- The State Agency on Intellectual Property of the Republic of Moldova (AGEPI), at the Specialized International Exhibition, the 17th Edition, in November 2021, appreciated the results of the implementation of the project serving the economy of the Republic of Moldova and awarded it The Bronze Medal (AGEPI, 2021).
- On May 26-28, 2022, the Government of Romania and the EUROPEAN EXHIBITION OF CREATIVITY AND INNOVATION Association also mentioned and appreciated the contribution of the project results to the economy of the Republic of Moldova, awarding it the Bronze Medal (Diploma and Bronze Medal, 2021).
  - For the invention "Evaluation of the state of health and assessment of the quality of life of patients included in the Covid-19 Electronic Registry" at the International Exhibition of Inventions "Traian VUIA", Braşov, October 10, 2022, the group of researchers were awarded the Gold Medal (Diploma and Gold Medal, 2022).

Finally, it is worth mentioning that through the described research the authors designate public health as a factor of paramount importance in medical and health research, involving a variety of target groups, research models, including economic models.

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# The Impact of Travel Agencies on the Demand for Tourism Services

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## Abstract

*The demand for tourism services is essential in the tourism market because it expresses tourists' needs and motivations for a particular form of tourism. It can be expressed either directly by tourists or through travel agencies.*

*The travel agency determines the demand for tourism services when it acts as an intermediary in the tourism services market and interposes itself between tourism service providers and the final consumer of tourism services. Travel agencies thus provide tourists with packages of tourist services that satisfy their tourist preferences.*

*In Romania, demand for tourist services is expressed either in the form of travel on one's own account or in the form of tourist service packages offered to tourists by travel agencies.*

*The aim of this paper is to analyse the demand for tourism services under the impact of travel agencies in Romania.*

**Key words:** travel agency, tourist demand, tourist services

**J.E.L. classification:** L80, L83

## 1. Introduction

The demand for tourism services can manifest itself on the tourism market in two forms: for each individual service (transport services, accommodation services, catering services, leisure services, entertainment services, treatment services) or for all tourism services integrated in a tourism arrangement and offered by the travel agency.

Of course, the demand for tourist services is the essential element on which the supply of tourist services made available to tourists by direct service providers or travel agencies is based.

However, a large proportion of tourist services, which take the form of tourist trips that include transport, accommodation, food and various forms of leisure, are provided on a self-employed basis, i.e. tourists do not use intermediaries in the tourism sector but purchase and organise tourist services themselves. This is very important because tourist demand bypasses tourism intermediaries and goes directly to tourism service providers.

## 2. Theoretical background

Tourist demand is made up of all the people who wish to travel outside their own residence for reasons other than to perform remunerated activities at the destination (Snak *et al*, 2001, p.158; Cristureanu, C., 1992, p. 106). In other words, tourist demand is the expression of the tourist motivations that tourists have as consumers of tourist services, which they purchase from the tourist market, either on their own or through travel agencies.

The tourist demand presents some features (Cristureanu, C., 1992, p. 106):

- It has a dynamic character
- It has a accentuated and rigid seasonality
- It is diversified, heterogeneous and flexible in motivation
- It is concentrated in economically developed countries

These characteristics are essential in the analysis of the demand for tourism services, as they



determine the strategies used by tourism service providers as well as travel agencies acting as intermediaries in the tourism market. Thus, if the demand for tourist services is characterised by a high seasonality, service providers may resort to low tariffs and the granting of freebies and facilities when demand is low so as to increase tourist consumption.

In the *Lexicon of Tourism Terms*, tourist demand is defined as "all persons who regularly travel outside their own residence for reasons other than the performance of remunerated activities at the place of destination", (Stanciulescu *et al*, 2002, p.47).

We note that tourism demand comes from tourists whether they are national or international, so their number is essential in reflecting the dimensions of tourism demand and at the same time tourism motivation has a determining role in defining and analyzing tourism demand.

Tourism consumption is very important because it is the expression of the actual tourism demand and it depends on the income level of consumers as tourists as well as on the prices of tourism services offered by providers (Minciu, R., 2001, p.135).

### 3. Research methodology

Tourism demand and the factors that determine it are essential elements for a tourism market such as Romania's. Therefore, the analysis of the demand for tourism services can be carried out using survey-type methods or by own methods using statistical data.

Thus, descriptive methods are used, as well as analytical methods for highlighting the evolution of tourism demand in Romania, from the point of view of tourism demand carried out by tourism agencies in Romania, and analysis by the main motivation under which tourism demand is manifested and which is materialized in tourist trips.

### 4. Findings

In Romania, tourism demand materializes in tourism consumption, which is materialized in the number of tourists who purchase tourism packages for domestic or international tourism.

Table no. 1. Incoming activity of travel agencies in Romania in 2019-2021

Year	Tour-operating agencies	Retail travel agencies
2019	104861	1229
2020	9175	653
2021	9449	799

Sources: (National Institute of Statistics, 2022)

In this sense, an important role is played by travel agencies, which act as intermediaries in the tourism market and play a major role in carrying out tourism actions at national or international level.

Thus, as far as incoming activity is concerned (see Table 1), the following aspects can be observed:

- In the case of travel agencies with organisational activity (tour operating travel agencies) the number of foreign tourists visiting Romania decreased from 104 861 to 9449, which represents a decrease of more than 90% in 2021 compared to 2019.
- The same downward trend was recorded for retail agencies, from 1229 to 799, i.e. a decrease of 34.9%
- These decreases reflect the sharp decline in demand for tourism services, especially for those offered by tour operators, i.e. demand for all-inclusive package holidays.
- The major cause of these drastic declines in tourism demand, reflected in the number of foreign tourists visiting Romania, is the Covid 19 pandemic.
- Data analysis indicates a peak decrease in 2020 and then an increase in the number of foreign tourists due to the partial removal of restrictions imposed by the health crisis.

As far as the outgoing activity of Romanian travel agencies is concerned, the evolution of tourist demand can be seen in the number of Romanian tourists going to foreign tourist destinations (see Table 2).

*Table no. 2 Outgoing activity of travel agencies in Romania in 2019-2021*

<b>Year</b>	<b>Tour-operating agencies</b>	<b>Retail travel agencies</b>
2019	1007298	117680
2020	276922	52652
2021	681916	64097

Sources: (National Institute of Statistics, 2022)

So:

- In 2021 compared to 2019, the number of tourists who purchased package holidays to go abroad decreased from 1007298 to 681916, i.e. by 32%
- In the case of retail travel agencies, the number of Romanian tourists who went abroad decreased by 45% in 2021 compared to 2019, so the same decreasing trend was registered for the tourist demand for foreign tourist destinations
- In 2020 compared to 2019, there was the biggest decrease in tourist demand, by 72% for tour operators and 55% for retail agencies. This is also where the largest decrease was seen in tourism demand expressed in the form of tour arrangements offered by tour operating agencies.
- The analysis of tourism demand in terms of incoming and outgoing tourism flows reflects the drastic decreases recorded in the number of foreign tourists visiting Romania in 2021-2019, especially in the case of demand for tourism services offered by tour-operating agencies, tourism services in the form of package tours, i.e. integrated tourism services.

Tourism demand in Romania was strongly influenced by the demand for domestic tourism (see Table 3).

*Table no.3 Domestic tourism activity of travel agencies in Romania in 2019-2021*

<b>Year</b>	<b>Tour-operating agencies</b>	<b>Retail travel agencies</b>
2019	1064115	231340
2020	521475	39464
2021	793858	58085

Sources: (National Institute of Statistics, 2022)

Thus, the analysis of the data in this table for the period 2019-2021 in Romania provides the following information:

- 2019 saw the highest demand for both tour operating and retail travel agencies
- In 2020, the greatest reduction in the number of tourists was recorded for package services offered by tour operators and tourist services offered by retail agencies (51% and 82.9% respectively)
- Although in 2021 compared to 2020 there was an increase in the demand for tourist services, as evidenced by the number of tourists who purchased tourist services from retail agencies (by 52% and 47% respectively), the number of tourists in 2021 compared to 2019 was still 25.4% lower for tour operators and 74% lower for retail agencies.
- Also in the case of domestic tourism, it was found that tour operators played the main role in satisfying tourist demand for organised tourism.

These decreases are due, as in the case of international tourism, to Covid-related restrictions, but also to economic instability. From this we deduce the role that travel agencies play in satisfying tourist demand at both national and international level, since by offering all-inclusive tourist arrangements tourists benefit from all the services they have requested according to their tourist motivations.

Comparing the data in Table 2 with those in Table 3, it can be seen that the departures of Romanian tourists abroad have very high values, close to the number of tourists who have expressed their demand for domestic tourism. The high values of the departures of Romanian tourists to foreign tourist destinations indicate a low degree of satisfaction of the tourist demand on the domestic tourist market of Romania, which increases the proportions of tourism imports into Romania.

An important role in studying the demand for tourism services is played by the analysis of the tourism demand of Romanian residents, which is reflected in the number of tourist trips made by them (see Table 4).

Table no.4 Number of trips by main reason for travel in 2019-2021 in Romania

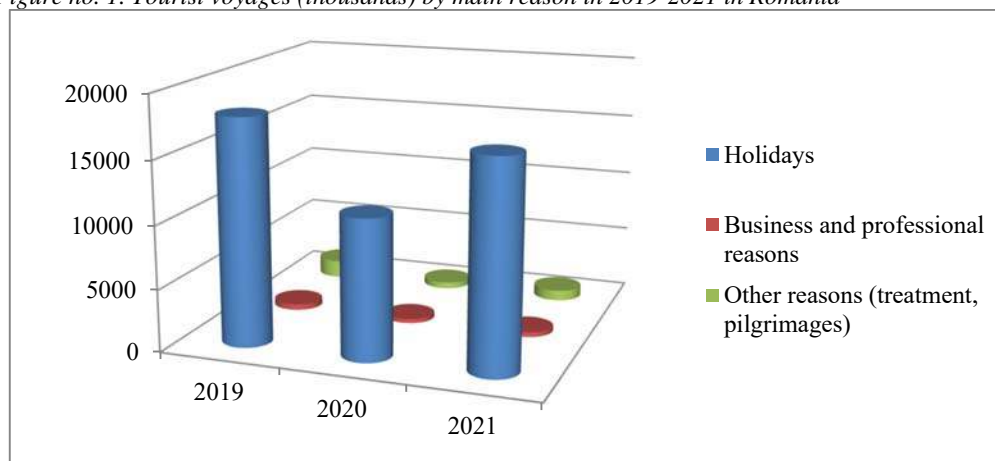
Reason for travel	Tourist travels (thousands)					
	2019		2020		2021	
	Number	%	Number	%	Number	%
Holidays	18063	90.3	11212	92.8	16619	93
Business and professional reasons	471	2.4	341	2.8	391	2.2
Other reasons (treatment, pilgrimages)	1440	7.3	515	4.4	851	4.8
TOTAL	19975	100	12069	100	17861	100

Sources: (National Institute of Statistics, 2022)

Analyzing the data in Table 4, we find the following aspects regarding the number of tourist travels in Romania in 2019-2021:

- In 2020 compared to 2019 the number of tourist travels decreased overall by 39.5% and in 2021 compared to 2019 by 10.5%, which means an increase but not enough to reach the values recorded in 2019 before the health crisis
- Reduced health restrictions have led to a revival in tourist travel, i.e. tourism demand, generating a 47% increase in 2021 compared to 2020
- The reason for travel is an important element influencing tourism demand as follows (see Table 4 and Figure 1)
- The main reason behind tourist travel was holidays, as tourist demand for holidays accounted for more than 90% of total travel between 2019 and 2021, with tourist demand for holidays increasing from 90.3% in 2019 to 93% in 2021
- Demand for treatment services and pilgrimages held second place in total travel (between 7.3% in 2019 and 4.8% in 2021), while demand for business tourism was around 2%

Figure no. 1. Tourist voyages (thousands) by main reason in 2019-2021 in Romania



Source: Table no.4, National Institute of Statistics, [www.ons.gov.uk](http://www.ons.gov.uk)

The trends in tourism demand, as reflected in the number of tourists and their trips to Romania, have been determined by occasional factors such as the health crisis caused by the COVID 19 pandemic, but also by economic factors such as: high prices of tourist services which make them unattractive to tourists, low quality of tourist services, lower purchasing power caused by inflation, poor promotion at commercial and institutional level, low confidence of potential tourists as carriers of tourism demand towards certain travel agents. All this has had the effect of increasing the segment of tourism demand that falls into the sphere of self-consumption or tourism on its own account.

In order to stimulate tourist demand in Romania, especially from the point of view of tourism concerning the inflow of foreign tourists in Romania, it is necessary to achieve an optimal ratio between the quality and prices of tourist services offered, because it is not enough to have natural and man-made tourist attractions that cannot be sufficiently developed both from the point of view of domestic and international tourist demand.

## 5. Conclusions

Tourism demand plays an important role in Romania's tourism market because it is the essential element from which service providers must start, whether they are direct service providers or intermediaries, such as travel agencies.

For Romania, domestic tourism remains the main element under which tourism demand manifests itself with holidays as the main reason for travelling.

Although travel agencies play an important role in the manifestation of tourism demand, it should not be overlooked that a large part of tourism demand bypasses travel agencies and takes the form of unorganised tourism, i.e. tourism on its own, often in the form of self-consumption.

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## The Services Sector and Employment in Romania

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### Abstract

*The services sector encompasses all activities in the economy that result in goods in non-material form that satisfy people's basic needs. Without the existence of services an economy cannot function, so today the services sector is a fundamental, primordial sector within an economy.*

*The services sector plays a fundamental role in employment, as this sector is a barometer that indicates the level of development of an economy, and at the same time it is in this sector that the employed population has the largest share.*

*In Romania, the service sector has grown continuously and in this way has been a solution for employment and for reducing the high unemployment caused by industrial restructuring.*

*The aim of this paper is to examine the relationship between the service sector and employment and to highlight the role of this sector in reducing unemployment and increasing employment.*

**Key words:** services sector, employment

**J.E.L. classification:** L80, L83

### 1. Introduction

By continuously diversifying the service sector, new jobs are created and in this way this sector absorbs the surplus labour force existing in an economy. The share of employed labour in the economy is an important indicator of the degree of development of the services sector in the economy.

### 2. Theoretical background

Employment as a concept has been debated for a long time in the literature, generating many contradictions, because in a society the issue of employment is complex and highly regulated.

Thus, the employed population is considered the actual producer of goods and services, being the expression of labour demand on the labour market (Mihaescu, 2001, p.166). Employment is closely linked to the labour market as it is the result of the interaction between labour supply and demand. In reality, the labour market is a market in which state intervention has always been massive in terms of regulations on employment, working conditions, remuneration of labour, all of which are influenced by the action of trade unions (Tsoukalis, 2000, p.118).

Employment in services has certain particularities precisely because of the non-material nature of services. Thus, in some activities such as tourist services, which are closely dependent on natural factors, employment is highly seasonal, which creates major problems for employees and employers alike.

Of course, the concept of the employee must be taken into account when addressing employment issues. In *Principles of Economics*, Frank&Bernanke consider that "a person is employed if he or she worked full-time or part-time during the past week or is on vacation or sick leave from a regular job" (Frank&Bernanke, 2001, p.474). In other words, the status of employed person, according to this definition, is a broad concept because it implies a minimum amount of work over a minimum period.

In services, this creates major problems with the labour force, as services are closely linked to the person providing the service, and in these circumstances, as the employed person does not have continuity at work, the provision of the service has a negative impact on the quality of the service provided. In addition, work in the underground sector of the economy is multiplied, leading to an official increase in unemployment.

The service sector currently plays an important role in employment because it is the real engine of an economy, functioning as a true service industry. In *A Dictionary of Economics*, Black considers that "service industry represents the parts of the economy providing services" (Black, 1997, p.424). Hence the major role that the service sector plays in an economy in terms of employment, although services have not been considered for a long time in economic thinking.

### 3. Research methodology

Employment is an important indicator to show the level of development of the service sector in Romania.

Therefore, the statistical analysis of official data provided by the National Institute of Statistics is the main method to identify employment trends in Romania and to identify the role of the service sector in employment and thus in the economy.

### 4. Findings

In Romania, since 1990, there have been profound changes in the structure of the employed population by sector of activity. While before 1990 the majority of the population was employed in industry and agriculture, after 1990 the share of the population employed in the services sector began to increase, which highlights the importance of this sector in the Romanian economy.

Table no. 1 Employment in the service sector in Romania, in 2012-2021

Year	Total		Of which: in the service sector	
	Number (thousands of persons)	%	Number (thousands of persons)	%
2012	8605	100	3463	40,2
2015	8535	100	3771	43,8
2017	8671	100	3902	45,0
2020	7691	100	4071	52,9
2021	7755	100	4129	53,2

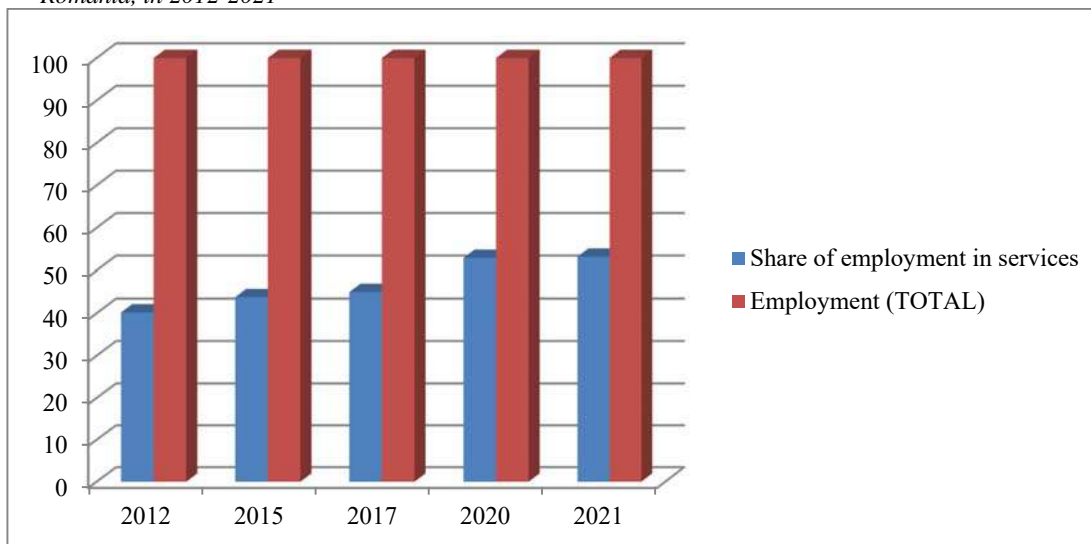
Sources: (National Institute of Statistics, 2022)

The analysis of the data in Table 1 shows the evolution of the employed population in Romania in the period 2012-2022, but also in the service sector, namely:

- In 2021, compared to 2012, there was a reduction in the population employed in Romania's economy from 8605 thousand to 7755 thousand people, i.e. a reduction of almost 10%.
- This decrease is due to a reduction in the active population, due to an increase in the number of people leaving the labour market and a decrease in the number of people entering the labour market, as well as an increase in the number of people going abroad to work.
- The population employed in the services sector has continuously increased, from 3463 thousand people in 2012 to 4129 thousand people in 2021, which indicates a reverse trend compared to the population employed in the Romanian economy
- The share of the population employed in the services sector (see Figure 1) in the total employed population in the Romanian economy has continuously increased in the period 2012-2021 from 40.2% to over 53%. This phenomenon demonstrates the major role that the services sector plays in employment and implicitly in the Romanian economy.
- The fact that the share of the population employed in services has increased to over 53% shows that the services sector is booming. However, in Romania, the services sector is not specific to a modern economy, because in developed economies the population employed in this sector

exceeds 80%. But the fact that this share has increased from less than 20% in 1990 to more than 53% in 2021 indicates the consolidation of this sector in the Romanian economy.

Figure no. 1. Share of population employed in services sector in the total employed population in Romania, in 2012-2021



Source: Table no.1, National Institute of Statistics, [www.insse.ro](http://www.insse.ro)

As regards the structure of the employed population by type of service, certain aspects emerge from the analysis of the data in Table 2 and Figure 2 respectively.

Table no. 2 Employment in Romania in the service sector, by types of services, 2012-2021(thousands of people)

Services	2012	2015	2017	2020	2021
Wholesale and retail trade; repair of motor vehicles and motorcycles	1094	1149	1207	1310	1369
Transport and storage	405	475	492	518	544
Hotels and restaurants	172	186	203	207	197
Information and communications	147	173	187	193	198
Financial intermediation and insurance	127	105	116	108	106
Real estate transactions	15	22	15	19	18
Professional, scientific and technical activities	158	185	215	213	217
Administrative and support services	150	204	206	221	206
Public administration and defence; public social security	437	442	424	431	408
Education	346	355	364	355	366
Health and social assistance	357	388	407	424	436
Performing, cultural and recreational activities	55	57	66	72	64
Employment - TOTAL	8606	8535	8671	7691	7755

Sources: (National Institute of Statistics, 2022)

- Although the population employed in Romania's economy decreased by 10% in 2021 compared to 2012, some services saw an increase in the number of people employed (in trade there was an increase of over 25%, in transport services over 34%, in the hospitality industry increased by 14%, in administrative services by 37, in health by 22.1%, and in the information and communication sector by 30 4.6%).

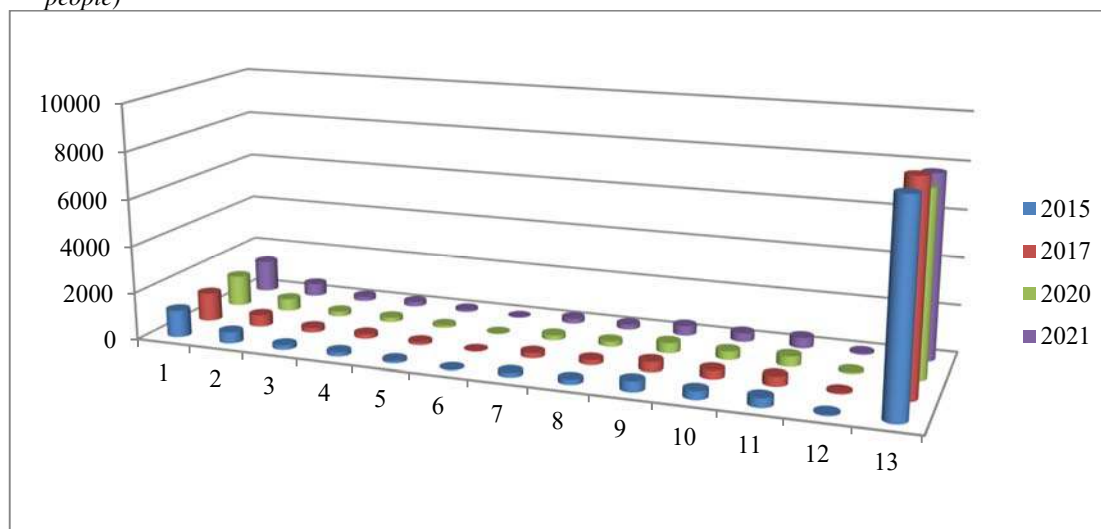
- These increases are specific to both the public service sector and the private sector, highlighting public employment policies but also economic efficiency in certain private sectors of the economy where employment increases or decreases.

- In the case of certain services, a decrease in the employed population can be observed, for example in the case of financial intermediation and insurance services there has been a reduction of 16.5%. This reduction indicates the substitution of workforce by technical capital due to the digitalization of the services sector as well as due to the provision of services by the consumer, which leads to a reduction of the employed population in various services.

- It should be noted that there are services that are of particular importance to a country such as education services. In Romania, the share of the population employed in education services in the total population employed in the economy was between 4% and 5% in the period 2012-2021, which highlights the insufficiency of the population employed in this service sector due to the poor financing of this service.

Employment in the Romanian service sector is strongly affected by the shortage of employees, whether in public or private services. This shortage is due either to inadequate demographic policies in Romania or to inadequate wages, which amplifies the phenomenon of Romanian labour migration to other EU countries or outside the EU.

*Figure no. 2. Employment in Romania in the service sector, by types of services, 2012-2021(thousands of people)*



Source: (National Institute of Statistics, 2022)

The increase in the degree of digitalization and computerization of the service sector as an effect of the Covid 19 pandemic, has led to an increase in the number of people employed in the IT services sector on the one hand, and on the other hand, has led and continues to lead to a reduction in the population employed in various services as economic activities, such as financial and insurance services, tourism services, trade.

The labour shortage in the services sector in Romania has led to increases in the flow of foreign labour to Romania, the increase in the technological and computerisation of certain services and the determination of service consumers to provide part or all of the service they consume.

## 5. Conclusions

In Romania, the service sector is expanding because the population employed in this sector has exceeded 50% of the total population employed in the economy.

There is a close interdependence between employment and the services sector because it is the service workforce that is in direct contact with the consumer of services and the lack of labor affects the quality of the services provided. At the same time, services play an important role in employment because it is only through the development of the services sector that we can achieve what is a modern and highly developed economy.



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# Use of the Social-Democrat Doctrine in the Preservation of Systemic Economic Order at the Beginning of the Third Millennium

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## Abstract

*We are living in a destabilizing period, of ideological fluctuations and lack of a real projection of ideas. In the economic world, referring to a way of organizing society that would allow the opening of some gates of a realm capable of brings inner peace, economic progress, social stability and prospects for as long as possible, in the face of greater mobility of ideas, of the demands of common and individual freedoms, amidst the forth coming internationalist and globalist transformations, that they will not return. As a result, there have been confusion, reorientation and search for solutions, both at macro and social level, to which artificial elements have been added to maintain widespread chaos, fueled by the onset of economic, financial crises and destabilizing, resulting in distrust due to the overthrow of the traditional system of values, the loss of state sovereignty, actions to change family relationships and more.*

**Key words:** economy, microeconomics, social democracy, economic laws, principles

**J.E.L. classification:** A13, F62

## 1. Introduction

Our work is one of doctrinal orientation and has several problems to solve during its development. To define the main concepts that contribute to the structuring of the theme and to highlight the principles and opinions found in the specialized literature, regarding the chosen theme.

Then, the work set out to present the objective it has to fulfill, our material providing part of the explanations, regarding what needs to be understood, at the level of economic theory, in terms of systems and economic order, how to study the relationship, between capitalism and democracy and the economic policy orientation of social democracy resulting from the interaction between values, fundamental rights and economic principles.

On the other hand, the economic policy programs of some serious political groups, of a social-democratic nature, are compared according to the criteria that define the economic order, in a social-democratic conception. At the same time, some considerations are made regarding the classics of economic thought, in which the context of their era is taken into account.

Finally, some doctrinal ways of social democracy are reviewed, which could be ways to solve problems of an economic-social nature.

The conclusions and the bibliography conclude this work.

## 2. Theoretical background

Social democracy or social-democracy, represents a doctrine, "a political, social and economic philosophy, which supports socialist reforms within liberal democratic systems, thus rejecting the revolutionary theories of communism and maximalism". "It appeared at the end of the century 19th" ([https://www.treccani.it/enciclopedia/socialdemocrazia\\_%28Enciclopedia-Italiana%29/](https://www.treccani.it/enciclopedia/socialdemocrazia_%28Enciclopedia-Italiana%29/)) and "is typical of center-left politics" ([https://www.treccani.it/enciclopedia/centrosinistra\\_%28Dizionario-di-Storia%29/](https://www.treccani.it/enciclopedia/centrosinistra_%28Dizionario-di-Storia%29/)) .

Also, by social democracy we can understand "reformist socialism, inspired by the principles of parliamentary democracy, respecting individual rights of freedom (including market freedom) and a strong supporter of the welfare state, to achieve greater social equity and to correct defects". (Dahm et al, 2009, p. 16).

We have been accustomed, over time, to the fact that "freedom, justice/equity and solidarity - represent the fundamental values of social democracy, which only together can act in favor of a society in which these values can be realized. But also that these values of the foundation of social democracy are in a relationship of equality, condition, support and limit each other. The values of social democracy have been and are described and explained in detail, in various manuals, materials and specialist publications that start from the "foundations of social democracy", until today. On these foundations were built, developed and harmonized everything that man has created and exploited for his benefit, first of all, in the economic field and then, socially, politically and in other ways.

Shortly before the year 2000, some economists, but also influential political people and recognized as opinion leaders, in Europe, stated, with slight differences in tone, that it would no longer be appropriate to support left-wing economic policies or right-wing, but simply, let them be called modern economic policies. "Does this mean that in this field of politics there are no longer differences between liberals, conservatives and social democrats? Is there an economic theory of social democracy that differs from other currents? Or are there effectively no other qualifications besides modern and non-modern? Who can say about himself, that he supports a non-modern policy, and in this context, what does modern mean?" Someone said that - only the one who wins is modern. Extrapolated to economics and politics, one could say that a modern economic policy is one that is successful.

What are the tools by which this success is measured? "There are points of view that state that through the highest degree of well-being and growth, but there are also others that particularly emphasize equality and equity. Thus, the economic order must not lead to inequality, exploitation or lack of justice. At the same time, voices that refer to sustainability, the protection of resources and ecology, as a benchmark for earning and success in the economy, are receiving attention and are increasingly approved. Accordingly, growth should not mean irresponsible exploitation.

Our work wants to be indicative, for several questions:

- the basic theoretical part, can it use the concept of social democracy?,
- what is the economic order or what are the economic orders that could highlight the realization of this ideal?
- what is happening or what is being done, at the same time, in other places (countries)?
- what importance do all these theoretical problems have, regarding the concreteness of political projects, for the future?

### **3. Research methodology**

At the level of economic theory, some of the analyzes and conclusions of the most established economists must be taken into account, and we stopped at Adam Smith, Karl Marx and John Maynard Keynes, because the ideal typologies of economic liberalism, anti-capitalism and directed capitalism, derived from their conceptions, are evaluated from a contemporary perspective and through the prism of the objectives of democracy.

In terms of systems and order in the economy, it is recommended to study the relationship between capitalism and democracy, in order to be able to present the economic order, prevalent in Western states.

At the programmatic level, in terms of economic policy, the economic policy orientation of social democracy is developing, on the one hand, which resulted from the interaction and connection between values, fundamental rights and economic principles.

On the other hand, the economic policy programs of some serious, social-democratic political groups are compared, depending on their fundamental programs and documents, by virtue of the criteria that define the economic orders.

This ensemble is completed with a comparison between different typologies of economic orders from Sweden, Japan, Great Britain and the USA, with concrete policy proposals that can be taken as models in the areas of co-decision economic policy, privatization, industrial policy, environmental policy, minimum wage and decent work. (PSD, Hamburg, 2007)

The issue of an economic policy of social democracy is tangential to other different levels, addressed, in particular, with the question - by what, exactly, is social democracy itself distinguished.

A few ideas are required, as an answer to this question, an answer that I found in a material of a social-democratic political group in Western Europe, in which it is specified that: "Social democracy guarantees, not only civic rights, fundamental political and cultural rights, but equally the social and economic rights of all people. It ensures the fair social participation of all, through the democratization of society, especially through participation in decision-making (co-decision), through the preventive social state, based on the rights of citizens, as well as through a directed market economy, in which primacy is guaranteed democracy, towards markets." (PSD, Hamburg, 2007).

Considerations regarding these classics must take into account the context of the era of each of them. "Adam Smith formulated his ideas in the middle of the 18th century, in the era of mercantilism, that is, of that theory that taught monarchs that they could finance their luxury at court through control over trade and economic dirigisme. Therefore, Smith's skepticism towards the state was based on the experience of wasteful monarchies, interested only in their own enrichment - contrary, for example, to the behavior of a modern providential state." (Lungu et al, 2002, *passim*)

Marx's eloquent critique of capitalism in the middle of the 19th century "searched for an answer to the pauperization of the masses, in the stage of early industrialization and the first wave of globalization. At the present time, the perception of him is marked by the state socialism of the 20th century, which sometimes gives a distorted image of his ideas." (Lungu et al, 2002, *passim*)

Next comes Keynes who analyzed, in the 1930s, an economic liberalism that was obviously out of control, due to the world economic crisis, since then. Last but not least, the "General theory of employment, interest and money" "was an attempt to propose schemes to stabilize the economic system, so that other democracies do not fall prey to radical dictatorships. (Lungu et al, 2002, *passim*) With the crisis global financial crisis that began sometime in 2007, Keynesian thinking experienced a renaissance. Reflections on the regulation of a global financial market, as well as state investment programs are the subject of lively discussions.

In addition to the definite advantage of a good basic orientation, the study of the three great economists Smith, Marx and Keynes also presents another advantage, but this time, very practical. Many economic images and explanations that are familiar to us today and that we use frequently, without knowing their origin, truly bear the imprint of the three economists.

After reflecting on the fundamental economic policy theories, the question arises as to how an economic policy of social democracy can be supported on them, which has as its cardinal points, the focus on values. The guidelines of social democracy are a compass in this regard." (Meyne, et al, 2007, p. 27) Below we present some reports on the tensions that must be balanced in the spirit of social democracy.

#### *A. Productivity and growth - versus justice and social security*

Both the desire for property and the pursuit of one's own interests, self-interest, emanate a vast amount of energy, as we also find the idea in the great classics of economics, Marx and Smith. Given the concrete conditions, both the market and the competition, these are the two entities that ensure the conditions for the resources that are rarely found, to reach and be, exactly where they are needed, to be used, with the maximum possible productivity, a fact that has been shown to be noticeably more efficient than, say, a planned economy could be at a given time.

Viewed from another angle, the market, in its imperfection, creates, itself, an unequal distribution and is structurally unstable, with cyclical fluctuations and vulnerabilities to crises, as also observed in Keynes' theory. The idea appears that this is one of the reasons why the markets should be "framed" politically, in order to protect (damage) crises.

As a result, the social state has the task of protecting people, against the risks of the market, for a fair distribution (social-democratic conception) which should be materialized through progressive income taxes (to increase with income), as well as through inheritance taxes and wealth. Also, the state will have to supervise the economic cycles through its policy, regarding expenses, taxes and interest. This means that in periods of risk, even more so, in periods of economic crisis, public

expenditures increase, in order to maintain stable consumption and the population must be stimulated to invest with the help of accessible credits.

*B. Flexibility and innovation - versus dependent work protection and comprehensive social security*

It is known that competition and competition, regardless of the level on which it is located, stimulate, at least, to some extent, innovation. We admit that there may be inherent falls and crises that must be amortized, by creating a security system through protection against layoffs and access to social benefits.

Structural type transformations, which are profound in nature, can be rethought, only through a structural policy oriented towards the creation of new jobs.

*C. Ownership and competition versus social integration and regulation*

From practice, over time, it has been observed that the economic orders that renounced property rights over the means of production, as well as competition, were doomed to failure.

Every successful economic order was and is based on ownership and competition. But this does not mean that the owner has no social responsibilities. Ownership obliges.

Its use will aim, including, to serve the good of the community." In order to guarantee fairness on the market and avoid market dominance by certain actors, competition must be monitored and even regulated.

#### **4. Findings**

The basic values of social democracy must remain the three values: freedom, equity and solidarity. From a programmatic point of view, through the lens of social democracy, there can only be one answer. All three principles - with reference, firstly, to growth, secondly, to social balance and thirdly, to sustainability - must be brought to a common denominator. However, the direction is not yet drawn.

A modern economic policy, anchored in values, does not naturally use economic policy instruments, exclusive to the classical left or the classical right. A modern economic policy of social democracy, based on values, focuses, first of all, on the result. Its objective is the realization of a society in which the three fundamental values - freedom, equity, solidarity, as well as the fundamental rights: political, social, economic and cultural, are realized for all people." (Dahm et al, 2009, p. 17).

#### **5. Conclusions**

Overall, it means that the logic of the market can develop in a political framework against the background of an economic order based on the values of social democracy. Property obliges and is, at the same time, subject to the common good. Among other things, the guarantee is given by the fact that not only the capital owners, but also the workers participate in the decision in the enterprise.

Global economic stability is guaranteed by macroeconomic regulation, which means that the state contributes, through its budgetary and interest policy, to stable growth and a high level of employment.

From the right of ownership comes the right of independent activity. When taking the decision in the enterprise, not only the capital owners should participate, but also those who contribute to the creation of value, through their labor force.

Thus, the decision taken by the enterprise is limited by co-decision. There are four resulting dimensions: the establishment of a political framework, the development of market logic, participation rights and co-decision, macroeconomic regulation.

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## Teaching Business English Writing Online: Challenges and Solutions

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### Abstract

*This study aims to analyse the challenges of teaching business English writing online at the undergraduate level, based on the experience of the COVID-19 pandemic lockdown in Romania. First, the challenges are identified and classified, then the root causes are tackled, and solutions are proposed.*

**Key words:** business English, online teaching, writing, ESP (English for specific purposes)

**J.E.L. classification:** Z13

### 1. Introduction

The education system in Romania was not prepared for the COVID-19 pandemic lockdown, like in most other parts of the world, so teachers had to adapt their methods and techniques to the online environment. The switch to the online environment put me in the spot. At the time, I was teaching ESP at the university level, studying for a bachelor's degree in law and my son was in his second grade. My husband was also working from home, so at any given time there could be up to three simultaneous connections underway in our two-bedroom apartment. The experience made us rethink how we organize our professional and personal lives, especially regarding time management, and marked a clear change in the way that I teach English. It allowed me to learn by trial and error and to witness first-hand the solutions applied by other educators at all levels. But teaching writing for business English was particularly challenging.

The aims of the paper are to identify and analyse the most common challenges faced when teaching English online, applied to the undergraduate level Business English classroom, to identify the root causes and to propose solutions. The results of this study are not exhaustive and refer to the particularities of Romania.

### 2. Literature review

The literature review shows there has been an increasing interest in online teaching, with a spike in the past two years, but most of the approaches concentrate on specific challenges, while no holistic approaches to the issue of teaching writing for the ESP classroom have been identified.

There is a wide array of scientific papers on online teaching. There are papers for all fields of knowledge and for all levels of instruction (from preschool to postgraduate studies). The approaches vary from education research to linguistics, psychology, pedagogy, communication science and others. Some of them are concerned with the technology used, some with teaching methodology, and others with the psychological effects of online learning. Few discuss writing skills specifically and fewer still discuss them in the context of business English. A selection of the more relevant contributions is presented below.

In terms of methods, Shannon R. Wooden tackles the issue of time management when it comes to online composition, using Crip theory. She supports the idea that in the case of teaching writing skills online, student engagement is higher when faced with more rigid methods such as regular, graded discussion boards (Wooden, 2022). In an older article, Wooden and Gillam described the method of the multi-step assignment sequence designed based on the theory of the ecology of writing (Gillam & Wooden, 2013). Carrió-Pastor and Skorczynska describe a method of

collaborative online learning applied to an undergraduate and to a postgraduate business English classroom based on the simulation of real-life communication exchanges, concluding that this method increased student engagement (Carrió-Pastor & Skorczynska, 2015). Similarly, Lăzărescu shows that a combination of teaching language skills and real-life business situations may be a feasible alternative to the textbook (Lăzărescu, 2013, p. 446). Another issue which is analysed is that of translation as a teaching tool, based on Boris Naimushin's theory of translation as the fifth skill in support of the other four skills (reading, writing, listening, and speaking) (Frăţescu, 2016). Another study supports translation as a teaching method, in the context of the existence and wide use of translation tools and of the advent of short texts such as memos, blogs, and forum posts in detriment of more complex texts which employ more complex language (Bailey & Almusharraf, 2022, p. 10510).

In terms of tools, Cronjé and van Zyl recommend the use of WhatsApp as a teaching environment to increase student engagement and create a learning community (Cronjé & van Zyl, 2022). Another study focuses on challenges faced by EFL students after taking a paragraph writing course on Microsoft Teams. Among the most prominent challenges cited are allotted time, lecture distractions and student's IT skills (Mahmoud, 2022). Dina and Ciornei investigated the use of multimedia teaching resources in the online environment and concluded that online teaching strategies may be effective if they fit students' needs and proficiency levels, which may be hard to control (Dina & Ciornei, 2015, p. 315). As Teodorescu shows, mobile learning efficiently supplements traditional learning and enhances the autonomy of business English students (Teodorescu, 2015, p. 1540). Another study tested the use of VR and augmented technology in teaching writing, with better results compared to traditional methods (Khodabandeh, 2022).

In terms of techniques, some studies show that it is essential to provide personalized feedback in improving writing and speaking skills, especially in the online context, where there are time and technological limitations (Gonzalez-Torres, et al., 2022, p. 342). Furthermore, Page showed that peer teaching is an efficient way of improving critical thinking skills for higher education students (Page, 2022). In terms of interaction patterns, a study shows that the preferred study patterns are teacher-student and student-content, while student-student interactions are usually left out (Van, et al., 2022). As an extension of the idea, according to Buzarna-Tihenea (Gălbează), "teachers should be encouraged to employ a wide array of student-centred strategies and even adjust them, depending on the taught content, on the teaching context and also on the students' English proficiency level, on their needs and also on their feedback" (Buzarna-Tihenea (Gălbează), 2022, p. 195).

### **3. Research methodology**

The methods used are empirical and are based on direct observation, exchanges with other academics and the literature review. First, a set of challenges was identified from the author's own experience in teaching. Then, a literature review was conducted to identify: challenges and solutions to teaching online, methods and techniques for teaching writing and research on the specificities of teaching business English, with application to teaching writing and to online teaching. Finally, a KAP-based semi-structured interview was conducted with three other ESP teachers and with a hundred of the author's own business English students to finalise the list of challenges. The students' levels ranged between A2 and B2 according to the Common European Framework of Reference for Languages. Finally, root cause analysis was used to identify appropriate solutions.

### **4. Findings**

Writing tasks are particularly challenging because they are open-ended, only providing a limited scenario. The student has to produce a cohesive text which fits the required genre, document type, degree of formality and structure. They involve a complex set of skills and knowledge, as well as creativity and thus the allocated time may be considerable, or the students may see the deadline as restrictive. On the other hand, there are studies (Wooden, 2022) which show that a more structured and restrictive approach to writing tasks may increase students' engagement.



When talking about writing tasks we must first mark the difference between teaching and coordinating or supervising tasks and between synchronous and asynchronous tasks. While teaching may be done through examples, template use, structure analysis etc., with variable student involvement, writing tasks require students to practically apply the knowledge while using a complex and transversal set of skills. Moreover, the teacher's role continues after the task has been completed, with a very important stage of feedback provision. Writing tasks may be both synchronous and asynchronous, the former allowing for more feedback and assistance from the teacher while performing the task, and the latter for a more flexible time allocation and the support of creativity. Nevertheless, asynchronous tasks may be overlooked by students or the temptation to copy and paste text might kick in.

Based on the research methodology, the following challenges to teaching and learning writing online in the undergraduate business English classroom were identified:

*Table no. 1 Challenges in teaching business English writing online (as opposed to face-to-face teaching)*

Category	Sub-category	Challenge for the teacher	Solutions
Resources	Technology-related challenges	Internet connection and bandwidth Computer/ mobile device compatible with the used software Platform-related challenges (ex. time limitations, breakout rooms)	If there are resources, the following should be used: a stable internet provider, with high-speed broadband, a compatible computer/ mobile device, paid version of the software
	The environment	Available room Soundproofing Teaching with children and family members present	These variables are hard to control on short notice.
	Ethics	Adapting the courses to the use of non-copyrighted materials and/or free online sources Digitising materials	Buying the digital versions of the materials, if possible. Teaching students about plagiarism and academic integrity
Knowledge	Basic and conditional skills	Online teaching skills Online class management skills (ex. editing access to the meeting, to a specific class, to the whiteboard, to share etc., creating class rules such as when to use the camera, the microphone or hand raising) Time management skills (to students' reaction speed, equipment malfunction, lack of connection etc.) Methods and techniques adapted to online teaching	Developing these skills through trial and error, by participating in courses and by looking for instructions online.
	IT skills	Teacher's general IT skills Teacher's specific skills in using e-learning platforms, videoconferencing platforms and online resources The logistics of managing a multitude of platforms: videoconferencing platforms (Microsoft Teams, Webex, Zoom, Skype, Google Meet etc.), e-learning platforms (the university's e-learning platform, e-learning tools from Microsoft Teams, Google Classroom, Discord etc.), assessment tools (ex. Google Forms, Microsoft Forms, E-learning platforms, email), messaging platforms (email, WhatsApp, Telegram etc.)	Permanently updating IT skills through self-learning and participation in courses.

Category	Sub-category	Challenge for the teacher	Solutions
Attitudes	Engagement	Teacher's adverse attitude toward limited, malfunctioning or complicated technology	Investing effort in finding alternatives to technical solutions Employing innovative solutions to boost student engagement
Practices	Data protection	Not turning on the camera due to data protection concerns Concerns regarding audio-video recordings	When possible, using the institution's platforms and systems; establishing house rules on recording and discussing with students the applicable data protection regulations.
	Teaching writing	Using a limited number of methods in teaching writing Adapting the pace to the online rhythm Efficiently using time, while allowing students to think creatively	Adapting teaching methods to the online environment Making the best use of synchronous and asynchronous activities Providing individual feedback

Source: the author's classification

Table no. 2 Challenges in learning business English writing online (as opposed to face-to-face learning)

Category	Sub-category	Challenge for the student	solutions
Resources	Technology-related challenges	Internet connection and bandwidth Computer/ mobile device compatible with the used software	If there are resources, the following should be used: a stable internet provider, with high-speed broadband, a compatible computer/ mobile device, paid version of the software
	The environment	Available room Soundproofing Learning with children, family members, and roommates present	These variables are hard to control on short notice.
	Ethics	The temptation of copying and pasting to the detriment of originality and critical thinking	Going the extra mile to understand plagiarism and correct citation methods
Knowledge	Basic and conditional skills	English skills (the ESP classroom is non-homogenous, the level of English no longer conditions the students' success in obtaining the Baccalaureate diploma) Writing skills Word-processing skills	Constantly improving English skills through voluntary exposure to the language and self-study
	IT skills	Students' general IT skills Students' specific skills in using e-learning platforms, videoconferencing platforms and online resources The logistics of using a multitude of platforms: videoconferencing platforms (Microsoft Teams, Webex, Zoom, Skype, Google Meet etc.), e-learning platforms (the university's e-learning platform, e-learning tools from Microsoft Teams, Google Classroom, Discord etc.), assessment tools (ex. Google Forms, Microsoft Forms, E-learning platforms, email), messaging	Permanently updating IT skills through self-learning and participation in courses.

Category	Sub-category	Challenge for the student	solutions
		platforms (email, WhatsApp, Telegram etc.)	
Attitudes	Engagement	Students' dwindling engagement boosted by the possibility of using pretences such as a bad internet connection and equipment malfunction to avoid active participation Adversity to writing Reticence in sharing with the class Lack of motivation	Increasing motivation by understanding the importance of speaking at least an international language for the future career
Practices	Data protection	Data protection concerns when using the camera and microphone	When possible, using the institution's platforms and systems; following house rules on recording and discussing with teachers the applicable data protection regulations.
	Learning writing	Avoiding writing exercises by not answering questions, claiming a lack of skill or technology or leaving the class	Facing the fear

Source: the author's classification

As shown above, the challenges were divided into four general categories: resources, knowledge, attitude and practices. While resources are sometimes hard to control, the other categories contain challenges which depend more on the willingness and availability of the individual.

Some of the most prominent challenges in our own study and in the surveyed literature are:

- for both teachers and students: working while other people are present and distracting;
- for the teacher: the use of a limited number of methods due to perceptions of the restrictions of online teaching, adapting materials to avoid copyright infringement, adapting the tasks to the mixed-level classroom;
- for the students: allotted time, the temptation to copy and paste, distractions and lack of motivation.

As can be easily observed, most of the challenges are the direct result of online learning.

## 5. Conclusions

This study is an analysis of the most common issues encountered in teaching writing for undergraduate-level business English classes in Romania during the Covid-19 pandemic. The research methods were empirical, based on observation, in order to identify challenges for both teachers and students, after which root cause analysis was applied to come up with solutions. Distractions, intellectual property, the mixed-level classroom, limited time, academic integrity and motivation are among the most prominent challenges which were discussed. This study is limited to the experience in Romania, although some or all of the challenges may be applicable in other countries as well. The study only discusses the weaknesses and threats of online learning, the strengths and opportunities leaving room for future study.

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## Assessing Business English Writing Online: Challenges and Solutions

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### Abstract

*This study draws on the experience of the COVID-19 lockdown in Romania and aims to analyse challenges faced in the online assessment of the English writing skills of undergraduate-level economic sciences students. It includes a process-oriented approach to identifying challenges, getting to root causes and proposing solutions.*

**Key words:** business English, writing, online, assessment, English for specific purposes  
**J.E.L. classification:** Z13

### 1. Introduction

The switch from face-to-face learning to online learning during the COVID-19 pandemic also meant the temporary switch to online assessment, which brought forward very distinct challenges such as technological limitations, limitations of both students and teachers in using technology, ethical challenges etc. The aims of the paper are to identify and analyse the most common challenges faced when assessing English writing skills online, applied to the undergraduate level business English classroom, to identify the root causes and to propose solutions. The results of this study are not exhaustive and draw on the experience of emergency remote teaching in Romania.

As Robin Goodfellow points out, "[w]riting is the principal way they [students] demonstrate the knowledge and skills they have acquired during their studies," writing ability being equated to knowledge acquisition; this is supported by the development of pedagogic approaches such as writing across the curriculum, writing in the disciplines and academic literacies (Goodfellow, 2005, p. 481). Nevertheless, writing is a complex task which involves a distinct set of skills such as the command of language (grammar, vocabulary, syntax etc.), knowledge about the topic, organization skills and knowledge about the genre, style, or document structure, for which reason the assessment of writing is also a complex endeavour.

Another essential aspect is that there has to be a correspondence between course outcomes, learning activities and, finally, assessment activities, and this is all the more challenging in education settings with asynchronous and decentralised delivery modes such as online learning and distance learning because they aim to develop complex skills and/or in these cases student autonomy and control over learning are high (Barthakur, et al., 2022, p. 2). In these cases, formative assessment is even more important because it allows students to self-diagnose, while diagnostic assessment identifies learner preparedness and possible challenges and summative assessment verifies the attainment of learning objectives (Barthakur, et al., 2022, p. 2). Researchers discuss the concepts of 'assessment for learning,' 'assessment of learning,' and 'assessment as learning,' proving that assessment is not only a benchmark for measuring attainment but, more importantly, it has a formative role (Rus, 2019, p. 369). In terms of the learning domain which is measured, assessment can be traditional (checks the degree of absorption of knowledge), alternative (requires the use of synthesis, analysis and evaluation) and performance (measures psychomotor learning) (Benson, 2003, p. 70).

Technological developments have led to changes in writing styles, genres, finished-product typology and reader engagement, which in turn led to changes in teaching practices (ex. digital multimodal composing, computer-mediated collaborative writing, automated writing evaluation feedback) and formative assessment (ex. multimodal assessment/feedback, online peer

assessment/feedback) (Jinrong & Mimi, 2022). These research preoccupations show that it is essential to correctly determine what and how to assess.

There is one extra aspect which needs to be discussed, which is the specificities of the business field, one of the fastest developing worldwide. Although the professional environment is a benchmark for learning and assessment, the fact that it is so fluid and fast-growing requires the permanent adaptation of teaching and assessment techniques and tools. For instance, there is a need to constantly adapt to the evolving corporate jargon; in terms of types of functional texts we could discuss digital and social media marketing; in terms of tools, the use of templates and text enhancement tools such as the more basic spellcheck and more complex tools such as Grammarly, automatic translators and wiki pages.

This study draws on the experience of the COVID-19 lockdown in Romania and aims to analyse challenges faced in the online assessment of the English writing skills of undergraduate-level economic sciences students. It includes a process-oriented approach to identifying challenges, getting to root causes and proposing solutions.

## **2. Literature review**

Although there has been an increase in the number of scientific papers dedicated to online learning in the past three years, few studies focus on online assessment, even fewer on the assessment of writing skills, and fewer still on the assessment of writing skills of business English students and none has a holistic approach on the issue. A selection of relevant contributions to the topic is presented below.

In terms of techniques, the most prominent research topics we identified are the assessment of digital multimodal composition (Jinrong & Mimi, 2022), computer-mediated collaborative assessment (Zhang & Chen, 2022; Mohamadi, 2018; Kelly, et al., 2010; Buzarna-Tihenea (Gălbează), 2022) and automatic writing evaluation (Paré & Joordens, 2008; Li & Li, 2017; Ramineni, 2013; Sun & Fan, 2022). Other research topics include comparing the cognitive processes students undergo while taking computer-based and paper-based writing tests (Guapacha Chamorro, 2022), the role of feedback during assessment (Cheng, et al., 2015), the role of formative assessment in online learning (Marquis, 2021), and the use of passive versus active resources in the economic sciences class (Barile, et al., 2022). In terms of challenges in assessing writing, researchers discuss academic dishonesty (Mayyas & Alzoubi, 2022; Surahman & Wang, 2022; Benson, 2003; Wu, 2018), applying static, active and interactive online testing modalities (DeBoer, et al., 2014), grading differences between face-to-face and online programs and the low student completion rate in distance education programs (Sapp & Simon, 2005), keyboarding fluency (Gong, et al., 2022), students' preparation for online learning (Reid, 2022) and challenges in applying synchronous quiz, practicum, essay and oral assessments (Chao, et al., 2012).

## **3. Research methodology**

The research was conducted with empirical methods: direct observation, semi-structured interviews with other academics and students and a literature review. The stages of the research were: the identification of challenges in assessing writing skills online based on the author's own experience; the analysis of existing literature on the topic; the application of a semi-structured interview with three ESP teachers and a hundred undergraduate business English students and root cause analysis to identify solutions. The students' levels ranged between A2 and B2 according to the Common European Framework of Reference for Languages.

## **4. Findings**

The identified challenges were first categorised as challenges for the assessor and challenges for the students. Then, they were classified as general challenges and challenges specific to the three types of assessment (diagnostic, formative and summative). The third level of categorisation is that of the source of the challenge (resources, knowledge, attitudes and practices). Based on the research methodology, we identified the challenges to assessing writing skills online in the

undergraduate business English classroom which are described below.

Both the assessor and the students may have challenges connected with resources, which may refer to access to technology, the surrounding environment and ethics. The technology needed for online assessment consists in the existence of a stable internet connection with appropriate bandwidth, the access to a computer or device which is compatible with the used software and the availability of an appropriate platform or platforms for assessment, preferably the paid or extended version. The surrounding environment refers to available space which is separate from other activities and preferably soundproof. These variables were hard to control during lockdown, but they should not be a problem in regular online assessments. Another important aspect is of assessment materials, which should be developed by the assessor or used without breach of copyright. Still, in the sphere of ethics, student dishonesty has been identified as one of the most prominent challenges of the online assessment. It may be of several types, such as cheating, plagiarism, collusion and the use of jockeys (Surahman & Wang, 2022, p. 1535) and it can be counteracted through prevention activities such as teaching students academic writing and probity, by having in place proper systems to identify dishonesty, by severely sanctioning dishonesty when identified and by using varied and timed assessment which may limit access to sources. Another solution would be to have proctored tests, but this was not possible during the lockdown.

To organise online assessments, teachers also need a knowledge base and skills such as online assessment skills, online class management skills (ex. editing access to the meeting, to a specific class, to the whiteboard, to share etc., creating class rules such as when to use the camera, the microphone or hand raising), time management skills (to students' reaction speed, equipment malfunction, lack of connection etc.), methods and techniques adapted to online assessment, general IT skills, word-processing skills and specific skills in using e-learning platforms, videoconferencing platforms and online resources (videoconferencing platforms (Microsoft Teams, Webex, Zoom, Skype, Google Meet etc.), e-learning platforms (the university's e-learning platform, e-learning tools from Microsoft Teams, Google Classroom, Discord etc.), assessment tools (ex. Google Forms, Microsoft Forms, E-learning platforms, email), messaging platforms (email, WhatsApp, Telegram) etc.). These skills and methods may be developed through trial and error, self-study and taking classes. Students need the same IT skills but, more importantly, they need English skills (the ESP classroom is non-homogenous; the level of English no longer conditions the students' success in obtaining the Baccalaureate diploma) and writing skills. These can be improved both by means of formal education and by means of non-formal and informal education and through voluntary exposure to the language and self-study.

The online environment also poses other issues such as hardware, software and network malfunctions for both assessors and students, in which case alternatives to technical solutions should be found, therefore both assessors and students should have a proactive attitude. In terms of practices, the use of a trusted platform system is imperative for personal data protection. Moreover, there should be established rules on data protection and the management of recordings, which are thoroughly communicated to students. Still in the sphere of attitudes, several studies have identified students' adversity to writing and writing anxiety, which should be tackled during classes.

We will now focus on writing assessment techniques and their specific challenges. Angela Benson discusses the following assessment techniques appropriate for the online environment: selected response assessments (such as multiple-choice, true-false, and matching questions), constructed response assessments (such as fill-in-the blank, short-answer, show-your-work, and visual depiction activities), virtual discussions (which may be synchronous or asynchronous), concept mapping, e-portfolio assessment, writing formal papers, field experiences (such as internships, laboratory assignments, clinical assignments, and apprenticeships), problem-solving simulations, individual and group projects, informal student feedback, peer assessment, and self-assessment (Benson, 2003, pp. 73-76). Selected and constructed response assessments belong to the traditional learning domain and test the degree of absorption, while the other techniques belong to the alternative domain and test higher-order abilities. However, not all of them are appropriate for every type of assessment. For instance, individual projects, portfolios and field experiences are appropriate for formative assessment, while writing formal papers may be a good way of testing higher-order abilities during a summative assessment.

When testing higher-order cognitive learning, it is important to provide students with rubrics detailing expectations (Benson, 2003, p. 78). The following aspects should be considered: writing quality (content, organization, language), accuracy (errors and error-free clauses), fluency and syntactic complexity (Zhang & Chen, 2022, p. 7). Dana Rus proposes the use of holistic rating scales instead of analytical ones for ESP, because these encompass the assessor's response to the whole performance, which allows for a shift from details to effective communication in a professional environment (Rus, 2019, p. 370). This is equivalent to testing higher-order skills to the detriment of lower-level ones. Rus further recommends the use of portfolios, mock job interviews, PowerPoint presentations, reports, videos and interdisciplinary projects in the formative assessment of higher-order abilities (Rus, 2019, pp. 372-373).

In our own experience we encountered low student engagement, writing anxiety and preference of passive resources to the detriment of active resources, a situation also encountered by Barile et. Al. This meant that the use of group activities, portfolios, presentations and other activities which develop higher-order cognition was limited and the assessment structure largely followed the methodology used in class exercises (selected and constructed response assessments across listening, reading, speaking, writing and English in use skills) and simple writing tasks (of memos, letters, emails, short reports etc.). A considerable number of students opted out of the writing exercises. Academic integrity was also an issue considered when developing tasks. In our experience, strictly timing tasks and using multimedia sources lowered the level of dishonesty, while classical writing tasks were prone to dishonesty. However, the issue of testing higher-order abilities remained.

## 5. Conclusions

This study has identified challenges and solutions to assessing business English writing skills online. While there is a myriad of solutions and techniques which may be applied to formative assessment to test both lower-order and higher-order abilities, when it comes to summative assessment, there are limited options for testing higher-order abilities in the online context (mostly because of dishonesty).

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# The Role of Information in the Process of Increasing the Transparency of Economic Entities

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## Abstract

*The information sector has been influenced by recent technological advances, data monetization, the availability of data services, and changes in the way information is consumed. In addition, the literature states that the lack of control over the dissemination of such information on social media platforms has led us into a post-fact era. The accessibility of new information and innovative technology have also revolutionized the way individuals consume information. Consumers of information have access to a variety of sources that are not always checked for accuracy and adherence to accepted scientific practices for producing statistics. In this article we propose to analyze a series of economic entities and to observe their progress over a period of 5 years.*

**Key words:** information, influences, economic indicators

**JEL classification:** A11, F64, Q56

## 1. Introduction

Our ability to receive and organize information in our brains is influenced by a variety of factors, including the group we belong to, our beliefs, our past experiences, the source of the information, its format, and our mental state. The fact that these factors are ingrained in the way our brains work means that we may not be aware that they affect the way we process information when reading news or articles.

In the modern world, a company's reputation is its most valuable asset. Your reputation is an indicator of your credibility and value in the eyes of the public. Each digital platform fosters relationships, evaluates the veracity of information, and sorts events by importance. Intelligence authority has advanced because of its emphasis on symmetry, proximity and "liquidity". Even trusted sources have to work to earn and maintain their reputation. The yearly financial statements are a crucial instrument in the process of validating and communicating the decisions made by the management structures to guide the company's present and future activities (Avram et al., 2017).

## 2. Theoretical background

The interdependence of the environment in which a company operates, which is influenced by a system of economic, social, political and legal-institutional variables, is what distinguishes one enterprise from others. According to Cho et al. (2019), due to society's confidence in a company, it may be anticipated that it will develop sustainably.

Any organization's management is defined by at least three core functions: thinking, decision-making, and communication (Avram, 2017). Planning goals and how to use resources, creating strategies, approving choices, and initiating activities are all parts of financial communication. The process of communication is continuing changing and will call into question a variety of non-financial facts that, up until recently, would not have been included in quarterly financial reports. Plans and decisions are modified by the presence of elements, including the diversity of objectives, the complexity of interests, the unpredictability of events, and the unforeseen responses of the environment. Through the coordination role, managers have the responsibility to coordinate and harmonize the time and space of activities, desires and realities.

According to Hernandez (2022), communication is "one of the most neglected management skills".

The information they provide to the market is either required in the form of legal and regulatory information (Depoers, 1999) or voluntary in the form of meetings with financial analysts and press releases. Also, the most useful means of data communication is represented by the consolidated financial statements which are essential for both internal and external information, because their purpose is to provide relevant information for decision-making (Curagău & Cușmăunsă, 2019).

Based on the differences in the maturity of economic entities, the financial and non-financial communication of companies remains a difficult problem to solve. If information is abundant and standardized, there may be subsequent discrepancies between the expectations of investors and analysts and the facts provided by corporations. In our opinion, we consider that, regardless of the size of the economic entity, the financial and non-financial communication of companies is a subject closely related to visibility and trust in the market. In the specialized literature, Onnée and Chekhar (2006) stated that the process of financial communication allows the economic entity to stand out against other listed companies, especially those in its sector, in a "benchmarking" logic, and this is especially true as the environment of the economic entity becomes more competitive.

### **3. Research methodology**

We will focus on a case study made by analyzing financial indicators. The purpose of this research is to follow the evolution of financial indicators during 5 years. Since the CoVid19 pandemic has left its mark not only on the social environment, but also on the economic environment, I want to analyze the impact of the pandemic on these economic entities.

Therefore, we considered several questions from which this analysis started:

- Which areas were most seriously affected by the Covid19 crisis?
- What elements have had the greatest impact?

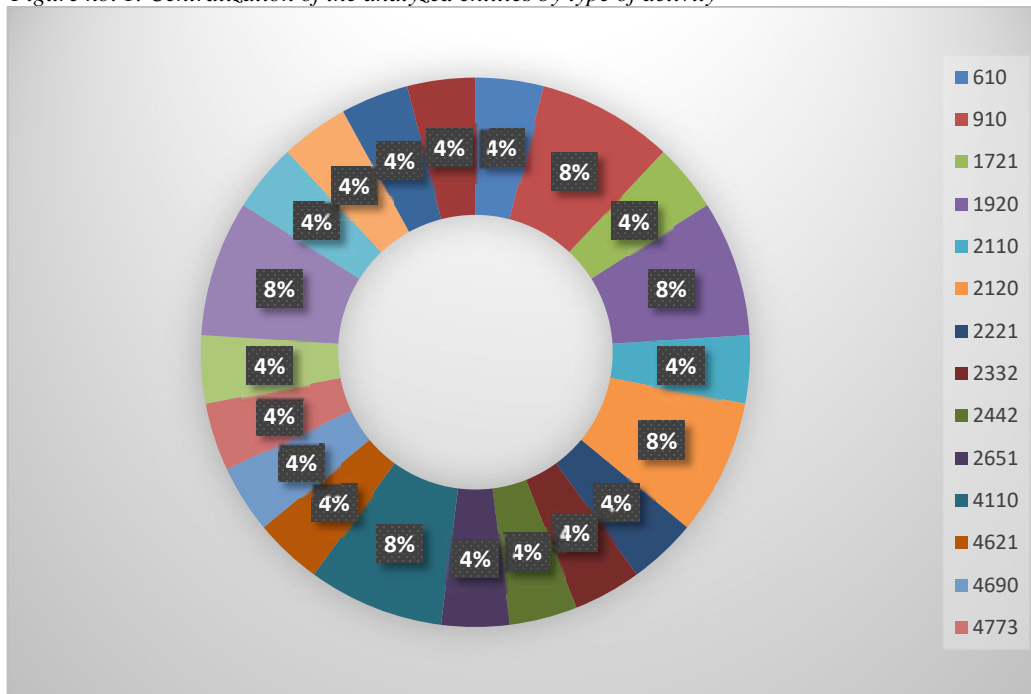
The answers to the proposed questions will help us outline an image of the business environment in Romania and its ability to adapt to the needs imposed by external factors.

To carry out this research we established a sample of 25 economic entities. These were selected from the database of the Bucharest Stock Exchange according to the number of shares issued on 22.10.2022.

### **4. Findings**

In the first phase of the study, we made a centralization of the companies analyzed according to the field of activity and observed the diversity of the entities researched, where the most common fields of activity register the CAEN code 910 "Activities of libraries, archives, museums and other cultural activities", CAEN code 1920 "Manufacture of products obtained from crude oil processing", followed by CAEN code 5510 "Hotels and other similar accommodation facilities" and CAEN code 2120 "Manufacture of pharmaceutical preparations. The results are presented in Figure no. 1.

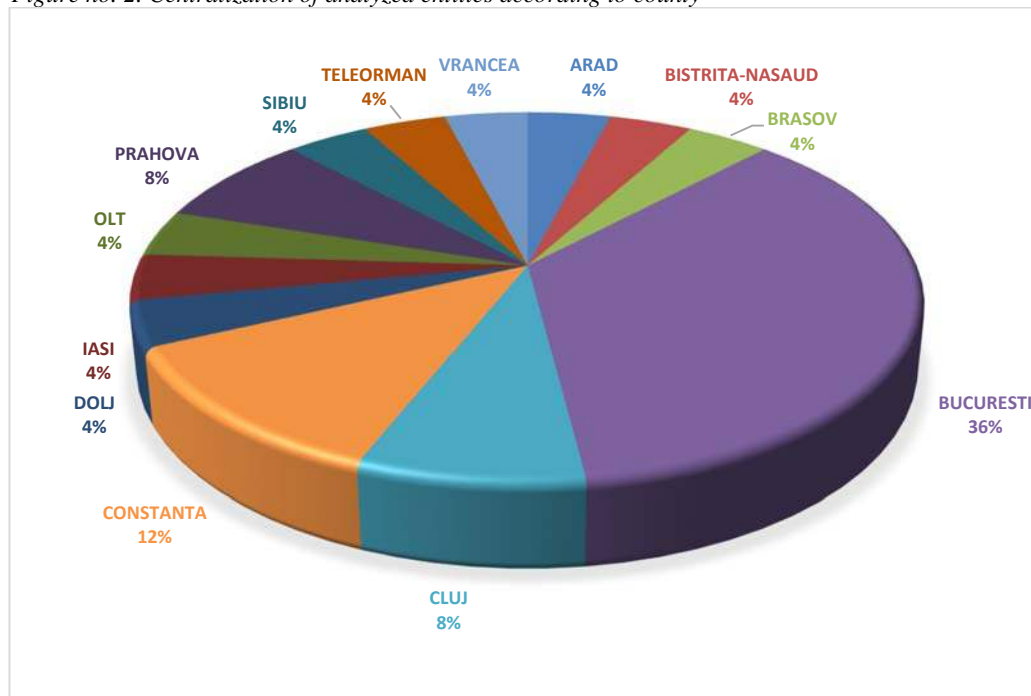
Figure no. 1. Centralization of the analyzed entities by type of activity



Source: Own processing

In Figure no. 2, we structured the analyzed entities according to the area where they are based. Thus, we observe that 36% of the entities studied are located in Bucharest, followed by Constanța County with a percentage of 12%.

Figure no. 2. Centralization of analyzed entities according to county

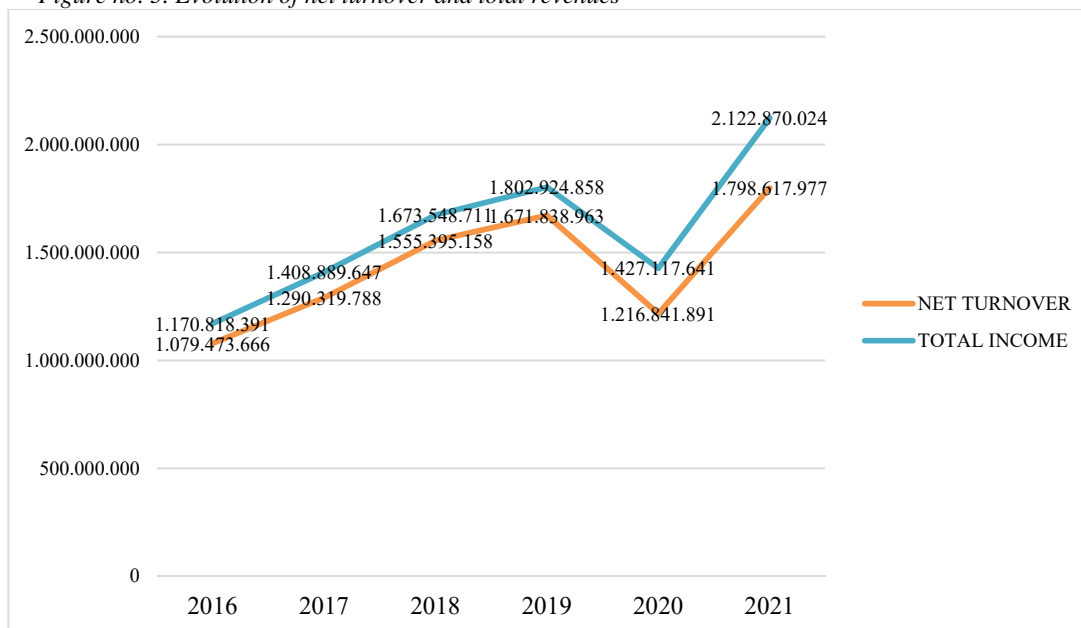


Source: Own processing

I propose to observe the evolution of turnover and total income during the studied years, and for the creation of the graphs, I used average values.

In Figure no. 3, an upward trend can be observed until 2019. As expected, the measures taken at the beginning of the situation generated by the Covid19 pandemic, left their mark on the economic environment by the significant decrease of the analyzed indicators in 2020, followed by an increase in the year 2021.

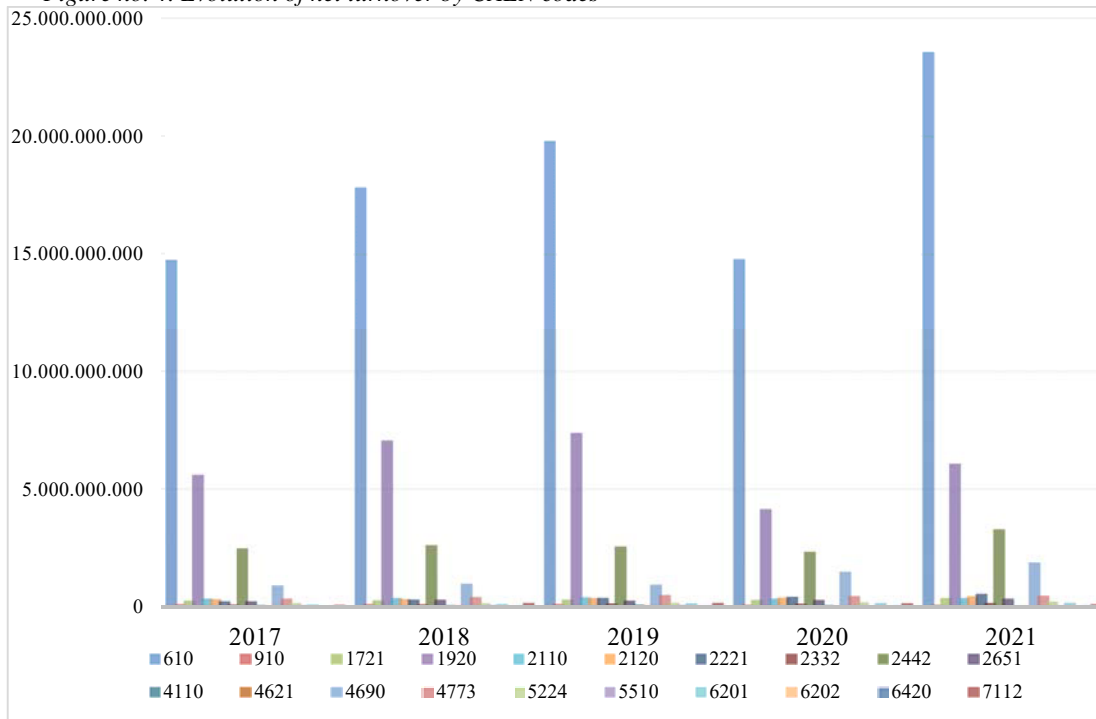
Figure no. 3. Evolution of net turnover and total revenues



Source: Own processing

In Figure no. 4, we analyzed the net turnover. As it emerges from the examination of the data presented, the branches that recorded decreases in the last two years analyzed, are in the field of cultural activities, real estate development, grain wholesale trade and information technology consulting activities. On the other hand, there are also economic entities that show successive increases over the analyzed period. They carry out activities in areas such as: the manufacture of paper and corrugated cardboard and paper and cardboard packaging, the manufacture of pharmaceutical preparations, the manufacture of plates, foils, tubes and profiles from plastic material, non-specialized wholesale trade, custom software creation activities (customer oriented software) and activities of holding companies. *I consider it important to mention that the field of making custom software experienced significant increases in the period 2019-2021, which indicates the orientation of the economic environment towards digital development.*

Figure no. 4. Evolution of net turnover by CAEN codes



Source: Own processing

## 5. Conclusions

Consumers of information are affected by the image given on the basis of annual financial statements, so the financial-accounting information provided by organizations must satisfy the qualitative aspect for a choice to be effective. It is not just about how to provide statistical information using new methods; the importance is given to creating the best means of communication for various consumers. To help people, businesses and institutions make decisions, it is essential to change existing attitudes and practices, expose citizens to official statistics, make data available and increase knowledge about their analysis process. How to be knowledgeable and rigorous in the information industry is the main issue.

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# The Automotive Industry and How the Supply Chain Is Still Affected by The Crisis

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## Abstract

*The Global automobile sector has been on exponential growth since 2008. A similar change has also been noted in the field of ICT, which as a result, has been the main factor in the growth and improvement of the automotive industry. These developments in ICT and changes in the automotive industry play a significant role in ensuring driver safety and comfort. In this context, the main research subjects in academic and industrial sectors include the different newly invented systems in the automotive industry, such as introducing a method to determine the traffic situation and driver behavior. The research also focused more on the industrial analysis of the automobile sector and the industry's social and economic factors.*

**Key words:** automotive, supply chain, crisis

**J.E.L. classification:** O00

## 1. Introduction

The research aimed to study how the supply chain is still affected by the various crises the automotive industry faces. It was also aimed at identifying possible problems that could have affected the supply chain. Furthermore, the study also looked at potential impacts that the change in the supply chain could have imposed on the manufacturers and the consumers of automotive products

## 2. Theoretical background

The automotive sector is a broad field full of different life-changing scientific inventions. It is also one field that requires the services of various individuals performing other functions concurrently, such as the ICT team and the automotive engineers. Being such a complicated science-based sector, there are different scientific literature associated with the field that anyone not in the area may find challenging to understand and interpret (Ciardelli et al., 2011). Therefore, it is also essential to review this hard-to-understand literature and break them down in a way that can easily be understood for the research. First, it is crucial to understand the introduction and overview of the automotive sector. After that, the definitions of the different system architectures, the physical and logical architectures, should also be understood (Ciardelli et al., 2011). It is also key that the research defines the various current and emerging trends in the automotive industry, the governmental policies set to regulate the industry's activities, and the various potential risks that may result during the production and supply of automotive products.

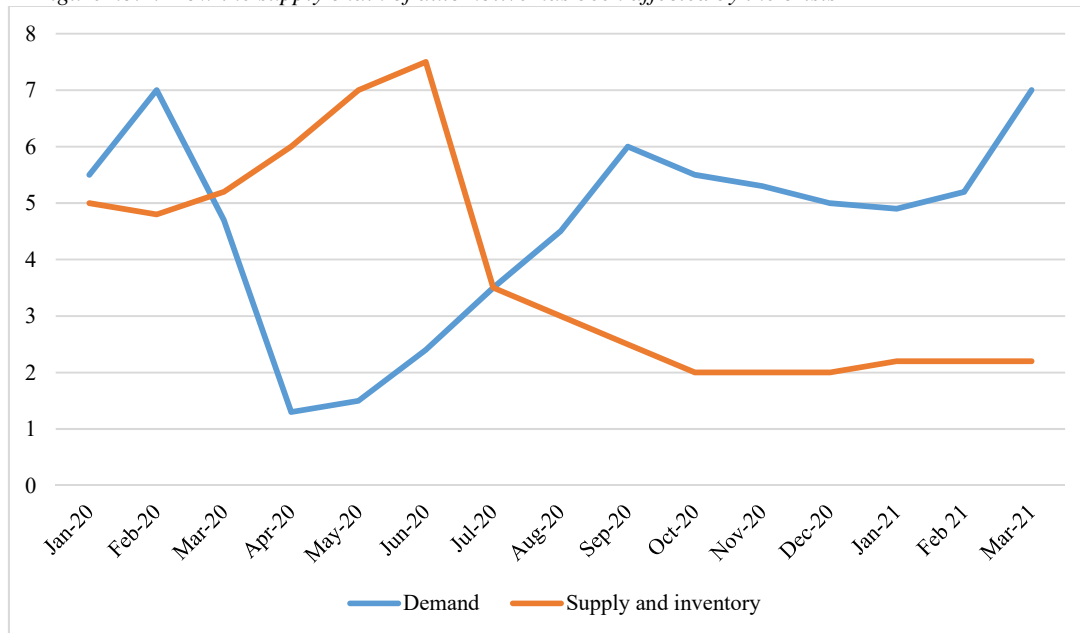
## 3. Research methodology

The research paper's authors employed different research methodologies to understand and analyze the information collected from various sources. Scholarly articles, journals, and newspapers retrieved from scholarly sites such as google scholar, online journal databases, Scopus, ScienceDirect, Emerald, and Wiley Interscience were of great help (Sabbagh et al., 2016). These databases provide various helpful information and data across all fields whose accuracy can be trusted. I have obtained quickly the information and data this analysis required. Moreover, I had a

look on the official websites of various automotive manufacturers. The official websites were updated on time, so I could find out relevant information about the challenges they have met.

Furthermore, tackling such scientific research requires and adopts a specific research methodology. The main methods used in scientific research include quantitative analysis, qualitative research, and mixed methods, a combination of qualitative and quantitative research methodologies (Sabbagh et al., 2016). These research methods are procedures since they require a logical step-by-step approach before concluding. The qualitative approach needs the researcher to understand how people convert their perceptions, evaluate their experience, and build their space. On the other hand, the quantitative approach uses numeric data since it relies on samples and specific data collection instruments. The mixed method has gained popularity in different fields over time due to its implications in applied research and its ability to respond to research questions comprehensively. For instance, analysis to determine the impact of covid-19 pandemic led to the generation of the graph below (Schliebener, 2021).

Figure no.1: How the supply chain of automotive has been affected by the crisis



Source: (Schliebener, 2021)

#### 4. Findings

The data and information collected for this particular research study were obtained from good sources and are deemed correct. The various journals, newspapers, and other documents referred to in the data collection stage of the research were peer-reviewed and cited by different people hence upholding the validity and accuracy of the sources. The research was also conducted following the law and regulations to ensure no mistakes were made during the exercise. Hence, the study and the findings are authentic.

The concept of Supply chain management emerged in the 1980s in literature by Weber and Oliver. The two highlighted the relationship between other operational functions and logistics. The idea has developed and gained momentum over time due to globalization, diversifying products, and competition in the market (Schliebener & Nickel, 2021). The supply chain is essential in the automotive industry as it ensures a steady flow of information, material, and cash to ensure no supply shortage and the resulting expensive production stoppage. The supply chain is thus an essential element of the automotive sector. However, the automotive industry has fallen victim to the impacts of the supply shortage due to different challenges and unpreventable situations which have significantly affected the industry. Any adverse effect on the supply chain may result in substantial financial losses and economic crises (Isac, 2010).



Despite the remarkable growth in the automotive sector, the industry has faced a series of challenges. These challenges hinder the automotive industry's improvement and block the industry's success to a certain extent. One of the most common weaknesses of the industry is the dependent growth rate. Illustrations of how this affects the sector include; government regulations on the price of fuels and the validity of the registration period. Entrance of new vehicles into the market has also become a significant problem. This introduction of new automobiles has created a bargaining power that is also affecting the automotive industry due to constant competition.

The major crisis which has hit the automotive sector is the economic crisis. To begin with, it is costly to purchase raw materials and automobile spare parts. Companies spend millions of money procuring such raw materials and the assembly process. The industry also spends money on integrating new technologies, which change rapidly over a short duration (Schliebener & Nickel, 2021). Finally, the automotive sector employs many employees who are also paid huge salaries. All these are, however, important in ensuring that the industry keeps up with the dynamic customer needs and produces high-quality automobiles with the most advanced technologies integrated. The government also imposes heavy taxes on these industries on the imported raw materials and their final products.

The economic crisis has also prevented many countries and nations from producing their automobiles due to the high costs involved in the manufacturing process. Other factors, such as war, the ongoing conflict in Ukraine, and global pandemics, such as the covid-19 pandemic, are also factors accelerating the economic crisis affecting the sector (Carney, 2022). The research also revealed that the industry's supply chain had been significantly affected. The increasing financial constraints have hindered the continuous production of the automotive, which meets the ever-changing consumer preference and tastes. The effects on the supply chain also put the country depending on exporting automotive at risk of significant negative economic impacts.

Beginning with the conflict between Russia and Ukraine, the war has impacted many countries that depended on exports from the two conflicting nations. Consequently, the war has caused a drastic drop in the variety of the country's export products. Many European automobile manufacturers and spare part selling companies with factories in Ukraine have stopped their operations as a result of the war, thus reducing manufacturing activities. Most foreign factories in Ukraine have suffered dramatically from the unstable economic situation due to the war (Spitsin, 2018). For example, Volkswagen, Europe's largest auto manufacturer, has suspended some of its assembly activities due to the lack of parts manufactured in Ukraine, resulting in a drop in the supply chain of Volkswagen automobiles (Carney, 2022). Due to the disrupted supply chain, other automotive manufacturers such as Toyota, Hyundai, and BMW have also been closed.

Besides the conflict in Ukraine, the covid-19 pandemic also affected the automotive supply chain. China, South Korea, and Italy are known globally as giant automobile manufacturers (Carney, 2022). This, however, was not the case after the outbreak of the coronavirus pandemic in 2019. Unfortunately, China was the genesis of the deadly virus, which spread to other countries affecting them in many different ways. The Automotive sector was greatly affected since most industries are located in the quarantined areas of China, Italy, and South Korea. However, the industry did not die entirely. However, it gained little momentum in 2020 as various measures were implemented to curb the spread of the virus, though a drastic fall by a more significant margin in the supply chain was observed. The pandemic will, however, continue to affect the automotive supply chain. Experts, The Boston Consulting groups, and McKinsey approximate that it will take the car industry approximately two years to fully recover from the effects of the covid-19 (Carney, 2022).

The crises are damaging and hurting the growth rate of economies of countries like China and America, and Europe. The drop in income has also decreased the number of people purchasing automotive products. It forces the sellers to lower the prices of automotive products to accommodate the income level of the buyers (Schliebener & Nickel, 2021). This again has resulted in the company's significant losses, which are not easily revocable. The low-income level has also reduced the demand for automobiles as people tend to prioritize other essential needs for survival other than buying luxurious cars, which are secondary needs. The crises again have affected the labour market in the automobile sector. Due to the reduced supply chain (Pichler, 2021). Those individuals employed to help distribute the finished products to various global markets have lost their jobs since there is not much to be supplied to the said markets. The manufacturing and assembly teams have lost part of

their members as some are resigned from work due to low labor requirements due to decreased production.

Many automotive manufacturing countries are now coming up with new ways to ensure a reduction in the impacts of the crises on the industry. Some of the implementations that the manufacturers are putting in place include increasing the role of significant suppliers and evaluating the global chains in the automotive industry, among other strategies (Sturgeon, 2010). The governments of nations that rely majorly on automobile manufacturing as the primary source of foreign currency have also chipped in to provide financial support and reduce the taxes imposed on imported raw materials. Schools have also adopted a curriculum to educate the learners on the emerging technological trends and different ways to handle the various economic crises which may consequently affect the supply chain of automotive products (Schliebener, 2021).

## 5. Conclusions

The automotive sector is among the fast-growing manufacturing sectors in the world today. However, the industry also faces many challenges hindering its rapid growth from catering to ever-changing consumer preferences. The industry is stricken hard by various emerging crises, such as the recent covid-19 and the ongoing conflict between Russia and Ukraine. The problems have impacted the supply chain of automotive products in different ways, and many people have also lost their jobs due to the same. The supply shortage has also contributed significantly to the economic crisis affecting the sector. Some possible factors contributing to the decrease in the supply chain of automotive products include the reduction of consumer income, the effects of the war on the assembly plant, and inadequate and extremely expensive raw materials as a result of both the covid-19 and the Ukraine crisis.

## 6. Acknowledgement

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## Urban Development, Significant Factor in The Economic Development of The Regions

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### Abstract

*Global economic development has always been accompanied by a complex process of urbanization and an important role has been played by the development of effective strategies at the level of these communities. The purpose of this analysis is to determine the manner and extent to which the economic growth of the regions of the country, has been influenced by certain financial, social, population-setting factors, of public utilities and the administration of the territory, specific to the urban environment, with the help of econometric analysis on panel data and by comparative analysis applied on two data sets from 2000-2019, for the eight regions of the country.*

*The results of the final analysis, obtained using the  $REM_{robust}$  model, showed the significant influence of nine factors, from twelve indicators investigated, on the result indicator- $PIB_{regional}$ .*

*These analyses are the levers through which decision-makers can capitalize on financing opportunities, through viable regional development projects.*

**Key words:** development plans, economic growth, regions

**J.E.L. classification:** C23, H79, I31, R11

### 1. Introduction

In the current period, when Romania is experiencing the major effects of the global economic crises, as well as the social and economic impact of the Covid-19 pandemic, there is increasing pressure on public funds, both from the state budget, as well as those from local budgets, and the authorities are constantly looking for solutions to achieve a judicious allocation of public resources, as well as a prioritization of investment objectives with a significant impact on the quality of life of the citizens of the country.

An important tool for economic recovery and a transition to a green and digital society can be harnessed with help of the recovery mechanism, launch by European Union-wide, which is a lever to increase the country's resilience. Reforms and investment projects, which underpin recovery and increase the resilience capacity, are based on six pillars: *transition to a green economy; digital transformation; smart, sustainable economic growth, social and territorial cohesion; health and institutional resilience; children, young people, education, and skills* (The National Recovery and Resilience Plan of Romania, 2021). But, in order to achieve the general objectives, such as *sustainable economic growth, social and territorial cohesion*, we need to set specific objectives, and these are influenced by the characteristics of each region of the country.

This fact was the motivation of present research, namely, the analysis of some factors that characterize the eight regions of the country and how they can influence their economic evolution.

In the literature were found practical works, such as: studies elaborated by various specialized organizations, as well as reports realized over 1-5 years by regional development agencies, where graphical and tabular comparisons of data reported for two similar periods are presented. (*The Development Plan of the Central Region 2014-2020, 2020, Studies and analyzes-North-West RDA, 2020*).

Also, were carried out academic research papers focused on sociological, political, geographical, economic studies, but with a pronounced descriptive character for example in a study of regional disparities in Romania the geographical research methodology is used (Săgeată, 2007).

A practical approach was carried out in an analysis on the economic characterization of the eight regions of the country, but also on the highlighting of economic and social disparities, carried out in 2009, using the main components analysis method (PCA), but the situation of the regions has evolved, and new data has emerged, as well as new methods of analysis (Lefter and Constantin, 2009).

At the same time, we found econometric studies, but in which other categories of indicators were used and the total values of indicators at the level of the regions were not compared with the values specific to the urban environment in those regions, in order to be able to highlight the level of influence of these categories of factors.

The purpose of our paper is to emphasize the importance of analysing some phenomena and social economic processes that can influence regional development, over a period of 20 years, which includes a period before Romania's accession to the European Union, as well as the post-accession period. These analyses must adapt step by step to the new requirements arising from social-economic, structural and technological changes.

The main objective of the analysis is to determine how, but also the extent to which they can influence the economic development of the regions of the country (represented by the evolution of the regional GDP), certain categories of factors specific to the urban environment, (*financial indicators; indicators of social statistics; indicators of economic statistics; indicators specific for public utilities of local interest and administration of the territory; indicators specific for the migration of the population*). The originality of this paper consists in the construction of a three-dimensional econometric analysis model to examine the effects of several relevant indicators (presented in Table 1) on regional GDP, addressing the particularities of each region of the country and their evolution over time. In order to analyse the heterogeneity factor, two models were considered for comparison: The Fixed Effects Model (FEM) and the Random Effects Model (REM), and finally the most suitable model for the analysis of the influence of independent variables on the dependent variable was chosen.

The work was structured as follows: *the first part* includes the introduction, where we defined the purpose and objective of the research, followed by *the second chapter* with a brief presentation of the specialized literature; in *the third part* we presented the research methodology and the methods used; *the fourth part* includes the results of econometric analysis and the appropriate econometric model resulted for the analysis of the proposed indicators, followed by the discussions contained in *the fifth part*, and in *the sixth chapter* are the conclusions and proposals of the study.

## 2. Literature review

A country's sustainable economic development is achieved through well-founded investments, so that all its regions are supported by investment, but at the same time help more the less developed regions in the faster transition to the desired level. For developing countries, the investment effort is supported by both the private and public sectors.

The economic development of the country is characterized by the economic growth of each region, which they are also influenced by endogenous and exogenous factors. In the regional theory put forward by Zaman, it groups economic growth factors into endogenous factors - represented by *local resources, local infrastructure and local actors* and exogenous factors - represented by the *infusion of external capital, with innovations implemented from outside the region and a infrastructure determined by external factors*. For a sustainable development of the regions of the country, it is important to place a special emphasis on endogenous factors, as an important element of regional performance is the internal capacity of each region to develop, namely: *productive capital, human and social capital, creative capital* and, lately, *ecological capital*. Endogenous development models were also approached from the perspective of regional development theories, using the econometric model, having as its dependent variable "annual regional gross domestic product", but which has been empirically tested using a set of proposed independent variables, consisting of: *total R&D expenditure by region, productivity of regional labour, population*

*employed by region, gross fixed/annual capital formation by region, employment in high-tech industries by region and inter-regional inequalities* (Zaman et al, 2015).

An analysis of the economic and social disparities at regional level in Romania was carried out using the method Gini/Struck concentration coefficients, (this method was frequently used in spatial planning). The values of coefficients were presented for the regional level, by comparison between the years 2008 and 2011 for: *concentration of the Gross Domestic Product per capita, demographic concentration, labour force concentration, companies' concentration, and concentration of local budgets and of regional infrastructure* (Antonescu and Popa, 2014).

In another paper, an analysis was carried out on the optimal level of regionalization (which would be the optimal size of the regions) in the Central and Eastern European area and a number of conditionalities were presented, which should be taken into account in order to increase the social and economic performance of the regions, but also to address the specific problems of each region, such as economic disparities and poverty (Sandu, 2012).

Also, Melecký create an econometric panel data model with techniques using Dummy variables for a regional competitiveness evaluation, to observe regional disparities for 35 regions at NUTS level 2 of selected EU15 countries, in the reference period 2000 – 2008 using the *Gross domestic product* as explained variable and *Gross fixed capital formation, Gross domestic expenditures on research and development, Net disposable income* as independent explanatory variables. (Melecký and Nevima, 2011).

In a study, from 2016, the dynamics of economic growth and its determinants are analysed and presented, using the model with panel data, for the period 1996 – 2011, in the cities that act as growth poles in regions in Romania, respectively Brasov, Cluj-Napoca, Constanta, Craiova, Iasi, Ploiesti and Timisoara. The indicators considered where: *number of students, unemployment, investment in research and development, population, and migration* (Simionescu, 2016).

However, in the analysed works we did not find a comparative presentation of the influence of economic growth by certain categories of factors, by using the total values at the level of the region and the values specific to the urban environment, therefore we propose the analysis that follows.

### 3. Research methodology

The purpose of this research is to determine the degree of significance of certain factors specific to the urban environment, in the development of each region of Romania.

The question, which was the basis of this research, is **whether the evolution of indicators specific to the urban environment (financial, social, investment, those specific to public utilities and those specific to population mobility) have a significant influence in the economic development of the regions of the country?**

How and to what extent they can influence the evolution of the result indicator, represented by the economic development of the regions of the country, i.e., *regional GDP*?

In order, to demonstrate the importance of the influence of factors in the urban environment, we have compiled two sets of panels, using the available data from the period 2000 – 2019, specific to the 8 regions of the country, extracted from the TEMPO - online databases of the Romanian National Institute of Statistics, which we processed using the STATA-1 statistical analysis software.

In this research, we analysed 33 factors that could have significantly influenced the economic development of Romania's regions, and finally selected 12 independent variables (presented in Table no.1) to build the model of analysis and estimation of their degree of influence.

*Table no 1. The dependent variable used for panel data regression – for the 8 regions of the country*

Category of indicators	Specific Indicator / unit of measurement	Indicator Code (abbreviation)	Description of indicators / relevance
Specific indicator of economic development	Regional GDP - current prices /million lei (RON)	Regional_GDP	GDP is the sum of consumption expenditure of private households and private non-profit organizations, gross investment expenditure, state expenditure, investments for storage purposes, and export earnings minus import expenditure

*Source: INSSE, TEMPO online*

Table no. 2. Independent variables used for panel data regression – for the 8 regions of the country

Category of indicators	Specific Indicators / unit of measurement	Indicator's Code (abbreviation)		Description of indicators / relevance
1. Financial indicators	1.1. Execution of local budgets - total revenues (Revenue receipts) / million lei	Exec_local_budgets_total_revenues		1.1. The means by which local government authorities establish the level, options and priorities in financing their economic, social, cultural or public services actions.
2. Social statistics indicator	2.1. Average monthly gross salary gain /lei	Average_month_gross_salalary		2.1. Indicator of living conditions includes rights in money and in kind due to employees for the work performed, with all the bonuses, allowances and prizes awarded, as well as other legal additions to salaries.
	2.2. Employment rate of labor resources / percent (%)	Employment_rate_labor_resources		2.2. It is the ratio of civilian employed population to labor resources - %
	2.3. Relative poverty rate / percent (%)	Relative_poverty_rate		2.3. The share of poor people in the total population, i.e. people with an disposable income lower than the poverty threshold level.
3. Economic Statistics indicator	3.1. Completed dwellings, during the year (total on region / versus urban area) / number of homes	Total_Completed_dwellings_year	Urban_Completed_dwellings_year	3.1. Housing completed during the year, (total from public sources and private sources)
4. Indicators specific for public utilities of local interest and administration of the territory	4.1. Total length simple network distribution of drinking water (total on region / versus urban area) / kilometres	Total_Length_network_distrib_water	Urban_Length_network_distrib_water	4.1. Total length simple network distribution of drinking water.
	4.2. Capacity of drinking water production plants (total on region / versus urban area) / Cubic meters a day	Total_Capacity_water_production_plants	Urban_Capacity_water_production_plants	4.2. The maximum amount of drinking water that can be given by the water supply facility in a time unit, according the technical documentation, as well as any upgrades and retrofitting that lead to the increase of the initial capacity.
	4.3. Simple total length of sewer pipes / kilometres	Length_pipes_sewer		4.3. The length of the waste water collection and discharge channels and those from precipitation on the territory of the locality with public sewerage
	4.4. Length of cities streets (streets arranged) / kilometres	Length_cities_streets		4.4. The length of the streets arranged in the locality that ensures the circulation between different parts of it, being included the roadways from the new residential complexes.
	4.5. The intravilan surface of municipalities, cities / acres	Cities_Intravilan_surface		4.5. Represents the area of the territory included in the buildable perimeter of municipalities and cities, including their component localities (according to the systematization plan).
5. Indicators specific for the migration of the population	5.1. Total Moves with domicile (total on region / versus urban area) / number of persons	Total_Moves_with_domicile	Urban_Moves_with_domicile	5.1. Persons who, in a certain period of time (year), have established their domicile by moving from one locality to another.
	5.2. Total Residence establishments (total on region / versus urban area) / number of persons	Total_Residence_establishments	Urban_Residence_establishments	5.2. Persons who, in a certain period of time (year), have changed their residence from one locality to another.

Source: INSSE, TEMPO online

The stages of analysis of the proposed model are:

In a first step, to answer these questions, we carried out the regression of the OLS (using the STATA 17.0 software application) on two data sets for 12 indicators, where for the first set, we used the total values specific to the regions to 5 indicators, and in the second set we replaced the values at 5 indicators (*complete dwellings, during the year; total length simple network distribution of drinking water; capacity of drinking water production plants; total moves with domicas; total residence conditions*) with the specific data of the urban environment of the regions. Then, we proceeded with a comparative analysis the results obtained for the data set with the total values, versus the data set with the values specific to the urban environment.

The second stage of the research was the comparative analysis of the two data sets (with total values versus urban values), applying the regression types FEM (Fixed Effect Model) and REM (Random Effect Model), and following the Hausman test (to see if the difference between the coefficients is systematic or not) we chose which model is more relevant in our research.

In the third stage of the research, we proposed to check the robustness of the model chosen for the analysis of indicators, by performing the REM<sub>robust</sub> regression and were confirmed by the significant influences of the analysed factors (independent variables specific to the urban environment) on the result indicator, represented by the economic development of the regions using the REM<sub>robust</sub> model. This verification was carried out by testing the following hypotheses:

**H<sub>0</sub>:** factors specific to the urban environment **have no significant influence**. There are **large differences** between the total values of the region-specific indicators and the values specific to the urban environment.

**H<sub>1</sub>:** factors specific to the urban environment **have significant influence**. There are small differences between the total values of the region-specific indicators and the values specific to the urban environment.

The regression equation used to analyse the correlations between variables is:

$$\begin{aligned} \text{Regional\_GDP} = & \alpha + \beta_1 \text{Exec\_local\_budgets\_total\_revenue}_{it} + \beta_2 \text{Average\_month\_gross\_salary}_{it} + \\ & \beta_3 \text{Employment\_rate\_labor\_resources}_{it} + \beta_4 \text{Relative\_poverty\_rate}_{it} + \beta_5 \text{Total\_Completed\_dwellings\_year}_{it} + \\ & \beta_6 \text{Total\_Length\_network\_distrib\_water}_{it} + \beta_7 \text{Total\_Capacity\_water\_product\_plants}_{it} + \\ & \beta_8 \text{Length\_pipes\_sewer}_{it} + \beta_9 \text{Length\_cities\_streets}_{it} + \beta_{10} \text{Cities\_Intravilan\_surface}_{it} + \\ & \beta_{11} \text{Total\_Moves\_with\_domicile}_{it} + \beta_{12} \text{Total\_Residence\_stablishments}_{it} + \mu_i + \varepsilon_{it} \end{aligned} \quad (1)$$

where:  $\alpha$  - regression equation constant (the intercept for all 8 regions of Romania);  $\beta_{1,2,\dots,12}$  - the coefficient for each explanatory variable in the regression equation (OLS, FEM, REM);  $i$  - Romanian region analysed,  $i = 1, \dots, 8$ ;  $t$  - the analysed year of the panel data time period,  $t = 2000, \dots, 2019$ ;  $\mu_i$  - the time constant individual specific effects; as proved in the results section, the random effect model assumes that the entities' error is not correlated with the explanatory variables;  $\varepsilon_{it}$  - the error term ("regular" error term), which varies over countries and time ( $1 \leq i \leq n$  și  $1 \leq t \leq T$ ).

The influences of all these variables on the dependent variable after running the model are shown in the next section of empirical results.

## 4. Findings

### 4.1. Data analysis by applying OLS regression

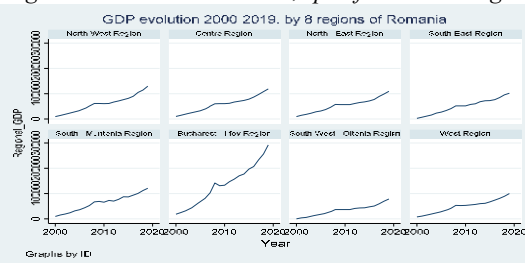
For the 20 years analysed, we find a large standard deviation in the case of the **result indicator Regional\_GDP** (46,982.89 million lei), where, GDP has had the following developments:

- *Very good*: well above average value Bucharest-Ilfov Region/quadrant 6 (133,314.0 million lei);
- *good*: for regions close to average: South-Muntenia Region/quadrant 5 (62,925.3 million lei); North-West Region/quadrant 1 (59,880.8 million lei); South-East Region/quadrant 4 (58,880.4 million lei) and Centre Region/quadrant 2 (57,977.7 million lei);
- *weak* for regions that are well below average: South-West-Oltenia Region/quadrant 7 (39,556.0 million lei); West Region/quadrant 8 (49,335.7 million lei), North-East Region/quadrant 3 (53,778.3 million lei). To illustrate the progress of the result indicator, we present the panel graph:

Figure no. 1. The 8 regions of Romania



Figure no 2. GDP evolution, specific to the 8 regions



Source: <https://www.gazetaromaneasca.com>

Source: TEMPO online+graph data representation by author with the STATA econometric software

In order to highlight how and to what extent PIB<sub>regional</sub> is influenced by the independent factors proposed, we proceeded to a first regression of the OLS model, of the 12 variables, where, for the first set, we used the total values specific to the regions to 5 indicators, and in the second set we replaced the values of these 5 indicators (*Completed dwellings, during the year; Total length simple network distribution of drinking water; Capacity of drinking water production plants; Total Moves with domicile; Total Residence stablishments*) with the specific data of the urban environment of the regions.



Looking at the two datasets, for each factor of influence, we see a similarity in the two datasets regarding the variables that have a significant influence on regional GDP, as well as the way they influence (positive or negative), with small differences only in the coefficient values. So, we have nine variables with a significant impact on the evolution of the response variable  $PIB_{regional}$ .

On a first picture, the OLS model shows us that the set of proposed independent variables have a significant influence on the evolution of the dependent variable  $PIB_{regional}$ , because  $F$  statistic it has significant value ( $F_{statistic/grup1}=258.67$ ,  $F_{statistic/grup2}=385.50$ ,  $Prob.>F = 0.00$ ).

But, in order to certify the validity of the proposed analysis model, on the two datasets, we conducted the test of multicollinearity, using the inflation factors of variation (VIF). Thus, for the first data group (with total values/region), the average VIF value was  $4.41 < 5$ , which illustrates a moderate degree of multicollinearity between influence factors (predictors), and in the second data group (with values specific to the urban environment/region) the average value VIF was  $6.53 < 10$ , higher than in the first group, but in this case too, the multicollinearity is characterized as moderate. If the VIF is above 10, then it indicates a high correlation, and the greater the variation of influence factors, the less reliable the regression results will be (Dodge, 2008).

Following the tests Breusch-Pagan/Cook-Weisberg (with the value  $p = 0.0002 < 0.05$ ,  $chi2 = 8.79$ ,  $Prob > chi2 = 0.0030$ ) and the white heteroskedasticity test (with the value  $p = 0.0002 < 0.05$ ,  $chi2(90) = 100.04$ ,  $Prob > chi2 = 0.2202$ ), the null hypothesis of homoskedasticity was rejected, the variation of errors not constant over time. As a result, the ols model was found to be inappropriate, with the model showing signs of heteroskedasticity (Baltagi, 2005, Torres-Reyna, 2007).

#### 4.2. Data analysis by applying Fixed Effect Model and Random Effect Model regression

With the main purpose of presenting a more relevant picture of the evolution over time of the dependent variable  $PIB_{regional}$ , we addressed the particularities of each region of the country and their evolution over time. In order to analyse the heterogeneity factor, two models were considered for comparison: the Fixed Effects Model (FEM) and the Random Effects Model (REM).

With the help of the FEM regression, we wanted to analyse the impact that independent variables had on their evolution over the 20 years studied, assuming that there are unique characteristics of the individual cross-section that do not change over time and these unique characteristics are not correlated with the individual dependent variable Y. (Torres-Reyna, 2007).

Analysing the two datasets with the regression of the FEM, for each influence factor, we find that a smaller number of independent variables resulted which had a significant influence on the evolution of the economic phenomenon characterized by  $PIB_{regional}$  and there are differences between the two datasets, as follows:

1.a) In the first data group, there are only five variables that have a significant impact on the evolution of the response variable  $PIB_{regional}$  (with the value  $p < 0.05$ ,  $p < 0.10$ ), from which: four variables have positive coefficients and support growth  $PIB_{regional}$  and one factor has a negative coefficient and means that it affects significantly  $PIB_{regional}$ .

b) The second set has more homogeneous data and resulted in six variables that have a significant impact on the evolution of the response variable  $PIB_{regional}$  (with the value  $p < 0.05$ ), from which: five variables have positive coefficients and support growth of  $PIB_{regional}$ , and one factor has a negative coefficient and means that it affects significantly of  $PIB_{regional}$ .

REM regression implies that there is a systematic random effect of the individual cross-section and there is a unique, time-constant characteristic of individuals that are not correlated with individual independent variables  $x_1, x_2, \dots, x_{12}$ . The results are summarized in Table 3.

Table no. 3. Regression analysis with Random Effect Model

Independent variables	Total values (for five indicators)			Urban values (for five indicators)		
	Coefficient	z	P >  z	Coefficient	z	P >  z
Exec_local_budgets_total_revenues	9.9842	9.53	0.000***	6.7387	7.64	0.000***
Average_month_gross_salary	18.7706	11.57	0.000***	15.4478	11.08	0.000***
Employment_rate_labor_resources	675.9743	3.49	0.000***	515.2628	3.05	0.002***
Relative_poverty_rate	-1,194.3250	-7.84	0.000***	-864.6882	-5.42	0.000***
Total/Urban_Completed_dwellings_year	1.1785	2.51	0.012**	3.3029	5.14	0.000***
Total/Urban_Length_network_distrib_water	-2.3100	-3.93	0.000***	-4.9207	-1.21	0.228
Total/Urban_Capacity_water_production_plants	0.0058	2.26	0.024**	0.0013	0.43	0.671
Length_pipes_sewer	-8.7564	-4.80	0.000***	-6.4990	-3.26	0.001***
Length_cities_streets	19.8904	6.81	0.000***	20.0494	7.32	0.000***
Cities_Intravilan_surface	-0.1685	-1.15	0.252	-0.1846	-1.59	0.113
Total/Urban_Moves_with_domicile	0.1254	0.93	0.353	0.8853	4.96	0.000***

Total/Urban_Residence_stablishments	-0.7272	-3.33	0.001***	-0.7606	-4.72	0.000***
Constant	-56,221.0900	-2.99	0.003	-51,515.7800	-2.38	0.017
Number of observations	104			104		
Wald chi2 (12)	3,104.09			4,626.04		
Prob > chi2	0.00			0.00		
Number of groups	8			8		
R-Squared-within	0.9201			0.9406		
R-Squared-between	0.9961			0.9995		
R-Squared-overall	0.9715			0.9807		

A p-value is statistically significant if:  $p < 0.01^{***}$ ,  $p < 0.05^{**}$ ,  $p < 0.10^{*}$ .

Source: TEMPO online+author's calculation using STATA econometric software

Analysing the two datasets, for each factor of influence, we find that the largest number of independent variables resulted that had a significant influence on the evolution of the economic phenomenon characterized by  $PIB_{regional}$  and we note that there are differences between the two datasets, as follows:

1.a) In the first data group there are ten variables that have a significant impact on the evolution of the response variable  $PIB_{regional}$ , from which: six variables have positive coefficients and support growth of  $PIB_{regional}$  and four variables have negative coefficient and mean that they affect significantly  $PIB_{regional}$ .

b) In the second set, with data predominantly specific to the urban environment, nine variables resulted with a significant impact on the evolution of the response variable  $PIB_{regional}$ , from which:

six variables have positive coefficients and support growth of  $PIB_{regional}$  and three variables have negative coefficient and mean that they affect significantly  $PIB_{regional}$ .

#### 4.3. Data analysis by applying the Hausman test

The two models, FEM and REM have their own limitations and, to select the best estimation model, the Hausman test was performed for these two datasets. We propose the following hypotheses:

- $H_0$ : The Random Effect Model is the right model (*Difference in coefficients is not systematic*).
- $H_1$ : The Fixed Effect Model is the right one (*Difference in coefficients is systematic*).

Equation (2) shows the result of  $\chi^2(11)$  in econometric analysis:

$$\chi^2(11) = (b-B)'[(V_b - V_B)^{-1}](b-B), \quad (2)$$

a) for the total value model, we have the following results:

$\chi^2(11) = 191.40$ ,  $Prob > \chi^2 = 0.00$ , so, the alternative hypothesis cannot be accepted, so the null hypothesis seems more appropriate to me.

b) for the model with specific values of the urban environment, we have the following results:

$\chi^2(11) = 24.65$ ,  $Prob > \chi^2 = 0.0103$ , so, the alternative hypothesis can be accepted, yet the null hypothesis seems more appropriate to me.

In conclusion, **the most appropriate model** for analyzing the influence of independent variables on the dependent  $PIB_{regional}$  variable **is the REM model**.

At the same time, the choice of analysis model with based on REM regression is based on the influence of most independent factors on the dependent variable (six independent variables: *Exec\_local\_budgets\_total\_revenues*, *Average\_month\_gross\_salalary*, *Employment\_rate\_labor\_resources*, *Urban\_Completed\_dwellings\_year*, *Length\_cities\_streets* și *Urban\_Moves\_with\_domicile*), compared to the FEM regression analysis model which has only five variables with significant influence on evolution  $PIB_{regional}$ . These conclusions are based on the main statistical results presented in Table 3 ( $t_{student}/z$  test, value  $p$  and the coefficients of the predictors).

#### 4.4. Data analysis by applying Random Effect Model robust regression

In the third stage of the research, we proposed to check the robustness of the chosen model for the analysis of indicators, by performing regression  $REM_{robust}$ .

The comparative analysis of the data, obtained and summarized in Table 7, helps us to answer the main question of this research: **whether the evolution of indicators specific to the urban environment** (financial indicators, social indicators, investment, those specific to public utilities and those specific to population mobility) **have a significant influence on the economic development of the regions of the country?** In what sense and to what extent can they influence

the evolution of the result indicator, represented by the economic development of the regions of the country, i.e. *Regional GDP*?

Table no. 4. Regression analysis with Random Effect Model robust

Independent variables	Total values (for five indicators)			Urban values (for five indicators)		
	Coefficient	z	P >  z	Coefficient	z	P >  z
Exec_local_budgets_total_revenues	9.9842	5.48	0.000***	6.7387	5.40	0.000***
Average_month_gross_salalary	18.7706	12.39	0.000***	15.4478	9.19	0.000***
Employment_rate_labor_resources	675.9743	3.47	0.001***	515.2628	2.69	0.007***
Relative_poverty_rate	-1194.3250	-5.47	0.000***	-864.6882	-4.02	0.000***
Total/Urban_Completed_dwellings_year	<b>1.1785</b>	<b>2.59</b>	<b>0.010***</b>	<b>3.3029</b>	<b>3.39</b>	<b>0.001***</b>
Total/Urban_Length_network_distrib_water	<b>-2.3100</b>	<b>-2.67</b>	<b>0.008***</b>	<b>-4.9207</b>	<b>-1.05</b>	<b>0.293</b>
Total/Urban_Capacity_water_production_plants	<b>0.0058</b>	<b>1.33</b>	<b>0.183</b>	<b>0.0013</b>	<b>0.48</b>	<b>0.628</b>
Length_pipes_sewer	-8.7564	-3.75	0.000***	-6.4990	-2.81	0.005***
Length_cities_streets	19.8904	5.91	0.000***	20.0494	5.36	0.000***
Cities_Intravilan_surface	-0.1685	-0.81	0.421	-0.1846	-1.14	0.255
Total/Urban_Moves_with_domicile	<b>0.12537</b>	<b>1.35</b>	<b>0.176</b>	<b>0.8853</b>	<b>2.95</b>	<b>0.003***</b>
Total/Urban_Residence_stablishments	<b>-0.7272</b>	<b>-2.19</b>	<b>0.029**</b>	<b>-0.7606</b>	<b>-5.97</b>	<b>0.000***</b>
Constant	-56,221.0900	-3.40	0.001	-51,515.7800	-2.59	0.010
Number of observations	104			104		
F-statistic (12 /84)/Wald chi (11)	-			-		
Prob. > F/Prob > chi2	-			-		
Number of groups	8			8		
R-Squared-within	0.9201			0.9406		
R-Squared-between	0.9961			0.9995		
R-Squared-overall	0.9715			0.9807		

A p-value is statistically significant if:  $p < 0.01^{***}$ ,  $p < 0.05^{**}$ ,  $p < 0.10^{*}$ .

Source: TEMPO online+author's calculation using STATA econometric software

This verification was carried out by testing the following hypotheses:

**H<sub>0</sub>:** factors specific to the urban environment **have no significant influence**. There **are large differences** between the total values of the region-specific indicators and the values specific to the urban environment.

**H<sub>1</sub>:** factors specific to the urban environment **have significant influence**. There **are small differences** between the total values of the region-specific indicators and the values specific to the urban environment.

We note that **for both sets of data, we have nine independent variables**, from a group of twelve indicators, **with significant influence on the evolution of the dependent variable**, of which **eight factors are common**, as follows:

- three variables (*Relative\_poverty\_rate*, *Length\_pipes\_sewer* și *Total/Urban\_Residence\_stablishments*) affect the performance of *PIB<sub>regional</sub>*, because they are a deterrent to development, that is, a relative poverty rate does not provide an attractive picture for the region and can lead to a higher fluctuation of residents. Residents are not characterized as being stable taxpayers, having no registered properties or vehicles to generate taxes and taxes to the local budget, but they are consumers - beneficiaries of local public services (through positive externalities).

Although, we expected that the development of the sewerage network will favourably influence the dependent *PIB<sub>regional</sub>* variable, however, from the analysis of statistical data, resulted a negative influence, which the researcher puts on the quality, that is, the results of the investments in increasing the length of the sewerage network were not up to the expectations of exploitation.

- five variables (*Exec\_local\_budgets\_total\_revenue*, *Average\_month\_gross\_salalary*, *Employment\_rate\_labor\_resources*, *Total/Urban\_Completed\_dwellings\_year*, *Length\_cities\_streets*) its favorably influences the evolution of the *PIB<sub>regional</sub>*, through their role in the economic development of the regions, having a synergistic effect: a good rate of labour use, leads to a gross wage incomes increase. At the same time, by increasing housing construction and urban development (of the street network), it offers the possibility of increasing the establishment of domicile, which leads to the increase of revenues to local budgets, having as sources the taxes on buildings/dwellings, taxes on motor vehicles, etc.

- alternatively, an independent variable (*Urban\_Moves\_with\_domicile*) it is important in the favorable development of the *PIB<sub>regional</sub>* (for the urban data set), and another independent variable (*Total\_Length\_network\_distrib\_water*) affect the performance of *PIB<sub>regional</sub>*, the results of the

investments in increasing the length of the water network were being not up to operating expectations.

The last three independent variables, although they do not appear to have a significant influence on the  $PIB_{regional}$ , they were included in the analysis model because they still have meaning, so:

- *Total/Urban\_Length\_network\_distrib\_water* and *Total/Urban\_Capacity\_water\_production\_plants* there are investment elements that can, in the future, support the attractiveness and development of the regions by improving the living conditions of the inhabitants.

- *Cities\_Intravilan\_surface* it is a factor that must be taken into account in the future because it is an important income generator in that the tax on these lands is higher compared to other categories of land and represents the area of the territory included in the built-up perimeter of cities, including their constituent localities, it is a potential for development of the regions.

In conclusion, the econometric results obtained by using the model  $REM_{robust}$ , **we accept the hypothesis  $H_1$ : factors specific to the urban environment have a significant influence on the result indicator**, represented by the economic development of the regions ( $PIB_{regional}$ ).

For the two data sets analyzed (with total values of region-specific indicators versus urban environment-specific values of these indicators), the same independent variables, which influence the dependent variable, resulted. At the same time, the way these influence factors (positive or negative) act is similar in both data sets, and their coefficients have similar values.

So, the regression equation used to analyze the correlations between variables is:

$$\begin{aligned} Regional\_GDP = & -51,515.7800 + 6.7387*Exec\_local\_budgets\_total\_revenue_{it} + \\ & 15.4478*Average\_month\_gross\_salary_{it} + 515.2628*Employment\_rate\_labor\_resources_{it} - \\ & 864.6882*Relative\_poverty\_rate_{it} + 3.3029*Urban\_Completed\_dwellings\_year_{it} - \\ & 4.9207*Urban\_Length\_network\_distrib\_water_{it} + 0.0013*Urban\_Capacity\_water\_product\_plants_{it} - \\ & 6.4990*Length\_pipes\_sewer_{it} + 20.0494*Length\_cities\_streets_{it} - 0.1846*Cities\_Intravilan\_surface_{it} + \\ & 0.8853*Urban\_Moves\_with\_domicile_{it} - 0.7606*Urban\_Residence\_stablishments_{it} + \mu_i + \varepsilon_{ea} \end{aligned} \quad (3)$$

This study complete the picture of factors that can influence the evolution of economic growth, but there are certain limitations to these categories of studies, as well as to this study, limitations caused by the perishability of data, because economic and social phenomena evolve over time, and lately, major events occurring globally, they've led to an accelerated rate of data change.

## 5. Conclusions

The comparative analysis of the two sets of panels, with data specific to the 8 regions of the country (for the period 2000-2019), showed that factors specific to urban development had a significant influence on the evolution of the economic growth of the regions ( $PIB_{regional}$ ), and this should be taken into account in future plans, because the attractiveness of a region depends on its capital, infrastructure, the state of the factors in the region, some of them analysed in this paper.

Why are such analyses important? Because these analyses show us the categories of indicators that influence the economic and social phenomena of the area of interest and show a certain degree of interdependency between the influence factors that underpin the validation of the analysis models.

The results of these types of analyses are the levers through which decision-makers can capitalize on the opportunities for financing many development projects, but only based on viable projects, especially for infrastructure development. The contribution of infrastructure to regional development tends to become a driver of economic progress in the region and an increasing number of regional authorities have developed integrated studies on the economic future of the region.

One of the greatest opportunities in this period is the financing of development projects through the National Recovery and Resilience Plan, which is an important tool in correcting regional imbalances and promoting economic development. The regional planning process is inseparable from the allocation of financial resources and involves their correlation at different territorial-administrative levels. These correlations can be achieved with the help of administrative consortia, which support the improvement of the efficiency of public services and increase the effectiveness of the implementation of investments and, implicitly, support the achievement of the interests of local authorities (*Draft law supplementing O.U.G no. 57/2019 on the Administrative Code*, 2022).

Currently, there is a draft law to supplement the Administrative Code, which supports the establishment of administrative consortia, by associating several administrative territorial units. These administrative consortia, without legal personality, can reduce the negative impact of the reduced administrative capacity of some administrative-territorial units and can be mandated to exercise attributions regarding spatial planning, urbanism, authorization of the execution of construction works, initiation and realization of investments in the context of the territorial Development Strategy of Romania (SDTR) and PNRR (Puiu, 2022).

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## **The Impact of the Professional Training on the Reputation of the Romanian Banks**

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### **Abstract**

*The article analyzes the relationship between the professional training of employees and the reputation of Romanian banks. Numerous researchers have emphasized the importance of reputation for an organization and more and more of them show the role of human resources in this process. With the help of in-depth half-structured interviews with 30 employees of the main banks in Romania, we tried to analyze the status of the training programs in these companies. At the same time, we explored the idea of professional training and the role it plays in building the company's reputation. Although the study has a subjective character given by the type of research, namely, the qualitative one, we can conclude that the financial-banking institutions in Romania aim to build a positive reputation but fail to outline authentic and efficient training programs for its employees.*

**Key words:** reputation, employees, training, professional improvement

**J.E.L. classification:** M53

### **1. Introduction**

Reputation is an objective and a goal assumed in today's society by both individuals and organizations. At a brief analysis, we will notice that the interest in this subject increased exponentially around the year 2000 after researchers began to explore other assets owned by a company, independent of financial ones such as profit or turnover. In recent years, numerous researches have shown that reputation has huge benefits in creating trust and favorability for a particular company or institution. At the same time, although there are various approaches regarding how we can build a positive reputation, researchers have not yet arrived at a general method that can be applied when we talk about this process. Of course, fields such as marketing and communication have proposed different models, but modern theories that talk about the "new economy" place more and more emphasis on the role that human resources have in representing the company and in managing the organization's reputation. In this sense, the professional training of employees and their preparation for the "banking of the future" is becoming an increasingly serious topic to treat. Our article aims to make the connection between the training process and the reputation of Romanian banks. "Are professional training programs effective for employees?", "Is there a need for such programs?", "Are Romanian bank employees aware of the role they play in building a good reputation for the company?", "Are bankers professionally trained to assume this function?". These are some of the questions we will try to answer through our paper. Although we recognize that research has its limitations, we believe that it gives us a relevant picture of the subject and can be followed and developed through further studies.

### **2. Literature review**

#### **2.1. Reputation - theoretical approach**

A great challenge arises from the way we define the concept of "reputation" because it is complex and difficult to deal with in scientific research. Authors working in different fields define the term "reputation" from different perspectives and this aspect makes that this concept does not have a

uniform definition and varies depending on the perspective approached (Barnett, Jermier, Lafferty, 2006). Thus, the term can be treated both by the field of sociology, communication and marketing, law but, of course, also by management (the approach we will prefer in this study). Our analysis can only begin with Fombrun's definition, which offers us a complex perspective by understanding reputation as "the way a company is perceived based on its past actions but also on future prospects, behavior that describes the company's image compared to its main competitors, as it is perceived by the relevant actors" (Fombrun, 1996). In addition, reputation is "formed over time on the basis of the organization's actions and the way it has behaved (Balmer, Greyser, 2003) and" reflects the state of affairs of the company both internally towards employees and externally towards relevant partners" (Bromley, 2002). "Corporate reputation is the general evaluation of the company made by stakeholders over time" (Gotsi, Wilson, 2001). Herbig and Milewicz consider that reputation is "the consistency of the organization's actions over time" (Herbig, Milewicz, 1995). Reputation is the general, time-stable judgment of an institution" (Highhouse et al, 2009). "In common language, reputation is a characteristic or attribute given to a person (company, industry) by another (...). Specifically, it is, as a rule, used as a prediction regarding actions that may occur in future" (Wilson, 1985). If we were to make a synthesis of how the term reputation was conceptualized according to the field of research (sociology, marketing, law, economics, management), we can conclude that this is the result of the company's "social legitimization" process. Concretely, this aspect comes down to the way the company is perceived according to its past and future actions but also its ability to create added value for various stakeholders. (de Castro, Navas Lopez et al., 2006).

## **2.2. Reputation management**

In recent years, the interest in obtaining a good reputation for the organization has gained more and more importance, in particular, due to the fact that trust in companies and institutions is decreasing. This utilitarian approach (which brings to mind the main object of companies, that of obtaining profit) is complemented, however, by the deontological one through which corporations propose moral objectives through CSR and ethical actions (Helm, 2011) ). The reputation of corporations is an intrinsic asset of it and gives it a competitive advantage that materializes in increasing the performance of the organization. (Brønn & Brønn, 2015). In order to be successful, organizations must find complex means by which they can effectively interact with multiple stakeholder groups. So, if reputation is considered one of the most relevant assets of an organization, it can no longer be reduced to standard processes. of communication and marketing but becomes a problem of management and leadership. (Liehr-Gobbers, Storck, 2011).

With the help of an assumed management of the reputation, the organization can strengthen its status, identity and image in order to increase the efficiency both in business and with regard to the complementary objectives of the company. Money and Gardiner (2005) defined the foundations of reputation management as integrity, consistency in actions, tradition or sustainability over time of the organization. In order to effectively manage their reputation, institutions need to carry out an analysis to identify and know very clearly what expectations exist in the market regarding their activity. This diagnosis must be made from the complex perspective of all stakeholders, the actors with whom they interact (Fombrun, Van Riel, & Van Riel, 2004). Since the term "stakeholder" is frequently used when it comes to the study of reputation, it is necessary to define it. When we approach this term - stakeholder - we refer to employees, customers, competitors, suppliers, shareholders or investors, actors who have a role in the internal and external environment of the organization and who are impacted by its activity. (Wartick, 1992). Building a good reputation is largely influenced by how the organization interacts with relevant stakeholders. On the one hand, the media and social media, the communication departments send messages to the actors in society. On the other hand, daily reports are made through employees. If we refer to the process of building a good reputation, we can say that it is assumed, in the first instance, by the members of the top management. Subsequently, this type of behavior should be reproduced at the level of the entire organization so that, in the end, it becomes an organizational culture derived from the actions/processes/behaviors promoted by the management of the institution "Following the formation of the corporate culture, it is essential to ensure that the institution is perceived by all stakeholders who are in contact. Several premises influence the process in question. The first of these premises is



the beliefs of individuals about enterprises. It can take hundreds of years to build reputation and culture; long years of credibility and the disappearance of a culture can take place in weeks or every few months (Davies, 2002)." Thus, it becomes obvious that organizations cannot maintain a good reputation, over time, when only a small part of their staff undertakes this objective. Even if we are discussing here a strategic consistency of a company's board, their actions are not enough to shape and preserve the company's reputation. It is vital that this desired must be assumed by all team members in all departments and, in this sense, it is absolutely necessary to evaluate the employees' perceptions of the reputation of the institution in which they work. (Fombrun, 1995). Thus, we can conclude that human resources have a strategic role in shaping a positive image for the organization in which they work. However, it is interesting to analyze if they are aware of the role they have in this regard and if they are properly trained within the organization.

### **2.3. Professional training of employees and reputation**

In the specialized literature, a widely accepted definition of the concept of "training" of employees refers to that activity planned with the aim of developing the learning skills of the human resource so that they acquire skills, knowledge and attitudes that will be useful to them in professional activity. (Noe, 1986; Schmidt, 2007). From the employer's perspective, the professional training activity serves the goals and needs of the organization and is built on the principles, values and practices found in the company (Huerta et al., 2006). In the lines above, I have shown that a value of great relevance for economic and social actors is building a good reputation with the help of the human resource they possess. However, the involvement of employees in the organization's activity and the assumption of different roles is closely related to the success of their continuous professional training process (Coyle-Shapiro 2002; Costa et al. 2019). Continuous improvement methods and training become necessary when the organization wants to use its human resource in quality processes or various methods of company development. (Kim, Kumar, and Kumar 2012). Following empirical studies, researchers have concluded that training is a key ingredient in the successful implementation of quality management. (van Assen, 2021). "Creating an infrastructure in which employees on various levels are trained and empowered in the continuous improvement process, will lead to a more successful continuous cycle of improvement that can serve as a dynamic capability" (Anand et al. 2009). Thus, the general view of the researchers confirms that training is more than necessary when the organization wants that the employees to participate assumedly in improving quality and management. (Flynn, Sakakibara, and Schroeder 1995; Jurburg et al. 2017). Employees with professional autonomy are much more proactive in their work and constantly look for new opportunities for their individual development but also for improving work processes, they are much more creative and manage to propose innovative solutions when they encounter complex problems. (Kirkman and Rosen 1999). A rather limited part of the literature emphasizes the role of employees in supporting the company's reputation in an organic and healthy way (from the inside out) based on an assumed behavior in which they believe. These ideas go as far as talking about "a lifestyle related to the brand of the organization (Martin and Hettrik, 2006). Such an involvement of human resources in reputation management is desirable because employees who buy into the organization's values and principles can very easily be transformed into corporate ambassadors (Dreher, 2014).

### **3. Research methodology**

In order to analyze how the continuous training of employees contributes to building the reputation of the organization, we started a series of in-depth interviews with thirty employees from the financial-banking system in Romania. We chose this area because we believe it is relevant to our research from several perspectives. First of all, banks in our country are organizations where there is a tradition of professional training policies and structured training programs. Secondly, companies in this field interact with relevant stakeholders (customers, the community), to a large extent, through employees. As such, they are key players in creating their overall perception of the organization. Then, knowing that banks are institutions that work on the basis of trust, they become a representative field to study when we discuss reputation. Last but not least, Romanian banks have a serious concern to reconsolidate their reputation (Oprescu, 2015) after the economic crisis of 2008 and a series of

commercial errors made at the beginning of the privatization of the sector (the phenomenon of loans with the ID card is an example of this ). Once the sector in which we will carry out these interviews is established, we have selected a series of three banks, the most relevant in the system, institutions that accumulate a third of the market share in Romania (Banca Transilvania, Banca Comercială Română and Banca Română pentru Dezvoltare).

As a research method, we used in-depth semi-structured interviews because it is a method that allows us to observe a complex phenomenon - the attitudes, perceptions, beliefs of employees in the financial-banking system. At one extreme of the freedom-rigidity continuum, non-directive interviews are characterized by a small number of questions, their spontaneous formulation, (theoretically) unlimited duration, large volume of information, complex answers centered on the person interviewed with possibilities of repeating the interview. (Chelcea, 2001). These characteristics are extremely useful because the purpose of our research is to analyze in depth the professional training system in Romanian banks. In order for the selected respondents to be representative for this study, we used sampling based on a predefined purpose. This is desirable when issues related to a certain typology of subjects are studied (Babbie, 2010). In our case, the answers of certain departments of the bank (human resources, communication, sales) were relevant at the expense of the more technical ones (IT, audit, accounting) in order to manage to capture the reality on the ground on the chosen topic. Using purposive sampling, we built a group of interviewees consisting of employees who hold a crucial role in the organization's reputation management.

The interview included ten questions and focused on three directions. First of all, we were interested in finding out what the employees' perception is about the professional training programs carried out in the company they belong to. In this regard, we asked questions about their content, usefulness and success of their implementation. If the answers received were not satisfactory or were considered too vague, we asked additional questions to clarify the topic to encourage them to complete them. In the second dimension of the interview, we analyzed the level of awareness and involvement of employees in the bank's engagement programs, in particular, in those related to the management of its reputation. In this regard, I asked questions such as: "Are you voluntarily involved in the bank's CSR programs?", "Do you know what the bank's values are" "Do you believe in the bank's values?" "Do they define you?". Last but not least, we explored the idea of professional training and the role it plays in building the company's reputation. Thus, we tried to identify the opportunity to implement training programs and the need for continuous learning in order to build a good reputation for the bank. Thus, we formulated questions such as: "Do you think that your level of professional training helps to build a good reputation for you?" "What about the bank?", "Do you think you need training to create a good reputation?" .

Face-to-face interviews with employees from the most representative banks in Romania helped us understand the de facto situation regarding professional training programs and how they support a good reputation for organizations. Of course, we are aware of the limitations of this research. Although they bring a higher level of complexity in responses than questionnaires, in-depth interviews have an increased degree of subjectivity due to the emotional involvement of the subjects in the given context.

#### 4. Findings

The main topics I researched revealed the following:

*The trainings are formal, theoretical focused on technical information.* For the first dimension of our interview, the stake was to find out what is the status of training programs in Romanian banks, from the perspective of their employees. The general perception shows us that financial-banking institutions attach great importance to this process. Although the COVID-19 pandemic has brought a challenge in delivering face-to-face training programs, banks have built and developed increasingly competitive and attractive eLearning platforms. The problem arises, however, with the content of these programs, content that is evaluated as unattractive by the majority of the subjects interviewed. In their opinion, the courses are theoretical and focused on the part of procedures and rules that must be mastered. Very rarely, they deliver trainings of learning new and current skills and abilities. The few programs in the bank that address areas such as leadership, empathy, emotional intelligence or communication are oriented exclusively to the management area and they ignore the employees from

the execution even though they are the bank's interface, day by day, in discussions with customers (a crucial stakeholder). Also, moving the training processes online, on eLearning platforms, led even more to their formalization and loss of consistency.

*Employees as actors in reputation management.* A topic increasingly addressed, today, by the human resources departments of private companies is the degree of employee involvement in the bank's complex processes. In one of the previous chapters. I have shown that a fulfilled employee at work will be much more efficient and involved in the activity of the institution where he works. Thus, during our conversations with Romanian bankers, we analyzed their perception regarding the bank's engagement programs, in particular, those related to reputation management (the subject of our research). The conclusions were particularly interesting. First of all, it is relevant to specify that the answers were divided between the companies' management and the people working in the front-office. If employees with higher functions are aware of their role in the reputation building process and are aware of the permanent need for upgrading to maintain a good status, the executive staff, although much more exposed to interactions with stakeholders, do not know very well the values and policies of CSR of the bank. Also, the latter are burdened with routine, simple and repetitive tasks and lose sight of the major objectives of the bank.

*Training as a solution.* In the perception of Romanian bank employees, training is a formal activity that they follow because that is how their schedule is structured by their superiors. As this learning action becomes an obligation, it is difficult to believe that it can achieve its goal. When employees have the idea that the training is being forced, is predominantly used to strengthen it, or "when employees consider the common improvement method as too rigid, then the adherence to the use of a common improvement method and training for continuous improvement becomes counterproductive". (Parker 2014). However, when asked to identify a solution that could enhance their personal and organizational reputation, most respondents identified learning, training and education as their primary answer.

*Redesign of training programs.* A relevant perspective of our conversations emerged regarding the need to redesign the training programs that are implemented in banks in Romania. After the COVID 19 pandemic, all these processes related to employee education must be reformed in order to meet the needs of employees and the market. Of course, the technical skills related to internal systems and procedures are necessary, but, according to the employees, today's society, in full change, also requires other skills. Asked if they feel professionally prepared to represent the banking of the future, most of the subjects answered with a resolute "no", which denotes the need to build professional training programs that respond to the lacks felt by employees and that build the profile "the banker of the future". Moreover, most interviewees believe that they need training to be able to assume roles in the bank's reputation management.

## 5. Conclusions

The association between employee training and organizational reputation is an area that needs more attention from researchers. A learning organization is one that allows and encourages the organization and its members to experiment, to learn from past experiences and to be able to adapt quickly to changing demands (Marsick and Watkins, 2003). While Senge (1990) describes the importance of developing core learning capabilities (i.e. building a shared vision, developing and testing mental models, and developing systems thinking) for building reputation, Jamali (2006) concludes that organizations should have specific learning characteristics (eg learning culture, team building and shared vision). However, these studies are predominantly theoretical.

In the context where more and more banking operations are carried out through banking applications, in the near future, Romanian bank employees will have different tasks and will have to learn to represent the company in all their actions. The quality of the conversation in the banks will be a mandatory aspect to keep the institution in the market. Thus, the reputation and training of employees will become an essential principle of differentiation in the financial-banking market. This is one of the reasons why we wanted to observe the situation regarding the professional training of employees in relation to reputation management in Romanian banks. So our study showed that while there are clear concerns about training, it is not the most effective from the perspective of employees. The training processes are theoretical and do not take into account objectives such as the reputation

of the organization. Although bank employees in Romania look rather disinterestedly at the proposed learning programs, they are aware of the need for learning claimed today, more than ever, by the transformations brought about by digital banking. The conclusions of our interviews, as set out above, are interesting but not sufficient. In order to be able to observe the impact of professional training on the reputation of Romanian banks, we also need to analyze the perception of other stakeholders in relation to this subject. This is the direction we will pursue in our future research.

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# Logistics Distribution Centers in Multimodal Transport Operations

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## Abstract

*The last decade of development in distribution processes has proven the need to broaden their understanding as systems with a specific construction of the composition related to the evolution of market conditions and the growing demand of customers for complex logistics services.*

*This imposes the need to create the necessary conditions for producers of distribution services to use modern knowledge, methods and tools of the distribution, marketing and logistics process for the production of high-quality services to meet the specific demand of the logistics distribution market. The specific role in these processes is to create logistics distribution centers, which by size, characteristics, functions, structures and organization will play a crucial role in the development of complex logistics services. This requires examining the market conditions of these developments, changes in distribution processes and logistics processes, and formulating the specific operational position of logistics distribution processes.*

*Within the work, specific references will be presented for the location of logistics distribution centers in seaports.*

**Key words:** logistic system, logistic distribution center, sustainable transport, multimodal transport, intermodal freight

**J.E.L. classification:** A11

## 1. Introduction

According to a definition commonly agreed by the main regional and international cooperation organizations and structures, intermodal transport is that transport system which in turn requires the use of at least two transport modes and in which the intermodal transport unit is not divided when changing transport modes.

In accordance with the definitions approved and adopted in Geneva, June 2010, by the Working Group on Transport Statistics of the Economic Commission for Europe of the UN (WG 6 UN - ECE), has been agreed the definition according with intermodal transportation is a particular case of multimodal transport, performed in one and the same Intermodal Transport Unit (ICU) by successive modes of transport and without cargo division when switching transport modes. Efficient use of intermodal transport will lead to efficient use of existing infrastructure for freight transport by attracting the flows of goods from road to rail and maritime (river) sectors. Intermodal transport will also lead to the development of integrated activities and adaptation to the specific requirements of Romanian market, or of the Central and Eastern Europe countries markets, of imports from outside Europe, including associated activities such as transport and logistics.

## 2. Theoretical background

### 2.1. Market conditions of developments in the distribution and logistics process

In contemporary conditions, when international commodity and service markets entered into the marketing era and the basic problem for production firms is sale products and services, facing with growing competition the main objective becomes integration and coordination of activities. In the activities of firms, it becomes visible the necessity to surrender to the dictate of principles elaborated

by marketing and logistics, which have marked the objectives of future necessity to conform the satisfaction of the customer with assurance of firm profits and its development. These objectives forces to conjunction of distribution processes with functions and objectives of marketing and logistics.

The function of distribution logistics is transportation of materials and products from the places of their production to the market or to direct user or consumer. The scope of logistic distribution process is very wide, covering production, packing, storage, and transportation of commodities, with full integration of functions and processes.

The logistic system of goods distribution is characterized by:

- understanding of material and information flows as system comprising of changing numbers of rings in the chain,
- integration in the one system of management of various functions (storage, provision policy, buying policy, transportation, receiver's services, etc.),
- considering the modern market processes and their changes,
- systematic growth in distribution costs,
- fast development of the markets and progress in differentiation of the needs, products and services,
- introduction of new technologies in distribution process (storage, transportation),
- development of systems and means of transportation and transmission of information.

In distribution process products win the quality, assortment, time, property, and spatial barriers dividing the producers from final buyers of their products. The decision and functions undertaken in this process form co-ordinational and organizational functions of distribution.

- co-ordinational functions: compilation and transmission of market information, promotion of products and firms, compilation and transmission of sale-purchase offers, initiation of commercial contacts, negotiation of contract conditions which create legal background for distribution processes. The basic objective for co-ordinational functions is coordination of supply and demand by assurance of adequate effectivity of distribution channels. Evidence of these functions are decisions regarding the length, structures of the channels and the relationships between their participants.
- organizational functions: realization of the sale-purchase contracts. covering the services of various structure in the package (ordering, storage, transportation, commercial services. These functions create the physical flow of products from the producer to the purchaser, which is understood as physical distribution or distribution logistics. The general objective of organizational functions is to reach of the demanded by the purchasers level of services quality with minimalization of tot distribution costs.

Distribution processes may be conducted by the producers or consumers of goods (direct distribution) or ordered to the professional intermediaries (indirect distribution), accordance to the principle "make or buy" Nevertheless, the quality level of distribution process ought to assure the acces with the product to the greatest number of potential buyers, allow to transform them into real and loyal buyers, allow to acquire the buyers purchasing the product of the competitors, and in consequence - allow to enlarge the sales and profits of the firm and their participation in the market.

In distribution logistics there is important of application of marketing tools of market analyse and demand evaluation, which allow to define the quantity and structure of demand for services and creation of production program

Logistics as management system is aimed to create balance of logistic services or logistic product on the market on structure, quantities, qualities, and prices related to the expectations of the customers. Logistic services allow to create logistic chain of supply which essence is the chain of ordering, storage, and transportation. The chain creates technological ties of points (ordering, storage, transport) with ways of transport of cargoes and organizational co-ordination of all rings of the logistic chain

With logistic services are connected the necessity of quantification of needs, quality level, time regimes, diversification of offers (service packages), and creation of effective information system to supply the logistic decisions and information management.

## **2.2. Organizational forms in logistic. Distribution processes**

To improve the co-ordination of logistic processes there are created "logistic service centres", which general objectives are: optimalization of logistic process on time and cost of realization and to produce "total a complex logistic service". Optimal location or logistic service centres are multipurpose transport terminals; specific role is for seaports (and inland ports, too), which - beside their traditional functions - create the points of concentration of various activities (carriers of all branches of transport, cargo transport centres, commercial and industrial centres).

These changes are decisive for actual and future roles of logistic service centres located in sea ports, to which sea ports have to comply to maintain competitiveness on the port service markets. These changes comprise of: (Niculescu, 2016)

- planning and effective realization of transport with minimalization of time and cost.
- application of specific and modern solutions offered by various carriers,
- assurance of adequate technology of loading/discharge and carriage of all kinds of goods,
- guaranty of adequate storage of cargoes,
- forming of cargo units,
- production of un-productive logistic services,
- offer of consulting services on transport logistics,
- offer of complex transport services on various regions and distances,
- assurance of infrastructure adequate to requirements of complex container services,
- planning and programming of commercial services and location of industry,
- assurance of adequate information system and communication.

To prove the co-ordination of distribution process there are created "distribution centres", which are oriented on specialized storage Services, consolidation and deconsolidation of Cargoes, confection services, commercial and handling services and effective flow of goods and information

General objective of distribution centres is creation of such kind of physical flow of goods which assure right delivery to the receivers and eliminate high costs of transport, storage and keeping adequate level of stores. This effect is evident in organization and equipment of distribution centres in the most modern technique, technology and adequate project. The crucial role in the center activity is for information system created on EDI and covering all participants (suppliers, receivers, service producers). Owing to this distribution centres become important information centres.

Optimal location of this centres are multipurpose transport terminals, with special preferences to seaports.

Necessity of co-ordination of distribution and logistics processes was the background of creation of logistic distribution centres, which serve various regions and markets. Logistic distribution centres were justified in restructuring of distribution and logistics channels, concentration of goods in strategic centres which allow their physical distribution and logistics services, necessity of minimalizations of ordering costs, maintaining stores, costs of storage and transportation, development of necessary information system, improvements in documentation stem and reduction of risk and error. On the other hand, there are noticeable preferences from the cargo holders in complex services, with their structure far from traditional meaning of physical distribution. The main idea of this processes is: "give us the goods, and we know how to deliver the right cargo in right quantity and quality, in the right manner to the right time and place, on the right price". This principle is the developed form of logistic principle "just in time" by the introduction of elements of physical distribution characteristics.

This means. that logistic distribution center in its objectives is market oriented with general intent of dynamic activity on the market, acquisition of new potential and real customers and of creation of new and effective distribution channels.

Simultaneously, the center offers have to present service packages of different quality and structure to comply to the demand of different customers.

## **2.3. Operator of logistic distribution. Processes as element of the center**

In logistic distribution systems the basic role is for operator of logistic distribution processes, which cover firms serving commercial activities or complex logistic services. Operators have to conform to specific criteria on capital assets, technical equipment, personnel, organization



capabilities and information systems, which allow them to produce complex logistic distribution services

In logistic distribution systems there are two groups of operators: (Cambra, 2009)

- operators of "hardware sphere", who dispose technical potentials creating "point and network" infrastructure and mobile production potentials (personnel, organization, information),
- operators of "software sphere", who dispose personnel, organization, information and "know how" potentials and necessary technical potentials to produce services

This classification is related to the mode of financing of creation and activities of logistic distribution centres, in which it is possible to define two groups of investors and firms. commercial investors whose activities are profit-oriented, and public investors who - apart from profit orientation - are oriented to reach some public objectives.

The first group of operators, "hardware" ones, create mainly multimodal transport operators (MTO), carriers who may be maritime inland carrier or international forward, whose capital, technical equipment, personnel, organization and information system allow to enter into production of complex logistic services.

The first group of operators, the "hardware", mainly creates multimodal transport operators (MTO), carriers which may be inland sea carriers or international carriers, whose capital, technical equipment, personnel, organization, and IT system allow entry into the production of services complex logistics.

The base of complex logistic service offer is integration of technical equipment, methods, procedures, information, and organizational systems. Operator MTO have to dispose logistic network with center of management, logistic regional centres and local points, local branches home and abroad, necessary technical infrastructure (stores and store areas, loading/discharge, transport, technical workshops, etc.), information system, control systems of logistic distribution processes, good market position and relations with customers, and professional personnel. Offering broad and high quality complex logistic services, the operator has to persuade to the customers to professional service. Important factor to this is accessibility of MTO services, which prove to locate his activities within logistic distribution center

The second group of operators, "software sphere", create operators of intermodal transport, international forwarders, inland and home forwarders and other service producers participating in complex logistic services.

Considering the character and scope of their activities. it is justified to locate their operation within logistic distribution centres.

#### **2.4. Logistic distribution center - its essence and functions**

Many firms understand and accept that "idea of complex distribution" and "idea of complex logistic services" and the role and the importance of this ideas for rationalization in management in flow of the goods, services and information through their commercial and marketing (distribution) channels. Steady trend to creation of logistic distribution centres results from growing tasks subsequent to the increase of the of the streams of products and cargoes flowing in international trade. The production, trade and transport firms apply more and more modern and sophisticated solutions to assure optimal shapes of logistic and distribution processes. As the product and cargo streams get wider, application of effective logistic and distribution systems led to creation of specific points, called logistic distribution centres, which allow to solve new tasks. (Rodrigue, 2020)

Logistic distribution centres usually have the form of defined areas, equipped with developed elements of necessary infrastructure and superstructure, and reserve areas. Within these areas there exist and act many firms able to serve complex logistic and distribution services and to produce various complementary services to the basic services. With creation of these centres is connected application of logistic management of the center and in the firms - customers of the center, which contain formulating of strategy, planning, steering and control of physical distribution, storage, commercial services and other factors related to few and storage of raw materials, final products and other goods, with necessary information, as activities oriented to cope with particular demands of the customers (packages of services).

The functions of logistic distribution center may be formulated as follows:

- collection of the goods from the places of their production or delivery to the places of final destination (consumption/production),
- storage of goods, confectioning, packing, other commercial services,
- consolidation/deconsolidation of goods into unit loads,
- assurance of adequate technology of loading/discharge and transportation of all kinds of goods with use of containers and specific container equipment,
- production of logistic services,
- assurance of infrastructure necessary for operational purposes of customers,
- assurance of necessary information system and communication,
- consultancy and advisory services in legal, economic and organizational problems,
- legal and financial services for operations,
- management with storehouses and storage area,
- application of modern solutions offered by particular operators.

The logistic distribution center has to be prepared to formulate the scope and structure of complex logistic services in correlation to the conditions and preferences of the disponents of goods. The center has to create conditions to transform the offered packages of complex services, which is possible into two forms:

- flexible broadening of the service offer, by joining further functions and services connected with physical distribution and logistics services,
- rapid enlargement of the offer, which become the new framework of complex offer, with particularities negotiated with specific customer.

Differentiation in objectives and functions of logistic distribution centres lead to formulation of strategy in creation, location and organization.

## **2.5. Strategy in the creation and logistics location of distribution centers**

The scope of objectives and functions of logistic distribution centres are decisive for multisubject structures necessary for compliance with all objectives resulting from logistic and distribution processes, distances of operation and spatial structures of operations.

This assures the use of optimal level of synergic effects resulting from co-operation of particular firms, and to develop branch specialization, specialization in direction of operations and competition between firms within the center.

This has positive impact on creation of qualities, costs and prices of packages of complex logistic distribution services.

The strategy in creation of logistic distribution centres have to be supported by particular market analysis, considering specific conditions and features of hinterland and foreland, needs and possibilities, economic potentials, existing and potential distribution and logistics channels, conditions of distribution and conditions of and logistic processes, physical distribution. In formulation of the strategy important and useful will be marketing analysis based on marketing mix formula (7P).

For strategy formulation the basic importance is for SWOT analysis, which allow precise evidence and analysis of internal and external conditions, strengths and weaknesses, opportunities and threats of the project.

Evaluations resulting from these analyses with allow to formulate the strategy with use of strengths and opportunities, strengthening the weaknesses and neutralization of threats.

The strategy in creation of the center have to consider the scope, area and specification of activities, which make possible formulation of rank (international or regional), of character (general or branch, processes related to unified cargo only, processes related to conventional and unified cargo, decisions with relation to the main ring of the logistic chain). The strategy have to be based on existing terminals (container, general cargo or universal), including terminals to the structure of the center for complexity of operations.

The strategy of creation of the center have to consider already existing elements of its future infrastructure, and existing connections of the center with hinterland and foreland. The preferred solution in creation of the center have to be full integration of the terminal and surrounded areas, on which may be developed all the elements of infrastructure and suprastructure.

In formulation of the strategy of creation of the logistic distribution center it is necessary to consider tire factors of its attractiveness:

- accessibility from the hinterland and foreland,
- quality of services,
- complexity of services,
- efficiency of services,
- flexibility in reaction to the changes of the markets,
- universality of service offers,
- reliability in logistic operations,
- modernity of projects,
- scope and structure of operations on hinterland and foreland,
- structure of packages of complex logistic and distribution services,
- modernity in management of the center,
- effectivity of information system,
- price competitiveness (maximum of services on minimal price)

## **2.6. Organisational structure of the logistic distribution center**

Diversification in character, functions and objectives of the logistic distribution center is decisive for multisubject activities and complexity in organisational structures and managerial systems. The natural tendency of many firms engaged in distribution and logistic processes and operations, and of many firms producing various additional services, is location of their activities within the center.

Additionally, there is tendency to enter into the center from various firms and institutions related to distribution and logistic operations and firms and institutions producing complementary services.

Complexity and differentiation in activities of various firms and institutions may prove, that within the centre will appear the tendency to form main logistic structures related to specific activities:

- center of distribution of goods, which cover operations related to distribution processes, commercial services (production, confectioning, packing), storage services, forming of cargo units warehousing, custom stores, depository houses, and services related to entering into logistic processes,
- center of transport of cargoes, which cover transport firms of various branches, operators of distribution and logistics processes, container and general cargo terminals, other firms cooperating in distribution and logistics processes operating the infrastructure and suprastructure of the center,
- logistic service center, covering firms acting as operators of transport systems (combined, intermodal and multimodal), offering packages of complex services,
- information center, covering complex system of EDI with information channels and communication,
- disposition center, which co-ordinate and control the activity of the logistic distribution centres,
- management center, common for the whole project of the logistic distribution centres,
- institutions and firms producing additional services
- commercial banks servicing operations of the firms within the center,
- insurance companies and agencies,
- custom offices and agencies,
- state administration controlling offices (coast guard, maritime administration, sanitary and epidemiology office, standardization office etc.),
- quality and quantity control institutions,
- post and telecommunication,
- hotels, motels, gastronomy,
- cultural institutions.

Structures of logistic distribution center have to comply to the methods of logistic system of management.

### 3. Research methodology

The study developed the methodology for assessing the efficiency of intermodal transport using multi-criteria analysis with criteria such as transport cost, transport time, reliability and sustainability. The "decision on mode selection, passenger satisfaction estimation, transport project evaluation and alternative fuel selection using PROMETHEE priority ranking" was analyzed (Stoilova, 2018).

The methodology includes four steps using sequential activities (Stoilova, 2018):

1. „Selection of alternatives”.
2. „Definition of quantitative and qualitative criteria, such as environmental criteria (CO2 emissions), economic criteria (transport cost and infrastructure charges), transport surcharge, transport duration, traineeshipment operation needs, safety, reliability, stability”.
3. „Determination of weighting criteria using Shanon Entropy, DEMATEL, AHP and equal weighting”
4. „Establish ranking priority order using Compromis programming”.

### 4. Findings

The solutions to these steps are dependent, and in order to make it easier to achieve them, in practice a sequential treatment is applied, and a number of simplifications are used (Campbell, 1994).

The value of the transport cost has been considered to be independent of the volume of the transport flow (even though the objective of logistics centres is to allow concentration of transport flows to achieve scale effect).

The determination of important criteria in relation to the objectives of each category of participants are evaluated according to the options for the location of a logistics center and it is necessary to establish the decision variables, function, objective and efficiency indicators, evaluated according to each criterion. In addition, the constraints that ensure the applicability of the model must be defined.

The model can be organized into four components:

- the component on territory characterization and transport network formalization.
- the component for financial evaluation.
- the component for the evaluation of the costs of operating the center;
- the component for assessing the effects on the environment and local traffic.

### 5. Conclusions

Multimodal connectivity includes individual modes of transport (air, sea and land) as well as intermodal links. As such, it involves a network of links (such as roads, railways and transport routes) and nodes (facilities such as seaports and airports).

Intermodal transport, due to the synergy effect of its individual components (other modes of transport), has advantages and is currently being promoted by the EU, as reflected in the recently introduced mobility package. Legislative action, increasing competition and a general change in market conditions in the transport industry make intermodal transport a necessity and a future.

Intermodal transport enables the creation of modern and efficient transport chains by combining different modes of transport into a single system.

The main targets to be achieved in line with the 2011 EU White Paper on optimizing the performance of multimodal logistics chains, including through increased use of more energy-efficient modes, include target 2.1: by 2030, 30% of road freight transport over 300 km should be shifted to other modes, such as rail or road freight. 2.2: 30% of road freight over 300 km should be shifted to other modes, such as rail or waterborne transport, by 2030 and 50% by 2050; and 2.3: a fully functional, multimodal EU-wide TEN-T core network should be in place by 2030 and quality and capacity should be increased by 2050.

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## Updating The Global Economic Outlook in The Post-Pandemic Context

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### Abstract

*The unsteady recovery in 2021 was followed by increasingly gloomy events in 2022 as threats began to emerge. In the second quarter of this year, global output compressed due to the slowdown in China and Russia, while household spending in the United States was below estimates. Several blows have shaken a global economy already weakened by the pandemic: higher-than-expected inflation around the world - especially in the United States and major European economies - which has led to a tightening of financial conditions; a worse-than-expected slowdown in China, a result of COVID-19 and containment outbreaks; and even greater negative consequences of the war in Ukraine.*

**Key words:** inflation, wage growth, global financial markets, global demand, monetary policy

**J.E.L. classification:** F01

### 1. Introduction

According to the underlying forecast, growth will slow from 6.1% the last year to 3.2% in 2022, down 0.4 percentage points from the April 2022 edition of the World Economic Outlook (WEO). The slower pace of growth earlier in the year, the loss of household purchasing power and the tightening of monetary policy led to a downward revision of 1.4 percentage points in the USA. In China, new constraints and the aggravation of the housing crisis forced a 1.1 percentage point downward revision to growth, with significant global implications. In Europe, meanwhile, significant downward revisions mirror the repercussions of the war in Ukraine and monetary policy tightening. In 2023, monetary policy disinflation should start to bite and global growth in production is expected to be only 2.9%.

Overwhelmingly, risks to the outlook point to the downside. The war in Ukraine could cripple Russian gas imports into Europe; inflation could be harder to reduce than expected, either because of tighter-than-expected labor markets or because inflation expectations are de-anchored; tightening global financial conditions could cause over-indebtedness in emerging market and developing economies; new outbreaks of COVID-19 and confinements, as well as a worsening of the crisis in the real estate sector, could further inhibit growth in China; (Duval et al, 2022, p.8) and geopolitical fragmentation could hamper global trade and cooperation. An alternative scenario, in which risks materialize, inflation rises further and global growth slow to 2.6% and 2.0% in 2022 and 2023, respectively, would put growth in the bottom 10% of performance since 1970.

Further tightening of monetary policy will undoubtedly entail some real financial burdens, postponing it will merely aggravate the burden. Supportive fiscal policy can certainly assist in buffering the shock to more vulnerable, yet given the fiscal situation facing governments due to the

pandemic and the need to deflate the overall macroeconomic situation (Baker et al 2016, p.131), these policies will have to be offset by higher taxes or higher public spending.

## **2. Literature review**

Globalization is seen as a moment in the globalization process, in which the main actor is the company, preferably the multinational one. This view is supported even by Anglo-Saxon literature. Here, for example, is how one fairly recent English dictionary defines globalization. Globalization is the tendency of firms to establish production units throughout the world, i.e. wherever the market is large enough to allow economies of scale. This leads to an increase in the number and size of multinational companies. The basic feature of globalization is that goods, services, capital, labor, and ideas are transferred across borders and across borders. internationally through firms (Livesey, 1993, p.27).

A somewhat similar interpretation of globalization is found in other dictionaries.

Among them, without making a specific selection, we will refer to one recently published in Italy. Globalization is a recent process that consists in the realization of a market of world dimensions. This is made possible by the leveling out of needs standardization of products and the unprecedented development of communications and the media. Businesses interested in the phenomenon of globalization are characterized by an elastic, dynamic structure with a high technological content either in the production or distribution of goods. Among other things, they have to frequently review their strategic plans in order to avoid being excluded from the highly competitive market.

Globalization is undoubtedly not only about the activity of firms and the trade flows they cause. It also includes financial globalization, which cannot be excluded from the list of forces that have caused the major adjustments and structural adjustments in the world economy. The basic idea that emerges from some works on the subject is the following: globalization should be seen as a specific phase of internationalization of capital and the highlighting of its potential for capitalization on the scale of all regions of the world, wherever resources and markets are found markets. (Michalet, 1985, p. 91)

## **3. Research methodology**

In the analysis, we used information provided by several international institutions.

The economic forecasts used to interpret the data are forecasts of consumer price indices for the current year and forecasts for the 6-10 years horizon.

These data were provided by the International Monetary Fund and analyzed using the purchasing managers' index. I have also analyzed data provided via Bloomberg Finance, namely the emerging markets bond index.

The research was conducted using economic data from China, Russia, the US, and major European countries, and analyzed in the context of the repercussions of the war in Ukraine.

## **4. Findings**

The global recession is intensifying as headline economic negative risks are materialising. The faltering rebound in 2021 was succeeded by progressively gloomier trends in 2022. Earnings were marginally stronger overall than anticipated in the first quarter, yet global real-time GDP is expected to contract in the 2nd quarter - the first time it has contracted from 2020 - due to slowdowns in China and Russia.

The downside perils detailed in the April 2022 edition of the WEO report are materializing, with a broad-based rise in inflation, particularly in the United States and large European economies, leading to a sharper squeeze in world financial terms; a deeper-than-expected deceleration in China as a result of the COVID-19 imminent outbreaks and confinements; and new negative spillovers from the war in Ukraine. Once more, global inflation is raising unexpectedly, foreign central banks to tighten policy even more. As of 2021, consumer prices have been growing faster than expected, as detailed in WEO report.

In the USA, the price consumer inflation index rose 9.1% in June versus a year earlier, and likewise rose by 9.1% in the UK in May, representing the highest rate of inflation rate in 40 years in these two countries. In the euro area, inflation reached 8.6% in June, the highest level since the creation of the currency union. Equally worrying is the fact that in emerging markets and developing economies, inflation in the second quarter is expected to have been 9.8%. Higher food and energy prices, tight supply in many areas and a shift in the balance of demand towards service sectors have led to higher headline inflation in most economies.

However, core inflation has also risen, as reflected in various core inflation indicators, mirroring the transmission of cost push through supply chain and labour shortages, particularly in advanced economies. On average, wage growth has not kept pace with inflation, eroding household purchasing power in both advanced and emerging markets and developing economies. While long-term expectations of inflation have remained steady in the majority of advanced economies, some measures indicate that they have started to rise, including in the United States. In response to the latest data, central banks in major advanced economies have withdrawn money and have raised inflation policy at a faster pace than anticipated in WEO April 2022. Central banks in several emerging markets and developing economies have opted for more forceful interest rate than in previous austerity cycles in advanced economies.

The resulting increase in longer-term borrowing costs, such as mortgage interest rates, coupled with the tightening of global financial conditions has led to a precipitate fall in equity prices, weighing on growth. At the same time, public aid packages to address COVID-19 have been terminated.

China's economic slowdown has exacerbated problems in the global supply chain. Outbreaks of COVID-19 and mobility restrictions under the authorities' zero COVID strategy have widely and severely disrupted economic activity.

In Shanghai, a major distribution center in the global supply chain, a strict lockdown was enacted in April 2022, forcing a halt to all economic activity in the city for approximately eight weeks. In the second quarter, real GDP contracted significantly, 2.6% in sequential figures, due to the decline in consumption, which recorded the largest drop since the first quarter of 2020, when the pandemic broke out and fell 10.3%. Since then, more contagious variants have led to a worrying increase in COVID-19 cases. China's deteriorating real estate crisis is also weakening real estate sales and investment. China's slowdown causes global consequences: confinements have exacerbated problems in the global supply chain, and declining household spending is reducing demand for goods and services from China's trading partners. The war in Ukraine continues, causing widespread problems.

The value of humanity is rising: nearly 9 million people have left Ukraine since the start of the Russian invasion, and the death toll continues to rise, as does the destruction of tangible assets. Since April 2022, the major developed countries imposed further monetary penalties on Russia; in turn, the European Union agreed to ban coal imports from August 2022 and the shipping of Russian oil from 2023.

In the meanwhile, the Organisation of the Petroleum Exporting Countries has decided to bring forward the oil supply surge scheduled for September, and the Group of Seven plans to contemplate the implementation of a price floor for Russian crude deliveries.

These offsetting actions mean that the overall increase in international crude oil prices over last year is only slightly less than forecast in the April 2022 edition of the WEO report. More significantly, Russia deliveries of piped gas to Europe have recently declined sharply to around 40% of last year's volume, contributing to the sharp rise in natural gas prices in June. The contraction in the Russian economy in Q2 is estimated to have been smaller than expected as non-energy and crude oil exports held up better than expected.

In these circumstances, the consequences of the war on the main European economies have been more severe than expected, both because of rising energy prices, loss of consumer confidence, and reduced buoyancy in the industry due to persistent problems in the supply chain and rising input prices.

The food crisis is worsening. Global food prices have stabilized in recent months but remain well above 2021 levels. The main driver of global food price inflation - particularly for cereals such as wheat - has been the war in Ukraine; export restrictions imposed in several countries have pushed up



global food prices, although some of these have recently been lifted. Low-income countries, where food is a major part of consumption, are feeling the effects of this inflation the most.

Countries whose diets include mostly goods with the highest price increases (especially wheat and maize), those with the highest dependence on food imports, and those with a large pass-through of world prices to local staple food prices are the most affected.

Low-income countries with pre-war acute malnutrition and excess mortality, especially in sub-Saharan Africa, have suffered particularly severe effects. Coming slowdown, predominance of downside risks and the developments outlined in the previous section, create extraordinary uncertainty about the current outlook. The baseline projections described in the following analysis are based on several assumptions, including that there are no further unexpected reductions in natural gas flows from Russia to the rest of Europe, that long-term inflation expectations remain stable, and that disorderly adjustments in global financial markets as a result of the tightening of disinflationary monetary policy do not worsen. However, there is a significant risk that some or all of these underlying assumptions may not hold true.

In addition, indicators of economic uncertainty and concerns about a coming recession have increased in recent months. For the United States, some indicators, such as the Federal Reserve Bank of Atlanta's GDP. Now, forecasting model suggests that a technical recession (defined as two consecutive quarters of negative growth) may have already begun.

With growth of almost 3% in 2022-2023, a fall in global GDP per head - which is occasionally linked to a global recession - is not currently part of the baseline scenario. However, fourth-quarter-to-fourth-quarter growth projections indicate a substantial loosening of business activity in the latter part of 2022. While revisions are generally negative for advanced economies, for emerging market and developing economies they are more varied due to different exposure to underlying developments. In emerging markets and developing economies, the negative revisions to growth in 2022-23 are mainly due to the sharp slowdown in China's economy and moderating economic growth in India. As a result, the revision in emerging and developing economies in Asia is significant, at 0.8 percentage points in the base scenario for 2022.

Elsewhere, growth revisions to the baseline scenario have been mostly upward. Real GDP in emerging and developing economies in Europe is projected to contract 1.5 percentage points lower in 2022 than projected in the April 2022 WEO but to grow 0.4 percentage points lower in 2023, as a result of stronger-than-expected Russian export growth in 2022 and recently announced new sanctions on Russia in 2023.

The revision in Latin America and the Caribbean is also upward, by 0.5 percentage points in 2022, thanks to a stronger recovery in the major economies (Brazil, Mexico, Colombia, Chile). On average, the outlook for countries in the Middle East, Central Asia, and Sub-Saharan Africa is unchanged or positive due to the effects of high metal and fossil fuel prices in some commodity-exporting countries.

Inflation: the headline inflation baseline projections are also more pessimistic: for 2022, they are revised up to 8.3% in Q4 from 6.9% in the April 2022 WEO. The inflation revision in 2022 is wider for developed countries, where inflation is projected to reach 6.3% in Q4, up from 4.8% in the April 2022 WEO, and is explained by substantial increases in headline CPI inflation in important countries such as the UK (revised up by 2.7 points to 10.5%) and the euro area (revised up by 2.9 points to 7.3%). The forecast for 2023 is virtually unchanged - an increase of only 0.2 percentage points from Q4 to Q4 - projecting expectations for inflation to fall as central banks tighten policy and the underlying effects of energy prices turn negative. For emerging market and developing economies, inflation in 2022 is forecast to reach 10.0% Q4-Q4. Revisions for these economies show greater diversity across countries, with relatively modest increases in emerging and developing Asia (partly due to slowing activity in China and moderate increases in food commodity prices), but larger revisions for Latin America and the Caribbean (up to 3.0 percentage points) and for emerging and developing Europe (up to 2.9 percentage points).

World trade growth in 2022 and 2023 is likely to slow more than previously anticipated, due to reduced global demand and supply chain issues.

The balance of risks is clearly on the downside, driven by a range of factors that could adversely affect global economic performance. The following issues are of particular concern. The war in Ukraine triggers further increases in energy prices. Since April 2022, the amount of Russian gas

transported by pipeline to Europe has fallen sharply, to about 40% of last year's level, which is reflected in downward revisions to the latest forecasts compared to those in April.

In Europe, this could force energy rationing, affecting the main industrial sector, and could sharply reduce economic growth in the euro area in the coming years, with negative cross-border effects.

In several economies, several labor markets are at historically high levels, and workers could increasingly demand compensation for past increases in the rising cost of living

In this case, a rapid rise in headline inflation could be succeeded by an even sharper fall if the policy is tightened too far. Deflation is more costly than anticipated. Major central governments raised interest rate in response to high inflation. But the exact degree of policy tightening needed to reduce inflations. Several factors affected the underlying economic toll of previous waves of deflation, comprising the starting point of inflation and inflationary expectancy, rigidity of wages and prices, the sensitivity of prices and wages to a fall in demand, and the stance of fiscal policy.

If developments in those determinants surprise monetary policy policies, or if the monetary policy stance is miscalculated - including the level of neutral interest rates - the next disinflationary adjustment could be more destabilising than anticipated.

Previous episodes of disinflation linked to restrictive monetary conditions, like those seen in developed countries in the early 1980s, were frequently expensive, as high uncertainty was the price that had to be paid to control inflation. This time around, lower initial inflation, lower and more firmly anchored inflation expectations, and greater flexibility in labour and product markets in advanced economies suggest that the costs could be lower. However, a higher degree of sovereign and corporate indebtedness could amplify the impact of firmer policies and affect the availability of central governments to take vigorous action against inflation, with the costs to output over the medium term likely to be higher if inflationary expectations rise significantly and lead to sharper increases in interest rates.

The risk of recession is particularly important in 2023, once growth in several economies is forecast to reach a trough, aggregate household economies are expected to have shrunk over the pandemic, and even mild impacts might lead to stagnating economies. For example, the most recent forecast projects real GDP growth at an annual rate in the United States in the fourth quarter of 2023 to be just 0.6%, making it increasingly difficult to avoid a recession. In several advanced economies, rising interest rates coupled with low growth will worsen debt dynamics and widen sovereign and corporate spreads, especially in countries with high debt levels. Indeed, the tightening of financial conditions is already contributing to the divergence of borrowing rates and worries about the risk of financial fragmentation in the euro area, which could hamper the transmission of monetary policy.

Tightening financial conditions lead to deteriorating debt in emerging and developing economies. As central banks in advanced economies raise interest rates to combat inflation, financial conditions around the world will continue to tighten.

The resulting increase in borrowing costs, if national monetary policies are not appropriately tightened, will put pressure on international reserves and lead to depreciation against the dollar, generating balance sheet valuation losses in economies with dollar-denominated net liabilities.

Widespread capital flight from emerging market and developing economies could amplify this risk.

In the 1970s, surpluses of oil exporters - who benefited from higher energy prices - boosted financing in the debt markets of emerging market economics. In the beginning of the 1980s, central banks tightened policies to combat high inflation, leading to disorderly external tightening and in some cases debt arrears, particularly in Latin America. Today, could similar shocks lead to similar imbalances? Although the source of the energy price shock is very similar in both cases, there are some important differences. First, the real increase in oil prices is lower in the current case, and current world production is less dependent on oil than before.

However, despite these positive changes, increased exposure to other major bilateral creditors and the recent pandemic have created new vulnerabilities, increasing public debt and eroding future growth potential in many countries.

## 5. Conclusions

We don't know when the pandemic crisis will end, but we do know that millions of jobs are threatened, that we need to protect the most vulnerable segments, such as SMEs, individual workers, women and young people, that we need to create survival mechanisms for companies.

Strong support is needed to address the social and economic impact of COVID-19. In the immediate future, there is an urgent need for fiscal and monetary measures to protect jobs, keep cash flowing and businesses afloat, and accelerating future recovery. Tourism is a major source of jobs, especially for the most vulnerable groups, including women and young people. It is also a sector that has demonstrated resilience and its multiplier effect for the recovery of other sectors.

Strong and concerted mitigation and recovery plans in support of the sector can produce huge benefits for the overall economy and employment. Group Leaders of the 20 major economies (G20) have pledged to inject more than \$5 trillion to support the global economy as part of their joint measures to reduce the economic impact of the pandemic.

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## **"To Nudge or Not to Nudge": Public Policies and People's Resistance to Change**

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### **Abstract**

*Almost two centuries distance from John Stuart Mill and Adam Smith's works, the Homo economicus concept seems to have fewer and fewer supporters. Designing economic policies based on the idea of an entirely rational individual who has access to all the relevant information and takes decisions strictly following his interest is no more realistic. Several politicians, such as Barack Obama and David Cameron, have used behavioural insights to draw public policies. In this context, this paper has as a main objective to realise a SWOT analysis of nudge-based policies, also trying to answer the next questions: Are they effective? Are they ethical? Are there any limitations in applying nudging in public policies to overcome the main downsides?*

**Key words:** behaviour, change, nudge, public policies

**J.E.L. classification:** D91, E71, G40, H30

### **1. Introduction**

"Economists assume people have brains like supercomputers that can solve anything, ... But human minds are more like really old Apple Macs with slow processing speeds and prone to frequent crashes." says famous Nobel prize winner Richard Thaler. The human capacity to process, understand and assimilate a large volume of information and stimuli assaults it is limited. The hundreds of decisions and judgments that individuals make daily are constrained by personal circumstances, time, hunches, peer pressure, habit, inertia, short-term thinking, optimism, emotion, loss aversion, and ignorance and are rarely based strictly on criteria of rational economic logic.

Public policies often change behaviours to improve economic development for the greater good of all society members. Kreitner (1992) compares change to a stone tossed into a still pond, which causes ripples that radiate in all directions with unpredictable consequences. On the one hand, you need strength to toss the stone because you will have to face air and water resistance; on the other hand, the effects may differ from those you expect.

Grounding the proposed policy on behavioural economics instead of classical economics seems to be more realistic, considering that the main actors and beneficiaries of such policies do not fit very well with the Homo Economicus concept. The nudge theory proposed by Thaler and Sunstein (2008) may represent a fundament of such policies but it also raises the problem of possible manipulation.

This paper aims to develop the theoretical framework of nudging and analyses the pros and cons of using nudges in public policies both from the perspective of their efficiency and from the point of view of potential downsides. In this sense, the second part offers a theoretical background to explain the purpose and the core of nudging. The third explains the research methodology used. The fourth section includes the main findings and the last section concludes.

## 2. Theoretical background

People are very often resistant to change and prefer to maintain the initial position, despite the effects. Samuelson and Zeckhauser (1988) observed that faced with particularly complex decisions, individuals will choose to do nothing or follow a former decision, an error named Status quo bias or Omission bias. This inaction may be a way to *avoid cognitive dissonance* - individuals are psychologically committed to a decision that has already been made; *transitional costs* -doing nothing is seen as cost-free compared with the change that may incur costs; *the perceived risk of taking action* - individuals weigh losses more than they weigh gains in their decision-making.

Change is not easy to be made. The existing behaviours are deeply rooted in the people's previous experiences, traditions, and community behaviour. When new conflicting information arises, the individuals feel a sort of emotional discomfort, the cognitive dissonance. To reduce the cognitive dissonance, the investor's cortex, through the mechanism of psychological self-defence, filters or minimises the importance of negative information, contrary to the previously formed creed, and fixates on positive information, which is in line with the initial ideas. This reduces the initial emotional discomfort but predisposes him to maintain the initial position and perpetuate the status quo.

Second, people are prone to see change as a costly process and to experience myopia regarding the long-term costs of inaction. Costs may be not only financial but also emotional because the change itself can elicit negative emotions from the people who have become used to a given status quo. Any change has a certain level of associated uncertainty. Very often, individuals are averse to uncertainty, so they prefer to stick to what they know, irrationally believing that what they know has a lower degree of ambiguity than a new situation. In other words: "Better the devil you know than the devil you don't". Even positive changes may be unsettling and lead to status quo inertia (Telesetsky, 2017).

Lastly, people prefer to maintain inertia because of their loss aversion. Individuals have a stronger natural tendency to avoid losses than to obtain profits (Tversky and Kahneman, 1991). Many studies on this topic have outlined the following rule: from a psychological point of view, the possibility of a loss is, on average, twice as strong a motivational factor compared to the chance of winning the same amount. This is why, despite the change may bring a positive outcome, the forecasted positive effect has to be at least double compared with the estimated financial and emotional costs to be a good incentive for the change.

Still, governments often have to find ways to influence people's behaviour in their battle to reduce inflation, unemployment or fiscal deficits and increase well-being. We live in a complex world where everything is interconnected, so each of us is like a small piece of a giant puzzle. Convincing people to use less energy at home, eat healthily, recycle or use public transport instead of driving are only a few examples of government interventions that, through shaping the behaviours, may influence the citizen's well-being. The connections are endless. For instance, convincing people to eat healthily may reduce public medical expenses and indirectly impact the general budget. Spare money may be used for investments and other costs to improve people's lives. At the same time, healthier people may work more efficiently and increase economic development, so it is a win-win situation in all senses, and the examples may continue.

If the need for government intervention seems clear, the optimum way to do it is still in debate. Based on the provision of information and direct and indirect regulations, the traditional approach has many drawbacks, mainly because it starts from the idea that the individual is generally capable of acting rationally. This means that, in public policy-making, humans may perform optimally if we are given accurate information, the right incentives, and we have a reasonable regulatory framework. We may see that, contrary to this belief, people often choose to behave in bad ways for themselves, their loved ones and the entire society even if the conditions mentioned above are met.

Thaler and Sunstein (2008) suggested that, instead of using the traditional approach, policymakers may try to depict how and why the subtle changes in the behavioural and decision-making context manage to drive the individuals away from their best interest and after use this insight to "nudge" the people in the good direction considering their health, wealth and wellbeing. Thaler and Sunstein define a nudge as "... any aspect of the choice architecture that predictably alters people's behaviour without forbidding any options or significantly changing their economic incentives" (Thaler and

Sunstein, 2008, p.6). Going further, in their view, a „good nudge” is seen as one in which one agent carries out the intervention to influence the choices and the behaviour of another; the key to being „good” is that the influence has to be by the interests of the latter.

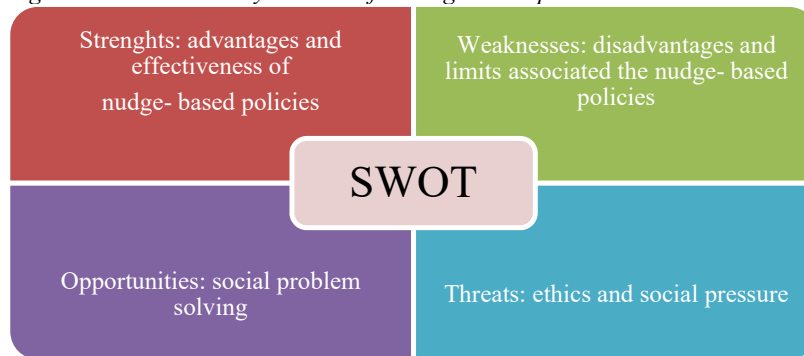
The theory, known as “The nudge theory, “gained supporters and opponents over time. Two of the largest Western democracies (US and UK) used nudge approaches in Barack Obama’s and David Cameron’s mandate (Sunstein was an advisor on regulatory affairs for US President Barack Obama, and Thaler was an advisor for UK Prime Minister David Cameron’s Behavioural Insights Team (BIT), known as “Nudge-unit) and other governments followed their examples more recently. Despite this, the theory also raised much criticism. First, one of the main concerns raised was ethical criticism, voicing the claim that nudging works by „manipulating people’s choices” and limiting their freedom (Bovens, 2009, note 14, p4). The second problem is translating from the micro to the macro level. Considering the empirical evidence on how people make choices (OECD, 2017), behavioural policymakers try to influence the micro-foundation that leads to individual actions (Jilke et al., 2019) but is that effect enough to generate a change at the macroeconomic level?

### 3. Research methodology

Aiming to develop the nudging existing theoretical framework, this paper uses the SWOT analysis as a strategic tool to analyse the public economic policies based on the nudge theory. Even if SWOT analysis is usually used in the business environment several examples of SWOT analysis used to assess public policies may be found in the literature (Duson, 2004; Ghazinoory and Ghazinoory, 2006; Asriani and Herdhiansyah, 2016).

Using a framework of internal strengths and weaknesses and external opportunities and threats SWOT analysis helps planners to be realistic about their plans and signal the strategic points where they should focus. The analysis may be extended from the firm level to the macroeconomic policy level. In this context the SWOT analysis matrix may be adjusted as follows:

*Figure no.1. SWOT analysis matrix for nudge based policies*



*Source:* author’s adjustment of a classical SWOT analysis matrix

Strengths, opportunities, weaknesses and threats will be addressed in pairs in the next paragraph, focusing on one side of the positive side of the nudge-based policies and, on the other side, on the main disadvantages, limits and downside risks.

### 4. Findings

#### 4.1. Strengths and opportunities: positive nudges in public policies.

Several central and local governments have recently designed policies to reflect behavioural science inside. For instance, in the US, the direct effect of such policies was a substantial improvement in the well-being of individuals and communities and growth in the businesses they serve. Automatic enrolment and automatic escalation in retirement savings plans enhanced Americans’ propensity to save for the future and helped them to cumulate billions of dollars in

additional retirement savings. Similarly, streamlining the application process for Federal financial aid helped millions of students to gain easier financial access to college (The White House, Office of the Press Secretary, September 15, 2015).

Another classic example of a nudge is the „opt-out” organ donation system. For instance, in countries such as Austria, Belgium, France, Hungary, Poland, and Portugal, laws make organ donation the default system at the time of death, so if the people disagree with this, they have to explicitly „opt out” of organ donation. As a result, more than 90% of people register to donate their organs compared with the „opt-in” countries such as the US, UK, Germany, and Denmark, where less than 15% of people register (Johnson and Goldstein, 2003, Davidai et al., 2012).

A few other examples of nudging may be found in the following table:

*Table no. 1. Other examples of nudges in public policies*

No.	Objective	The nudge	Project name	Effect
1	Reducing gang violence in Cincinnati by using norms and messengers to change behaviour	Gang members were forced to participate in face-to-face forums as a condition of their parole. The forums were, on the one side, meant to show that the gang’s “code” is mainly illusory and, on the other side, to point out the impact of the gang’s violence in the area. The power of the message was increased when coming from someone known, in connection with the gang, as when the mother of a dead gang member warned: “If you let yourself get killed, your mother will be standing here. She will be me.”	Cincinnati Initiative to Reduce Violence (CIRV), US	Founded in 2007 after an increased number of murders in the city, CIRV reduced murders involving gang members by 41 per cent and non-deadly shootings dropped by 22 per cent (according to a 2013 University of Cincinnati review of police data- Bach, 2013). Unfortunately, after two years of budgetary cuts (2010-2011), the project lost its mission.
2	Improving the street cleanliness in Southwark borough	To raise awareness and attract attention, the council hired actors wearing giant litter costumes to play scenes on the streets along the borough. The actors actively engaged with the public, cheering and thanking passers for putting litter in the nearby bins.	„Stalking Litter”, London Borough of Southwark, UK	Data provided by the Southwark council show that the percentage of dirty streets decreased from around 45 per cent in 2002-2003 to less than 10 per cent in 2008-2009 because the program started in 2004.
3	Increasing contraceptive use in Zimbabwe	The project uses trained hairdressers to inform their clients about the benefits of female condoms and their use. A familiar person provided the information in a safe environment. Plus, associating condoms with a friendly person and an enjoyable experience increased women’s propensity to use them.	„Get Braids Not Aids” campaign in Zimbabwe.	Center for Health and Gender Equity found out, based on a study amongst 400 hair salon clients, that women who had seen a female condom demonstration by a hairdresser was 2.5 times more likely to use the product than those who had not (Edge, 2008)
4	Increase the volume of pension savings in the UK	The change in regulation introduced auto-enrolment. It requires employers to enrol eligible employees into a workplace pension scheme. Unless they opt out, employees must build up a private pension through their contributions and those of their employer.	Pension Act 2008, UK	The policy has reversed the decrease in workplace pension savings and increased total membership in a private pension plan from 2.1 million in 2011 to 21 million in 2019. The number of active contributors also increased from a low point of 0.9 million active members in 2011 to 10.6 million members in 2019 (Thurley and Mirza-Davies, 2022)

*Source:* author’s compilation based on Dolan et al. (2010)



More other newer initiatives may be found in very different domains. For example, in 2016, an Australian hospital (St Vincent's Hospital) discovered that they might save A\$66,000 if patients turned on to their appointments on time. After several trials, they implemented an SMS reminder system that cut 19% of missed appointments. The winning message sounded like this: „You have an appointment with Dr [XXXX] in [clinic XXXX] on [date] at [time]. Attending the hospital will not lose the \$125 that we lose when a patient does not turn up. This money will be used to treat other patients” (Behavioral Insights Unit, 2016).

Another example regards tax compliance in Guatemala (Kettle, 2016). A randomised controlled trial was used to test how to remind the receivers to pay their taxes. The Guatemalan Tax Authority has used four types of reminder letters with adapted behavioural design in contrast with the original letter sent prior or not. The best two letters were the one that included a deterrent message framing non-declaration as an intentional and deliberate choice rather than oversight (that message was created to overcome status quo bias), and the second message stated that 64.5 % of taxpayers already paid this tax (join the status quo of the others). As a result of these two interventions, tax payments increased by 43% in just 11 months.

In environmental policies, United Nations Development Programme China, with the Giant company Baidu used behavioural insights to nudge people to motivate them to recycle more electronics (Chin, 2017) through an app that links users who want to get rid of their used electronic appliances with legitimate waste recycling firms. To increase the user's motivation, the behavioural insights experts suggested ways to motivate users to recycle more, such as introducing a rewards system to the app. The app was first piloted in Beijing and Tianjin and is now used in many Chinese cities.

Several factors were considered important for the effectiveness of a good nudge (Ong, 2019). First, the nudge is more effective if its need is determined by the existence of a cognitive bias as the status quo. The biases may inflict on decisions that lead to an increase in personal welfare, so if the nudge is designed to overcome the bias effect, then the chances of being effective are pretty high. Easily opt-out is also essential for a nudge to be considered good and effective. For instance, following the UK Pension Act, citizens are protected from the status quo through automated enrolment. Still, they may easily opt-out if, for example, their financial interests are better served by other private arrangements than the ones offered by the state or company. The effectiveness of the nudge is reduced in matters that require a change in people's preferences or mindsets because the nudge may be effective for a short time when people are under its influence but may vanish after when they are in a different scenario (for instance the pupils in the high school cafeteria may choose fruits because are in their sight and the other suits are hardly visible but later if they prefer chocolate will go to buy some despite the nudge in the cafeteria).

If designed correctly, it is clear that nudging may help state and citizens achieve their goals. The question arises: although all those positive effects, is there any downside, any other face of the coin? This is the question we are trying to answer in the next paragraph.

#### **4.2. Weaknesses and threats: The dark face of nudging**

Despite the positive side of nudging and its potential effectiveness in public policies, several criticisms were addressed over time.

One criticism is that the initiators of the nudge are often influenced by the same heuristics and biases they try to correct in others. Framing, confirmation, the illusion of similarity, optimism, and the illusion of control are just a few. But the existence of behavioural biases in government may even increase, not reduce, the need for behavioural insights (policymakers et al., 2018). Different strategies may be used to reduce the biases impact on government decisions as using re-framing techniques for framing bias, „premortem” scenarios where government forecasts future failure of the project and then work back to identify why things went wrong for optimism bias, incorporating mechanisms for feedback and adaptation in implementation plans for the illusion of control (for more details about it one may see Hallsworth et al., 2018).

Other authors such as Conly (2012) or Hausman (2018) raise the point that nudging is disrespecting people by treating them like children is unethical and undermine autonomous decisions, is condescending and arrogant and not in a last way instead of reducing deliberative flaws sometimes



perpetuates and amplifies them. The most important one seems to be the idea that nudge works by manipulating people's choices. (Bovens, 2008). It seems clear that nudging is a result of the deliberative decisions to influence the choice, in theory trying to promote specific goals and values but may one guarantee that those goals and values are consistent with one's own? Another question asked is how one could distinguish nudging from other methods that influence citizens to act if not against their will, at least in the absence of consent. Here, what Thaler and Sunstein see as ultimate goals for the nudges may bring some light because they state that policy makers have to apply nudges to promote ends that are in the interest of citizens, as judged by themselves. However, it is still in debate if governments have all the time a correct idea about the citizens' interests and if they can overcome the regulatory rules that may limit architectural change. For instance, in 2012, New York Mayor, Mr Bloomberg, proposed a very controversial ban on sugary drinks to reduce obesity (under the plan, all New York City-regulated restaurants, fast-food establishments, delis, movie theatres, sports stadiums and food carts would be banned from selling sugar-sweetened drinks in cups larger than 0.5 litres). Mr Bloomberg said in an interview on Wednesday in City Hall's sprawling Governor's Room. "New York City is not about wringing your hands; it's about doing something" .... "I think that's what the public wants the mayor to do." (Grynbaum, 2012). Despite the good intentions, under the social pressure and lobby of the major beverage companies, on June 2014, the New York Court of Appeals ruled that the New York City Board of Health, in adopting the regulation, exceeded the scale of its regulatory authority.

The individuals' perceptions regarding nudging as intrusive on the freedom of choice seem to differ among countries and individuals and different types of nudges. In a 2015 study, Hagman et al. analysed the attitude toward two kinds of nudges: pro-self-nudges (aiming for private welfare) and pro-social nudges (targeting social welfare) and found out that the level of support for this kind of politics was relatively high, with a greater acceptance in Sweden compared with the US (Branson et al., 2011 also found relatively high levels of support for government involvement across countries). Paradoxically, most respondents considered the presented nudge interventions as intrusive to freedom of choice despite their support (more individualistic individuals perceived the intervention as more intrusive than individuals more prone to analytical thinking). The acceptance rate among the two types of nudges was also different: pro-social nudges had a significantly lower acceptance than pro-self nudges.

To overcome this possible ethical problem, Lades and Delaney (2022) proposed an ethics framework that suggests that nudges have to consider seven ethical dimensions when they design the nudge: *Fairness, Openness, Respect, Goals, Opinions, Options and Delegation* (FORGOOD). In terms of *Fairness*, it is essential to assess if the proposed policy may lead to any undesired redistributive effects. Suppose the nudge affects a group more than another group. In that case, a specific nudge may bring positive results for a part of the citizens and negatively influence others since the groups may be different in terms of preferences and available resources. To be considered *open*, a nudge has to be openly communicated and readily acknowledged by the citizens, not to be hidden and manipulative. Regarding the third element, *Respect*, a nudger should ask himself if the policy harms autonomy, dignity, freedom of choice and privacy since an ethical nudge has to respect people. In terms of *Goals*, it is essential to see if the nudge aims to make people's lives better off, as judged by themselves and not by the policymakers (Thaler and Sunstein, 2008). It has to be a change people approve of and, thus, is ethically legitimate. Going further, not only the goal has to be agreed upon, the ends, but also the means, and the methods used to obtain those ends. In other words, public *Opinion* is essential, and nudgers may question themselves if the nudge would withstand public scrutiny. Speaking about *Options* is important to note that nudging is not the only way to achieve results. In some cases, hard interventions such as bans, differentiated taxation, and different restrictive regulations or incentives may generate better results. A cost-effectiveness analysis is needed to establish if a nudge is a way to tackle the issue. The last point, *Delegation*, raises the question of whether the nudgers have the right and the knowledge needed to implement the nudge and if they are not in any conflict of interest in the process. If the nudger has a personal interest is hard to believe that the nudge will be designed in the citizen's interests and not in his own, and competency in designing, administrating and evaluating behavioural policy is a must-have.

## 5. Conclusions

Many examples of effective application of the Nudge theory in public policies may be found in the literature. Still, the intrusion into the freedom of choice seems to determine a lot of criticisms. For instance, in the UK, the libertarian blog Spiked, supported by a series of liberal academics, went as far as declaring „war on nudge”.

The problem seems to be connected with the general role of the government since, in fact, any type of governmental intervention, whether we speak about nudging or fiscal, environment, health, education or other policy, may be seen as intrusive on the freedom of choice. Increasing excise taxes on tobacco and alcohol to reduce their consumption and different incentives to reduce pollution, for instance, may also be seen as intrusive if we follow this line of arguments, even if their acceptance level is higher. The government is responsible for establishing the economy's educational, technological, physical, environmental and social infrastructure to fulfil its central role in increasing wealth and living standards. (Stiglitz, 1997). In this context, well-designed governmental policies may overcome the existing imperfection of information, competition or incomplete market problems if the imperfection is severe enough to be addressed and the policy is designed so that the benefits outweigh the cost.

If we go deeper, at the emotional level, Fineman's theory of vulnerability (Fineman, 2010) states that we all, as human beings are vulnerable and prone to dependency, so the state must find ways to reduce and compensate for this vulnerability establishing and supporting societal institutions. Fineman distinguishes between two alternative state primary obligations: autonomy and equality. Nudging practices may be even more intrusive if the primary obligation is to guarantee autonomy. But as we have seen in the US last decades in the US, the ascendancy of a narrow understanding of autonomy from state regulation and intervention has led to diminishing options and autonomy along with an increasing level of inequality. For instance, one may remember the effects of the “laissez-faire” policy regarding the regulation of derivatives markets, which led the world economy into a deep financial crisis and accentuated inequalities. Convinced that the economy works better free without state intervention, U.S. Congress decided to deregulate financial derivatives with the Commodity Futures Modernization Act (CFMA) in 2000. The high level of banks' greed, associated with a poor understanding of some of the contracts such as Credit Default Swaps and this deregulation, represented a clock bomb that detonated in 2008, affecting not only the American economy but the entire world economy, increasing poverty and inequalities (Stout, 2009). On the other side, if we assess the relationship between state and individual with the primary objective of enhancing equality, opportunity and access, then the state has to move in a more active and responsive position definitely. This does not imply casting aside autonomy and choice freedom but creating support from society and institutions to give individuals the needed resources to develop options and make choices.

Our choices are always influenced by the context where the decision is made and often „manipulated” by the state through taxation and regulation. Nudging is not a lot different. If we accept the idea that the state has to play a role in the economy, then we must also accept the idea that if the nudge is transparent and never misleading, easy to opt out and orientated towards improving the welfare of those being nudged, then is admissible. Plus, using the FORGOOD ethics framework may reduce the manipulation and intrusion into freedom of choice and increase political effectiveness.

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## The Importance of Cost-Benefit Analysis in Designing Environmental Policies

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### Abstract

*This paper aims to identify sectorial interdependencies in terms of pollution, in terms of cost and environmental investments and the development of a mathematical model in which all links to be established and statistically expected.*

*In order to achieve this, one must allow for the maximum exploitation of the region's potential in consonance with the processes related to environmental protection, to eradicating (attenuating or diminishing) and tracking those elements that prevent or delay the growth process, to tracking those external factors (national or international) that can contribute to the development of a region.*

**Key words:** analyze, environment, matrix, benefit, cost

**J.E.L. classification:** Q51, Q56, Q58

### 1. Introduction

Given that it is more and more often that the quality aspects of environmental factors are emphasized, a thorough approach of the issue on the basis of reality facts is imposed. By critically generalizing and deriving the essential from the regional reality, a better underlying of the environmental protection politics can be reached (HM Treasury, 2020, p.73).

The common goal of methods for calculating the environmental costs is to highlight the extent of change of the resource potential and hence the property owner's welfare in monetary terms, which allows assessment of the costs, or comparing alternatives.

Integrated assessment of costs shall apply to study the impact of various activities on the environment, but due to the accuracy in achieving high fidelity evaluations, it applies to local government and decision making for the allocation of public funds or resources.

### 2. Theoretical background

The one who introduces the concept of consumer surplus in the specialized literature for the first time is Saint-Pierre in 1708. Today, he is considered the father of the CBA principle, a concept that was later developed in the United States.

Over the years the concept has been developed and used in environmental policies, more recent advances in CBA theory are recorded by (Pearce et al, 2006, p.1), who identified the implications of its practical use in policy formulation and evaluation of environmental investment projects.

As pointed out by (Boardman et al, 2011, p.3), Cost/benefit analysis is useful for choosing from the set of alternatives the project with the highest potential. This is especially useful if there are more than one way to reach a certain result (for example, a hiring objective). Even if it is only one project to analyze, it is compared to the status quo.

The application of CBA analysis has the ultimate object of informing decision-makers with specific types of information, based on which measures are proposed in monetary terms, reflecting the willingness to pay for the change of those who will benefit from it, and the willingness to accept the change by those who will lose from it (Quinet, 2013, p.57).

CBA must consider cases where the private market fails to capture the true social costs or benefits of a given input or output. In this case, adjustments are required that must be made very precisely, for example if a public cost would be different from a private cost (OECD, 2018, p.11).

Procedures for applying the technique, the circumstances under which decision rules based on cost-effectiveness analysis have desirable economic welfare properties, the appropriate perspective for analysis, and problems in measuring results are further discussed (Garber, 2000, p.3).

In addition to the private cost by 2020, CBA has been widely applied to various research areas in almost all countries around the world.

### 3. Research methodology

To study the financial effects of environmental damage, the matrix approach of environmental factors, connections and co-determinations of pollutants is used.

The model brings together environmental factors, pollutants, environmental risks, financial flows, financial instruments for environmental protection as well as decision-makers in this field. It provides the possibility to determine the areas of environmental damage induction as well as the transmission poles of negative financial effects, thus ensuring the focus of the instruments and flows involved in environmental protection.

The model, developed as a matrix application, is based on the balance between the costs of pollution (both causal and those induced from one sector to another), on the one hand, and the investments required to protect the environment, on the other.

This type of matrix approach is increasingly used in developed countries as it is easier to adapt, being applicable both at the level of the national economy and at restricted areas, respectively at the level of sectors, industries or even enterprises, as the use of tools sophisticated. computers and software make the analyst's job much easier.

### 4. Findings

#### 4.1. Model of cost-investments for the environment

To achieve a cost-benefit - environmental investment model requires a review of all economic activity in terms of efficiency, coupled with environmental problems.

In order to make this type of model, we need to re-evaluate the whole economic activity from the point of view of its efficiency, correlated with the problems of environmental protection.

Each economic unit will receive an ecological degree  $Ge$  calculated according to its economic capitalization and its degree of direct and indirect pollution.

$Ge = R$  (rentabilities = capitalization)/  $P$  (pollution indicator)

In which:  $R$  is calculated according to the present schemas, and  $P = K + \sum Ci$ ,  $i = 1,..n$

$K$  = own pollution indicator

$\sum Ci$  indirect pollution indicator.

The development of the equation regarding the ecological degree of the company leads to the following equation:

$Ge = R / (K + \sum Ci)$

The best solution is that the proportion  $R/P$  is to be as big as possible and  $P$  as small as possible.

The achievement of a large capitalization is the problem of the economic management, and the achievement of a less pollution indicator is the problem of the ecological management. Therefore,  $Ge$  creates the harmonization of the two interests, economic and ecological.

#### 4.2. Determining one's own pollution indicator

We will establish a number of five levels of own pollution indicators in such a manner that the qualitative improvement of the company to be as big as possible when passing from one level to another.

Based on the percentage of emissions resulted from the process of manufacture, each type of pollutant will receive a  $K_i$  coefficient.

For own pollution indicator  $K$ , it will be taken the maximum  $K_i$  coefficient, just to determine the companies to take the necessary measures to reduce the most polluting agents (O'Mahony, 2018, p.18).

By determining all direct pollution coefficients and by taking into account the greatest value of  $K_i$ , there has been made a clear identification of the most polluting agents and there has been established the order in which they should be approached in order to be eliminated.

These identifications will be made by each company, by its compartment of environmental protection.

#### 4.3. Determining the indirect pollution indicator

The indirect pollution indicator is defined as being the pollution side made by the companies, internalized by each company. The calculation formula is:

$$C_i = n \times K_i$$

In which:

$n$  = using coefficient (for materials  $n$  = the quantity of finite products/ the quantity of raw material, for energetical resources  $n$  = the value of the consumed energy/ the value of the necessary energy, for technological material  $n$  = the consumed quantity/ the quantity established through norms)

$R_i$  = the provider's own pollution indicator

The values of  $G_e$  which result from calculations are between 0 and a certain value. The bigger the value of the  $G_e$  is, the more efficient is the activity of the company in conditions of minimum pollution.

To stimulate the company, we can diminish the profit tax according to the ecological degree of the company, just to stimulate the passing from a degree to the next, superior one.

From the relation  $P = K + \sum nK_i$  we can deduce that in order to make an efficient activity from all points of view, it is imposed:

- The own pollution indicator to be as small as possible, this thing depends on the financial resources available to each company.
- Making the pollution indicator of taking over from other economic agents to be at a lower value. This is easier to achieve because it involves only a reorientation in what regards the providers of raw material and energy, as well as a raise of the efficiency of the production activity, this meaning to use the energetical resources, the technological materials in a wise manner and to reduce as much as possible the scraps resulted from the fabrication process.

#### 4.4. Matrix calculation

From the calculation relation of the using coefficient  $n$  we can observe that the product  $n \times K$  may be smaller only if there are established relationships with companies which have lower own pollution indicators and if the proportion which defines  $n$  is very close to 1.

The basis of this model is made of the fluxes and transfers from one sector to another between the productive branches (the endogenous side of the model) and the final request (the exogenous side which brings together the consumption, the investments and the exports).

The fluxes are measured in monetary terms, even if they are interpreted in physical units and it is supposed a disintegration degree which is enough to allow us to consider as homogenous the production from each industry.

Defining the technical coefficients as proportionality factors (considered as parameters of the model) of the fluxes from the productive sectors, which are described through the following relation:

$$X_{ij} = A_{ij} \times X_i$$

Using the matrix notation, the relation  $X = AX$  may be expressed:  $X = AX + Y$ ,

In which:

$X$ : the volume of the financing resources,

$A$ : the matrix of the technical coefficients,

$Y$ : the vector of final costs.

The reduced form will be written:  $X = [I - A]^{-1} \cdot Y$ , where  $I$  = unit matrix.



Given the formula  $P = K + \sum nxK_{ij}$  and taking into account that  $n$  = the using coefficient may be used for materials, energetical resources or for technological materials, we will mark the product  $nxK_{ij} = k_{ij}$  and we can express the pollution indicator (direct + indirect) for a certain polluting activity sector (i) in this manner:  $P_i = K_i + \sum k_{ij}$

Taking into account five polluting sectors: industry, agriculture, transport, menage and utilities, we will mark with:

$X_i$  = the environmental investment for sector i,

$Y_i$  = the cost of the direct pollution of sector i,  $y_{ij}$  the cost of the indirect pollution of sector i and sector j.

In this case we can express the environmental investment made for the polluting sector through the following formula:

$$X_i = Y_i + \sum y_{ij}$$

In that direction, we can delimitate five financing sources: state budget, local budgets, private funds and bank loans, post-adhesion funds – non-refundable funds, other external funds – refundable funds, external loans – refundable funds and other sources (subventions, contributions, participations).

The delimitation of the financing sources for ecological investments represents an essential problem of those who decide in their financing policies.

The matrix costs-investments are defined as following (Table 1).

Table no. 1: The matrix costs-investments

Environmental investments	Environmental investments for industry	Environmental investments for agriculture	Environmental investments for transport	Environmental investments for menage	Environmental investments for utilities
Pollution costs from IND	$X_{11}$	$X_{12}$	$X_{13}$	$X_{14}$	$X_{15}$
Pollution costs from AGR	$X_{21}$	$X_{22}$	$X_{23}$	$X_{24}$	$X_{25}$
Pollution costs from TR	$X_{31}$	$X_{32}$	$X_{33}$	$X_{34}$	$X_{35}$
Pollution costs from MEN	$X_{41}$	$X_{42}$	$X_{43}$	$X_{44}$	$X_{45}$
Pollution costs from UT	$X_{51}$	$X_{52}$	$X_{53}$	$X_{54}$	$X_{55}$

Source: author's own contribution

This way, we can calculate the environmental costs generated by the productive sector:

$$Y_i = AX, A \text{ the matrix of the technical coefficients where } a_{ij} = y_{ij}/Y_j$$

Dynamic matrix illustrates the evolving relationships, while providing the opportunity econometric treatment of correlations and interdependencies between factors, sources of risk and funding sources of these risks.

The utility of the model is limited, because it is only for the polluting systems without taking into consideration any other polluting factors. Considering a unique time reference, the model is solved leading to a solution of balance for the exogenous variables. With a static model, there can be established different assemblies of values to the exogenous variables which, for instance, can be: future projections of these very variables; however, even if this way we can obtain a certain temporal dimension, the analysis would be only static comparative.

## 5. Conclusions

In the present research work, we demonstrated that the integrated costs evaluation mainly applies to the study of different activities' impact on the environment, but, due to its precision in obtaining a high-fidelity evaluation, it is also applied to some governmental or local decision making in



allocating public funds or natural resources. Decision making when applying this method involves three main steps:

- identifying the alternatives;
- determining the opportunity costs, respectively the value of the opportunities discarded when a decision is made to exploit a limited resource for a certain purpose;
- analysing the impact of each option on the interest groups. Generally, the opportunity cost is measured in terms of direct and indirect modifications brought to the market values, but also to the extra-market values, which are not reflected in market transactions.

The input – output models are probable those which fit best the making of the analysis of different possible incidents between the environment and the economic system.

With their linear relations, these models facilitate the introduction of hypotheses of any type, allowing the procurement of results for an assembly or variables reported, for example, on different terms, different hypotheses regarding the dynamics of the ecological costs, different conditions and prices on the national and international markets, ways of financing etc.

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## Modern Approaches to Teaching Business English

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### Abstract

*In the ESP domain, grammar teaching has always been regarded as a challenging issue, requesting great pedagogical skills, no matter the learners' level and field of expertise. The paper looks at a range of techniques for introducing grammar that focus on meaning, techniques that use tasks meant to maximize interaction and create an opportunity for meaning-focused language use. A more learner-centered approach, inductive teaching offers learners of Business English opportunities to actively create rules, to be more engaged and remember more. We will further explore how blended learning can be used as a helpful tool for guided discovery. In this way, learners discover the form and/or use of the target language with less input on the teacher's part. Moreover, the switch from traditional to blended learning will certainly benefit students and will naturally appeal to their identity as digital natives.*

**Key words:** ESP, blended learning, Business English, digital technologies, educational approaches  
**J.E.L. classification:** I23

### 1. Introduction

In the recent years, conventional views of grammar teaching have come under much scrutiny and challenge. The solution provided by some specialists in the field of methodology is finding methods to teach grammar that are coherent with the contemporary theories. D. Larsen-Freeman highlights the need to move past analyzing grammatical form well by using a meaning-based or communicative approach and by employing inductive activities:

"An inductive approach such as using a consciousness-raising task is desirable because by using such an approach one is nurturing within the students a way of thinking, through which they can arrive at their own generalizations. In addition, an inductive approach allows teachers to assess what the students already know about a particular structure and to make any necessary adjustments in their lesson plan." (Larsen-Freeman, 2001, p. 264)

If teachers want to maximize interaction and create opportunities for meaning-focused language use, task-based activities are a solution. Task-based Learning (TBL) tasks should be things you do in real life, like planning a trip, finding out about a topic to give a presentation, or writing a blog article.

When planning an inductive approach, teachers find contexts where the language occurs in a natural manner, prepare texts and get ready to draw attention to language and offer feedback to learners' own interpretations of rules. It is advisable to select a video/audio material or a text that is easily accessible so that learners aren't more concerned with the meaning of unfamiliar vocabulary and they can then pay more attention to the grammar.

### 2. Literature review

Nowadays, task-based models of language teaching are largely being promoted and adopted at the academic level (Fisher et al, 2011, p 15). Being close to the real world, this life models offer the students an opportunity to prepare for their future careers. Willis and Willis offer the following criteria, originally, in the form of questions (Willis, J., & Willis, D.,1996):

- The activity aims at engaging learners' interest
- Meaning represents a primary focus
- The activity has a clear goal/outcome
- Its success is assessed in terms of outcome
- The priority is its completion
- The activity can be related to day-to-day activities

Following the authors' logic, the activity represents a task provided that an affirmative answer is offered to each of these questions.

Task-based learning is considered to be an extension of the communicative approach to language teaching:

"The hallmarks of the communicative approach include a focus on communicating meaning, using authentic materials, integrating skills, and centering instruction students and their communicative needs. What the task-based approach adds is an emphasis on embedding holistic communicative acts into a specific context and situation, with the specific aim that mirrors the actual or future communicative aims of the learner." (Fisher *et al*, 2011, p.18)

Therefore, this approach aims at supporting the learners' autonomy as far as the use of language is concerned, regardless of the complexity of the communicative situation.

As the task-based approach regards communication to assist action, the authors' intention is to switch from the simple activity of speaking, i.e. 'INTERACTION', to 'COMMUNIC-ATION', which means "acting with others" (p. 20)

Teaching language skills for specific purposes is a core activity of language departments in the European universities. When teaching at the academic level, all language skills are equally focused on and, since LSP is used, the context is particularly important.

### 3. Research methodology

An ESP definition needs to take into account the following characteristics, seen by M. Johns and Donna Price-Machado as 'absolute' in terms of

- design: designed to meet the specific needs of the learner
- content: related to particular subjects, occupations, or activities
- vocabulary: centered on the language appropriate to these activities in syntax, lexis, discourse, semantics, and the analysis of this discourse
- specificity: in contrast to "General English" (cf. M. Johns and Donna Price-Machado, 2001, p. 44).

The definition they arrive at is that

"English for Specific Purposes (ESP) is a movement based on the proposition that all language teaching should be tailored to the specific learning and language use needs of identified groups of students— and also sensitize to the sociocultural contexts in which these students will be using English. Most of the movement's practitioners are teachers of adults, those students whose needs are more readily identified within academic, occupational, or professional settings." (2001, p. 44)

Using TBL, the reference point is no longer only acquiring academic knowledge. With this approach, learning and social tasks are closely connected: as a participant in a project, or a case study, the learner uses grammar and vocabulary in an active way based on the objectives provided and the circumstances of the given situation. to sum it up, there is a connection between various language teaching and testing approaches as illustrated by the team of GULT researchers: first, the grammar-translation approach includes only words and rules, to those, role plays are added in the communicative approach, finally, the task-based approach incorporates all these ingredients and mixes them with "situational embedding" (Fisher *et al*, 2011, p. 21).

The communicative tasks and the activities used in task-based teaching should be comparable with the ones that are likely to occur outside the context of language classroom. The example given is one of the role play, where for students of business the role play can be between an intern and a manager, because this situation bears the marks of authenticity.

Case studies and project works are two possible options to be used by a task-based approach in grammar teaching as well. Case studies are best suited for subject areas such as business law medicine social sciences, while project work and simulations are recommended for scientific areas.

#### 4. Findings

As shown by some scholars, case studies represent a good opportunity to run pedagogical experiments on how to better improve students' skills needed in the business field. Using either traditional methods or online materials in order to enhance the reading skills (cf. Buzarna, 2021, p. 230), the speaking, or the writing skills (Sinkus, 2021, p. 304), case studies proved their efficiency and contributed to developing learners' business vocabulary.

As argued by many specialists in the field, there is a difference between global simulations and project work on the one hand and case studies on the other hand. Whereas the former are characterized by creativity as they focus on the productive skills such as speaking and writing, the latter need a rather detailed analysis, they are "problem – based an start with an important receptive phase that is essential for the outcome of the activity" (Fisher *et al*, 2011, p. 23).

When structuring the activity, the first stage is the introduction of the topic, a very important one because students understand the requirements, the information they need in order to solve the task. This is the point where digital technologies can be used very effectively.

As far as learning and teaching are concerned, digital technologies are a solution in terms of information storage, accessibility and the variety of media forms. Affordability and availability represent another plus (Popescu, 2020). In this way, learners possess control over the selection of the materials that can be offered in generous amount, on the one hand, and, on the other, over the timespan spent in order to process them. Besides, such activities may function in an interactive way if feedback is provided on the learners' decision concerning the selected items. As a matter of fact, all these features can be blended with our traditional methods in order to provide the students with a powerful infusion of learning opportunities.

What is important is the fact that instructors have to investigate modes in which to use digital technology to render the teaching-learning process more accommodating.

For example, for business students the teacher provides the link for on YouTube video in Google Classroom. The content of the video refers to a business context such as a meeting or a job interview, situations where businesspeople develop solutions to existing problems. The students are requested to listen to the dialogues, with or without captions in English, for how many times they think suitable in order to spot the situations where modal verbs are used or the structure of the interrogative sentences. If the video renders the discussions that take place for negotiation purposes, the learners may have to note examples of conditional sentences. this is possible because a precondition of a business English class is for the students to have at least B1 level. Thus, they may recap on the grammar they learned in high school but within a business framework. By doing this assignment at home, there is no need for students to wait for their colleagues to finish the tasks and they can manage the study time by themselves. Therefore, there is clearly some correspondence to the real life situation where they will be free to organize their work in their future jobs. After working on the task individually, learners working pairs or teams and discuss their own findings using Skype or Google meetings.

By using Evernote for example, they may upload notes with ideas, brainstorm, and count to a common conclusion on the use of modal verbs. For the conditional sentences, they may fill in a chart with examples from the video material listed according to the type each conditional sentence fits in. While working out the rules for why a certain modal verb has been used or what a conditional sentence may express, the learners may use online resources.

It must be noted that resource usage help students to get ready to manage realistic situations that will likely occur in their future careers. In order to present the findings, the students may have to hand in a report or to deliver a brief presentation. In this approach grammar and vocabulary, the receptive skills blended with the productive skills, are motivating students to persuade their classmates. It's critical that teachers monitor effectively and then provide feedback on task performance.

It should be acknowledged that there is a concern about the degree of difficulty involved when monitoring these tasks, since they are mainly learner centered.

Also, it is difficult to assess the individual input each student has, the share of student's work. Besides, there may be an increased workload for teacher to check the resources used, to give feedback and to rectify possible but inherent misapprehension. As for the suitability of the resources used by the students, the solution could be providing them with bibliography.

## 5. Conclusions

In conclusion, with the assistance of blended learning, task- based approaches focus on the development of the skills needed by learners of Business English for a successful integration on the job market, extending the application from the language study.

Regardless of the techniques used, a brief note on regulating classroom activity with the help of online assessment forms might be seen as useful at this point of our discussion. Microsoft Forms, Google Forms, Survey Monkey or QuestionPro are some of the free online tools that create surveys to get feedback on your Business English course at scale and in real time.

Using such appraisals has multiple benefits. To name a few, it is worth mentioning:

- improving student-teacher interaction,
- getting feedback on the shortcomings of the course,
- engaging students in the instructional process,
- helping teachers to adjust the teaching style and
- assisting teachers in improving the course structure and content in the future.

If the purpose is assessing the overall course, the survey form could include general or particular questions. The general closed-ended questions may refer to the overall rating, one the open-ended once may reflect the strengths and the weaknesses of the course. On the other hand, the particular questions may be aimed at the students' own involvement and/or the teachers' performance, their attitude, their effectiveness in delivering the course materials. In order to answer, either preset grading scales or ratings can be employed. For recommendations of what should be improved and other aspects of the course structure/content, open questions are seen as a suitable option. Bearing a quantitative descriptive design, the anonymous answers can be based on an online questionnaire that interviews undergraduate students majoring in Business, either at the end of the first semester (cf. Băcă, 2021a), or at the end of the academic year (cf. Băcă, 2021b).

Undoubtedly, whether the classroom activity should focus primarily on form or on meaning, whether traditional or modern teaching methods need to be used, will continue to be the topic of debate among the scholars whose research focuses on how to teach Business English more efficiently. In S.J. Savignon's opinion (2001, p. 25), the perfect combination should take into consideration aspects such as the students' year of study, their prior learning experience and last but not least, the timespan of the instructional process. To these, we could add the teacher's familiarity with the online tools, the size of the teaching unit in terms of student number, the availability of devices/internet network, etc. As the same author admits, „Grammar is important, and learners seem to focus best on grammar when it relates to their communicative needs and experiences” and this is the reason why it is highly recommended that exercises that focus on integrating grammar rules be mixed with other elements, such as „features of discourse, sociolinguistic rules of appropriateness, and communication strategies” (2001, p. 25).

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## Alignment of Neurological Levels – An Essential Pillar in Subconscious Programming

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### Abstract

*The present paper aims at giving a brief insight into the concepts of neurological levels and analyzes the fact that, as the levels contain more congruent information - and through exercise we can realize and become aware of this - the more our relationship with ourselves and with others acquires a richer consistency in meanings. The Pyramid of Neurological Levels stands out for its universality, usefulness, and all these levels work simultaneously and are characteristic of everyone. Congruence is presented in this paper as the expression of the manifestation of the objective at each separate neurological level. The paper will also discuss learning models of the subconscious and the fact that we have the possibility and the power to use our conscious mind to change, shape, direct the path of the subconscious towards the path we want.*

**Key words:** neurological levels, NLP, alignment, congruence, subconscious

**J.E.L. classification:** D91

### 1. Introduction

One of the concepts with which NLP (Neuro-Linguistic Programming) operates is that of the neurological level. The concept according to which we act at different neurological levels, levels that are also the coordinates where we implement the change, gives us an image of how we could align the different dimensions of our personality, so that we obtain a congruence between what we are, what we think, what we say and what we do. Our mind, like any other biological, social, or economic system, works on levels, being organized on levels of processing. Thus, we can think and exist on different levels. When we want to bring about a change, we should address these different levels. It is about a series of six neurological levels that must be aligned to achieve congruence and achieve success. These are organized inside us in the form of a natural gradation, determining and influencing each other. In NLP, the neurological levels are symbolized by the Pyramid of neurological levels, from the top of which grows another pyramid that symbolizes spirituality/connection with others/communion with the universe for some, the connection with God for others. The Pyramid of Neurological Levels stands out for its universality and usefulness. Alignment of neurological levels is one of the basic processes in NLP.

It is a valuable tool of self-knowledge. We can evaluate ourselves in relation to our own self, to others. The important thing is to know what questions to ask. The neurological model in its original form was proposed by the American communication researcher Robert Dilts, one of the leading experts in NLP, in the late 1980s after adapting the concept of "logical levels" proposed by Gregory Bateson. It is a model that links the concept of "logical level" with the nervous system. Robert Dilts suggested that each of us operates on 6 neurological levels. The phrase neurological level does not refer to the physical component of the brain (neuro), but on the contrary, this is a model for building the software component, the logical component, in relation to the processes and connections at the level of the nervous system.

## 2. Theoretical background

Programming refers to the unique way in which we control our neurological systems. The term was chosen specifically to emphasize that our own brains can be programmed, that we have the power to change the programs we have with better ones that will help us go in the direction we choose. To experience the environment around him, man can use and adjust his sense organs (VAKOG - Visual, Auditory, Kinesthetic, Olfactory, Gustatory). If he wants to do a certain action in that environment, man needs more resources and must develop skills. However, for the development of skills, but also of values, beliefs that lead to the formation of behaviors, it is necessary to make a certain effort.

Effort is a conscious action that is connected to elements of the subconscious. Most of the time the effort as well as the motivation, will and determination come from a hard to explain inner feeling that tells us that it is good for us to do or achieve that thing. This impulse is intuition and belongs entirely to the subconscious mind. These 4 stages or levels lead to the formation of a self-identity, which then leads to the last level - the spiritual.

The notion of the subconscious appeared in psychology in the 19th century, it was invented by the French psychologist Pierre Janet, and it designates that part of our consciousness that deals with most of the unnoticed mental processes, those that do not pass through the filter of attention and are not voluntary. The subconscious stores all the insignificant details of the world we observe - those that escape our attention, all forgotten memories, all conditioning, stereotypes (habits, automatic reactions). The information that has no meaning for us now is recorded in the subconscious. Also, if a certain information is no longer necessary, it will be classified from the conscious mind to the subconscious. The subconscious mind is the mind that leads us from the shadows, that automatic pilot responsible for all our involuntary gestures and actions, which helps us quickly adapt to the world around us.

The subconscious works mainly based on associations. When one behavior is associated with another, a link is created that increases the power of the behavior. Through this association, one behavior automatically becomes a trigger for another. Emotion is the main form of communication of the subconscious. Just as reason, thought, is the pillar of resistance for the conscious mind, so is emotion for the subconscious mind. Emotion is the factor that helps the mind to differentiate between important information and experiences in life and worthless ones. By understanding these subconscious learning patterns, we have the opportunity and power to use our conscious mind to change, shape, direct the path of the subconscious to the path we want.

## 3. Research methodology

Our actions, communication, and results flow through this series of levels. The function of each level is to organize the information from the level below it. Change at a higher level always influences the lower neurological levels. Changing to a lower level can change, but does not necessarily change, higher levels. If, for example, at the level of beliefs / values, we are convinced that it is important to learn to be successful, then we will direct our skills and behaviors towards school. The environment in which we will carry out our actions will be one that facilitates these activities.

This pyramid relates to the neurological levels of brain perception. It structures these and the links between them on the premise that the higher levels are of greater depth and impact on the individual, and changes made at higher level bring changes in all the lower levels of the pyramid. All these levels work simultaneously and are characteristic of everyone.

Talking about a pyramid, it will have four faces, respectively the social, the professional, the personal and the family. No matter in which area or facet of the pyramid we analyze, it will be the same and will respect the steps of the pyramid. Basically, Robert Dilts' pyramid divides the existence of a human being into two levels: the level that is influenced by what he already realizes and the level that he wants to become.

All these levels work simultaneously and are characteristic of everyone. We can analyze these levels in detail in various life situations, from time to time, and we will find that any change produced at a certain level propagates to the lower levels.



Alignment refers to the realization of all the criteria/resources necessary to achieve the proposed objective. Sometimes these criteria are unknown or distortedly known and then clarification is needed. This clarification process is called alignment because through its realization, the discovered criteria represent with great specificity the personal constellation necessary to achieve the proposed objective.

Usually, what is followed in the careful analysis of the neurological levels is congruence. In other words, if it is observed in the content that what is found at one level clashes with what is found at another level, there will be a conflict between the two levels that will create problems. Identifying the conflict is something that helps to better understand the problem and helps to find the solution. Also, the pyramid offers an understanding of how change works, that's why the neurological levels are also called the levels of change.

The change, if it is substantial on a certain floor, can also determine the change to a certain extent on the level immediately above, but the change is much stronger when it occurs from top to bottom. These levels have different contents from person to person, from context to context.

The most important classification in the pyramid are the externally observable levels (environment and behaviors) and the levels that define and describe the personality (values and beliefs, identity, spirituality, and mission).

#### **4. Findings**

The neurological levels represent the logical structuring levels of our subjective experience, and they are in order: environment, behaviors, abilities, beliefs and values, identity, spirituality, and mission. The level of the environment is that of the physical reality, of the geographical environment, defined as the space of existence or as the socio-political-economic environment, the one in which the individual exists. The environmental level also represents the place, time and people involved. The questions specific to this level are: where? who? when? This level is influenced by the other higher levels.

The environment in which a man acts is determined by his abilities, his convictions and principles, his values, his existential mission and finally, his relationship with divinity.

The level of behavior and language is that of the perceptible interface in communication between people. It includes facts, actions, language (verbal, non-verbal, paraverbal), response and feed-back, everything that answers the question "what?". The first two floors of the neuro-logical pyramid, the ones at the base, constitute what everyone can observe, what can be perceived as such and not following interpretation.

The level of skills, competences, capacities, graces, talent, gifts contain everything that represents a specific distinctive element, most likely formed by repeated practice of a systematic behavior with the aim of a precise objective. The key question at this level is "How?". It is visible only in behavior. And at the same time, it is formed based on the repeated manifestation of the previous level.

The level of beliefs, ideas, values, principles, and rules are represented and manifested by what we commonly call "heart", "instinct", "inner voice". They are those things that are important to us, a kind of moral compass that guides our choices in life. This level contains the more subtle aspects of people's way of thinking and feeling. Beliefs are principles that guide our actions. They may even be undeclared, or contrary to the individual's declarations. But they will always be reflected in our behavior. These beliefs, these values give meaning to our actions. Specific questions for this level are "what is important?" and "why is it important?". Beneficial beliefs help us grow, make changes, and reach our maximum potential. To have the life we deserve it is extremely effective to know our own values and the beliefs behind them. Values provide the frame of reference in which ideas, choices, and contexts gain meaning for everyone. For some, moral values correspond to very carefully constructed and acquired ethical considerations. They are divided into two main and secondary categories. The first ones help in solving hidden conflicts, in eliminating stress and offer us a firm direction in life. The secondary values are the ones we use in certain situations we face. For example, we can become much more available when someone needs help, because we value loyalty. The questions for this step would be: Why do I do what I do? What do I aim to achieve? What do I believe in? What makes this important to me? Why do I choose what I choose?

The level of identity is that of the definition as oneself, as an individual, most of the time as a collection of sub-identities related to society. The level of identity together with the level of attitudes and values describe what psychologists define as human personality, from a cognitive perspective, with a direct reflection on the behavioral level. The key question at this level is "who?": who am I? What role do I have? What purpose do I live for?

The highest level is that of spirituality, of mission, of supreme purpose refers to the interaction between our mind and nervous system and the larger, universal systems of which we are a part. The fundamental question for this level is "to what (ultimate) purpose?". The level of connection with the divinity. It can be understood as the domain of ethics, religion, spirituality. Beyond yourself, it represents how you relate to humanity. How do you relate to God? This level is experienced emotionally and can be understood through the fundamental question "to what ultimate end?".

Here, at this level, the notion of mission also appears. The level of the mission in life. This level is related to the idea of the individual's contribution to the world. How to make your mark on the world. What a legacy you leave. How do you contribute to the good of humanity? This level is formed over time, being influenced by the other four levels.

The level of belonging must be understood as being related to the feeling that we are part of something, at a very deep level, which is above us. It is what unites all things together, and we as individuals are systems within a system that includes us. Our experience at this level is related to our role, with a purpose above us. This comes as an answer to the question "What is the higher purpose?".

## 5. Conclusions

Neurological levels are not a hierarchy. They are interconnected and influence each other. Congruence is the tracked element in terms of neuro-logical levels. Thus, if in the content of our actions, what is found at one level is consistent with what is found at the other levels, we will act decisively, congruently, totally. But if there is a conflict between two levels, it may create problems.

The usefulness of the process of aligning the neurological levels is that it can offer several options such as solving some psychological problems (anxiety, anxiety, phobias, depression, insomnia, eating disorders). It also leads to personal optimization (the development of skills that one can manifest latently, such as assertive communication, orientation towards solutions not towards problems) and of course the achievement of precise objectives.

Aligning the neurological levels to achieve congruence can be the central element to act successfully in the reprogramming of the subconscious.

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## The Alignment of INTOSAI and Romanian Public External Audit Standards, Guidelines and Institutional Focus to the Data Driven Context

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### Abstract

*Disruptive technologies are shaping our world in a wide range of manners, from targeted advertising to self-driving cars. Their impact becomes more complex in highly-regulated, judgment-intensive fields, such as public external audit. While auditees operate in an increasingly data-intensive environment, sometimes employing cutting-edge data analysis and automation tools, stakeholders expect the audit profession to step up its game and adapt to some of the better-developed IT technologies, such as robotic process automation or machine learning. While such initiatives begin to crop up, they must adhere to the stern normative framework of public external audit, stemming from INTOSAI and national authoritative audit standards, procedures and guidelines. Our research aims to shed light on the current degree of INTOSAI and Romanian standards and guidance readiness to facilitate the use of some of the latest and potentially beneficial IT concepts, as well as the results of INTOSAI collaborative initiatives on IT matters.*

**Key words:** external audit, data analytics, SAI, audit standards, INTOSAI

**J.E.L. classification:** H83, M48

### 1. Introduction

Current software solutions are cloud integrated, connected to the Internet of Things and external data sources such as sensors, social networking platforms, audio and video feeds, GPS data etc. Many organizations harness the potential of this structured and unstructured data for their own development, improving their decision-making processes by using technological advances to reduce latency (increasing processing speed and interconnectivity), using automatic text, speech, or facial recognition. According to Davenport and Harris (2007, p.7), business analytics is “*the use of data, information technology, statistical analysis, quantitative methods and mathematical or computer-based models to help managers gain improved insight about their operations, and make better, fact-based decisions*”. Companies have significantly changed their approach to data. In a recent KPMG study (2014, p.7) study, 99% of the respondents see business analytics as somewhat important to their business strategy, while 85% of the respondents think that one of their main challenges is identifying broader and more significant use cases for the collected data.

These new technologies and management avenues create new opportunities, but also push the audit profession into adopting more advanced data analysis techniques. In a Big data environment, the audit has the potential to leap from descriptive procedures to predictive, and ultimately, to

prescriptive procedures. The traditional retrospective audit approach, constructed on the restrictions of manual data analysis, can thus be replaced by real-time audits that detect risks and prevent errors.

External audit is, through its nature, an extensively regulated profession and the requirement to gather sufficient adequate audit evidence to support the audit opinion radiates throughout the normative framework. No matter how the data and information are analyzed, either in their physical form, all the way to Big data analytics, the audit assertions that need to be evaluated remained unchanged, while the adaptation to the digital age refers only to the tests used to obtain assurance that the financial statements are free from material misstatement.

Each audit assignment must ensure a balance between obtaining sufficient adequate audit evidence using *substantive testing* – resource intensive but offering the most reliable result and using *analytical procedures* that are time savers but harness less insurance, and the optimal recipe for each assignment is trusted to the auditor's professional judgment. There are also notable legislative requirements influencing this balanced approach to audit. In the United States of America, for example, the Corporate and Auditing Accountability, Responsibility, and Transparency Act, also known as the Sarbanes–Oxley Act (2002, p.760), was enforced by Congress in response to the resounding financial scandals of the era (Enron or WorldCom) and requires the auditors to check for the accuracy of information and audit evidence that form the base for the audit opinion on the financial statements, an approach which tends to confer a wider use for substantive testing.

The Lima Declaration of Guidelines on Auditing Precepts (INTOSAI, 1977, p.12), endorsed in 1977 at the Ninth Congress of the International Organization of Supreme Audit Institutions, currently classified as INTOSAI-P1, is considered to be the *Magna Charta* of public external audit and defines the prerequisites for SAI's independent and effective functioning. Starting with this overarching declaration, it has been established that SAI audit procedures will seldom be applied to the whole population, and as such, a sampling approach should be employed, allowing for sufficiently large samples, selected based on a given model, in order to express proper judgment on the quality and regularity of financial management. Furthermore, INTOSAI-P1 underscores the necessity of audit standards' adaptation to the "*progress of the sciences and techniques relating to financial management*".

The disruptive nature that technological progress has on the audit profession is embedded in the current, republished form INTOSAI-P1, that hosts a section on auditing electronic data processing facilities, providing guidance regarding planning the technical necessities, the economical use of equipment, personnel expertise, prevention of improper use and the usefulness of the information provided. While casting a wide net over the specific audit objectives, the INTOSAI-P1 section referenced does little to contribute to the actual revamping of SAI audit standards and procedures.

Principle 4 of the Mexico Declaration – INTOSAI-P10 (INTOSAI, 2007, p. 11) offers SAIs unrestricted access to information, in a timely, unfettered, direct, and free manner. Public external auditors have the right and the legal obligation to analyze all the information pertinent to their engagement in order to properly discharge of their statutory responsibilities. This, of course, entails access to and analysis of the databases created and used in conjunction with the relevant audited activities. But how exactly is this objective achieved?

While in the Big data world, concerning oneself with the quantity of potential audit evidence is a thing of the past, the quality of the available digital information is a growing concern for auditors, since there are significant distinctions to be made between the risks and challenges specific to data presented in physical format and those available in digital format. Predictably, the first comparison is on data integrity, considering that data types, volumes and formats have become so diverse that is becoming increasingly difficult to identify data elements or datasets that have been modified, hidden, deleted, or entirely destroyed, either by human or system errors, unauthorized access, errors in storage, query or reporting. A SAI-specific research conclusion is offered by Sanda and Trincu-Drăgușin (2022, p.9), which illustrates the incipient SAI adoption of an "open by design and by default" approach to publishing Open data, with the majority of EU SAIs not even enrolled in their national Open data portals, while the ones that registered offer only a marginal contribution, with an average footprint 0.159% of the total Open datasets published.

External audit's immersion in Big data and the use of increasingly advanced data analysis techniques generate a series of normative concerns but also leads to a shift in the entire external audit field. The International Auditing and Assurance Standards Board formed in 2015 the Data Analytics

Working Group, to monitor changes brought to the audit profession by the extended use of advanced data analysis procedures, as well as to connect to different stakeholders, such as the external audit companies and the national audit bodies.

The International Organization of Supreme Audit Institutions (abb. INTOSAI) contributed by forming, in 2017, the Big Data Working Group (INTOSAI, 2022), as well as The Working Group on IT Audit (INTOSAI WGITA, 2022) that published in 2019 the first edition of the Data analytics Guideline (WGITA, 2019, p.1).

Furthermore, the leading private external audit companies have invested hundreds of millions of dollars in audit technological advances in order to future-proof their activities (Deloitte 2016, p.4, Ernst & Young 2017, p.1, PricewaterhouseCoopers 2017, p.1, KPMG 2016, p.6). This sweeping trend, coupled with the large-scale use of business analytics by the auditees have created competitive pressure in the external audit field, to employ evermore sweeping data analysis techniques and seems to reorient some audit activities from providing assurance to offering consultancy. The answer offered by a manager in Eilifsen *et al.* (2020, p.27) research is telling in this matter: *"when we have written about data analytics all over the place in the audit tender and promised to use it in the presentations - well, then you just have to use it when you have won the audit"*.

## 2. Literature review

Gartner (2013, p.1) defines Big data as *"high-volume, high-velocity and/or high-variety information assets that demand cost-effective, innovative forms of information processing that enable enhanced insight, decision making, and process automation"*. Therefore, we can conclude that the Big data concept does not incorporate only static information, generated and stored in a physical environment or in the cloud, but also the innovative and efficient processing and analysis techniques required to provide added value for the organization.

Stewart (2015, p.95) defines audit data analytics as *"the analysis of data underlying financial statements, together with related financial or non-financial information, to identify potential misstatements or risks of material misstatement"* and proposes dividing them into exploratory procedures, employed in the planning and risk analysis stage, followed by confirmatory procedures during the substantive testing and reporting stages.

These analytical procedures vary from the simplest test to complex predictive techniques, that require a high degree of professional judgment. Auditors must determine which types of analysis techniques are best fitted in relation to the audit objectives, the assessed risks and the available data.

AICPA (2014, p.5) defines data analytics in audit as *"the science and art of discovering and analyzing patterns, identifying anomalies, and extracting other useful information in data underlying or related to the subject matter of an audit through analysis, modeling, and visualization for the purpose of planning or performing the audit"*.

Earley (2015, p. 494) describes the resemblance between Big data analytics and academic research techniques: both data analytics and academic research handle significant data volumes which are collected and tested in order to satisfy the sufficiency criterion regarding a research hypothesis and are subsequently analyzed using dedicated statistical software to identify patterns and relationships. Both researchers and external auditors require a high degree of expertise to analyze and interpret results generated by the statistical software, therefore advocating for the supremacy of the human factor as opposed to any form of automation in this critical stage of both research and external audit.

Alles and Gray (2016, p. 2) further clarify the notion of Big data in audit, by separating the volume and diversity characteristics: Big data in audit is not about more volumes of the same kind of data, but rather entails incorporating new data sources, both financial and non-financial, structured or non-structured, in the audit process, even those provided by third parties. The research is based on the premise that the true value of Big data in auditing stems not from itself, as a novelty subject, but from the added value that can be obtained using analytical procedures applied to various datasets.

Computer-assisted audit techniques have been referred to since the '70s and can be broadly defined, according to Braun and Davis (2003, p. 726), as any use of technology supporting an audit assignment. The broad definition would include *"automated working papers and traditional word processing applications"*.

Concurrently, we have to take into consideration the audit profession's strive to maintain legitimacy by adapting to the developments of auditees and society as a whole. As per Deephouse *et al.* (2017, p.9), organizational legitimacy is "*the perceived appropriateness of an organization to a social system in terms of rules, values, norms and definitions*". Salienji *et al.* (2018, p. 5) underline that the extensive use of data analytics in auditing must be viewed in light of the constant preoccupation to restore and preserve the legitimacy of the audit function. Indeed, the interviews conducted by Eilifsen *et al.* (2020, p. 29) with the management of external audit companies confirm the perception of external pressure conducive to favoring data analytics to the detriment of classic audit tools. Salijeni *et al.* (2018, p. 2) confirm this hypothesis, concluding that the changes made to the audit profession, firstly by introducing statistical sampling methods, audit and entity risk models and lately through implementing data analytics, were made in response to the public preoccupation with the quality of the audit work and the relevance of the audit function, thus seeking to present the audit process as an objective one, reliant on almost scientifically-based evidence gathering process.

According to Appelbaum *et al.* (2017, p. 3), external audit lags behind internal audit with regard to adapting to data analytics, with un-updated sampling guidelines, although many auditees collect and analyze data through automation. The authors illustrate their conclusion with the case of complex data analytics employed by some external audit companies, such as regression, although the audit standards make no reference to it, but rather do not prohibit its use. Appelbaum *et al.* underscore the necessity to delve into the specifics of each data analysis technique, to establish its applicability in different contexts, their cumulative effect and whether they can be formalized and classified.

However, each external audit actor has a different approach to data analytics. While some entities have adopted an expectative approach, others are fully invested in reforming their audit process, by centralizing data analytics operations and committing resources to facilitate their use.

In one of the most complete studies in data analytics in audit, Appelbaum *et al.* (2010, p. 24) reviewed 301 relevant research papers and reached less than encouraging results, concluding on the existence of numerous gaps in the available research, especially concerning predictive or prescriptive procedures, with the majority of research being focused on descriptive procedures (using key performance indicators, visualization platforms etc.). Similar to Eilifsen *et al.*'s results, the authors concluded that the majority of data analytics is employed in the substantive testing phase, including decisions on sampling, benchmarking, or expectation models.

The last decade introduced several advanced data analysis techniques to the audit field, such as Process mining, Robotic Process Automation, Machine Learning and Deep Learning. These tools are promising developments for increasing audit efficiency through automation, as well as reducing or eliminating some of the classic tests. Furthermore, audit assurance can be augmented by expanding the scope of the innovative procedures, while increased transparency and generating more actionable information for the client can be considered audit digitalization's byproducts.

### 3. Research methodology

We analyzed 38 INTOSAI standards and Guidelines regarding SAI activities and audit performance, aiming to gain perspective on the existence of INTOSAI norms related to 11 specific terms and emerging technologies: big data, data science, data analytics, open data, artificial intelligence (abbrev. AI), blockchain, data visualization, natural language processing (abbrev. NLP), data mining, process mining (abbrev. PM), robotic process automation (abbrev. RPA). Where found, we analyzed the context – either broad or specific regulations related to one audit activity and we determined whether definitions, external references, or explanatory materials are provided for each concept.

The second dimension of our research was aimed at ascertaining the level to which Romanian public external audit standards and regulations are adapted to the technological progress of the last decade, following the same evaluation method described for the INTOSAI standards and guidance. In order to ensure reaching adequate conclusions, analysis of the coined English expressions was doubled by their native alternatives.

Furthermore, we set out to analyze the subsequent internal norms and regulations, in the form of Romanian Court of Accounts' (abbrev. RCoA) bylaws, audit manuals and subsequent audit guidance on specific fields.

Concurrently, we aimed to evaluate the impact of the INTOSAI cooperation efforts to update the external audit profession to the latest impactful digital trends, by analyzing the membership representation of the established working groups in comparison to relevant criteria such as economic contribution to global GDP and also by reviewing their published work and their impact on the external audit world.

#### 4. Findings

The International Organization of Supreme Audit Institutions Framework for Professional Pronouncements (abbrev. IFPP, 2022) has a three-layer approach to audit standardization:

- *INTOSAI Principles*, coded INTOSAI-P are divided into the *founding principles* related to SAI role and functions, aimed to guide parliaments and governments in defining SAI mandate and respectively, the *core principles* that detail the SAI founding principles and clarify their role in society as well as offering high-level prerequisites for their proper functioning and professional conduct;
- *International Standards of Supreme Audit Institutions*, coded ISSAI, aimed to define the types of audit engagements and their specifics, ensure audit quality, strengthen user credibility for the audit reports, enhance the transparency of the audit process and clarify the auditor's third-party responsibility;
- *The INTOSAI Guidance*, coded GUID, which helps auditors apply ISSAIs in financial, performance or compliance audits or other types of audit engagements, or to understand a specific subject matter and the application of the relevant ISSAIs.

Although not mandatory given the specific national attributes of each SAI, INTOSAI encourages Supreme Audit Institutions to implement its standards in a manner concurrent with their national mandate and circumstances, except for ISSAI 100 which contains universally applicable professional standards and aims to safeguard SAI independence.

According to ISSAI 100 (INTOSAI, 2019, p. 6), the INTOSAI Standards can be used to establish national authoritative audit standards in one of three ways, classified in accordance to their proximity with ISSAIs:

- adopting the ISSAIs as national authoritative standards;
- adopting national standards based on ISSAI, in which case the standards should respect all the fundamental principles of ISSAI 100 and the relevant principles of financial, performance and compliance audit;
- adopting national standards consistent with ISSAI 100 and the relevant principles of financial, performance and compliance audit;

Our research allowed us to conclude that the INTOSAI principles and standards do not refer to any of the analyzed concepts. According to its governing law (1992, p.1), the RCoA audits abide by its own audit standards, set up in accordance with generally accepted international audit standards. However, the website section referring to RCoA's audit standards hosts the translated version of the ISSAI standards, which allows us to draw identical research conclusions on their readiness regarding a data analytics approach.

As per specific Guidance issued by INTOSAI, research results illustrate a 45% presence among the analyzed concepts, since 5 out of 11 concepts were mentioned in at least one Guidance material, as Table 1 illustrates. Most abundant in novel IT concepts were the performance audit guidance documents (GUID 3910), that host 3 out of 5 identified concepts, while 3 other uses were found to pertain to specific areas of audit – either environmental audit or key national indicators audit (GUID 5290). Out of the 11 concepts, only data visualization was found in 2 different Guidance materials (GUID 3910 & GUID 5290), while six other concepts were not identified in any of the researched standards & guidance (big data, AI, blockchain, NLP, PM and RPA).

It is noteworthy that none of the 5 IT concepts identified received sufficient attention in terms of providing definitions, external references or explanatory materials to allow auditors a better understanding.

In terms of the national guidance researched, none of the 11 concepts analyzed were identified, with one of them (robotic process automation) being identified contextually, with regard to software automated controls and the need for the auditor to understand and test them properly.

As with the international guidance analyzed, no definitions, references or explanatory material are provided.

*Table no. 1. The presence of Big data concepts and technologies in INTOSAI & Romanian standards & guidance*

No.	Analyzed concept	Standards containing the concept	Guidance containing the concept		Broad/specific context		Definition/References/Explanatory material	
			INTOSAI	RCoA	INTOSAI	RCoA	INTOSAI	RCoA
1	Big data	0	0	0	n/a		n/a	n/a
2	Data science	0	1	0	Specific field (KNI)		No	n/a
3	Data analytics	0	1	0	Broad context (PA)		No	n/a
4	Open data	0	1	0	Specific field (environment)		No	n/a
5	Artificial intelligence	0	0	0	n/a		n/a	n/a
6	Blockchain	0	0	0	n/a		n/a	n/a
7	Data visualization	0	2	0	Broad (PA) and Specific fields (environment)		No	n/a
8	Natural language processing	0	0	0	n/a		n/a	n/a
9	Data mining	0	1	0	Broad context (PA)		No	n/a
10	Process mining	0	0	0	n/a		n/a	n/a
11	Robotic process automation	0	0	3*	n/a	Broad context (CA, purchases, IT audit)	n/a	No

\* identified contextually

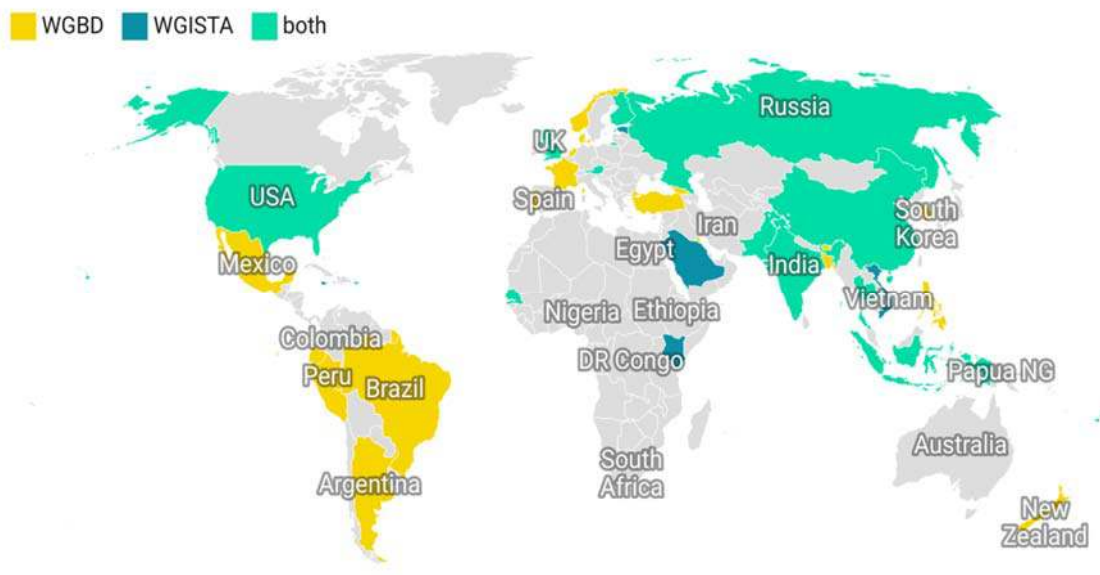
Source: own representation

Aside from its contribution to the field of IT audit, aimed at developing SAI knowledge and skills in the use and audit of information technology through the Working Group on IT Audit (abbrev. WGITA), INTOSAI also set up two other relevant working groups (INTOSAI, 2022, p. 1): the *Working Group on Big Data* (abbrev. WGBD), chaired by the Chinese and American SAIs and composed of a total of 30 members and the *Working Group on Impact of Science and Technology on Auditing* (abbrev. WGISTA), chaired by United Arab Emirates and American SAIs, comprised of 18 national SAIs. Twelve of the SAIs participating are common among the two working groups, as the mapping in figure 1 shows.

While WGBD is attended by three of the G7 member states (France, United Kingdom and the United States), WGISTA hosts only 2 G7 member states (United Kingdom and the United States). The G20 participation is slightly better, with 11 members joining WGBD and 7 members contributing to WGISTA. Although a promising start, we can conclude that the INTOSAI working groups on IT matters are not sufficiently representative for the entire SAI population – 18.2% of the INTOSAI members and affiliate members, but also for the developed and developing nations that enjoy the largest economies and the majority of global GDP.



Figure no. 1 INTOSAI WGBD and WGISTA Member SAIs



Source: Own representation based on INTOSAI (2022)

The INTOSAI WGBD was set up by INTOSAI in December 2016, aiming to examine the challenges and opportunities SAIs face regarding Big data, to aid the proliferation of Big data good practices and strengthen relevant SAI cooperation.

The WGBD webpage (INTOSAI, 2022) indicated on INTOSAI's website is not updated since 2018 and its latest news refers to the second WGBD meeting in April 2018. No documents are offered to the public regarding its current or past work. However, the Chinese National Audit Office, as chair of the working group, hosts a secondary webpage for WGBD on its website, although not officially referenced by INTOSAI. Since its formation in 2016, at the proposal of the Knowledge Sharing Committee, WGBD has met 6 times, mostly online, meetings that have not produced any actionable materials. Furthermore, although WGBD aims to summarize the know-how, experiences and good practices concerning big data audit, and to develop guidelines supporting capacity-building activities in big data audit, no such publications were issued.

WGISTA was established in 2019 (INTOSAI, 2022) by INTOSAI at the International Congress of Supreme Audit Institutions (INCOSAI), aiming to support SAIs in understanding the strategic direction of the auditing profession faced with disruptive technologies and developments in science and technology, such as Blockchain, Artificial Intelligence, machine learning, data analytics, quantum computing and 5G.

At the time our research was conducted, WGISTA had met only once since its inaugural meeting in 2020. No documents were released to the public as of yet on its official website.

The INTOSAI Working Group on IT Audit (abbrev. WGITA) is the most venerable INTOSAI IT-related collaborative forum, formed in 1989 and currently comprised of 54 SAIs (INTOSAI WGITA, 2022), as illustrated in Figure 2.

Apart from enjoying the best representation of the three related IT working groups, it is attended by 5 G7 members and 15 G20 members.

Moreover, WGITA enjoys standard-setting attributes, its mission aiming to develop SAIs knowledge and skills in the use of IT-related audits, through the development of standards and guidance on the subject matter and by providing information and facilities for the exchange of experiences.

WGITA has met regularly over the course of its existence, the latest and 31<sup>st</sup> meeting was hosted online on May 23<sup>rd</sup>, 2022, setting forward the agenda for 2023-2025 (INTOSAI WGITA, 2022, p. 5), which includes developing guidelines on topics such as cloud computing, big data, smart city initiatives, use & review of AI solutions, blockchain solutions and use of IT for forensic audit.

*Figure no. 2 INTOSAI WGITA Member SAIs*



*Source:* Own representation based on INOSAI (2022)

Since its creation in 1989, the IT landscape that WGITA was born of changed dramatically, giving rise to the need for further clarification to the field. The creation of WGBD and WGISTA is illustrative of this conclusion, although their work is still not materialized into actionable materials. Furthermore, the 3-year roadmap proposed at the May 2022 meeting, which contains several of our researched concepts, allows us to conclude that WGITA's efforts to support SAIs in using and auditing Information Technology are lagging behind the rhythm of development and use of novel technologies.

## **5. Conclusions**

In our view, the introduction of data analytics to the audit field is still in an incipient stage, although analytical procedures are a longstanding requirement of the audit standards and are used throughout the audit mission. Computer-assisted audit techniques were introduced beginning with the '60s, starting with statistical sampling. Four decades ago, software producers began offering standardized data analysis platforms - Interactive Data Extraction and Analysis developed by Caseware (IDEA, presently one of the widely used audit software) or Audit Command Language (ACL) developed by Galvanize. These software solutions reflected the strive to maintain audit's legitimacy during a booming development of ERP solutions, that empowered companies to create, store and process large amounts of data and, indirectly, paved the way for a revolution in auditing.

Our research allowed us to conclude that the INTOSAI principles and standards do not refer to any of the analyzed concepts. Since the Romanian Court of Accounts has adopted ISSAI as its own authoritative standards, our research results extend to the Romanian national standards as well.

Only 5 concepts were present in at least one Guidance material, while six other concepts were not identified in any of the researched standards & guidance (big data, AI, blockchain, NLP, PM and RPA). The concepts that were mentioned did not penetrate the broad financial and compliance audit activities, but only the performance audit and specific fields such as environmental audit and KNI audit.

Furthermore, none of the 5 IT concepts were provided with definitions, external references or explanatory material.

In terms of the national guidance material analyzed, none of the 11 concepts analyzed were identified, with one of them (robotic process automation) being identified contextually, with regard to software application automated controls and the need for the auditor to understand and test them properly.

Concerning the INTOSAI working groups on the IT agenda, we can safely conclude that the collaborative framework set forth by INTOSAI is not yet conducive to adapting the public audit profession to the ever-growing challenges of digitalization, both in the audited entities and also concerning the audit procedures and workflows themselves. Apart from the fact that WGBD and WGISTA have no standard-setting orientation, their work has not yet materialized into actionable documents - manuals, guidelines etc., needed to prepare the Supreme audit institutions' audit process to adapt to the present digital landscape.

Although a promising start, we can conclude that the INTOSAI working groups on IT matters – both WGISTA and WGBD are not sufficiently representative for the entire SAI population – 18.2% of the INTOSAI members and affiliate members, but also for the developed and developing nations that enjoy the largest economies and the majority of global GDP.

Furthermore, WGITA's 3-year roadmap proposed at the May 2022 meeting, which contains several of our researched concepts, allows us to conclude that WGITA's efforts to support SAIs in using auditing of Information Technology are lagging behind the rhythm of development and use of novel technologies.

## 6. Research limits and future developments

Further research is needed to exclude the potential overlap between the focus of INTOSAI working groups on IT matters. Although the mission of WGBD and WGISTA are clearly stated, the initially formed INTOSAI Work Group on IT Audit (WGITA) handled a broader portfolio than auditing IT systems.

Furthermore, since ISSAIs are complemented with ISAs, further consideration needs to be given to the AICPA materials on data analytics and their impact on the public audit environment.

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## Public Debt Sustainability in E.U.

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### Abstract

*The topic of public debt sustainability is an important one, and the rapid increase of public debt for the E.U. countries following the Covid-19 pandemic raised the importance of this topic. In the article, we analyzed the way in which the economic growth and the public budget deficit influence the public debt for the E.U. states. A multifactor regression model based on panel data was used, and the result indicated that there is a valid relationship between these variables, and this suggests a certain form of sustainability of public finances and public debt for these states. Therefore, there is a negative relationship between economic growth and public debt and there is a positive relationship between public budget deficit and public debt.*

**Key words:** public debt, sustainable debt, cointegration, Covid-19, European Union

**J.E.L. classification:** H63, H68, C12, C23

### 1. Introduction

The issue of public debt is an extremely important one for all countries, even more so in the context of the pandemic generated by the Covid-19 virus, when most states have recorded very high budget deficits to support the economy and to be able to overcome difficult periods. Thus, there are both in the public and academic environment a series of debates regarding the issue of public debt and the sustainable level, and this only increases the importance of the topic.

Considering these aspects, I decided to address the issue of public debt in the European Union, considering that it is a relevant and current topic, for which I can carry out a series of analyzes that will bring added value. The novelty element is represented by the case study approach, in which I will try to analyze what are the determinants of public debt for E.U. countries. using a multifactor regression model with panel data, but also what is the risk regarding the sustainability of these debts using an analysis regarding the dynamics of recent years.

I propose to highlight that there is a close correlation between fiscal-budgetary sustainability and public debt sustainability and that one cannot be achieved without the other. I also aim to show that the analysis of public debt dynamics (average annual growth of public debt and maximum annual growth) for European Union states can provide relevant information regarding debt management in these countries and the risk for debt sustainability for the future.

The quantitative analysis of the paper is based on a multifactorial regression econometric model, built considering the organization of the database in panel form. According to the methodology in the field, three types of estimates will be made (combined regression, regression using fixed effects and regression using random effects), so that later, based on the Hausman test, a decision can be made regarding the most suitable estimation method for the case selected database. After the most suitable method is decided, one can proceed to the interpretation of the results and to the realization of some tests regarding the stability of the model. It should be noted that before starting all the steps, it is necessary to test the stationarity of the data series using the modified ADF (Augmented Dickey Fuller) test for data series organized in panel form.



## 2. Theoretical background

It is important to discuss fiscal and public debt sustainability, these two concepts are closely related, and their fulfillment is interconnected and conditional. The lack of fiscal sustainability will lead to the lack of sustainability of the public debt through the increase of the deficit, which will be reflected in the increase of the public debt. The relationship manifests itself in exactly the same way and in the opposite direction, that is, an increase in public debt leads to an increase in public spending (with interest), and this will lead to a lack of fiscal-budgetary sustainability.

At the same time, the analysis mechanisms for these two concepts are interconnected and lead to similar results, and in the case study part I will develop an econometric model to analyze the determinants of public debt and the way in which the budget deficit influences public debt. Therefore, I will try to emphasize the connection between fiscal-budgetary debt sustainability and public debt sustainability.

From a financial point of view, the concept of sustainability refers to any form of service that considers environmental, governance and social criteria when making business or investment decisions for the long-term benefit of customers and society in general. Thus, sustainability contributes to the development of value from an economic, social and environmental point of view.

Among the activities that fall within the field of sustainable finance, we can mention green bonds, microfinancing for ESG activities, sustainable funds, loans for sustainable projects and for the development of the entire financial system. Consequently, increasing the level of financial literacy and intermediation generally has a beneficial effect on fiscal sustainability and societal well-being.

For the smooth running of the economy and to ensure economic growth, it is necessary to ensure a sustainable fiscal-budgetary policy, taking into account the absorption of shocks, the restructuring of the economy, economic growth, each of which can represent a factor that stimulates in the long term medium and long economic growth and generation of added value in the economy. The shock absorption strategy has as its starting point the reality that the economy generates a state of equilibrium, and the authorities would have the role of contributing to the reduction of negative shocks.

The most pressing problem of the European economies is that of ensuring the budget revenues necessary to cover public expenses, in the conditions in which it is aimed to fall within the limits established by the Maastricht Treaty regarding the maximum budget deficit of 3% of GDP and the maximum accepted public debt of 60 % of GDP. Therefore, covering the budget deficit requires the implementation of a mix of macroeconomic policies that properly manage budget resources

In the conditions in which there was an increase in aggregate demand and an intensification of public expenditures to cover medium and long-term objectives, an increase in public debt expressed as a percentage of GDP was increasingly observed. The need to achieve minimum standards of living, job creation, infrastructure and economic growth can lead to spending that exceeds government revenue. On the other hand, there is the possibility for governments to spend more than revenues and to achieve financing through different methods: i) issuing currency, ii) contracting debts on the internal or external market. Most economists vehemently reject the first method, which often leads to high inflation and declining living standards.

Blanchard et al. (1990) highlighted that fiscal policy is sustainable when public debt does not explode and when governments are not forced to raise taxes or excessively increase budget deficits. According to them, the present value of future primary surpluses must be equal to the current level of public debt. They believed that the government should take out new loans only to finance the primary deficit, to pay interest, and for and to pay off maturing debt. Thus, all other reasons not being consistent with the idea of a sustainable fiscal-budgetary policy and a sustainable debt (Blanchard et al., 1990)

For this paper, I consider that the article by the authors Can and Aktaş (2021) is relevant, which highlights in detail the challenges that arose in obtaining financing during the Covid-19 Pandemic. The two authors emphasized the situation of developing countries, for which access to the financial markets was much more difficult than for developed countries. All these events were very accentuated in the first months after the outbreak of the Covid-19 Pandemic, when most investors were reluctant and watched the events in the financial markets with concern. Furthermore, I can bring into discussion the article published by Duarte et al. (2021) in which a case study carried out for the

situation of Brazil was presented, highlighting the vulnerabilities and difficulties arising in the management of the public debt for this state and in obtaining the necessary financing, during the pandemic period, but also in the period that preceded the year 2020.

The strong impact of the pandemic generated by Covid-19, but also the measures taken by states to mitigate the economic and social effects, led to a significant increase in public deficits and government debt. This was possible as a result of the suspension of the Stability and Growth Pact for this period. The following directions are also important:

- the debt sustainability analysis depends to a large extent on the interest rates applied to EU member states and their growth rates. Although the result of the ECB's review of its monetary policy is disappointing in this sense, as it does not mention the future of its unconventional policies or the extension of its mandate, it cannot be neglected that the monetary measures implemented in 2020 by the European Central Bank (ECB) and- confirmed the de facto commitment to stop any return to a sovereign debt crisis by giving member states room to maneuver, from a fiscal point of view;
- moreover, we can still expect sovereign interest rates to remain low for a long time and view inflation as a temporary phenomenon, while arguing that debt cancellation for sovereign bonds held at the ECB would not change the economic situation.

However, in order to maintain confidence in the economic fundamentals of the EU Member States and to avoid a double crisis and vicious circles, economic policy, and in particular the way in which fiscal policy is followed at the level of the Member States, plays a crucial role in maintaining high levels of growth while supporting debt sustainability. Therefore, a reform of the tax system does not only aim to stabilize the economy in the short and medium term. Such a measure is extremely important to ensure funding for the socio-ecological transformation of our economy, helping to significantly increase employment and bring highly skilled jobs.

This position proposes a set of new fiscal rules to address the main weaknesses of the current rules, in particular their pro-cyclicality, while supporting economic stabilization and debt sustainability. In particular, and without changing the EU treaties or the transfer of debts:

- supports member states that have fiscal objectives specific to each country, with different adjustment paths;
- it is suggested to complement the golden rule for public investments with an expenditure rule for current budgets;
- asks the Commission, until the implementation of the new fiscal framework, to provide guidance for a transition period, in which no excessive deficit procedure is activated and with the possibility of using the "unusual event clause" on a specific country;
- reiterates its demand for a permanent fiscal capacity and new own resources.

The issue of public debt and sustainability was also analyzed by Teică (2012), who developed an extensive analysis for the countries of the European Union, Romania being included in the study sample. Also, the same type of analysis was carried out by Marcu and Meghișan (2011), who emphasized the sustainability of the debt, the ability of countries to cover the financing needs and the prospects for reducing the current income of public debts, being analyzed and the case of Romania. Thus, we highlighted that Romanian researchers also had a high interest in public debt and its sustainability, compared to other European countries. More articles were written on these theme like those of Nguyen (2018), Pamies and Reut (2020), Maitra (2019) or Briceño and Perote (2020).

Another important article for the present research is the one published by Podolskaya et al. (2021). through which the problem of the financing requirement and the increased public debt following the intervention of the states in the economy during the period affected by the Covid-19 Pandemic was analyzed. The authors highlighted the risks that appeared at the level of public debts following the problems generated by the pandemic situation, considering that the states' expenses have increased significantly to support the private environment. At the same time, Podolskaya et al. (2021). highlights significant risks regarding potential slippages in terms of public debts and the inability of states to identify the financing needs in the coming years, in the situation where drastic measures are not taken to reduce public deficits.

At the same time, the situation for Romania was analyzed by Dumitrescu (2014) and Zaman and Georgescu (2019). In these articles, the authors focused on identifying the determining factors for our country's public debt, and this can be extremely useful in the process of efficient public debt management, but also in determining a certain sustainable level. Likewise, the identification of the



determining factors can also be achieved by taking into account the determining factors for the public debt, so that in the end, a plausible estimate can be made regarding the financing needs of the public debt, considering the current level and the factors determinants. This idea was extensively analyzed by two other researchers: Pirtea and Nicolescu (2013). They had a similar approach to that of Dumitrescu (2014), the central objective being to identify the determining factors of the public debt for the case of Romania, the result being able to be used to forecast the evolution of the public debt and the financing needs for the period following

### 3. Research methodology

Through the econometric analysis of this study, I aimed to analyze, using a multifactorial regression model based on panel data series, what is the impact of economic growth and budget deficit on public debt in the European Union. In this sense, the methodology regarding the regression model adapted for data series organized in panel form will be used, and the general equation for this model is presented below:

$$dat\_publica_{it} = \alpha_i + \beta_1 creștere\_ec_{it} + \beta_2 deficit\_bug_{it} + \varepsilon_{it} \quad (1)$$

Within this model, the parameters for each of the equations will be estimated, and the results will be interpreted economically. I will also present further what are the steps of the methodology in which panel data series are used.

In order to continue the work undertaken, I must mention the fact that three sets of estimates will be made, based on the data series organized in panel form. The results will be presented as they are obtained according to the methodology known in the specialized literature (Green, 2002 and Brooks, 2008), in order to later make a decision regarding the most suitable estimation method for this type of case study. The estimation methods that will be carried out are the following:

Pooled regression (combined regression). This is the first of the three methods and is based on the rules from the classic regression estimation method using a normal data series. This does not allow the variation of the parameters according to the period, nor from one country to another. Therefore, it does not take into account that there are multiple countries or multiple time periods, making it the most rigid method of the three.

The second estimation method is the one using fixed effects. This type of method allows the model constant to vary over time depending on the class of regressors. In this case, a higher flexibility is evident, this method can also be applied to data categories that are more heterogeneous, being perfect for the case where the panel data series are composed of different countries. Thus, a part of the variation of the dependent variable that is not explained only by the inclusion of the explanatory variables is captured and in this way brings added value.

The last estimation method is the one in which random effects are used. This is the method that offers the most flexibility, offering the possibility of the free term (the constant of the model) to be estimated independently of the regressors, which can be grouped with the model errors in order to achieve a more detailed analysis. In this way, the correlation between the classes of regressions is followed, the so-called cross-sections being brought into discussion, which allow the error to be different from country to country, but also from one period to another.

The literature suggests that after the estimates are made, a decision must be made regarding the most appropriate method. The decision will be made based on the Hausman test, for which the assumptions are as follows:

**H<sub>0</sub> (null hypothesis):** Random effects estimation is appropriate for these data series.

**H<sub>1</sub> (alternative hypothesis):** Fixed effects estimation is appropriate for these data series.

As with other statistical tests, the decision is made on the basis of a significance threshold applicable to the test, and for this paper we have chosen a significance threshold of 5%, that is, it is a 95% probability. This shows that for a test probability below 5%, one can reject the null hypothesis with 95% probability and accept the alternative hypothesis that the most appropriate estimation method is that using fixed effects.

For the case study of the research report, three series of data obtained by querying the Eurostat public database will be used:

- Public debt in E.U. countries (% GDP);
- Annual economic growth in E.U. countries.;
- Public budget deficit in E.U. countries (% GDP).

The period for which data were obtained and processed is 2000 – 2021, being annual data series. This being the highest frequency for which common data could be identified for all three variables that we considered for this econometric model based on panel data.

The countries included in the case study are: Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland and Sweden.

Considering these countries and the fact that the period is 2000 – 2021, the panel data set will have 594 observations. This is a more than comprehensive data set for building an econometric model.

At the same time, for a better knowledge of the data series that will be used, I will present a table with descriptive statistics for them, which I will later comment on. This is a common approach for any scientific work.

*Table no. 1. Descriptive statistics*

	<b>Public debt (% GDP)</b>	<b>Public deficit (% GDP)</b>	<b>Economic Growth (%)</b>
<b>Maximum</b>	206.3	6.9	24.4
<b>Minimum</b>	3.8	-32.1	-14.8
<b>Mean</b>	59.4	-2.6	2.4
<b>Median</b>	53.5	-2.4	2.6
<b>St. Dev</b>	35.4	3.6	3.8
<b>Skewness</b>	1.05	-1.34	-0.55
<b>Exces of kurtosis</b>	1.4	7.8	4.0
<b>Nr. Observations</b>	594	594	594

*Source:* Authors' own computations

### 3. Findings

For this part of the case study, a multifactorial regression model was estimated, based on data series organized in panel form. As I specified in the methodology part, the form of the mathematical equation for estimating the model is as follows:

$$dat\_publica_{it} = \alpha_i + \beta_1 creștere\_ec_{it} + \beta_2 deficit\_bug_{it} + \varepsilon_{it} \quad (1)$$

Starting from this, the estimates were made using the three types of estimation methods: pooled regression, fixed-effects regression and random effects regression. First I will present the outputs from Eviews for this, and later I will present the results of the Hausman test, which helps us choose which is the most appropriate estimation method. With the help of this test I will decide which result is more suitable for this approach, and later I will interpret the estimates made from an economic and econometric point of view.

However, before performing the actual estimation, it was necessary to check the stationarity of the data series using the Augmented Dickey-Fuller (ADF) test adapted for panel data series. The results from the Eviews and interpretations are presented below, before moving on to the model results.

The test hypotheses are the following:

H0 : has an unit root

H1: does not have an unit root

Based on these assumptions and the probability associated with the test, the decision will be made regarding the stationarity of the data series.

The first result for the ADF test is for economic growth. Below is the output from Eviews:

Panel unit root test: Summary

Series: CRESTERE\_EC

Date: 07/30/22 Time: 15:49

Sample: 2000 2021

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross- sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-5.25403	0.0000	27	540
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-11.8980	0.0000	27	540
ADF - Fisher Chi-square	236.999	0.0000	27	540
PP - Fisher Chi-square	566.526	0.0000	27	567

\*\* Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Within this output the probability associated with the test is important, and in this case it is a probability of zero (0%), less than the significance threshold I will use to make the decision in this test (5%). This shows that the alternative hypothesis (H1) can be rejected and the null hypothesis that the data series is stationary can be accepted and used in the model.

The second series of data tested is the one related to the public debt for the countries of the E.U. Below is the output from Eviews:

Panel unit root test: Summary

Series: DATORIE\_PUBLICA

Date: 07/30/22 Time: 15:49

Sample: 2000 2021

Exogenous variables: Individual effects

User-specified lags: 1

Newey-West automatic bandwidth selection and Bartlett kernel

Balanced observations for each test

Method	Statistic	Prob.**	Cross- sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-2.12319	0.410	27	540
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.49574	0.0063	27	540
ADF - Fisher Chi-square	66.0663	0.0256	27	540
PP - Fisher Chi-square	63.5790	0.0447	27	567

\*\* Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

And for the case of this variable we noticed that the associated probability is less than 5%. Thus, we can state that the data series is stationary according to the ADF test and can be used in the regression model.

The last series for which the ADF test will be applied is that for economic growth.

Panel unit root test: Summary  
Series: DEFICIT\_BUGETAR  
Date: 07/30/22 Time: 15:50  
Sample: 2000 2021  
Exogenous variables: Individual effects  
User-specified lags: 1  
Newey-West automatic bandwidth selection and Bartlett kernel  
Balanced observations for each test

Method	Statistic	Prob.**	Cross- sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	1.94199	0.9739	27	540
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-1.56428	0.0589	27	540
ADF - Fisher Chi-square	54.0061	0.4742	27	540
PP - Fisher Chi-square	102.822	0.0001	27	567

\*\* Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

As with the other two data series, the ADF test indicated that the economic growth series is stationary (the probability associated with the test is less than the 5% threshold). Therefore, this data series can also be used without problems in the multivariate regression model based on panel series.

Next, I will present the results of the model, using the three estimation methods that I presented in the research methodology:

#### a) Pooled regression

Dependent Variable: DATORIE\_PUBLICA  
Method: Panel Least Squares  
Date: 07/30/22 Time: 16:02  
Sample: 2000 2021  
Periods included: 22  
Cross-sections included: 27  
Total panel (balanced) observations: 594

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CRESTERE_EC	-0.168876	0.119163	-1.417189	0.1570
DEFICIT_BUGETAR	-1.150121	0.114874	-10.01201	0.0000
C	99.38480	0.465120	213.6756	0.0000
R-squared	0.215919	Mean dependent var		101.8727
Adjusted R-squared	0.213266	S.D. dependent var		6.158691
S.E. of regression	5.462638	Akaike info criterion		6.238778
Sum squared resid	17635.68	Schwarz criterion		6.260934
Log likelihood	-1849.917	Hannan-Quinn criter.		6.247407
F-statistic	81.37443	Durbin-Watson stat		0.302949
Prob(F-statistic)	0.000000			

### b) Fixed-effects regression

Dependent Variable: DATORIE\_PUBLICA

Method: Panel Least Squares

Date: 07/30/22 Time: 16:04

Sample: 2000 2021

Periods included: 22

Cross-sections included: 27

Total panel (balanced) observations: 594

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CRESTERE_EC	-0.020055	0.014473	-1.385665	0.1664
DEFICIT_BUGETAR	0.484903	0.038744	12.51550	0.0000
C	4.786456	1.436117	3.332915	0.0009

#### Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.281988	Mean dependent var	1.581818
Adjusted R-squared	0.246405	S.D. dependent var	2.217850
S.E. of regression	1.925312	Akaike info criterion	4.195643
Sum squared resid	2094.357	Schwarz criterion	4.409817
Log likelihood	-1217.106	Hannan-Quinn criter.	4.279054
F-statistic	7.924830	Durbin-Watson stat	2.197814
Prob(F-statistic)	0.000000		

### c) Random effects regression

Dependent Variable: DATORIE\_PUBLICA

Method: Panel EGLS (Cross-section random effects)

Date: 07/30/22 Time: 16:05

Sample: 2000 2021

Periods included: 22

Cross-sections included: 27

Total panel (balanced) observations: 594

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CRESTERE_EC	-0.020055	0.014473	-1.385665	0.1664
DEFICIT_BUGETAR	0.484903	0.038744	12.51550	0.0000
C	4.786456	1.436117	3.332915	0.0009

#### Effects Specification

	S.D.	Rho
Cross-section random	0.000000	0.0000
Idiosyncratic random	1.925312	1.0000

#### Weighted Statistics

R-squared	0.281988	Mean dependent var	1.581818
Adjusted R-squared	0.279558	S.D. dependent var	2.217850
S.E. of regression	1.882485	Sum squared resid	2094.357
F-statistic	116.0532	Durbin-Watson stat	2.197814
Prob(F-statistic)	0.000000		

#### Unweighted Statistics

R-squared	0.281988	Mean dependent var	1.581818
Sum squared resid	2094.357	Durbin-Watson stat	2.197814

After estimating using these three methods we applied the Hausman test to choose which method is the most suitable for these data series. The results obtained in Eviews for this test are presented below, and they will be interpreted according to the research methodology.

Correlated Random Effects - Hausman Test  
Equation: Untitled  
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000000	2	1.0000

\* Cross-section test variance is invalid. Hausman statistic set to zero.

\*\* WARNING: estimated cross-section random effects variance is zero.

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
DATORIE_PUBLICA	-0.020055	-0.020055	-0.000000	NA
DEFICIT_BUGETAR	0.484903	0.484903	-0.000000	NA

Cross-section random effects test equation:  
Dependent Variable: DATORIE\_PUBLICA  
Method: Panel Least Squares  
Date: 07/30/22 Time: 16:05  
Sample: 2000 2021  
Periods included: 22  
Cross-sections included: 27  
Total panel (balanced) observations: 594

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.786456	1.436117	3.332915	0.0009
CRESTERE_EC	-0.020055	0.014473	-1.385665	0.1664
DEFICIT_BUGETAR	0.484903	0.038744	12.51550	0.0000

#### Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.281988	Mean dependent var	1.581818
Adjusted R-squared	0.246405	S.D. dependent var	2.217850
S.E. of regression	1.925312	Akaike info criterion	4.195643
Sum squared resid	2094.357	Schwarz criterion	4.409817
Log likelihood	-1217.106	Hannan-Quinn criter.	4.279054
F-statistic	7.924830	Durbin-Watson stat	2.197814
Prob(F-statistic)	0.000000		

The probability associated with this test is very close to 100%, and this suggests that the hypothesis H0 (null hypothesis) that the most appropriate estimation method is the one using random effects is rejected. Thus, the most suitable method for the proposed model is the one using fixed effects.

In the following, I will resume the output for this method and make economic interpretations for it:

Dependent Variable: DATORIE\_PUBLICA  
Method: Panel Least Squares  
Date: 07/30/22 Time: 16:04  
Sample: 2000 2021  
Periods included: 22  
Cross-sections included: 27  
Total panel (balanced) observations: 594

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CRESTERE_EC	-0.020055	0.014473	-1.385665	0.1664
DEFICIT_BUGETAR	0.484903	0.038744	12.51550	0.0000
C	4.786456	1.436117	3.332915	0.0009
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.281988	Mean dependent var		1.581818
Adjusted R-squared	0.246405	S.D. dependent var		2.217850
S.E. of regression	1.925312	Akaike info criterion		4.195643
Sum squared resid	2094.357	Schwarz criterion		4.409817
Log likelihood	-1217.106	Hannan-Quinn criter.		4.279054
F-statistic	7.924830	Durbin-Watson stat		2.197814
Prob(F-statistic)	0.000000			

To estimate this model it is important, first of all, to highlight what the estimated coefficients are for this equation:

- The estimated coefficient for economic growth is -0.02
- The estimated coefficient for the budget deficit is 0.48
- The constant of the model is 4.78

Thus, it is highlighted that there is a negative relationship between economic growth and public debt. Therefore, if there is an economic growth of 1%, public debt decreases by 0.02% of GDP, according to the regression model calibrated in Eviews and presented in this research report. These results are in line with expectations and highlight an economic reality, giving more certainty to the correctness of the work and the calculations made.

On the other hand, a positive relationship was registered between the budget deficit and the share of public debt in GDP, i.e. an increase in the budget deficit by 1 p.p. leads to an increase in the public debt by 0.48 p.p., under conditions where all other variables remain constant. And this result is according to theory and expectations in the sense that an increase in the deficit will require borrowing to cover it, and this will translate into an increase in public debt.

Also important for model results is the degree of determination (R-Squared). Its value for the current estimate is 0.28 (28%). Therefore, it can be said that the model built based on economic growth, the budget deficit and the constant of the model explains in a proportion of 28% the variation of the public debt for the case of Romania. The remaining 72% is explained by a number of other quantitative and qualitative variables that are not taken into account in the model. Even if the percentage of 28% seems to be a low one, considering the amplitude of the correlations in the economy and the complexity of the influencing factors on the public debt, this degree of determination is a realistic one, a level that shows that the model is close to reality and not over-estimate the estimated links.

#### 4. Conclusions

Public debt is a current and highly debated topic in the specialized literature, and these things led me to consider this topic. Thus, the analysis of the public debt of the European Union, the factors of influence and sustainability is the central point of this work.

In this paper, we considered the important issues related to fiscal sustainability and public debt sustainability. Economic theory states that these two concepts cannot be realized without each other and that, the current situation, requires a much higher attention to the sustainability of the public

debt. I highlighted the directions to follow in order to analyze the sustainability of the public debt and what should be the methodology used, but also which are the most relevant works that I considered from the specialized literature, for the substantiation of the case study.

In the research results part, we analyzed the influence of economic growth and the budget deficit on the evolution of public debt in the European Union. The analysis was carried out with the help of a multifactorial regression model built on the basis of data series organized in panel form for the countries of the European Union. Three types of estimation were performed: combined regression, regression using fixed effects, and regression using random effects, and the results indicated that the most appropriate method is the one using random effects. According to it, the existence of an inverse relationship between economic growth and public debt and a direct, significant relationship between the budget deficit and public debt was established. Thus, it was confirmed that there is a strong correlation between the achievement of fiscal-budget sustainability (measured by the budget deficit) and the sustainability of the public debt (measured by the public debt at the level of the EU countries) and that the achievement of any of these cannot be achieved independently.

The present paper brings the discussion on public debt in the E.U. at a certain point and can be extended in different directions. One of the directions that can be approached for expanding the research is that of the in-depth analysis of sustainability, and here I am referring to an empirical analysis regarding the way in which the debts of different states are sustainable, an analysis carried out at the level of each state by correlating public expenditures and revenues in within a VAR (vector autoregressive) model and by applying some causality tests (e.g. the Granger test). These methods have proven to be very effective in the past for sustainability analysis for different countries and situations. There are a number of methodologies in the specialized literature that are based on econometric models and that allow the verification of sustainability, but also of the sources of instability for public debt. Thus, I consider that an expansion in this direction would be auspicious and could bring added value for the current research, but also for the specialized literature.

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## The Genesis of Economic and Financial Criminality

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### Abstract

*Financial crime is a global problem and as globalization makes foreign markets more accessible, this becomes more apparent. Financial crime involves the illegal making of money through relationships with transnational organized crime, tax evasion, corruption, stock fraud, drug or people trafficking, and embezzlement. To detect, manage and combat financial crime more effectively, stakeholders need to implement more cohesive and integrated financial crime programmes. The fight against financial crime therefore requires cooperation and coordination between many jurisdictions and the public and private sectors. This complex challenge requires constant dialogue between government and regulatory agencies, reporting entities, industry representatives and global and local independent watchdogs to develop mechanisms to collect and monitor data sharing.*

*Crime remains in the interest of other disciplines, especially criminology and criminal law, which translates into the awareness that there is a real need to define this phenomenon precisely to be able to fight against it.*

**Key words:** economic-financial crime, globalization, profit, loss

**J.E.L. classification:** G14, G17

### 1. Introduction

Since the dawn of mankind, the inheritance of some has fueled the greed of others. It thus generated theft, embezzlement and even murder, with the sole purpose of appropriating it, and thus gaining power. If at first it was only about depriving others of the basic elements and necessities, over the centuries this need was reflected more in values, wealth, land inherited at birth, acquired through work or through wise investments. Little by little, what would become delinquency was able to adapt to the evolution of various societies. In a rustic appearance, it could move after civilizations, the latter, according to A. DEHEL, "in no way to make it disappear, but to make it evolve" (A. DEHEL, *Le poison au service du crime*, Société Parisienne d'Edition, Paris, 1946). This fundamental role of society, both victim and vector of criminal behavior, is also taken over by D. SZABO, full professor at the School of Criminology of the University of Montreal. Accredits the DEHEL theory. He states that each phase of social evolution tends to correspond to a constant ratio of physiological, biological and social factors of delinquency. (D. SZABO, *Déviance et criminalité*, Coll. U2, Armand Collin, Paris, 1970, p. 11-32) This predominant role of society is also extended to all communities, none of which escapes a crime more or less developed, which present themselves in different forms, as noted by E. DURKHEIM (E. DURKHEIM, *Les règles de la méthode sociologique*, Félix ALCAN éditeur, Paris, 1895, p. 81) in the 19th century. Thus, as a corollary of every social evolution, delinquency has been inspired by novelties, modernism, technology to persist and cause ever greater harm. Whether harming the person or specifically targeting property, it has established its superiority by hijacking legal systems for the benefit of the crime industry. If, in general, it knows how to "live with the times", some of its components make these three words an axiom, since their forms adapt almost naturally to the developments of different social groups. Thus, in addition to small and medium-sized adult and juvenile delinquency, serious attacks on persons and property, there is organized crime, a particular form of deviant behavior.

Inspired by a sense of greed, economic crime has devastating effects and affects everyone. Generating significant financial losses, both for the economies of the states affected by this phenomenon, as well as for natural persons, it can cause significant physical and mental damage. It is an international scourge, which finds its bases in the various international socio-economic systems that offer it, even unwittingly, fertile ground for its survival.

Globalization, neoliberalism, financial markets, spheres of commerce and free enterprise are all environments in which this "economic crime" thrives, circumventing all forms of state regulation. The fight against this scourge, which threatens even democracies, has become a categorical imperative. The need for this "white collar" fight against crime finds a favorable echo in the light of recent cases, which have directly and severely shaken the international economy.

Economic and financial crime has survived the test of time and established itself in the very heart of the heights of power.

## **2. Literature review**

Financial crime has been a central issue on the international scene for several decades. Authorities are constantly looking for new ways to detect and prevent financial crime, and criminals are constantly developing innovative tactics to stay ahead.

Financial crime is defined as a crime that is committed specifically against property. These crimes are almost always committed for the personal benefit of the offender and involve an illegal conversion of ownership of the property in question. Financial crimes can take many different forms and happen all over the world. Money laundering, terrorist financing, fraud, tax evasion, embezzlement, forgery, counterfeiting and identity theft are among the most common crimes facing the financial sector. These crimes are committed every day, and governments around the world are constantly tracking financial criminals in search of new ones.

The two most widespread types of financial crimes today are money laundering and terrorist financing. While the term "terrorist financing" is fairly straightforward, money laundering can be a more complex concept to understand. In essence, however, money laundering is nothing more than disguising the proceeds of crime. Cartels and mafia groups are among the most important money launderers in the popular media, but money laundering can extend beyond organized crime groups and occurs at a wide variety of scales.

Criminals who launder money and finance terrorists usually use very sophisticated techniques, which means they are difficult to detect and catch. Both crimes are often international because money launderers and terrorist financiers must smuggle money across borders to facilitate their plans. It is not uncommon for these criminals to have corrupt relationships with government and corporations; they may be employees of financial institutions, accountants, government officials and other service providers.

The primary method by which officials are currently combating financial crime is extensive surveillance through the use of technology. Anti-money laundering technology has made it much easier to catch criminals before the law because it allows financial professionals to quickly collect, organize and view account and transaction data. Compliance software is now commonly used by financial institutions and businesses to track customers due to its efficiency and ease of use.

Of course, international action against various forms of crime is essential, either through prevention or, when this is (inevitably) ineffective, through public prosecution or administrative sanctions. While there will never be enough resources to try everything that might work in the fight against organized crime, on the other hand, cross-border cooperation in the investigation and basic prevention of corruption and fraud can minimize the criminal justice costs that businesses and governments can reduce must pay. By costs, we mean not only financial costs, but also costs in terms of credibility and social legitimacy.

There is indisputably a pressing need for public/private cooperation to establish a partnership capable of combating direct crime against companies and its effects on the public, customers and employees. The police need to improve their capacity and motivation to deal with crime and increase their international relations. How much should be devoted to these actions against crime?

Nowadays, companies have put in place seemingly unbreakable security systems, audit and internal control procedures, and supposedly effective governance mechanisms, but they have forgotten that it is people who are at the origin of all these regulations and techniques. Knowing all the flaws in the system, these individuals can bypass it without any difficulty. Should we then blame accounting or the law for their inability to avoid sometimes this or that financial crime, or rather focus on the individuals themselves who evolve within the company? As such, Laschi (1901, p. 59) states that "the influence of economic and social factors in financial crime, confirmed by history and daily experience, does not exclude that of individual factors. These, on the contrary, supplement them: for it has now been shown by the study of all the phenomena of crime, that it would be as inaccurate to attribute everything to the action of the environment, as to restrict the genesis of crime. the only perversity of money". It would therefore be wiser, when studying financial crime, to look at individual characteristics to isolate those most likely to commit crimes. In business, the goal of such an approach is to understand whether certain employees are more likely to cheat than others, or whether fraud is more likely to be committed by these employees in a random manner and therefore does not obey any rules. The first possibility being the most plausible, we then ask to what extent these financial crimes can be prevented in time to avoid colossal losses, both at the company level (financial losses, alteration of notoriety, etc.) and at the society level. the extent of the individual himself (social problems, conflict with the law, etc.).

To detect professional crimes and possibly prevent the risks associated with them, the use of the concept of "profiling" would meet the concerns of financial crime specialists. In criminology, criminal profiling, or "behavioral analysis", is an interesting method that allows determining the profile of a criminal. Kocsis (2006) defines this concept as follows: "Criminal profiling refers to the process of identifying the personality traits, behavioral tendencies, geographic location, and demographic variables or biological characteristics of an offender based on the characteristics of the crime committed." The purpose of profiling is therefore to enumerate individuals and thereby distinguish them on the basis of well-defined characteristics.

Applied to the company in the context of the fight against financial crime, profiling is used not only to determine the psychological characteristics of the individual prone to financial criminality, but also to identify other characteristics of a social, cultural character, etc., playing an important role in the "genesis" of financial criminals. This profile is basically built from real observations supported by material and scientific findings. In this case, the fundamental utility of profiling lies in identifying people who exhibit the characteristics attributed to financial criminals, in order to monitor them and ensure that they do not commit crimes, which considerably limits business risks.

### **Gender**

Sutherland (1949) and Zahra et al. (2007) suggested that males are more likely to commit financial crimes than females. This could be explained by the characteristics of opportunism and materialism attributed to men, as opposed to the characteristics of virtue and sense of ethics generally associated with women, as explained by Hofstede (1980). However, Holtfreter (2005) as well as Weisburd and Waring (2001) seem less categorical, as the former states that the gender of the individual differs according to the nature of the financial crime committed, while the latter shows that women are involved in crime in white collar on the same basis as men.

### **Age**

Greenfield et al. (2008) argued that young employees are more tempted by data management than their older colleagues. This management can sometimes be fraudulent in nature and therefore can be considered a financial crime. This idea corroborates that presented by Zahra et al. (2007). Indeed, these authors established a link between maturity and morality, that is, the older we get, the more wisdom and morality we acquire. At the same time, they asserted that youth is associated with risk-taking, recklessness, and an inability to assess long-term consequences. Regarding Langton and Piquero (2007), they stated that young people tend to commit low- or medium-level financial crimes, while older people are most often involved in higher-level financial crimes and therefore , more complex. Holtfreter (2005), in turn, stated that the age of the financial offender differs according to the nature of the crime committed, while researchers such as Friedrichs (2009) or Weisburd and Waring (2001) argued that white-collar criminals are older . than conventional criminals.

### **Social status**

According to Friedrichs (2009), crimes are mostly the work of people who are married and have a fairly stable family situation. They may be driven to commit fraud or embezzlement when they need to.

### **Level of education**

A large number of authors are unanimous that the criminal is an educated person. Thus, Laschi (1901) showed that swindlers and swindlers "are seldom illiterate." This agrees with the idea presented by Sutherland (1949) and Friedrichs (2009) who stated that financial criminals are likely to be more educated than conventional criminals. For his part, Dion (2011) argued that the financial offender can be, for example, "a lawyer, a doctor, an accountant, a member of parliament or a director of a large company". However, Weisburd and Waring (2001) suggested that education is associated with low crime rates, and Zahra et al. (2007) showed that the level of education must be positively correlated with the degree of morality of the individual. As for Holtfreter (2005), she showed that the level of education of the financial offender is different from one crime to another.

### **Hierarchical level**

In two different studies and at two different times, Sutherland (1949) and Friedrichs (2009) argued that the criminal occupies a high position within the company. Weisburd and Waring (2001) in turn showed that a theft of company stock can be committed by employees who do not necessarily have much power in the company, from a low hierarchical level, while the crime of Internet Fraud is, in generally, carried out by employees from the middle hierarchical level. Holtfreter (2005), in turn, attested that fraud in financial statements is the act of people whose hierarchical position is quite high, while crimes of corruption and misappropriation of assets are associated with low, high hierarchical positions within the company.

Profile of the financial offender who committed the crime of "misappropriation by a function of public funds which he held by virtue of his position.

The fact that this criminal is a father once again speaks to the gap between needs and income. But what is striking is that among these criminals there are also single people. Feeling free from all constraints and having no family responsibilities, these loners dare to take risks by committing this type of crime recklessly.

Such a study is relevant in a context where crime is increasingly present and where companies feel overwhelmed and powerless in the face of financial crimes committed by their employees. Its purpose is to help identify proven criminals and why not detect potential criminals.

Furthermore, this study can serve both academics and practitioners. Indeed, in addition to its scientific and theoretical contributions, conducting a study on the profile of white-collar criminals in Tunisian companies is of practical utility and can be used by various professionals, company managers, internal and external auditors, internal control, etc. in their fight against financial crime.

This study can also be deepened and refined by distinguishing the companies that are victims of financial crimes by their nature (public or private), by their sector of activity or by their size. Moreover, reading the different results obtained in the context of this article, we can ask whether or not the cultural dimension has an impact or an influence on the formation of the profiles of white-collar criminals evolving in different environments and countries. cultures.

## **3. Research methodology**

Qualitative research was used to write this article, for which material (such as publications or archival data) was collected and selected for inclusion in the analysis.

In this research the methods are flexible and subjective, with analysis based on language, images and observations (often involving some form of textual analysis).

The method of qualitative research was chosen, because it represents an expressive way of analyzing bibliographic sources.

## **4. Findings**

### **4.1. Emergence of the concept of economic and financial crime**

However, it was not until the 20th century that the current concept of economic and financial crime emerged. We owe this awareness especially to the American sociologist E. SUTHERLAND (E. SUTHERLAND, White collar crime, American sociological Review, vol. 5, n° 1, 1940, p. 1). In the origins of this name "white collar crime", he based one of his studies on the fraudulent activities of several dozen companies owned by the two hundred largest companies in the United States and convicted of numerous economic crimes. He thus demonstrated the existence of delinquency among the highest social classes. According to SUTHERLAND, these crimes were committed by socially respectable people. Their actions were directly related to their businesses, cultures and professional backgrounds. This peculiarity, which is due to the author of the crime, had already been addressed in the second half of the 19th century, by the German socialist school and Karl Marx. They emphasized, at that time, how many are the economic and social conditions imposed by the capitalist production process, generating not only a crime of need, but also a crime of exploitation and profit committed by the bourgeoisie. Along with this criterion, which can be described as social, SUTHERLAND also highlighted an inverse proportional relationship between the socio-economic damage resulting from these crimes and the criminal penalties applied.

However, this form of crime generates a lot of harm. According to an expert from the National Institute for Advanced Security Studies, in 2007, it would have amounted to ten billion euros per year, i.e. half of the total annual cost of global crime. For H. BOULANGER, at the beginning of the 21st century, its gross product exceeded one hundred billion euros, that is, at that time 20% of world trade and half of China's GDP (H. BOULANGER, La criminalité économique et Europe, P.U.F, Paris, 2002, p. 24). In 2012, in France, it generated a direct and indirect cost of twenty billion euros, including the financial and moral damages of the victims, but also the cost borne by the community in terms of public and private security expenses (J. BICHOT, Le coût du crime et de la délinquance, Études et analyses n° 16, Institut pour la justice, 2012, p. 87 et ss. et p. 119). At a factual level and according to the National Observatory of Delinquency and Criminal Response, in 2013, along with the one thousand three hundred attacks on physical integrity observed daily in France, there were also one thousand attacks on the economic sphere (L. OBERSTONE, La France orange mécanique, Éditions Ring, Paris, 2013, p. 24). These figures tend to provide evidence that this form of crime, less perceptible, affects society as well as all crimes and misdemeanors that, on a daily basis, disturb public order. Despite the high cost it imposes on states, it still remains an unrecognized crime due to the "apparent absence of a direct victim".

### **4.2. Aspects of economic-financial crime from the contemporary perspective**

The contemporary era marks a reversal of its acceptance. According to some authors, there is a growing interest of society and the media in its opposition. Its "appearance in a criminal trial" is less and less exceptional, but its specificities still make it difficult to access. The fight against economic and financial crime really requires the control of special rights, combined with a specialization of its actors. In France, the beginnings of professionalization in this field took place in the first half of the 1970s. However, they only concerned the judicial aspect of the fight. The law of August 6, 1975 granted, for the first time, to certain criminal courts, competence in economic and financial matters. The inadequacies found in the resolution of this type of cases led the legislator to establish specialized high courts, whose powers extended to the entire power of an appeals court, in terms of criminal prosecution, investigation and judgment of economic cases and financial cases, which presented complexity criteria. Although innovative, this law had some shortcomings. It did not create new jurisdictions, it did not establish a real specialization, it did not in any way institute a system of mandatory jurisdiction. It will be necessary to wait for the law of 1 February 1994 for these financial centers to acquire concurrent jurisdiction with that of the natural courts. Over the next three decades, this arsenal underwent several changes, which were not fundamental. The legislator focused more on the expansion of the criminal field, in which these courts could intervene without carrying out any reorganization. This did not happen until the early 2000s. The Legislature finally revised the

provisions regarding courts dedicated more specifically to the fight against "white collar" crime. It joined the financial centers of specialized jurisdictions with extended territorial powers.

This is how the specialized interregional jurisdictions, established by the law of March 9, 2004 to combat organized crime, were given economic and financial powers. With the jurisdiction extended to several courts of appeal, they had to deal with very complex economic and financial disputes, the high complexity ones remaining the daily practice of already existing financial centers. Although the effectiveness of these specialized courts is indisputable, it appeared that the mechanism to combat economic and financial crime could still be improved. Indeed, on a substantive level, the jurisdictional scheme presented pitfalls. These were mainly due to the increase in investigative resources allocated to both investigators and magistrates, which could be inadequate with the structures in place. Two laws of December 6, 2013 therefore improved the legal arsenal dedicated to the fight against economic and financial crime and simplified it at the jurisdictional level. One concerns tax evasion and serious financial crimes, the other establishes a financial prosecutor with national jurisdiction.

However, as far as the police investigation is concerned, it is unfortunate that these successive reforms have not fundamentally improved anything. On the one hand, the legislator recognized the need to entrust the handling of complex business crimes to "specialized" jurisdictions. On the other hand, it did not make available to the actors from the repressive aspect, especially the judicial police, any major procedural tool consistent with this complexity. However, the investigation highlights the most sophisticated financial embezzlements. It remains the necessary and inevitable premise for the implementation of the various jurisdictional adaptations introduced in domestic law, since the 1970s. Of course, the recent reforms of 2007 and 2013 have expanded the powers of the judicial police to investigate and observe some economic and financial ones. crimes, but this reform is characterized by its timidity, which goes against the will of the state to try to eradicate attacks on the economic and financial sphere. While there is no doubt that white-collar crime is imbued with specificities, we note that the will to prevent it and the means put in place remain neutral. To an exceptional form of crime, the legislator opposes common law standards that quickly prove ineffective in the face of its most technical and complex forms. At the same time, economic and financial matters remain too marginalized within the services responsible for the judicial police.

The crimes that make up its spectrum indeed present an atypical nature and subjectivity that tend to make them inaccessible to some. Their intelligence, their diversity, their technique, their stealth are all factors that contribute to the complexity of understanding their mechanics. An exceptional delinquency like organized crime only benefits from rare derogatory measures to prevent it. Hard to remember and hard to identify, it concerns only a limited number of investigators (E. GISSLER, L. RUAT, J. SCHNEIDER et D. REBERRY, Rapp. sur l'évolution des effectifs de la police et de la Gendarmerie nationales, Inspection des Finances, 2017, Ann. I, p. 51). This marginalization of the fight against economic and financial crime is due not only to the state of mind and will that lead its actors, but also to the intrinsic characteristics of this crime, against which an abundance of jurisprudence obscures and further complicates the constituent and elements of the crimes that falls within its scope. The practical approach to a great classic of "white collar" crime abounds in this direction. Misappropriation of corporate assets is a good illustration of the difficulties that can arise from apprehending the components of this crime.

It is a form of delinquency that also finds a form of sustainability, both in its consequences and in its context. It is an ethereal material in the sense that it remains difficult to understand because it does not disrupt the real-time order. It thrives in environments that help to hide it. Unlike the abuses of common law, which constitute especially "apparent" delinquency, crimes resulting from economic and financial delinquency have no Unlike the crime that, on a daily basis, disturbs the social peace, they remain a form of delinquency invisible to the eyes of the repressive services and , de facto, of justice. It also enjoys a favorable posteriority in terms of appearance, which is not without impact on its often irreversible consequences. Moreover, this late appearance influences the lack of attractiveness for this form of delinquency. This contributes to reinforcing the disinterest of law enforcement agencies, who have a greater interest in current crimes and misdemeanors. This lack of interest affects the judiciary which, thus deprived of "raw material", is no longer able to provide a criminal response, consistent with the phenomenon. According to some authors, these insufficiently dissuasive sanctions testify to the reluctance of a judiciary unable to deal with this atypical crime,

and the consequences of such shortcomings have a significant impact on the impaired enthusiasm of investigative services.

No one can deny that there is a fine line between these two forms of crime. They have common components such as, for example, counterfeiting, fraud or money laundering, but also very similar *modus operandi*, in the sense that one or the other induces a notion of organization in the transition to the criminal act. It is therefore clear that two exceptional and closely related forms of delinquency tend to apply two procedural regimes. A derogatory one that gains the support of the investigative services, thanks to the existence of more effective combat tools. The other, traditional and common law, which is synonymous with a decrease in the efficiency of these services.

However, the legal arsenal that makes possible the fight against economic and financial crime is based on the solid foundation that the judicial investigation must give it. Without the contributions of these specialized investigations, an effective criminal response cannot be provided. They constitute both the foundations and the cornerstones of a repression that must integrate the specifics of this form of crime. As innovative as they are, the judicial reforms undertaken since the 1970s cannot have favorable results without the addition, in domestic law, of some exceptional procedural norms in the investigation phase.

In its current forms, the judicial investigation in economic and financial matters has a double problem. On the one hand, its form and the opportunities it offers arouse more disinterest than enthusiasm. On the other hand, it is no longer consistent with the contemporary forms of this atypical crime. The personal experience and expectations of investigative professionals abound in this direction: a fundamental reform of this pre-trial phase is essential. This review is certainly accompanied by legislative improvements, but without requiring major changes. Our criminal law and our criminal procedure already provide tools which, adapted to the characteristics of business crime, are sufficient to arm law enforcement. However, this reform must be accompanied by cultural and structural improvements, aimed not only at re-establishing this delinquency at the center of the repressive debate, but also at revitalizing all the actors dedicated to leading the struggle. Indeed, one cannot imagine the granting, by the legislator, of powerful repressive instruments without associating them with an endless will to implement them. Such an operation inexorably requires a restructuring of the training scheme of the active subjects of the struggle, so that more professionals from the judicial police, but also from the judiciary, can deal with this complex crime on a daily basis. In fact, we cannot consider modernizing the judicial counterpart of the fight against "white collar" crime without ensuring that the personnel with these duties have the appropriate knowledge. It also leads to a change in the habits of these personnel, especially by demystifying economic and financial delinquency which, for many, remains a specialist problem, while many of its facets can be addressed by generalists.

As easy as it is to define attacks on the person, attacks on property, attacks on the nation, the state, and the public peace, it is more difficult to make the same analysis with regard to delinquency. The study of several books on the subject proves this. Very technical writings, analysis of several situations, none can claim to address the preventive and repressive aspect in its entirety, and some only touch the core of the subject. On this point, empiricism agrees with theory. The world of criminal business law is constantly evolving. The measures taken to combat economic and financial abuses are a clear proof of this. Attacking a phenomenon to which he assigns important qualifications, without defining it, or even formally identifying it, he only confronts certain counterparts, without taking it into account in its entirety. These facts are the cause of the difficult nature of this form of crime to identify and control, which rarely takes the simple form of acts committed in isolation by some active and passive actors.

From the 20th century, the contemporary concept of economic and financial crime, neglected until now, began to appear. Indeed, as early as 1742, the Universal Dictionary of Commerce, Natural History and Arts and Crafts had already taken into account, in the forms of the time, the crime of bankruptcy. However, it is difficult to conjure up a proper definition. The various authors have contented themselves with enumerating a few characteristics relating in particular to the subjects, but also to the causes and certain consequences of these acts, which are harmful to the economic sphere. This definition remains imprecise as it covers only very general aspects. It hides crimes that target the general public and, in particular, private interests.

In its contemporary form, economic and financial crime is presented as a "tool" very often intended to safeguard, even the survival of a few sectors of activity or a company. If this criterion eludes the specialists of this first half of the 20th century, the daily fight against the financial criminal demonstrates this double objective. The oldest one is geared towards obtaining illicit profits. The latest believes that it is appropriate to work for the survival of an activity, whatever the means used. Our experience shows that these two aspects usually interact. The crime is committed, ostensibly, in the collective interest, but in fact it is only intended to serve personal interests. Financial crime is a set of "crimes related to the world of industry, commerce and finance", the authors of which are "most often businessmen, who disregard the rules of community life in favor of profit and robbery".

A more pragmatic and contemporary view of the phenomenon makes it possible to highlight a definition that declines this form of delinquency, "whose exact perimeter is uncertain", as all illegal activities that take place in the "context" of economic life, business and finance and that concern private enterprises and companies, as well as state activities or mixed economy enterprises. This delinquency is carried out by means and methods that in principle do not require force or physical violence, but which are characterized much more by intelligent or fraudulent processes, such as deception or forgery". This definition has the merit of placing in context this non-violent crime of profit, which sets in motion brilliant processes for occult purposes, the consequences of which have a direct impact on economic, financial and business life, and whose perpetrators are both from the environment private as well as from that of the public spheres. It differs from the very broad positions taken by certain authors who rely more on its content, and demonstrates the variety of its facets, if not precisely limiting it.

#### **4.3. Types of economic-financial criminality**

The so-called business crimes are:

- formation of cartels;
- fraudulent practices and abuse of economic position by multinational companies;
- obtaining or fraudulently embezzling funds allocated by the state or international organizations;
- IT crimes;
- creation of fictitious companies;
- falsifying the company's balance sheet and violating the obligation to keep accounts;
- frauds related to the commercial situation and the capital of commercial companies;
- the company's violation of safety and health standards for employees;
- fraud against creditors;
- crimes against consumers;
- unfair competition;
- tax crimes and evasion of social benefits by companies; 13. customs offences;
- currency and exchange crimes;
- stock market and banking crimes;
- crimes against the environment.

The process of globalization is ongoing. According to the IMF, it is considered a historical process that is the fruit of human innovation and technical progress, which evokes the increasing integration of economies around the world, through trade flows, financial flows, and also sometimes international transfers of labor or knowledge (labour). migration or technologies. This process has given criminals a tremendous chance to "expand" their criminal activities globally (into the "borderless" market).

Currently, at the international level, there are notions such as corruption, transnational organized crime, but there is no definition of economic crime that is valid for all states erga auguri. States, alone or grouped within certain international organizations (such as the European Union for example) try to "fill" this void by means of bilateral and multilateral conventions that explicitly concern their collaboration in the fight against economic crime and, implicitly, , deals with criminalization (reciprocity requirement, known as "double criminality").



Globalization has placed the company at the center of economic circuits. Most of them (value-added producers, socio-economic security base, etc.) behave correctly, but, unfortunately, there are some who have become an inevitable object of organized crime, especially when it comes to funds from criminal activities: companies, banks and other entities created for criminal purposes (fictitious companies and banks or created to launder illicit funds, to transfer them from one corner of the world to another, etc.). Another illegal activity linked to globalization that is becoming profitable for criminal organizations: human trafficking for exploitation. Trafficking in human beings is generally linked to the world of prostitution, but situations of exploitation can arise in sectors such as domestic staff and food, or in organ trafficking. Worldwide, it is estimated that the number of victims varies, depending on sources and definitions, with the EU estimating that many people are trafficked in Western Europe. Women and children are particularly vulnerable to this modern form of slavery.

Economic crimes include crimes the commission of which could have serious consequences for the population and economy of a country, region or global community, as well as those committed by a person who:

- has a special status due to the functions and assets entrusted to it;
- has special knowledge;
- uses exceptional means or methods to commit the crime;
- is motivated by a motive to harm the population or economy of a country, region or global community.

## 5. Conclusions

By disrupting local and transnational organized crime networks, governments and corporations can help ensure public safety and quality of life. A public policy to reduce financial crimes has direct and indirect benefits, such as:

- the fight against epidemics;
- reducing gang-related violence;
- improving housing accessibility;
- poverty reduction;
- increasing income equality.

These efforts will require the cooperation of all levels of government, the justice and security sectors, and the private sector. Developing and implementing such a policy will take many years, but day-to-day operations should not be neglected. Therefore, the government should start by establishing a project management office to:

- assessing the current state of its financial crime framework and identifying areas of concern;
- developing a vision for the future;
- to identify the funds needed to achieve this vision and the source of those funds;
- create a roadmap to realize the vision for the future and identify quick wins by prioritizing immediate actions to disrupt illicit activities;
- achieving a coherent, incremental and iterative approach to improving the financial crime framework, including the use of change management to begin fostering a collaborative, innovative and risk-based culture; implementing a rigorous governance and oversight framework focused on clear roles and responsibilities, accountability, reporting and communication; updating, amending or drafting laws to strengthen current policy; exploring the convergence of different financial crime functions to support intelligence sharing, investigation and enforcement; creation of independent supervisory bodies in high-risk sectors; developing a data strategy and establishing the necessary IT infrastructure; independent evaluation of the effectiveness of the new framework after its implementation.

Financial crime is one of the main challenges facing organizations around the world. Companies of all types, banks, insurance companies, public companies, telecommunications companies face this. All must now have a proper risk management system in place to prevent any act of financial crime. Financial crime has an impact not only on the reputation of companies and individuals, but also on world security and peace. It violates the regulations in force and involves a risk of national or even international sanctions.

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## Commercial Services In Trade Without Stores

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### Abstract

*Nowadays trade is changing from one period to another and as an integrated system both in what concerns the producers and as well in terms of its relations with the consumers. International trade in deliverable services in an electronic way, include, sales and marketing services, financial services, professional services, and education and training services, etc. This phenomenon influences some commercial enterprises that end up associating a series of additional services to their basic activity, sometimes very different from the profile of the products they sell. The current work aims to highlight the importance and role that commercial services have in the form of trade without stores, as an integral part of the services of this kind that accompany commercial acts in the current stage of development.*

**Key words:** commerce, services, digital, customer

**J.E.L. classification:** O20, O24, Q02, Q37

### 1. Introduction

The role and place of services in the economic structure of a period of development must take into account the objective conditions of the transformation of the international context in correlation with the requirements of the population and society as a whole. Commercial services are part of this category and thus complete the concerns of merchants to increase the satisfaction offered to customers.

In modern forms of distribution, in conditions of heightened competition, traders focus their attention on producers or consumers by mobilizing the supply of goods, in general, through a strongly differentiated service policy.

All services by their nature generally respond to the clientele, ensuring a great flexibility and diversity, depending on the time of service, the spatial delimitation or the psycho-affective state of the buyer.

In fact, commercial services are services like any other, with the same characteristics, but they are related to buying and selling activities that bring more satisfaction to the consumer and numerous advantages to the seller. In this context, given conditions of a certain economic area, the importance and role of commercial services varies within relatively wide limits. Those forms of trade without stores, are an integral part of the services of this kind that accompany commercial acts in the current stage of development. Considered services provided with the aim to make a profit, commercial (customer) service is often the very first face to the client. (<https://nd-consultant-group.com/commercial-service/>)

Today the economic development focuses heavily on commercial services, which is determined by growing economic importance of their production and trade. (Frolova, 2020)

### 2. Theoretical background

There are thus laborious concerns in relation to the definition of the notion of commercial services and their content, their characteristics, commensuration and the way of integration in the complex of utilities offered to consumers. (Pistol, 2004)

At the question <what does commercial service mean? > we can find numerous and different answers. At the moment, concerns can be mentioned in relation to defining the notion of commercial services but also their content and characteristics, as well as the way of measurement and integration in the utility complex offered to consumers.

In a general sense, we can say that commercial service means service to customers engaged primarily in the sale of goods or services including institutions and local, state and federal government agencies for uses other than those involving manufacturing or electric power generation. (<https://www.lawinsider.com/dictionary/commercial-service>)

On the other hand, a general term for large online services compare these services with special clubs that require membership dues. Besides providing access to the internet, commercial services have lots of content. (<https://dictionary.university/Commercial%20service>)

The American Marketing Association defines the service commercial as an activity offered on the occasion of the act of sale, which provides advantages and satisfaction to the buyer, without involving a physical exchange in the form of a good. (Pistol, 2004)

In the French Dictionary of the Academy of Commercial Sciences commercial services are considered a set of advantages or satisfactions procured either directly through a natural or legal person, or through the use of an asset whose possession was awarded by the beneficiary of the service provided by the respective asset, by purchasing or renting the right of use. (Pistol, 2004)

However, the most explicit and at the same time simple definition belongs to A.Tordjman who appreciates that commercial services can be defined as the sum of the satisfactions or utilities that a store offers to its clientele. (Pistol, 2004)

Canada Revenue Agency consider that commercial service is defined as any service in respect of tangible personal property other than a service of shipping the property supplied by a carrier, and a financial service and the goods would generally be considered as for use, consumption or supply in the course of the registered non-resident's commercial activities.

(<https://www.canada.ca/en/revenue-agency/services/forms-publications/publications/p-151/interpretation-commercial-service.html>)

Also valid for the subcategory of services of this type associated with trade without stores, the fact remains that the assessment of a service as commercial depends on the existence of a functional relationship between the service and the property. A functional relationship will be considered to exist between the service and the property where the purpose of the service arises from or relates to the property itself.

(<https://www.canada.ca/en/revenue-agency/services/forms-publications/publications/p-151/interpretation-commercial-service.html>)

Currently, in the era of the digital economy, the role of commercial services takes on a new dimension, amplified by the period of the Covid 19 pandemic. Therefore, the emergence of new services and the transformation of existing ones, such as their initiation and development in trade without stores, changes in the provision must be emphasized of services, new barriers between free flows of services. (Frolova, 2020)

Services can be approached as an integrated sector in within the commercial activity, but at the same time they can be considered as an element of the marketing policy of companies - manufacturing or commercial - which are concerned with offering buyers additional benefits to the product or point of sale. In such a dual approach, for a large number of enterprises, especially commercial ones, the line of demarcation between the two meanings is difficult to define, services being both elements of a differential marketing policy and a source of diversification. (Pistol, 2004)

Because too often, the commercial service is underestimated in terms of the resources that need to be mobilized. While, marketing supports commercial service, as it enables to identify the relevant sales territory. In other words, where the company's customer targets are located. (<https://nd-consultant-group.com/commercial-service/>)

### 3. Research methodology

This work is mainly based on observation, being primarily a qualitative approach. The study tends to complete information in understanding the challenges of implementation of commercial services in the entrepreneurial behavior of trade companies, especially concerning the activity in

the commerce without store. In order to identify the opportunities and main features related to the subject were used methods of observation and description. The documentary research allowed the collection of information and represented both a theoretical support and a basis for investigation.

#### 4. Findings

The main goal of the present research is to point out the importance and role of the services in the commerce activity in the absence of a spatial delimitation for the effective sale, that means without stores. First of all, we have to identify from the commercial services as a whole those that are to be used in the activity without store. Without a store implies both sales at home, through representatives, based on a catalog or by mail, as well as any form of electronic sales.

Commercial services are the first that customers perceive, but to be truly effective, they must be closely related to all other services in the company.

Upon Deardorffs' Glossary of International Economics any service provided by a firm, as opposed to being provided by a government agency or an individual worker could be considered a commercial service. (<https://dictionary.university/Commercial%20service>)

Except in the financial or non-commercial categories, operations such as assembling, mixing, cutting, diluting, bottling, packaging or pre-packaging, testing, evaluating, repairing or maintaining, recording or storing instructions or data are included in the type of commercial processing service.

(<https://www.canada.ca/en/revenue-agency/services/forms-publications/publications/p-151/interpretation-commercial-service.html>)

In international trade activities, this category includes services that can be provided digitally related to sales and marketing, financial, professional, education and training, measurement and other services that can be provided digitally as part of the total trade in services commercial. (<https://goingdigital.oecd.org/indicator/71>)

Trade in digitally enabled services is increasingly embedded in trade with goods and reciprocally, trade in goods is increasingly dependent on digital services that support goods transactions.

The analyzed sector is expanding its scope as commercial service brands manage to use their existing expertise in adjacent markets and provide competitive and in-demand services. The top 100 brands in the commercial services sector have been growing for the past year with innovation in the sphere of payment gateways, online banking and accounting.

The world's largest commercial services brands are beginning to recover from the COVID-19 pandemic – but several valuable commercial services brands have not yet recovered to pre-pandemic value, according to a new report from Brand Finance, the world's leading brand valuation consultancy. (Haigh, 2022)

Although trade in commercial services is not expected to fully return to pre-COVID-19 levels in 2021, a partial recovery of demand for commercial services – in particular transport services – is anticipated. Adverse impacts of the pandemic are uneven across services and economies (travel, transport, international tourist arrivals), but in contrast, economies exporting information and communications technology (ICT) services as well as digitally enabled services have seen some new opportunities during the COVID-19 pandemic. However, trade in digital services continues to be hindered by regulations such as data protection, cyber security standards, etc.

(<https://www.unescap.org/resources/trade-commercial-services-outlook-asia-and-pacific-20202021>)

The complete annual trade in services dataset — covering exports and imports of total commercial services broken down by sector and partner country release a suggestive image concerning the development of this trend; data includes information on the main service categories for about 150 economies. Jointly produced with UNCTAD and ITC, it is updated every quarter, starting in January of every year, as shown in figure no.1.

The commercial services market research report delivers a complete perspective, with an in-depth analysis of the current and future scenario. The global commercial services market grew from \$5152.37 billion in 2022 to \$5696.44 billion in 2023 at a compound annual growth rate (CAGR) of 10.6%. Taking into consideration the sanctions on multiple countries consequence of the Russia-Ukraine war, the commercial services market is expected to grow to \$8015.14 billion in

2027 at a CAGR of 8.9%.

(<https://www.thebusinessresearchcompany.com/report/commercial-services-global-market-report>)

Figure no. 1 Trade in Commercial Services



Source: [https://www.wto.org/english/res\\_e/statistics/tradeserv\\_stat\\_e.htm](https://www.wto.org/english/res_e/statistics/tradeserv_stat_e.htm)

After the crisis, in 2011-2012 developing economies of Asia and the Pacific recorded faster growth in export of commercial services than the region's developed economies.

All the previously presented aspects demonstrated that in the last decades the role of services has seen an important increase in the product distribution activity, so that, in the future, the business success of both commercial companies and those in the productive sphere will depend on more and more of the ability to offer customers a wide range of additional services, as appropriate and useful as possible, which will strengthen the existing relationships between the products made and customers, and at the same time make it more and more difficult for the competition to penetrate the market.

(<https://www.thebusinessresearchcompany.com/report/commercial-services-global-market-report>)

Similar to stable trade, the commercial services market in trade without shops is supported by the revenues obtained by the entities that provide services such as those listed above and many others, being a developing market. Market value includes only services traded between entities or sold to end consumers.

Recognition of the value created, directly or indirectly, by services in the process of manufacturing, distribution and marketing of goods has become known as "servicification".

(<https://www.unescap.org/sites/default/files/6-PART~1.PDF>)

## 5. Conclusions

Commercial service activities are very important drivers of economics. The variety, the multiplication of the possibilities of providing them, as well as the mutations that intervene in the demands of consumers generate an increase in the complexity of the integration systems of commercial services in the offer of each type of commercial unit. Modern trade is constituted more and more as an integrated system both from the point of view of the relations with the producers, as well as in terms of its relations with the consumers. This conjuncture gives commerce a strong negotiation capacity, thanks to which it can build a strategy based on commercial services as a weapon against competition.

Not many businesses can ignore digital these days, neither the commercial ones because it provide support activities for the day-to-day operations. According to a study by Oracle, nearly 8 out of 10 businesses have already implemented or planning to adopt artificial intelligence in customer support. Artificial intelligence is widely being used by business organizations in customer support activities as it considerably reduces operational costs

The significant characteristic of the modern economy is precisely this goods-services complementarity that aims to maximize the value of use of the products throughout their entire existence, it should also be noted here the importance of commercial services in increasing quality. In the last few years, accelerated by the effect of Covid 19 pandemic, the inter-linkage between



services, on one hand, and production and marketing of goods, on the other, has become much stronger.

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## Leadership in Romanian Schools

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### Abstract

*The purpose of the research was to analyze the leadership situation in schools in Romania. To carry out this study, we created an online questionnaire that was applied to teachers in the pre-university education system in Romania.*

*Following the research, we found that most of the teachers answered that in the school where they teach, the emphasis is placed to a large extent on the development of leadership programs for them, the teachers answered that in the school where they teach, there is a very large emphasis on encouraging collaboration between school management, teachers and students in a friendly manner. On the other hand, teachers mentioned that they do not have the confidence to reveal their problems related to teaching activity and the level of stress in front of the school management.*

*This topic has not been studied at the level of Romania, being also an element of novelty.*

**Key words:** leadership, teacher performance, performance, stress, motivation

**J.E.L. classification:** I21, I25, P17

### 1. Introduction

In classrooms, where they have a lot of autonomy in choosing lessons and starting activities, teachers have long been considered leaders (Lai and Cheung, 2014).

Also, effective educational leaders are truly committed to improving the professional community in schools, as well as implementing school development and transformation. They encourage the growth of coaching skills and reflective dialogue between educators to encourage joint efforts (Blase and Blase, 1999).

A 2011 study aimed to examine how teachers and administrators viewed the effects of a graduate program designed to develop teacher leaders (Ross et al., 2011). The study showed that teacher leadership is a call to transform the roles of teachers so that they become the primary actors in school reculturing to improve instruction and student learning. The study also found that if all teachers are to become leaders, teacher programs must engage in teaching for transformational learning, which will empower collaborative teams of teachers to develop, examine, and act on assumptions, reexamined goals, values and beliefs.

Another 2011 study showed that by developing leadership programs, teachers were able to identify their professional voices as they began an epistemological shift from seeing themselves as passive receivers of information to active builders of knowledge (Taylor et al., 2011). This change represented a developmental process during which teachers' perspectives on teaching and learning were transformed.

The study by Karacabey et al. (2020) showed that the impact of leadership programs for teachers has a significant impact on student learning (Karacabey et al., 2020).

Therefore, principals need to delegate decision-making authority to teachers, encourage and support the growth of a collaborative culture in schools, reshape organizational structures to support teachers' practice as decision-makers, and provide resources (such as time and money) that teachers can carry. develop their decision-making responsibilities to help develop teachers as decision-makers and encourage teacher participation in decision-making (Lai and Cheung, 2014).



In order to extend and amplify the on-the-job experiences of teachers, innovative new approaches to leadership development combining formal training, e-learning, coaching and knowledge sharing should be used. All of these strategies should be part of experiential leadership development, a strategy to help schools develop the leaders they need for high performance (Thomas and Cheese, 2005).

## 2. Research methodology

The purpose of the research was to analyze the leadership situation in schools in Romania.

To carry out this study, we created an online questionnaire that was applied to 345 teachers from the pre-university education system in Romania.

The teachers received 7 questions from the sphere of leadership regarding: the development of leadership programs, the collaboration between the school management, teachers and students, the disclosure of the problems related to the teaching activity and the stress level in front of the school management, the well-being of the staff, the motivation of the staff, the working atmosphere from the school and communication between management and teachers.

## 3. Findings

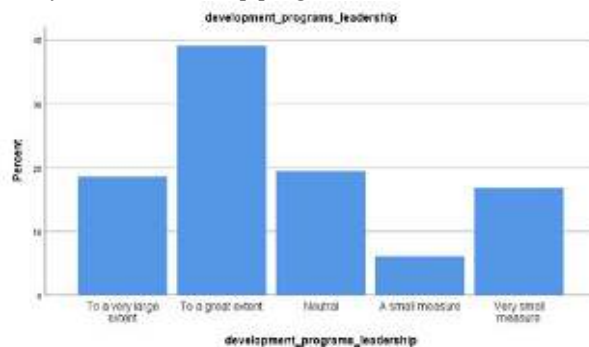
To question no. 1, in your school the emphasis is on the development of teacher leadership programs, 39.1% of the teachers answered that in the school where they teach the emphasis is to a large extent on the development of teacher leadership programs, 19.4% of the teachers were neutral in expressing their opinion, 18.6% of the teachers answered that within the school where they teach there is a great deal of emphasis on the development of teacher leadership programs, 16.8% of the teachers answered that within the school in which they teach there is a very small emphasis on the development of teacher leadership programs, while 6.1% of the teachers answered that the school where they teach there is a small emphasis on the development of leadership programs the teachers.

Table no. 1 Development of teacher leadership programs

development_programs_leadership		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To a very large extent	64	18.6	18.6	18.6
	To a great extent	135	39.1	39.1	57.7
	Neutral	67	19.4	19.4	77.1
	A small measure	21	6.1	6.1	83.2
	Very small measure	58	16.8	16.8	100.0
	Total	345	100.0	100.0	

Source: the author.

Figure no. 1. Development of teacher leadership programs



Source: the author.

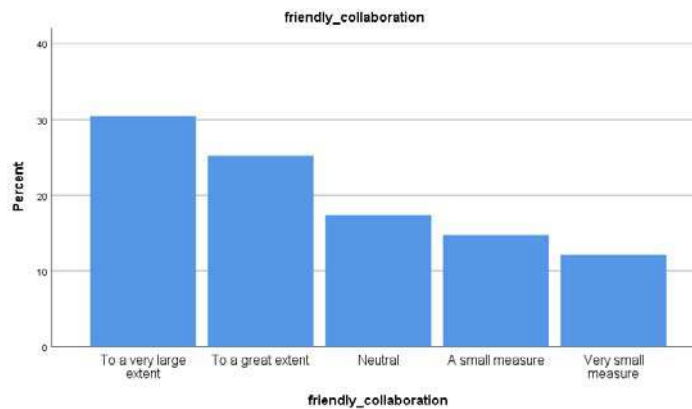
Regarding question no. 2, in your school, collaboration between the school management, teachers and students is encouraged in a friendly manner, 30.4% of the teachers answered that in the school where they teach, the emphasis is very much on encouraging collaboration between the school management, teachers and students in a friendly manner, 25.2% of the teachers answered that in the school where they teach, there is a great emphasis on encouraging collaboration between the school management, teachers and students in a friendly manner, 17.4% of teachers were neutral in expressing their opinion, 14.8% of teachers answered that in the school where they teach there is a small emphasis on encouraging collaboration between school management, teachers and students in a friendly manner, 12.2% of the teachers answered that in the school where they teach, there is a very small emphasis on encouraging collaboration between the school management, teachers and students in a friendly manner.

Table no. 2 Friendly collaboration

		friendly_collaboration			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To a very large extent	105	30.4	30.4	30.4
	To a great extent	87	25.2	25.2	55.7
	Neutral	60	17.4	17.4	73.0
	A small measure	51	14.8	14.8	87.8
	Very small measure	42	12.2	12.2	100.0
	Total	345	100.0	100.0	

Source: the author.

Figure no. 2 Friendly collaboration



Source: the author.

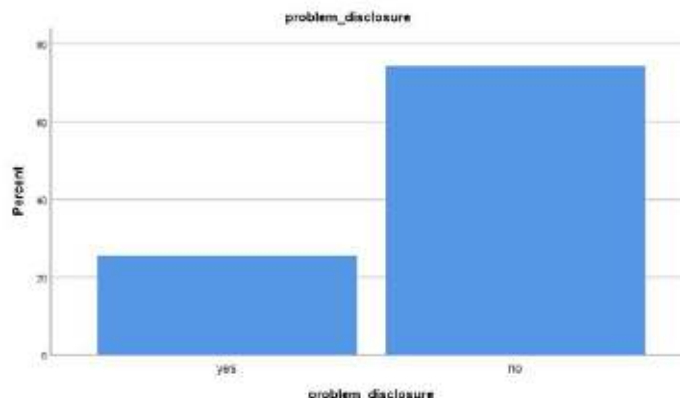
For question no. 3, are you confident to disclose your teaching problems and stress level to the school management, 74.5% of the teachers mentioned that they do not have the confidence to disclose their teaching problems and stress level to the school management, and 25.5% of the teachers mentioned that they trust to reveal their problems related to the teaching activity and the stress level to the school management.

Table no. 3 Disclosure of problems

		problem_disclosure			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	88	25.5	25.5	25.5
	no	257	74.5	74.5	100.0
	Total	345	100.0	100.0	

Source: the author.

Figure no. 3 Disclosure of problems



Source: the author.

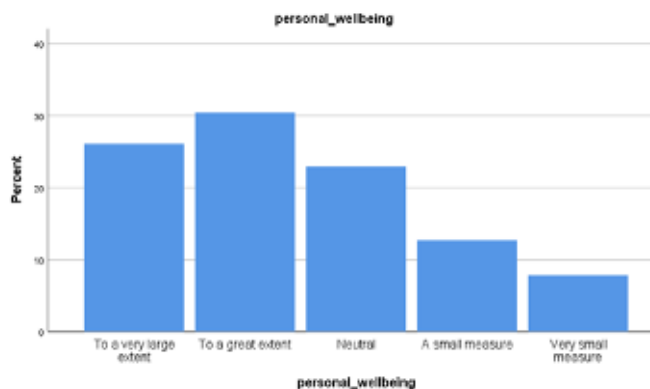
In the case of question no. 4, in your school the emphasis is on the well-being of the staff, 30.4% of the teachers answered that in the school where they teach the emphasis is to a large extent on the well-being of the staff, 26.1% of the teachers answered that in the school where they teach, the emphasis is to a very large extent on the well-being of the staff, 22.9% of the teachers were neutral in expressing their opinion, 12.8% of the teachers answered that in the school where they teach, the emphasis is to a small extent on the well-being of the staff, and 7.8% of the teachers answered that in the school where they teach, the emphasis is very little on the well-being of the staff.

Table no. 4 Personal well-being

		personal_wellbeing		Valid Percent	Cumulative Percent
		Frequency	Percent		
Valid	To a very large extent	90	26.1	26.1	26.1
	To a great extent	105	30.4	30.4	56.5
	Neutral	79	22.9	22.9	79.4
	A small measure	44	12.8	12.8	92.2
	Very small measure	27	7.8	7.8	100.0
Total		345	100.0	100.0	

Source: the author.

Figure no. 4 Personal well-being



Source: the author.

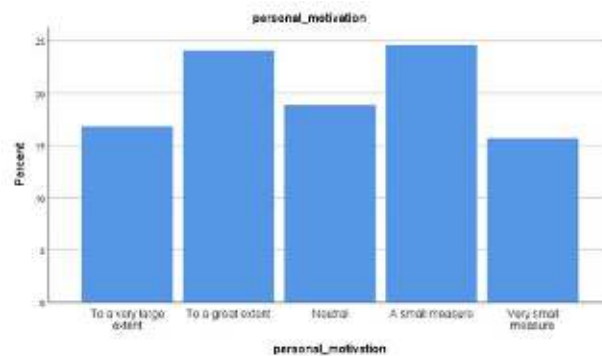
To question no. 5, in your school the emphasis is on staff motivation, 24.6% of the teachers answered that in the school where they teach there is a small emphasis on staff motivation, 24.1% of the teachers answered that in the school where they teach, the emphasis is to a great extent on staff motivation, 18.8% of the teachers were neutral in expressing their opinion, 16.8% of the teachers answered that in the school where they teach, the emphasis is to a great extent on staff motivation, and 15.7% of teachers answered that in the school where they teach, there is a very small emphasis on staff motivation.

Table no. 5 Personal motivation

		personal_motivation		Valid Percent	Cumulative Percent
		Frequency	Percent		
Valid	To a very large extent	58	16.8	16.8	16.8
	To a great extent	83	24.1	24.1	40.9
	Neutral	65	18.8	18.8	59.7
	A small measure	85	24.6	24.6	84.3
	Very small measure	54	15.7	15.7	100.0
	Total	345	100.0	100.0	

Source: the author.

Figure no. 5 Personal motivation



Source: the author.

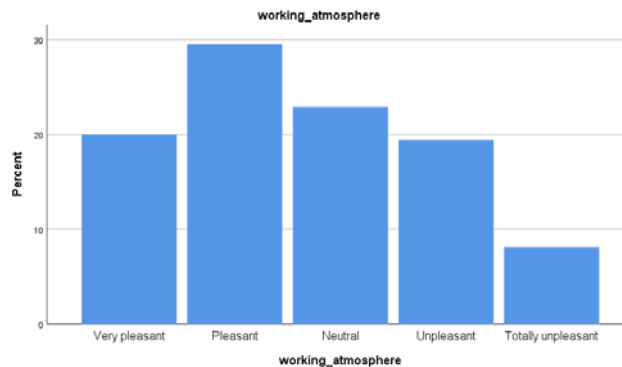
Regarding question no. 6, how do you perceive the working atmosphere at the school where you teach, 29.6% of the teachers said that they perceive the working atmosphere at the school where they teach as pleasant, 22.9% of the teachers said that they perceive the working atmosphere at the school where they teach as neutral, 20% of the teachers said that they perceive the working atmosphere at the school where they teach as very pleasant, 19.4% of the teachers said that they perceive the working atmosphere at the school where they teach as unpleasant, and 8.1% of teachers said that they perceive the working atmosphere at the school where they teach as totally unpleasant.

Table no. 6 The working atmosphere

		working_atmosphere		Valid Percent	Cumulative Percent
		Frequency	Percent		
Valid	Very pleasant	69	20.0	20.0	20.0
	Pleasant	102	29.6	29.6	49.6
	Neutral	79	22.9	22.9	72.5
	Unpleasant	67	19.4	19.4	91.9
	Totally unpleasant	28	8.1	8.1	100.0
	Total	345	100.0	100.0	

Source: the author.

Figure no. 6 The working atmosphere



Source: the author.

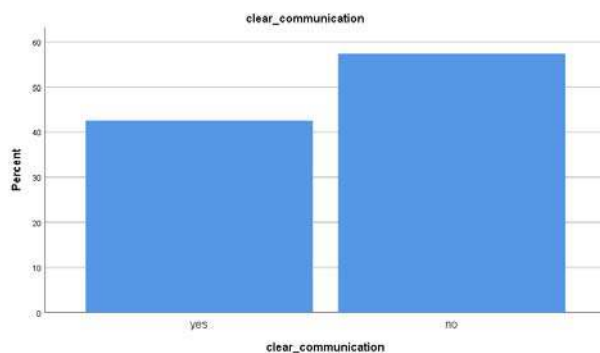
For question no. 7, in the school where you teach there is clear communication between management and teachers, 57.4% of teachers said that in the school where they teach there is no clear communication between management and teachers, while for 42.6% of teachers they have said that in the school where I teach there is clear communication between management and teachers.

Table no. 6 Clear communication

		clear_communication			Cumulative Percent
		Frequency	Percent	Valid Percent	
Valid	yes	147	42.6	42.6	42.6
	no	198	57.4	57.4	100.0
	Total	345	100.0	100.0	

Source: the author.

Figure no. 6 Clear communication



Source: the author.

#### 4. Conclusions

The purpose of the research was to analyze the leadership situation in schools in Romania. Following the research, we found that most of the teachers answered that in the school where they teach, the emphasis is placed to a large extent on the development of leadership programs for them, the teachers answered that in the school where they teach, there is -a very large emphasis on encouraging collaboration between school management, teachers and students in a friendly manner. On the other hand, teachers mentioned that they do not have the confidence to reveal their problems

related to teaching activity and the level of stress in front of the school management.

A large proportion of the teachers responded that the school where they teach places a great deal of emphasis on the well-being of the staff.

On the motivation side, most of the teachers answered that in the school where they teach, the emphasis is to a small extent on staff motivation.

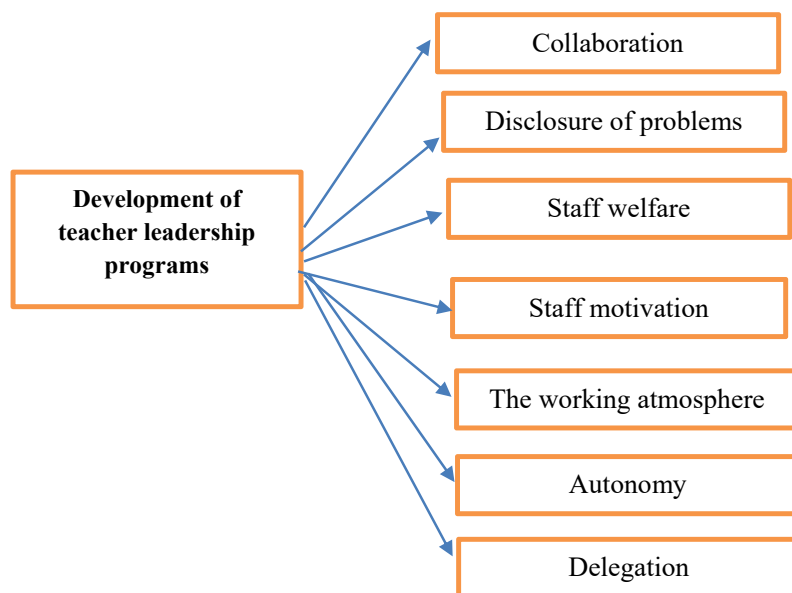
School principals have a difficult and demanding job. Thus, they are often under pressure to make choices or find solutions to problems without having enough data (information, time or resources). In the end, this frequently leads to compromise and pragmatism rather than a perfect outcome.

Regarding the working atmosphere at the school where they teach, they perceive it as pleasant.

Regarding communication, the teachers said that in the school where they teach, there is no clear communication between the management and the teachers.

Starting from these results obtained as a result of the research, we created the theoretical model called TLP (acronym for teacher leadership program).

Figure no. 7 The TLP model



Source: the author.

This model aims to improve the leadership situation of pre-university teachers in Romania.

Through leadership programs, teachers will develop their leadership skills, and through these skills, teachers can change your own life and the lives of those around you. At the same time, through leadership programs, teachers will improve their interpersonal skills, teamwork skills and emotional intelligence.

This topic has not been studied at the level of Romania, being also an element of novelty.

The limitations of the research consist in the fact that we applied this research to a sample of 345 teachers, therefore the data cannot be generalized.

Acknowledgement: This work is supported by project POCU 153770, entitled " Accessibility of advanced research for sustainable economic development - ACADEMIKA ", co-financed by the European Social Fund under the Human Capital Operational Program 2014-2020.

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## The Challenges of the Education System in Romania

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### Abstract

*The purpose of the research was to analyze the challenges of the education system in Romania on the infrastructure side.*

*In order to find out what are the challenges on the infrastructure side of the education system in Romania, we applied an online questionnaire to the teachers in the pre-university education system in Romania.*

*The research indicated that there are enough school facilities, enough teachers and enough students.*

*The teachers also mentioned that they are satisfied with the conditions and the facilities provided.*

*We aim to create a theoretical model regarding the challenges faced by the education system in Romania on the infrastructure side and to come up with a series of recommendations on how Romanian pre-university schools can be improved.*

**Key words:** school, teacher, student, school facilities, school conditions.

**J.E.L. classification:** I21, I25, P17.

### 1. Introduction

Formal education is a crucial part of a student's development and aims to promote the student's full holistic growth. At the same time, formal education prepares students for a methodical investigation of reality and solutions to the current problems of life, both for themselves and for society (Mayya et al., 2022).

A 2020 study demonstrated that reducing class sizes in schools is a strategy that is often considered successful for improving student outcomes (Köhler, 2020). Because smaller classrooms provide better learning opportunities, the teacher-student relationship is better developed, more individualized and student-centered instruction occurs, and there is also a decrease in disruptive student behavior.

The study by Adamu et al. (2020) indicated that teachers with large class sizes face challenges in successfully teaching children to read. So teachers face challenges in providing quality instruction. In areas where class sizes are large, schools may be poorly equipped with learning materials and teachers tend not to have sufficient academic training to teach their subjects.

Another 2006 study showed that education is a basic element of society and is the foundation of democratic choice. The wide gap in educational opportunities between countries is one of the root causes of global inequality. The study concluded that people can contribute and benefit from globalization only if they are endowed with knowledge, skills and values and with the necessary capabilities and rights to pursue their basic probabilities (Bakhtiari and Shajar, 2006).

After querying the Google Academic search engine on the keyword "school infrastructure Romania", the results did not indicate any results following the query.

Because there are very few specialized studies on the challenges of the pre-university education system in terms of infrastructure, we further propose to analyze the challenges of the Romanian education system on the infrastructure side.



## 2. Research methodology

The purpose of the research was to analyze the challenges of the education system in Romania on the infrastructure side.

In order to find out what are the challenges on the infrastructure side of the education system in Romania, we applied an online questionnaire to 345 teachers from the pre-university education system in Romania.

The teachers received 7 questions that referred to: the number of school units, the number of teaching staff, the number of classrooms, the number of students, the quality of the conditions in the school where they teach, the facilities available in the school where they teach, the types of labs and labs owned by the school where they teach, the types of clubs and co-curricular activities the school has.

The data analysis was carried out in SPSS version 26.

## 3. Findings

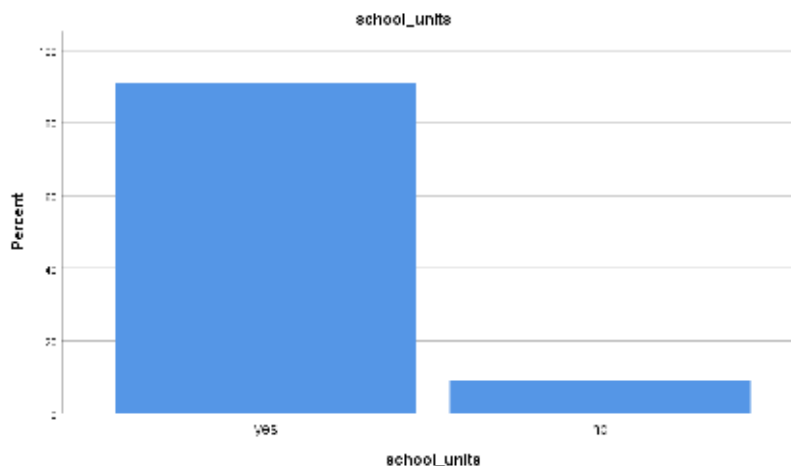
To question no. 1, are there enough school facilities in your area for students, 91% of teachers said yes there are enough school facilities, while 9% of teachers said there are not enough school facilities.

Table no. 1 School units

		school_units			Cumulative Percent
		Frequency	Percent	Valid Percent	
Valid	yes	314	91.0	91.0	91.0
	no	31	9.0	9.0	100.0
	Total	345	100.0	100.0	

Source: the author.

Figure no. 1. School units



Source: the author.

Regarding question no. 2, do you consider that there is enough teaching staff in the school where you teach in relation to the number of students, 40.3% of teachers agreed that there is enough teaching staff in the school where they teach in relation to the number of pupils, 33% of teachers and - they expressed total agreement that there are enough teaching staff in the school where they teach in relation to the number of students, 11.6% of teachers were neutral in expressing their opinion, 11.3% of teachers totally disagreed that there are enough teaching staff in the school where they teach

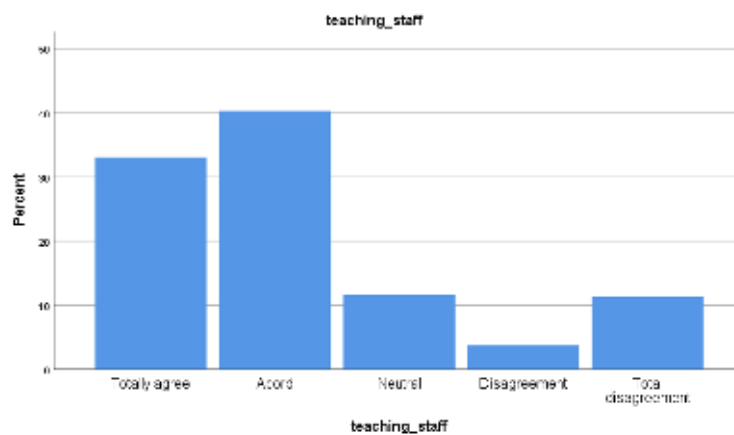
relative to the number of students, and 3.8% of teachers disagreed that there are enough teaching staff in the school where they teach relative to the number of students.

Table no. 2 Teaching staff

		teaching_staff			Cumulative Percent
		Frequency	Percent	Valid Percent	
Valid	Totally agree	114	33.0	33.0	33.0
	Acord	139	40.3	40.3	73.3
	Neutral	40	11.6	11.6	84.9
	Disagreement	13	3.8	3.8	88.7
	Total disagreement	39	11.3	11.3	100.0
	Total	345	100.0	100.0	

Source: the author.

Figure no. 2 Teaching staff



Source: the author.

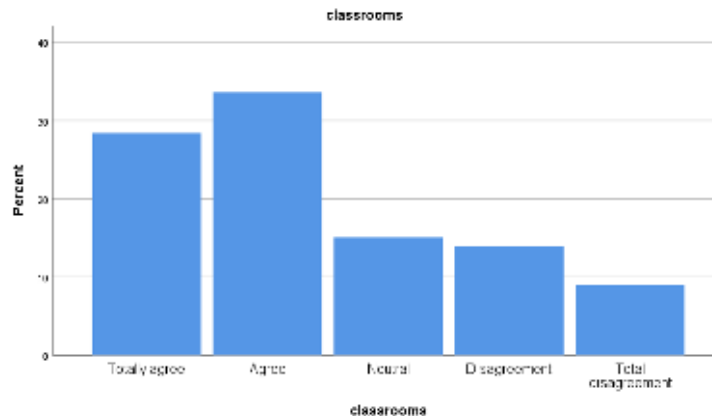
For question no. 3, do you think there are enough classrooms in the school where you teach in relation to the number of students, 33.6% of teachers agreed that there are enough classrooms in the school where they teach in relation to the number of students, 28.4% of teachers expressed total agreement that there are enough classrooms in the school where they teach in relation to the number of students, 15.1% of teachers were neutral in expressing their opinion, 13.9% of teachers disagreed that there are enough classrooms in the school where they teach relative to the number of students, and 9% of teachers strongly disagreed that there are enough classrooms in the school they teach relative to the number of students.

Table no. 3 Classrooms

		classrooms			Cumulative Percent
		Frequency	Percent	Valid Percent	
Valid	Totally agree	98	28.4	28.4	28.4
	Agree	116	33.6	33.6	62.0
	Neutral	52	15.1	15.1	77.1
	Disagreement	48	13.9	13.9	91.0
	Total disagreement	31	9.0	9.0	100.0
	Total	345	100.0	100.0	

Source: the author

Figure no. 3 Classrooms



Source: the author.

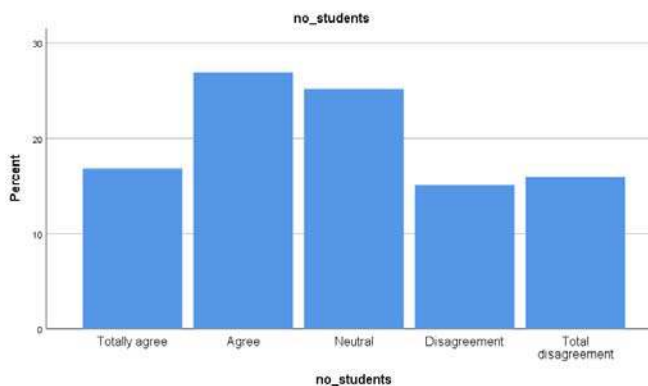
In the case of question no. 4, you consider that in the school where you teach there are enough students, according to the number of places in the classrooms, 27% of the teachers agreed that in the school where they teach there are enough students according to the number of places in the classrooms, 25.2% of the teachers were neutral in expressing their opinion, 16.8% of the teachers expressed their total agreement in the school where they teach there are enough students according to the number of seats in the classrooms, 15.9% of the teachers disagreed total in the school where they teach there are enough students according to the number of seats in the classrooms, and 15.1% of the teachers disagreed in the school where they teach there are enough students according to the number of seats in the classrooms.

Table no. 4 Number students

		no_students		Valid Percent	Cumulative Percent
		Frequency	Percent		
Valid	Totally agree	58	16.8	16.8	16.8
	Agree	93	27.0	27.0	43.8
	Neutral	87	25.2	25.2	69.0
	Disagreement	52	15.1	15.1	84.1
	Total disagreement	55	15.9	15.9	100.0
	Total	345	100.0	100.0	

Source: the author.

Figure no. 4 Number of students



Source: the author.

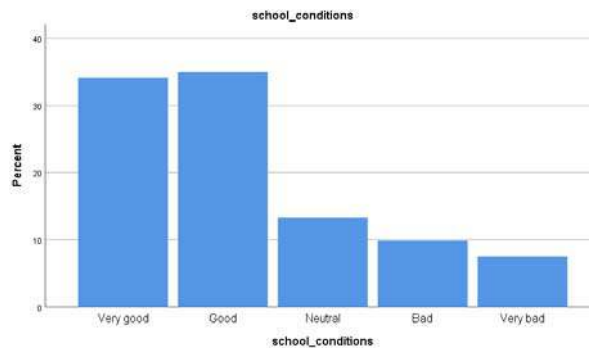
To question no. 5, how do you evaluate the quality of the conditions in the school where you teach, 35% of the teachers said that the quality of the conditions in the school where they teach is good, 34.2% of the teachers said that the quality of the conditions in the school where they teach is very good , 13.3% of the teachers were neutral in expressing their opinion, 9.9% of the teachers said that the quality of the conditions in the school where they teach is bad, and 7.5% of the teachers said that the quality of the conditions in the school where they teach is very bad they teach.

Table no. 5 School conditions

		school_conditions			Cumulative Percent
		Frequency	Percent	Valid Percent	
Valid	Very good	118	34.2	34.2	34.2
	Good	121	35.1	35.1	69.3
	Neutral	46	13.3	13.3	82.6
	Bad	34	9.9	9.9	92.5
	Very bad	26	7.5	7.5	100.0
	Total	345	100.0	100.0	

Source: the author.

Figure no. 5 School conditions



Source: the author.

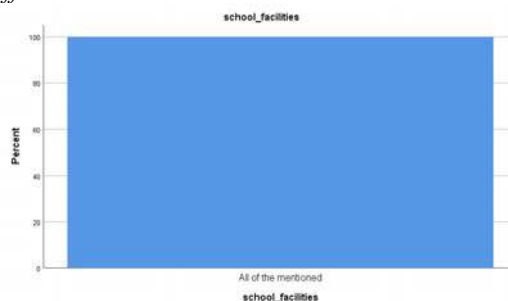
Regarding question no. 6, what are the facilities of the school where you teach, all the teachers stated that they have close to the means of transport, canteen, laboratories, gym, educational clubs, parking, relaxation space, medical assistance.

Table no. 6 School facilities

		school_facilities			Cumulative Percent
		Frequency	Percent	Valid Percent	
Valid	All of the mentioned	345	100.0	100.0	100.0

Source: the author.

Figure no. 6 Teaching staff



Source: the author.

For question no. 7, what kind of laboratories and offices does the school where you teach have? You can choose more than one answer or all, if the school has all these types of labs and labs, all teachers said they have all the labs: chemistry, geography, history, mathematics, foreign languages, physics and music.

Table no. 7 Laboratories

		laboratories			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	All of the mentioned	345	100.0	100.0	100.0

Source: the author.

Figure no. 7 Laboratories



Source: the author.

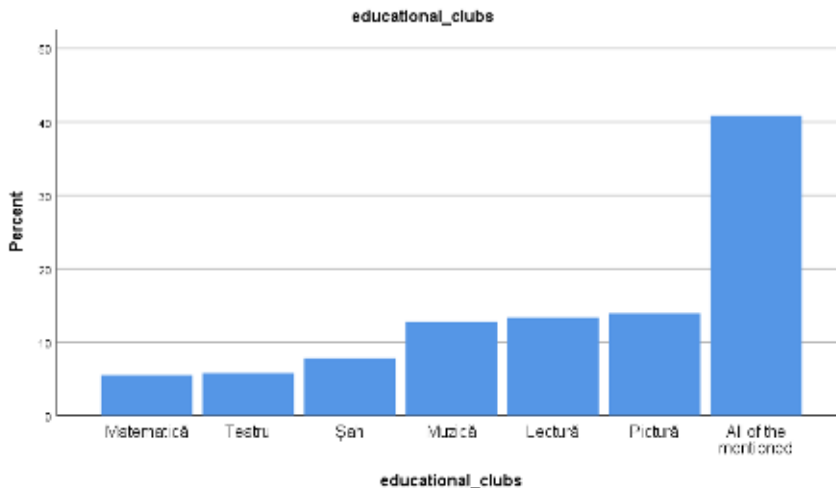
In the case of question no. 7, what kind of optional educational clubs/activities does the school where you teach, 40.9% of the teachers mentioned all: math, drama, chess, music, reading and painting; 13.9% of teachers mentioned painting, 13.3% of teachers mentioned reading, 12.8% of teachers mentioned music, 7.8% of teachers mentioned chess, 5.8% of teachers mentioned drama, and 5.5% of teachers mentioned mathematics.

Table no. 7 Educational clubs

		educational_clubs			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Matematică	19	5.5	5.5	5.5
	Teatru	20	5.8	5.8	11.3
	Șah	27	7.8	7.8	19.1
	Muzică	44	12.8	12.8	31.9
	Lectură	46	13.3	13.3	45.2
	Pictură	48	13.9	13.9	59.1
	All of the mentioned	141	40.9	40.9	100.0
	Total	345	100.0	100.0	

Source: the author.

Figure no. 7 Educational clubs



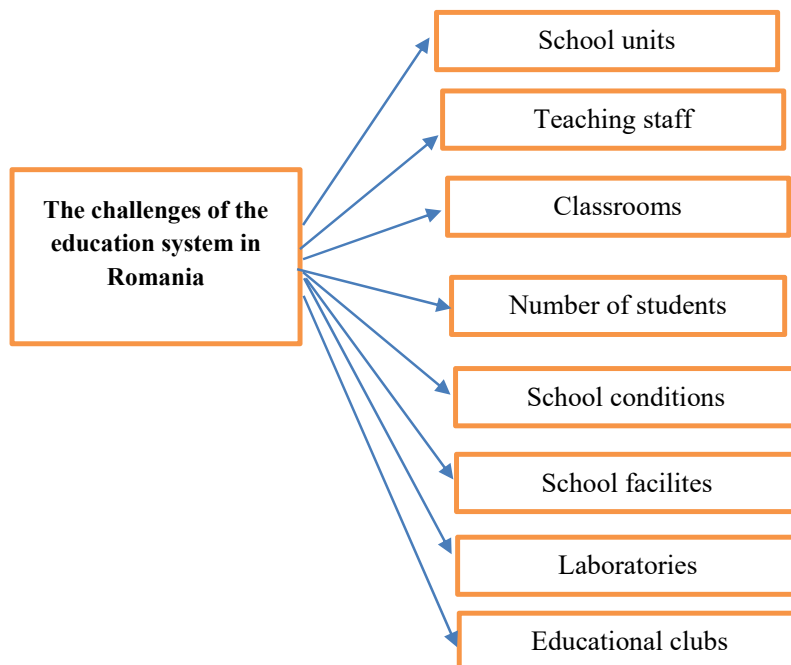
Source: the author.

#### 4. Conclusions

The purpose of the research was to analyze the challenges of the education system in Romania on the infrastructure side.

We propose to create a theoretical model regarding the challenges faced by the education system in Romania on the infrastructure side entitled “The CES model”.

Figure no. 8 The CES model



Source: the author.

The data from this study cannot be generalized as life in an urban school is very different from life in a rural school. Urban schools are much larger, with a much larger number of students per year, equipped with science and computer labs, math clubs, film, art or theater. In contrast, rural schools are smaller, with some villages offering only the 4 years of education, while the rest of studies are offered in a larger nearby village and have only one teacher for all students (generally under 10 students in total).

The number of students in Romania experienced a sudden decrease as a result of the decrease in the birth rate and the increase of emigrant families. The alarming decline in the number of students, especially by more than 1 million in peri-urban areas, has been attributed to several factors, including migration to foreign countries, the lack or ineffectiveness of demographic policies to increase the birth rate, and inconsistent economic measures to support small and medium-sized enterprises and, occasionally, even incorrect policies in the field of school organization (Amariei, 2020).

Although the teachers had no objection to the infrastructure part of Romanian schools, we believe that funds are needed to improve the system of pre-university school buildings, as well as the creation of school facilities, equipment and instruments for physics, chemistry, biology and geography, the creation and improvement of sports halls and the planning of the amount and value of maintenance, restoration and new constructions, for the pre-university school buildings, necessary for the normal development of the teaching process.

It must also prioritize the primary objectives of the pre-university school building system related to thermal insulation and address any gaps in relation to norms, standards and criteria regarding: capacities; class sizes; and the number of students per class. These actions must be taken to create a favorable long-term climate for the administration and management of the pre-university school building system that meets real needs, best practices and EU standards.

Teachers should have the right resources to help students prepare for future careers in STEM (Science, Technology, Engineering, and Math) fields, including environmentalists, computer specialists, robotics engineers, and others. To meet their needs, special labs are needed to encourage different types of interactions between students and teachers.

For example, the computer lab could have workstations suitable for digital creativity and 3D printing.

The science lab that is focused on environmental science, could include subjects such as ecology, plant science, zoology, mineralogy, oceanography, soil research, and others.

## 5. Acknowledgement

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## Designing Anti-Cyclical Social Policies in Times of Economic Crisis

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### Abstract

*In the study author used data from the period of epidemiological crisis. The subject of the study is analysis of economic indicators specific to social assistance and the labour market. The study sought to identify how the effect of a crisis propagates in the evolution of gross domestic product, unemployment and social assistance.*

*Author used statistical analyses in the study that looked at indicators specific to different markets (monetary, goods and services, labour). Regression analysis highlighted the higher volatility of the labour market compared to social assistance. This was explained by the fact that inclusion in the class of welfare recipients initially follows a process of self-labelling and the influence of subjective elements (cognitive dissonance phenomenon, the rack effect).*

*The study also reveals the existence of a residual value of the number of poverty benefit recipients independent of the number of unemployed.*

**Key words:** social assistance, economic growth, economic crisis, macroeconomics

**J.E.L. classification:** I18, H53, F62

### 1. Introduction

The ability to design anti-cyclical employment and social assistance measures is an important objective. Versatility and integration of programmes into social protection systems is also a must. Changes in the structure of the Romanian economy, pandemic crises, migration, require changes to ensure permanent adaptation policies. These, like other public policies, can only be found by assessing the impact of certain parameters.

Stimulating economic growth in times of crisis goes hand in hand with increasing social needs. The process of capitalising the economy is necessary in conjunction with the development of services (social and employment services), otherwise income inequality may affect social security. I will refer to the sources that can lead to new strategies in social assistance in this article. If there is an opportunity, I used the evolution of some economic / social data from the pandemic period to see what could be changed in strategies and especially why.

The epidemiological crisis that started in the second quarter of 2020 has affected the market for goods and services, the labour market, social assistance and the exchange rate. Analysis of the evolution of indicators such as the Gross Domestic Product, the number of unemployed, the number of social assistance recipients and the leu/dollar exchange rate can provide an insight into the extent of the crisis, in the context of equilibrium trends, existing within the markets.

### 2. Literature review

The specificity of a country makes it difficult to extend general research. Quantitative methods such have also used in research papers by (Alkire, 2014), (Blank & co, 1986), (Ravaliion, 2016), (Ayala & co, 2017).

Studies and analyses on the relationship between the parameters were necessary to implement the minimum inclusion income. In designing the strategy to combat social exclusion, such studies have also been carried out. The article follows the results of the analysis of poverty dynamics presented in the book *The Great Escape* written by (Deaton, 2013), (Anghelache & co, 2006) and



(Gibescu,2013) have addressed this issue for Romania. Various World Bank analyses have also addressed this topic.

### 3. Research methodology

In this first study by the author I tried to use a small number of relevant indicators. In the next stages of the research I will include other variables in order to define a suitable macromodel.

I have chosen to use a time series analysis of some indicators to provide an adequate picture. I have thus followed the evolution of the indicators in the period before the crisis, during the crisis and post Covid.

- For the goods and services market indicator, quarterly gross domestic product was used. The data for this indicator have been extracted from the website of the National Institute of Statistics (CON106A - Quarterly gross domestic product - CAEN Rev.2 gross series, current prices). The indicator is a national accounts macroeconomic aggregate and represents the final output of the production activity of resident productive units over a period, i.e. a quarter.

- The data on the number of unemployed were extracted from the website of the National Institute of Statistics (indicator SOM101A - Unemployed registered at the end of the month). As the SOM101A indicator has monthly values, in order to integrate the data with the previous indicator, an indicator aggregating the quarterly average was calculated.

- Data on the number of social assistance persons were extracted monthly, from January 2012 to March 2020, from the ANPIS balance sheet. Similarly, in order to be integrated into the model, the extracted monthly data was averaged per quarter.

- The average exchange rate USD / RON was extracted from the website of the National Bank of Romania and in this case a quarterly average of the monthly data was performed.

- The following derived indicators were included in the database:

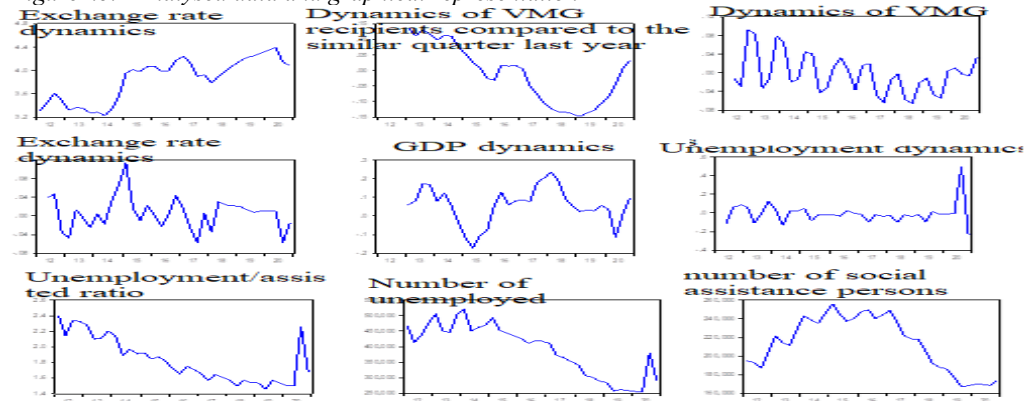
- GDP USD - which was defined by the author as GDP value in lei / average exchange rate;
- Dynamics of GDP lei - which was defined by the author as the value of GDP in lei in period n compared to period n-1;
- Dynamics of GDP in USD - which was defined by the author as the value of GDP in USD in period n relative to period n-1;
- Unemployment dynamics - which was defined by the author as the value of the number of unemployed in period n relative to the value in period n-1;
- Dynamics of GVA growth - which was defined by the author as the value of the average number of welfare recipients in period n relative to the value in period n-1;
- Exchange rate dynamics - which was defined by the author as the value of the LEU/USD exchange rate in period n relative to the value in period n-1;
- Unemployment/assisted ratio - which was defined by the author as the ratio of the value of the number of unemployed at a given time / the value of the number of social assistance recipients;
- GDP dynamics compared to the similar quarter of the previous year - which was defined by the author as the value of the GDP indicator in quarter n (n = 1,2, 3, 4, ) of the current year compared to the value of the indicator in the same quarter of the previous year;
- Unemployment dynamics relative to the same quarter last year - which was defined by the author as the value of the indicator number of unemployed in quarter n (n = 1,2, 3, 4, ) of the current year relative to the value of the indicator in the same quarter last year;
- Dynamics of VMG recipients compared to the similar quarter last year - which was defined by the author as the value of the indicator number of unemployed in quarter n (n = 1,2, 3, 4, ) of the current year compared to the value of the indicator in the same quarter last year;
- Dynamics of the unemployment/assisted ratio compared to the similar quarter of the previous year - which was defined by the author as the value of the unemployment/assisted ratio indicator in quarter n (n = 1,2, 3, 4, ) / current year compared to the value of the indicator in the same quarter of the previous year.

The author merged the data related to the indicators and calculated the average for each quarter of each year. The data in the tables were subject to a time series specific analysis .

The period analysed was from Q1 2012 to Q4 2020. The figure below shows the dynamics of some indicators considering the notation Q1 2012 = 1 until Q4 2020 = 20

In the table and figure below I present the time series analysis described above.

Figure no.1 Analysed data and graphical representation

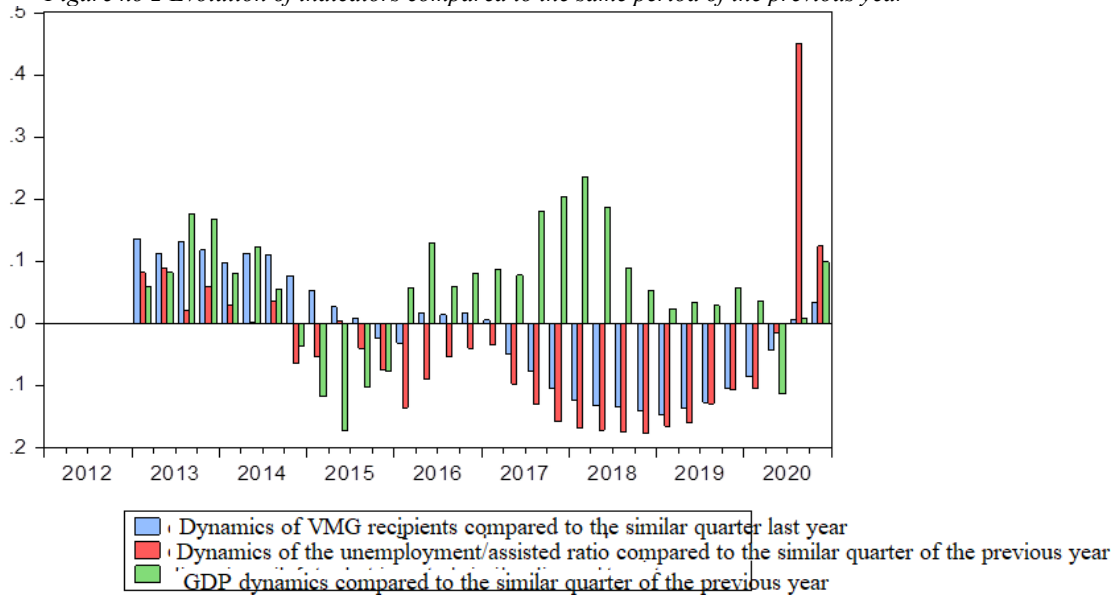


Source: Self projection af author

Economic growth up to 2020 has resulted in a downward trend in the number of unemployed and welfare recipients. The graphical analysis above shows the seasonality of GDP growth, but also of the number of unemployed or social assistance recipients.

In order to eliminate the effects of seasonality we have analysed below the indicators GDP, number of unemployed and number of social assistance recipients, compared to the corresponding periods of the previous year.

Figure no 2 Evolution of indicators compared to the same period of the previous year



Source: Self projection af author

#### 4. Findings

The evolution of the ratio of the number of social and unemployment benefit recipients in the current year/previous year is moving in the same direction with few exceptions. Between 2013 and 2016 the evolution of the GDP dynamics followed the same trend as the evolution of the dynamics

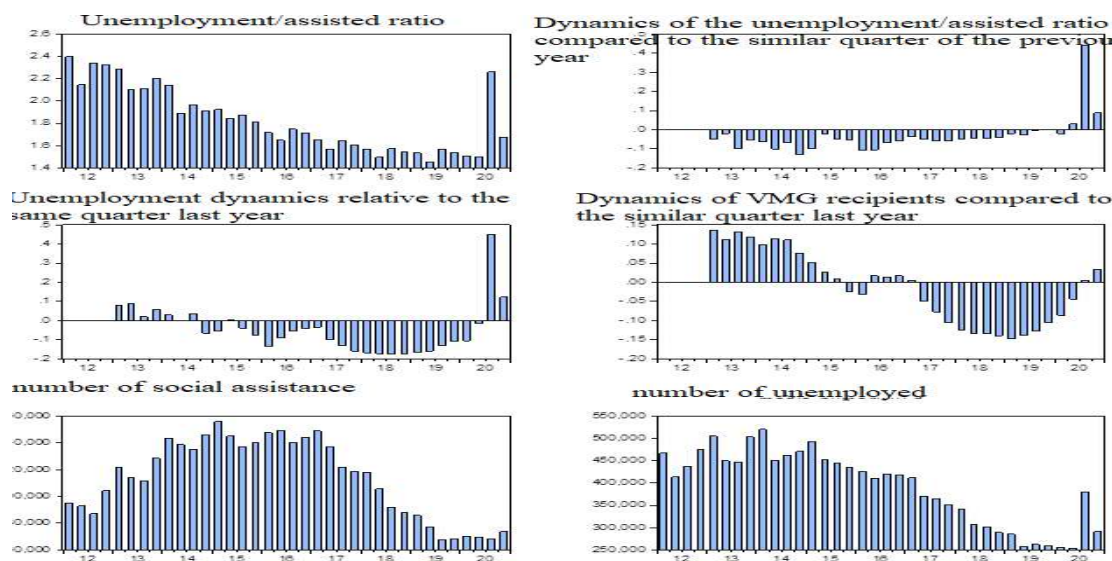
of the number of unemployed and even of social assistance recipients.

From 2016 onwards, it can be seen that the trend has been reversed between the GDP dynamics compared to the previous year and the dynamics of the number of unemployed compared to the previous year. Thus, if GDP increased, the number of unemployed decreased, a phenomenon explained by Okun's law. The crisis generated by COVID 19 brings to mind the trend of 2013 - 2016 where, as in the case of economic growth, the number of unemployed/social assistance recipients was increasing. Initially, the reaction of the labour market to the freezing of economic processes led to very high unemployment figures, which was boosted by the health measures related to the COVID period. The fall in GDP during the pandemic led to a very high short-term unemployment rate.

The return of economic growth in the fourth quarter of 2020, however, did not bring an immediate fall in the unemployment rate. A lag effect was observed between the two indicators.

The evolution of the number of social assistance recipients also shows largely the same trend as the number of unemployed (there is also a lag in this case). The figure below shows the evolution of some poverty indicators during the epidemiological crisis.

Figure no 3 Relationship between unemployment and social assistance



Source: Self projection af author

The epidemiological crisis has not led to a massive drop in the number of people receiving care, but rather to a moderation of the decline in numbers.

The number of social assistance recipients remained at around 180,000, in line with the previous year's dynamic.

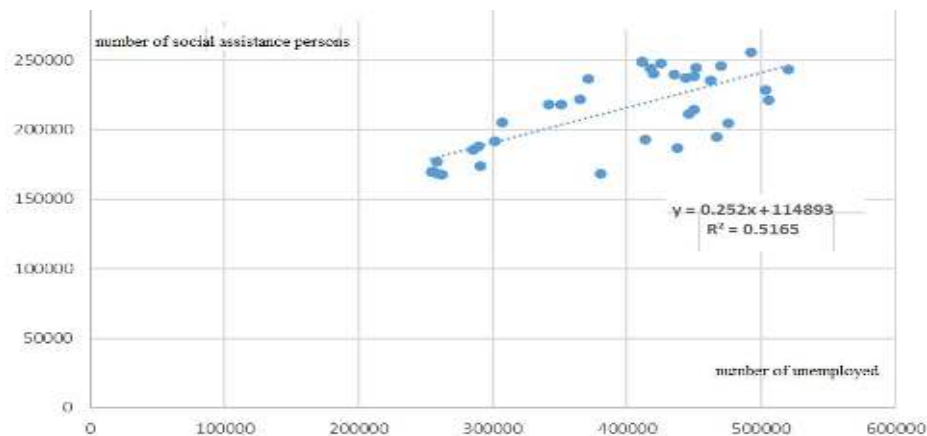
The ratio between the number of unemployed and the number of assisted that was decreasing on the trend before the crisis has slightly increased due to the massive increase in the number of unemployed (which had a massive increase in the second quarter of 2020). On the other hand there is an older process of stabilization of the number of welfare recipients. This residual value has also been revealed by other researchers.

"Does this figure for the number of recipients represent a minimum threshold?"

This phenomenon of capping at a lower threshold would represent (a residual value in poverty benefits) would mean that there is a number of beneficiaries that even at a hypothetical unemployment rate of 0.

In the graph below I present a regression analysis represented horizontally by the number of unemployed and vertically by the number of welfare recipients.

Figure no 4 Ratio of number of unemployed, number of social assistance persons



Source: Self projection of author

It can be seen from the graph above, an empirical relationship such as: the average number of beneficiaries is equal to  $114,893 + 0.252 \times \text{number of unemployed}$ .

Although there is a relatively large degree of error in this model, it can be stated, subject to the degree of practical error, that even at zero unemployment there will be a residual number of social assistance recipients of around 115,000 people.

The model indicates that no matter how much the unemployment rate falls, the share of welfare recipients will not fall below a certain value. The conclusion of this preliminary study is that on the one hand there is a gap between economic growth and the evolution of unemployment and on the other hand another gap between the evolution of the unemployment rate and the number of welfare recipients. This, together with the lag effect noted above (on the one hand, the unemployment rate in relation to economic growth and, on the other hand, the number of social benefit recipients in relation to the unemployment rate), may form the basis for proposals for anti-cyclical measures.

Currently, social benefits in Romania are granted on demand. To enter the assistance class, a person makes an application. By applying, he or she practically includes himself or herself in the assistance class. This process of self-inclusion in the class has, of course, objective economic premises, but also premises that relate to the subjective side of the person. First of all, the person applying for such a benefit has in mind his or her self-esteem in relation to other members of the community. He also cannot conceive that things will get worse, and this is the phenomenon of cognitive dissonance.

On the other hand, any state support measure is important if it is granted in time to facilitate, on the one hand, the exit from social exclusion. If it is important to make investments in the design of anti-cyclical policies, I will now consider the possibility of anti-cyclical measures relating to social assistance.

As Angus Deaton mentioned, there are only some who can escape the social exclusion class and the unemployment class. Some will be irredeemably left behind. For these (which in principle will be a minimum of 115,000 people for Romania) solutions had to be found by funding social services. A first measure would be to create a system for financing private social services that can be funded by social assistance vouchers. The changing demographic structure and the Romanian economy also require changes in the specific mechanisms for providing social assistance. In order to make social transfers more efficient in a competitive environment, there may be a number of measures/actions based on stimulating competition and financing private social services through vouchers.

At present, a large part of social need intervention is provided by public providers. DGASPCs are large organisations with limited efficiency. Private social services are underfunded and lack extensive intervention capacity. The intergenerational transfer of poverty, inheritance tax, and rising inequality trends lead to continued trends towards social exclusion, even in the context of

economic growth. The provision of vouchers must go hand in hand with the development of private services related to areas of major social exclusion. They could be designed only for one purpose (intervention), approved by the social worker at licensed private entities.

In this sense, the return to the country of some elderly Romanian families in need of social services, and who, on the other hand, have experience in social business investment, could be an opportunity. Boosting the employment of older people who can work in a social service (in the context of an actively ageing population) is another way in which private social services can provide effective social intervention.

The need to capitalise the economy and develop Romanian capital are important priorities. The capital used in social assistance can be used with a multiplier effect, both by private funds (CSR), but also thanks to other springs briefly presented above. It is not possible to speak of a failure of private social services markets that would justify a major public intervention in the context in which they assert and seek social intervention.

Anti-cyclical intervention would require strengthening safety nets at the primary level in terms of correct identification of social need and increasing opportunities for in-kind intervention, especially through the funding of private services through vouchers among the laggards, as well as rapid intervention to mitigate the subjective issues raised above.

These types of measures can increase the role of free markets and reduce direct state intervention. However, the role of the State will remain one of control in the regulatory system, and only in certain cases (of market failure) in direct intervention.

A second measure would be to increase the speed of reaction, not only to under-inclusion (error, fraud, corruption) but also to over-inclusion. Thus, the provision of vouchers only for the use of essential services to combat social exclusion is a measure that reduces the psychological effects of applying for support.

But it must be complemented by an active communication system that will bring people out of exclusion, not keep them, as Angus Deaton said, "in the class of the left behind". Thus vouchers could also be used to facilitate exit from exclusion, including in private social employment services.

## 5. Conclusions

The study analyses in parallel the dynamics of economic growth, labour market and social assistance during the pandemic period with the intention of identifying appropriate measures for any intervention. The study reveals that although the number of people in poverty correlates with the increase in the number of unemployed, the pandemic period did not lead to a significant increase in the number of short-term welfare recipients. The effectiveness of measures to combat crisis phenomena depends on the measures that states can take to encourage anti-cyclical behaviour that counteracts subjective trends. The design of social assistance systems must take into account a residual level of the number of people receiving assistance, which the study estimates to be around 115 000 in Romania. The study is limited by the degree of error in the quantitative analysis and the interposition of several economic phenomena. The resulting concrete measures concern the financing of social services based on vouchers, after an appropriate endorsement at local level by the social worker. The use of the voucher system could be considered not only as a payment for private services to combat major exclusion but also as a tool to be used to get out of this situation.

The possible results of the study highlight the use of mechanisms to realign the differences in dynamics between the labour market and social assistance, both to combat the under-inclusion error and to reduce the over-inclusion error (unjustified retention in the social assistance class).

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## Nonlinear Analysis of Financial Time Series

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### Abstract

*One of the axioms of the modern science states that, if one can identify an exact mathematical description of a physical system, then a very detailed understanding of the system's properties is possible. A very accurate prediction of its future behavior would be also possible.*

*These assertions proved to be true only for particular cases and false for nonlinear systems. The vast majority of natural phenomenon has a nonlinear behavior, completely different from the idealized linear dynamics. It's very clear that, an adaptation of the methods used for linear systems analysis is not possible and hence the need for a new mathematical apparatus.*

*The paper aims at explaining these concepts and to analyze the behavior of two time series, one corresponding to the currency exchange rate (Leu - Euro) and the other one to the Cambridge Bitcoin Electricity Consumption Index (CBECEI).*

**Key words:** nonlinear analysis, chaos, neural networks, ARIMA

**J.E.L. classification:** C02, C40

### 1. Introduction

Until recently, linear models, which are easier to understand, were used in the majority of modelling problems. Linear theory considered that a complex and irregular behavior is due to intricate effect of external component that affects system dynamic, making very difficult or impossible to predict its evolution.

Towards the end of the past century, nonlinear models developed due to their superior modelling performances.

Nonlinear behavior allows a better understanding of the complex natural phenomena. Nonlinear dynamics introduced new set of tools and concepts used to analyze and to investigate the dynamic generated by nonlinear processes. One can state that, at the moment, a conceptual unification of the notions (period doubling, bifurcations, attractors, initial condition sensitivity, Lyapunov exponent) has been accomplished. The techniques and methods researching the concepts introduced by the nonlinear dynamics are collected under the name of nonlinear signal processing or nonlinear analysis.

Each state of a deterministic dynamical system is the outcome of a set of rules governing its dynamics (excepting pure random systems), even if these rules cannot be easily identified or identified at all due to the extreme complexity of the system.

The behavior of a dynamical nonlinear system is illustrated in the phase (or state) space - a conceptual space whose dimensions are corresponding to the system's variables. The evolution in time of the system described by differential equations is reflected in the moves (trajectories) of a point in the state space. The phase portrait is an image of the system's state change at different moments in time. Phase portraits may reveal the existence of regions or points towards which all the neighboring trajectories are converging. A strange attractor will occupy a region of the state space that captures all the trajectories which, apparently following a randomly pattern, will cover its surface without repeating themselves.



Nonlinear analysis is based on Taken's state space reconstruction theorem and the concept of topological equivalence. When working with a reconstructed low dimension phase space, the main features of the original dynamics are replicated, without necessarily knowing the equations of the dynamical system that generates the time series.

The concept of topological equivalence facilitates the study of the low dimensional geometrical objects. The study will reveal information regarding the original dynamics. Topological equivalence and low dimension attractor are leading to another important concept – capacity dimension which discriminates between deterministic chaos and random behavior. The methodology of deterministic chaos identification will be addressed later in the paper.

The paper aim is to reveal the chaotic dynamics (if any) in the leu – euro exchange rate and CBECI (Cambridge Bitcoin electricity Consumption Index) time series. We will transform the time series in order to meet an important request, the stationarity, and then we will perform a test which will confirm that the time series meet this criterion in order to proceed with the nonlinear analysis methodology. Only relevant result will be mentioned in the paper.

## 2. Theoretical background

In the last 20 years, different signal analysis and processing techniques were set up. These techniques are mainly based on Taken's state space reconstruction theorem. Taken's theorem allows the reconstruction of the original state space without knowing the exact model of the system.

In order to correctly reconstruct the original state space, the embedding dimension is of capital importance. Let us consider a discrete dynamical system defined by:

$$x_{t+1} = f(x_t) \quad (1)$$

Where  $x_t \in \mathbb{R}^n$  is a state vector and  $f: \mathbb{R}^n \rightarrow \mathbb{R}^n$  is a smooth and continuously differentiable function in the  $n$  dimensional space. It is very difficult to observe all  $x_t$ . To reconstruct an equivalent state space, a single variable is considered with a certain delay. Taken's theorem states that knowing the value of a single variable describing the system's state is enough to reconstruct the original state space.

State space reconstruction principle is that any property of a system based on the distance between two points will be preserved when the correct embedding dimension will be attained.

If the evolution of the dynamical system is described by the time series  $\{x_1, x_2, \dots, x_N\}$ , then the reconstruction of the dynamics starting from the  $x_i$  variable observed values is:

$$\{y_1, y_2, \dots, y_{N-(m-1)\tau}\} \quad (2)$$

The vectors  $y_1 \dots y_{N-(m-1)\tau}$  are called the delay vectors, The trajectory resulting after the reconstruction is:

$$y_k = \{x_k, x_{k+\tau}, x_{k+2\tau}, \dots, x_{k+(m-1)\tau}\} \quad (3)$$

Where  $\tau$  is the delay and  $m$  is the embedding dimension. An embedding dimension equal to 1 is equivalent with the original dynamic and gives the original times series. A right choice for the delay and the embedding dimension guarantee that the attractor is completely unfolded and it is topologically identical with the original one in the phase space.

It has been proved according to Sauer's theorem that the embedding dimension  $m$  has to verify the inequality:

$$m \geq 2d_a + 1 \quad (4)$$

Where  $d_a$  is the attractor's dimension (the dimension of the state space) and  $m$  has an integer value.

If the diameter of the reconstructed attractor is  $d$ , then the neighbors of the reference points used to measure the divergence of the neighboring trajectories are included in a  $r$  radius sphere,  $r < d$ . The ratio of the two quantities is  $\rho$ ,  $\rho \leq 0.1$ . The length of the time series is given by:

$$\log N > d_a \log \left( \frac{1}{\rho} \right) \quad (5)$$

where  $N$  is the number of realizations of the time series and  $d_a$  is the attractor dimension. If  $\rho=0.1$  then

$$N > 10^{d_a} \quad (6)$$



## 2.1 The embedding dimension estimation

The accuracy of the embedding dimension estimation process is important because the embedding dimension indicates how many differential equations will be needed to model the behavior of the system under study, or, if an ANN is used for modelling purposes, indicates the number of the inputs, e. q. the number of the neurons in the input layer.

After the embedding dimension is correctly determined, the attractor will be completely unfolded. A higher dimension will alter its geometry.

An incorrect embedding dimension will influence the modelling in the following directions:

- The number of points of the attractor could be insufficient for computing some invariants, for instance the Lyapunov exponent;
- An embedding dimension higher than the correct one will not contain useful information about the attractor which is already included in a smaller embedding dimension;
- The computing complexity increases with the increase of the embedding dimension

The methods used for finding the minimum embedding dimension are: false nearest neighbors method, attractor invariants saturation method and the singular value decomposition method.

The method of false nearest neighbors is based on the idea that if the embedding dimension is incorrectly determined, the points that are closer in the reconstructed space were placed farther in the original state space. Hence, in the reconstructed state space based on an incorrect embedding dimension the neighbors are false nearest neighbors.

An exact identification of the embedding dimension is carried out in practice by representing the percentage of false nearest neighbors vs the embedding dimension. When the percentage drops to 0, the attractor is considered to be completely unfolded.

The method of attractor's invariants saturation relies on the property that, if is completely unfolded, the fractal dimension (or the correlation dimension) of the attractor is independent of embedding dimension. Saturation of the correlation dimension is one of the properties of chaotic systems. The fractal dimension of a strange attractor from (usually) an one dimensional time series is determined using Grassberger and Procaccia algorithm, (Grassberger, 1983).

Once determined, we will know that the minimum embedding dimension is the integer value greater than the correlation dimension.

$$m > [d_a] \quad (7)$$

A generalization of Takens theorem was obtained by Sauer. Sauer's theorem which states that, when an attractor with  $d_a$  fractal dimension is projected in a dimension  $m > 2d_a + 1$ , all self-crossing of attractor's trajectories are removed.

## 2.2. The delay parameter

Despite the fact that, in theory, the value of the delay parameter is not very important, the graphical representation of the time series depends totally on it. The delay parameter influences essentially the attractor reconstruction: if the delay is too low, then the attractor is compressed along the main diagonal of the phase space. If the delay is too high, the original dynamic will not be reconstructed accurately, resulting a very intricate dynamic, even if the original dynamic is very simple.

In order to find the delay, two methods are used: the method of autocorrelation function and the method of mutual information.

The mutual information function can be considered a generalization of the autocorrelation function, measuring the linear dependence mutual information for all the points, when the measurements are delayed in time. The average mutual information is the average quantity of information of  $y(t+\tau)$  knowing  $y(t)$ .

Mutual information is determined using the following equation:

$$I(T) = \sum_{n=1}^N P(y_n, y_{n+T}) \log_2 \frac{P(y_n, y_{n+T})}{P(y_n)P(y_{n+T})} \quad (8)$$

where  $P(y_n, y_{n+T})$  is the probability of observing  $y_n$ , and  $P(y_n)$  represents the probability of observing  $y_{n+T}$ .  $I(T)$  represents the quantity of information available about  $y_n$  when observing  $y_{n+T}$ .

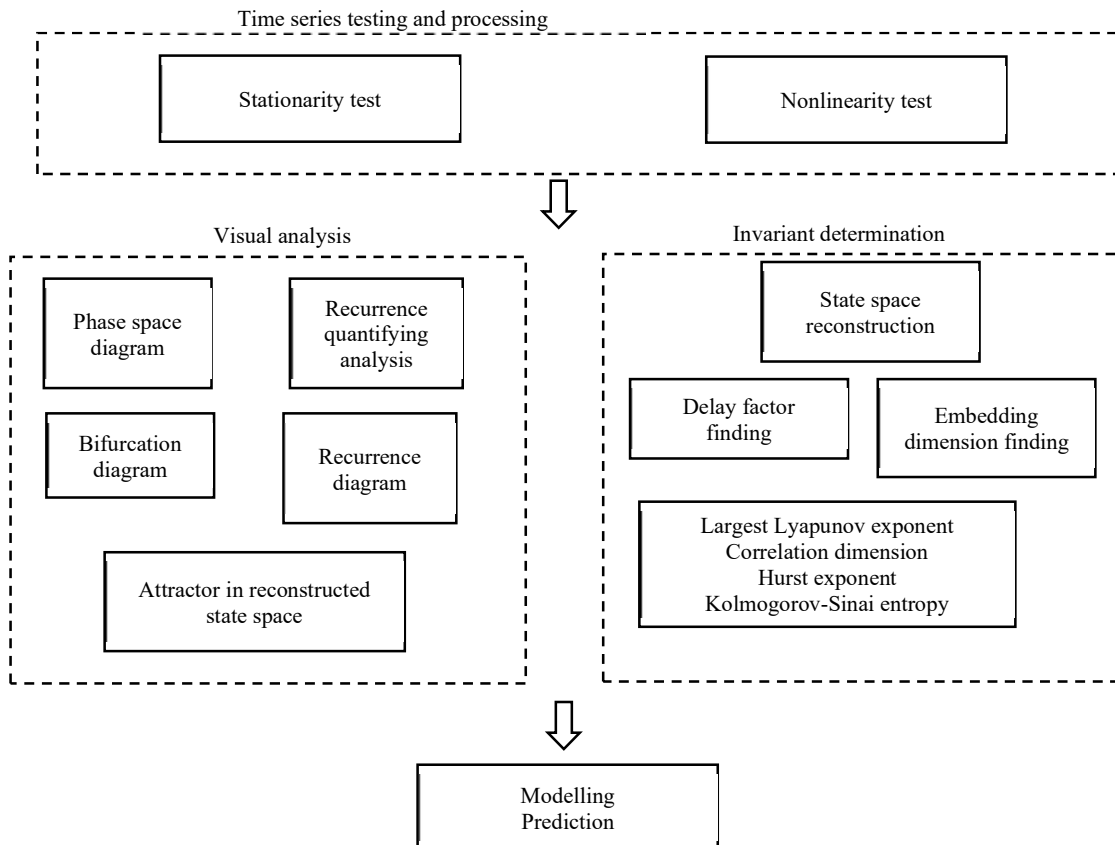
The most used method is the mutual information method because nonlinear correlations can be measured. The autocorrelation measures linear correlations only.

The delay parameter is found, when using the autocorrelation method, as the first zero passing of the function, if the monotony isn't changing or, otherwise, the first minimum. If the mutual information method is used, the delay parameter is the first minimum of the mutual information function, (Small, 2005).

### 3. Research methodology

The methodology used in this paper is based on hybrid methodology used in Zhang, (Zhang, 2002). The basic idea is that each time series is composed of a linear and a nonlinear part. The linear part is extracted by fitting an ARIMA model and the nonlinear part is modelled by training an artificial neural network (ANN) with the model residuals time series. The result of modelling both parts can be summed up and the overall prediction performance can be compared with the results obtained taking into consideration the original undecomposed time series modelled only by ANNs.

Figure no 1. An intuitive diagram of nonlinear time series analysis steps.



Source: Authors' contribution

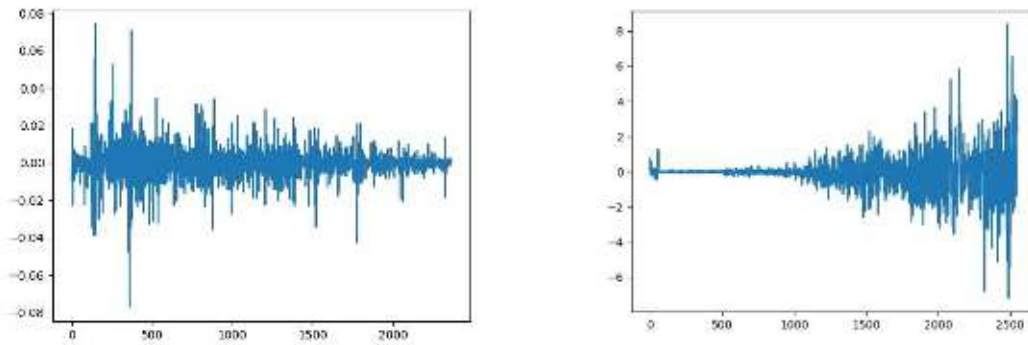
### 4. Findings

The Cambridge Bitcoin Electricity Consumption Index (CBECI) time series (Figure 2) estimates, using a model developed in 2017, the total amount of electricity needed to mine Bitcoins. The estimation is based on the assumption that the miners are using hardware differing in terms of power that will be used while the profitability threshold is attained. We will not discuss the quality of the model nor the researches suggesting that Bitcoin mining alone could increase the global temperature

in a significant manner (Mora, 2018), (Stoll, 2019). The times series corresponds to the daily values of energy consumption during 1.07.204 – 25.06.2021 expressed in GW.

The Euro – Leu time series spans over 15 years, between 2005 and 2015.

Figure no. 2. Euro – leu exchange rate time series (left) and CBECI time series (right). The trend was removed and the series were stationarized.



Source: Authors' contribution

Many models have been constructed for simulating the volatile behavior of the exchange rate. The general idea, prior to the nonlinear time series analysis emergence, is that the exchange rate can be considered as financial assets traded on efficient markets. The exchange rate embeds the available information at the current time and the changes represents the outcome of the unpredictable events. The theory states that an a priori explanation of the exchange rate's evolution is impossible, but an a posteriori explanation could be given.

Nonlinear models and chaos theory are supplying new models for understanding the exchange rate mechanism. The first researches in the fields dates back from 1980. In the majority of papers, it was identified a nonlinear dynamics at the fundament of the exchange rate, including here chaotic dynamics. The literature identifies chaos manifestation in the exchange rates (Federici, 2002), (Brock, 1998), (Pai, (2006), or, on the contrary does not find enough indicators of chaotic dynamics (Brooks, 1998).

The optimum ARIMA model fitted for the exchange rate time series is ARIMA(4,1,1) with the smallest value of the AIC index (-15877.49).The residuals of the model (the nonlinear part) were used to train an ANN. The simplest model of ANN is the multilayer perceptron (MLP) which has the very important property of universal approximation. Our model has one hidden layer with four hidden neurons. The number of neurons in the input layer was set to 8, equal to the value of the embedding dimension. The input layer role is to capture the dynamics of the system. The role of the hidden layer is to discover hidden relationships in the training set.

CBECI time series was modelled using ARIMA(6,1,6) with AIC=5761,69. The neural network trained with the residuals of the ARIMA model was also of MLP type with a similar topology, except that the number of neurons in the hidden layer was set to 5.

The combined predictions from the two models are showing a forecasting capability close to the ANN. The values of the RMSE on the training sets are shown in Table no 1.

Table no 1. Forecasting error obtained with the three methods studied.

Time series/ Forecasting error (RMSE)	ARIMA	ANN	Hybrid
Leu-euro exchange rate	0.002	0.001387	0.001403
CBECI time series	0.116	0,094	0.082

Source: Authors' contribution

## 5. Conclusions

Nonlinear behavior may lead to a very intricate and complex time evolution of the nonlinear systems, which may further develop into a chaotic dynamic.

The term "chaotic" is used to describe the aperiodic behavior of an apparently random system. Behind the apparent random dynamics lies in fact the deterministic character of the system whose behavior is completely determined by the equations describing the deterministic chaotic dynamics.

Nonlinearity introduces in fact a better understanding of the complex natural phenomena. Nonlinear dynamics consists of a set of tools and concepts (period doubling, bifurcations, initial conditions sensitivity, attractors, phase space, phase portrait) allowing analyzing the dynamics generated by nonlinear processes.

The hybrid method can be used as an alternate method for predicting future values of time series with performances close to the connectionist algorithms used in machine learning. The ANN used in this study is a basic model which can be fine-tuned by changing the number of layers, the number of neurons on each layer, the activation function. In order to get superior performances for the forecast another ANN model could be employed.

Nonlinear analysis process of the exchange rate time series has shown that the correlation dimension saturates if the embedding dimension is greater than 8. The first minimum of mutual information function is 2, so the delay parameter for the reconstructed state space will be 2. The maximum Lyapunov exponent for  $m=8$  is positive, indicating that the neighboring trajectories diverge exponentially. Plotting the attractor in the reconstructed state space shows dense trajectories with no apparent structure. This could be an indication for high dimensional chaos.

For CBECI time series none of the signatures of chaos could not be detected.

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## Overcoming Communication Barriers through Power Talk in Company Culture

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### Abstract

*It is well-known that communication can be both unifying and divisive. The paper is designed with three purposes in mind. First, it takes us through the most frequent obstacles to effective communication which are likely to affect interpersonal and intercultural business relationships. Second, it aims to describe the array of barriers which have a delaying and distorting effect on communication. Third, it analyzes ways of refining our communication skills in order to become more flexible in unblocking miscommunication.*

*The results emphasize that power talkers should use certain strategies to make their points of view more emphatic and increase their flexibility through strong/positive language and opinions.*

**Key words:** business relationships, communication barriers, company culture, power talk

**J.E.L. classification:** Z13

### 1. Introduction

The process of leading and managing does not take place in a vacuum, but it happens in a controlled working environment which can be permanently exposed to *communication barriers*.

Moreover, the borderline between organizational and personal barriers is very thin and can only be overcome by best practice in coaching, active listening while making the employees feel valued and confident. In other words, the use of some basic strategies as a defence mechanism will help to thoroughly examine the costs and benefits of our actions (Robbins, 2005; Barker, 2006; Chaney and Martin, 2007; Pardey, 2007). Communication can be both unifying and divisive. Business common interests tie people together, yet different styles of approaching work can cause problems.

To this end, power of influence and state control are major components offering a number of techniques for increasing flexibility in the workplace by developing excellent state management skills.

Thus, the focus will be on the principle of flexibility (Dilts and DeLozier, 2000; O'Connor and Seymour, 2002; Ellerton, 2006) and power talk (Johnson and Barrall, 2006) with important implications for managing organizations and social systems.

### 2. Theoretical background

Barker (2006), Chaney and Martin (2007) provide a synthetic description of the most frequent *obstacles to effective communication*. Below I shall reproduce Chaney and Martin's (2007, p.12) communication barriers which affect interpersonal and intercultural relationships:

- *Physical* – time, environment, comfort and needs, and physical medium (e.g., telephone, letter);
- *Cultural* – ethnic, religious, and social differences;
- *Perceptual* – viewing what is said from your own mindset;
- *Motivational* – the listener's mental inertia;
- *Experimental* – lack of similar life happenings;
- *Emotional* – personal feelings of the listener;
- *Linguistic* – different languages spoken by the speaker and listener or use of a vocabulary beyond the comprehension of the listener;

- *Nonverbal* – non-word messages;
- *Competition* – the listener's ability to do other things rather than hear the communication.

Barker's (2006) approach is more oriented towards the technique of asking pertinent questions to encourage the listeners to think for themselves and resolve the situations which they see as highly problematic. At this stage, the skills of coaching and counselling intermingle to effectively turn an obstacle (barrier) into a goal and make people take ownership of the problems when they have no desire to: "Look reality coolly in the face. Be objective; avoid judgement. Instead of describing past performance, for example, as 'bad' or 'inadequate', focus on the specific aspects of it that need improvement" (Barker, 2006, p. 86).

In the same line of approach, Funakawa (1997) posits the question of *cultural iceberg*, i.e. a cultural model of 'waterline' and surface values, which can also become a barrier to our ability to communicate successfully: "The values that are below the <<waterline>> represent those on which behaviors are based; however, we respond to the surface values that we can sense. To truly understand a culture, we must explore the behaviors below the waterline. The common elements of trust, sincerity, and integrity are necessary to building successful business relationships when cultural differences exist" (Funakawa, 1997 quoted in Chaney and Martin, 2007, pp. 12-13).

On the other hand, Pardey (2007) establishes *five* possible *reasons* why managers can underperform. He uses the abstract notions of *lack* and *fear* in conjunction with *time*, *skills*, *employees*, *risk*, or *performance*:

- *lack of time* (this describes an authoritarian organization, where managers rule and command in a dictatorial style. They are far from being familiarized with the concept of coaching and often feel uneasy about. They want things done here and now);
- *fear of the skills used in coaching* (this is related to the 'lack of time' barrier; managers feel deeply uncertain, weak and insecure when referring to the idea of coaching);
- *fear of employees* (this describes managers who are fearful and scared of their higher skilled subordinates, and who might feel handicapped by their incapacity to lead by example);
- *fear of risk* (managers may feel uncertain whether the organizational training programs will produce the expected results and, as such, avoid taking the risk);

e.g. Embarking upon this new venture/reform programme *is not worth the risk*.

- *unwillingness to recognize difficult performance issues* (this describes managers who are reluctant to face an underperformance problem, in the hope that it will go unnoticed. First, it would mean to recognize and assume full responsibility and then, if work attitude and results do not improve, to be forced to make drastic changes).

Defining clear outcomes is essential for business success. Once the outcome principle is achieved, thoughts of failure are not welcome. Based on the principle '*There's no failure only feedback*' (O'Connor and Seymour, 2002; Ellerton, 2006; Cooper, 2008), the language of business has a strong focus on verbs such as *succeed* or *fail*, *win* or *lose* and a lot of business talk centres around *succeeding* or *failing*, *winning* or *losing*.

### 3. Research methodology

This research has concentrated on offering an insight into the array of barriers which have a delaying and distorting effect on communication, on the one hand, and suggested some basic techniques to act with greater flexibility in dominating an interaction, on the other. The emphasis was placed on both the aspects of blocking workplace communication and the solutions for making strong arguments by using certain words and phrases.

The research methodology has aimed to highlight different thinking styles which may lead to misunderstandings or misinterpretations, and the various factors that make business people sound more powerful when they talk.

In this case, the paper has provided examples of emphatic language like using appropriate signals to focus attention, building sentences around key words, or building sentences using specific linguistic patterns, as well as examples of power talking such as using positive language, speaking firmly, avoiding tentative opinions, or getting straight to the point.

In company culture, research has shown that choosing an appropriate communication style highly depends on the purpose, the situation and the audience. The way business people stress words or make pauses in sentences makes their discourse more interesting and easier for the audience to follow. Interest in acquiring a greater flexibility of behaviour and using a firm tone is generated by the necessity of having more choices in order to have the guarantee of controlling the situation.

## 4. Findings

The results of the paper can be structured around two communication axes, i.e. highlighting a number of barriers to effective communication (*filtering, selective perception, information overload, gender styles, emotions, language*) and sounding more powerful in communication (by using *strong/emphatic words* and *power talk*).

### 4.1. The array of barriers with a delaying and distorting effect on communication

Robbins' (2005) study on *Essentials of Organizational Behaviour* offers additional insight into the array of barriers which have a delaying and distorting effect on communication:

*Filtering* usually occurs when employees deliberately select that information which satisfies or pleases their bosses. Thus, they act on the content of the message in a manipulative way and would not say anything that could impede the relationship with their superior. The point is that these jobholders value their position and job security a great deal. This tends to explain why they never deviate from norms, always play by rules and eventually expect to be rewarded in the long term through promotion: "You can expect some filtering to occur wherever there are status differences. Factors like fear of conveying bad news and the desire to please one's boss often lead employees to tell their superiors what they think those superiors want to hear, thus distorting upward communications" (Robbins, 2005, p. 148).

*Selective perception* demonstrates that our map of the world is not reality, but an interpretation of it. We give meaning to the environment through our sensory impressions, the communication process being strongly influenced by personal characteristics such as motives, interests, needs, expectations, attitudes: "Employees naturally organize and interpret what they see; inherent in this process is the potential for perceptual distortion" (Robbins, 2005, p. 33).

*Information overload* shows that information is being produced faster than managers can deal with it. Because of messaging meltdown, managers are deluged by e-mails, faxes, voicemails, or mobile phones and spend more time reading and listening to them rather than acting upon them. The negative effects of infoglut affect senior-level executives outstripping their ability to process it. The overwhelming flow of information gives them the creeps, affecting both their professional and personal lives: "With e-mails, phone calls, faxes, meetings, and the need to keep current in one's field, more and more managers and professionals are complaining that they're suffering overload. The result is lost information and less effective communication" (Robbins, 2005, p. 149).

*Gender styles* further complicate communication patterns, business practices, and often dictate social interactions within a society/given company culture. As has been too often the case, *men's* communication implies considerably more assertive talk being focused primarily on preserving and maintaining status and power, whereas *women's* communication strives for building rapport with others and equality in social relationships (Wood, 1994; Tannen, 1991, 1995; Robbins, 2005; Ferraro, 2006). Research concludes that the language of status and independence characterizes men's speech, and the language of intimacy and connection is a clear indicator of women's discourse. Women rank high on closeness, are committed to forming friendships prior to conducting business (friendships and work are interrelated). In turn, men rate high on giving advice, asserting control and providing solutions to problems (success is measured by gaining attention – 'I can top that' – and climbing the career ladder (by hunting a higher position in the company hierarchy): "Men and women use oral communication for different reasons. Consequently, gender becomes a barrier to effective communication between the sexes. Men use talk to emphasize status, whereas women use it to create connection [...] Women view relating a problem as a way to promote closeness. The women present the problem to gain support and connection, not to get the male's advice" (Robbins, 2005, p. 149).

*Emotions* play a key role in helping to explain and predict employee behaviour and linguistic style. They may affect communication and job performance in the workplace as well as hinder or negatively influence results and performance; in affective company cultures, people express strong feelings when giving a point of view, use more emotive language, speak loudly, animatedly, with intonation and style (Johnson and Barrall, 2006):

e.g. I'm *really* excited! This is a *great* project! I *just* love it!

The wrong interpretation of their emotions leads them to believe that the people who don't share their feelings are flat and disinterested. Emotions and gender overlap since men and women experience feelings differently, women are capable to express emotions more intensely, read nonverbal messages better than men, smile more often and are socialized to be nurturing; men are less 'talented' at reading nonverbal cues than women, they are taught to be courageous and tough (Hall, 1984; James, 1989; Rafaeli, 1989; Brody and Hall, 1993; Kring and Gordon, 1998). On the emotional continuum, one can identify six universal emotions (*felt emotions*, i.e. the individuals' actual emotions) that trigger a number of negative (deviant) / positive (productive) workplace behaviours and block/unblock business communication:

*anger*: I get *angry* when my employer forces me to stick to rigid hours and limits my time off.

*fear*: I *fear* that I could be pipped at the post by the other candidate.

*fury*: I'm *furious* that the report has been leaked to the press.

*happiness*: I'm *happy* after having received the employee-of-the-year award.

*disgust*: I'm *disgusted* with their petty office politics.

*surprise*: I am *surprised* to see that despite his sensitive and skillful leadership, he can easily get carried away by the excitement of beating off the competition.

People are 'feeling machines', they are emotionally immersed in the experience of their activities in which job roles and demands require them to exhibit emotions which mask or are incongruous with their true feelings. Robbins uses the phrase *extreme emotions* as the antithesis of rationality and a reason for influencing verbal and nonverbal interpretation.

*Language* - once we acknowledge that language has different levels of meaning, we are closer to ensure understanding and *break down communication barriers*. Language can become a potential barrier, but also a challenge to deal with in a constructive way if we make our words clear and understandable. The best approach for managers is to decompose messages full of tiring words and expressions, clichés and jargon, slang and euphemisms into clear, more accurate bits of information that could simplify language, make it compatible with the receiver and appropriate for the circumstance. Managing workforce language diversity means recognizing that our usage of a common language – English – is far from uniform. The challenge for organizations is to address the different terminology used by the more and more diverse groups of people and avoid taking a melting-pot approach to such differences. Unless they succeed in embracing linguistic and cultural differences, there will be a higher potential for difficult interpersonal communication.

#### 4.2. Refining communication skills through emphatic language and power talk

In refining business communication skills, attention is given to the triad *outcome-acuity-flexibility* (O'Connor and Seymour, 2002), the "try other key" metaphor (Ellerton, 2006) in order to explore various behaviours, ways of thinking and become more flexible, or the choice of different paths (Dilts and DeLozier, 2000) so that we are able to see what works and what does not work at any given time. Thus, flexibility is considered a frame of reference helping people, in general, and business people, in particular, "explore different strategies to unlock what they truly want in life or who they are destined to be" (Ellerton, 2006, p. 20).

In my opinion, there are two categories of people in the workplace, the inflexible and the flexible ones. The first type only has the illusion of leading or being "in charge". On the contrary, by being flexible in his behaviour, the other type of person succeeds in improving communication with his boss or colleagues.

In agreement with Johnson and Barrall (2006), I also consider that in terms of building working relationships, business people need to resort to effective strategies like emphasizing particular words in order to create certain effects. To this point, I will illustrate, through practical examples, the importance of making our point more emphatic and the discourse strategies of power talkers:

► **Emphasizing your point:**

1. Use signals to focus attention on what you are about to say:

a) ***So that's the plan.*** That's what we have to do to put it into practice! (*call for action*)

Now ***let's make a real effort*** to achieve this goal! (*call the audience to action*)

b) ***This is our proposal:*** you should leave a 20% deposit with the order and settle the balance on delivery.

c) ***The main problem is that*** we have no more capital.



2. Use a strong/emphatic word or phrase (e.g. "it is *essential* /*imperative to* +verb", etc):

- a) It's *essential* / (*absolutely*) *imperative* to continue our expansion on overseas markets/to research the market carefully.
- b) Let's be *absolutely* clear about this.
- c) This is *extremely important* for all of us who are directly involved in international project management.
- d) This is *absolutely imperative* and *should* be at the *top* of the *list*.
- e) I *totally* agree it's the best solution.
- f) Now it is *definitely* not the right time to invest.
- g) It is an awkward situation and we need to proceed with *the utmost* care.

3. Use the full form instead of a contraction:

- a) This is *not* what we expect to gain. (instead of *isn't*)
- b) *It is* going to be a challenge. (instead of *it's*)
- c) We *will* succeed. (instead of *we'll*)

4. a) Build sentences around key words (stress these words with your voice):

→ to show sequence:

e.g. First, we'll focus on the current financial situation, *and then* we'll talk about our investment in office technology.

→ to show contrast:

e.g. Checking the bills is *his* responsibility not *yours*.

4. b) Build sentences using the patterns: *What we want is ... (+ noun)*; *It's the price that('s) ... (+ adjective) / (+ subordinate clause)*; *It's not only + adj + noun ... (but) it's also + adjective*

e.g. *What we need / want is more time / a (good) strategy.*

*It's the price that's important.*

*It's making a profit that's essential.* (It's + collocation + that's + adjective)

*It's not only a difficult market, it's also an extremely risky one.*

#### ► Power talk:

1. Use positive language for defining clear outcomes:

- Prefer using positive words (verbs like *succeed, benefit, win, take advantage of, challenge*).
- Eliminate negative words (nouns like *drawback, problem, risk, failure*).
- Prefer using *when* instead of *if* to visualize future success.
- Avoid using modals of possibility (*may, might, could*); prefer using *will*.

e.g. This range of products *may* attract investors ≠ This range of products *will* attract investors.

2. Speak firmly/with determination:

- Avoid tentative expressions introduced by *I think ..., perhaps ..., I'd say ...* . (weak language) + vague language (*things like that, see if they lend us*).
- Stay away from 'disclaimers' (for example phrases like *I may be wrong, I don't know much about this*).

3. Avoid using phrases like *I'm sure / I'm convinced* since they normally suggest the contrary.

4. Use idiomatic expressions such as *cut a long story short, get to the point, put your cards on the table, don't take (me) for a ride* in order to get straight to the point and state your opinion:

e.g. *To cut a long story short*, if you give us your support to this, we can start right away.

I wish he'd *get to the point* soon; he seems he's been beating around the bush so far.

It's time you *put your cards on the table* and avoid any compromise.

5. Speak up (with no hesitation) and avoid unnecessary words (tentative language, denying responsibility):

Hesitation: *er ..., mm ..., oh sorry ..., right, ...erm, you see, I think ...*

Tentative opinions/language: *if we... we could, ... I'm afraid, rather*

Denying responsibility: *I'm not an expert on this but ...*

## 5. Conclusions

Making for advantage in business means that the more choices you have in trying to overcome communication barriers and achieve your outcome, the more likely you are to get the result you are seeking and the easier you persuade or motivate someone to do something they are reluctant to do.

On the basis of the above examples it can be concluded that, in order to sharpen up goals and accomplish successful outcomes, business people resort to effective linguistic strategies which boost energy and motivation, unblock miscommunication and confusion, open the path to feedback, acquire flexibility that will enable them to see problems from different positions.

Therefore, any obstacle to effective communication can be overcome and any misunderstanding or misinterpretation can be corrected as long as power talkers keep being confident and maintain a sense of self-worth.

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## **Section IV**

### **Marketing – Management**

## Circular Economy Business Models: The Case of Lush

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### Abstract

*Changing from a linear to a circular economy in business poses a number of real-world difficulties for businesses. The following research paper investigates the definition of circular economy and its key features in order to gain a clearer appreciation of the ramifications of this change. The business procedures of the company known as Lush are analyzed in order to address these issues from a practical perspective. A synthesis of the most common characteristics and what the principle entails would be deduced as a result of the established examination of the literature, leaving an opening for any additional study in later works in which each element proposed in this article can be expanded upon. The results show that circular economy is a vast topic that may be tackled in a variety of ways. The findings of this study can also be utilized to better understand how businesses might apply the theoretical framework in real-world situations.*

**Key words:** business models, circular economy, sustainability, value creation, value proposition

**J.E.L. classification:** M1, M19

### 1. Introduction

The harmful effects of the main industrial models currently in use, which depend on extracting, manufacturing, and discarding resources and commodities, endanger natural ecosystems and have an impact on human health and welfare. Essentially, people are using up more of the planet's resources than it can support. As such, in an effort to circumvent this, industrial ecology laid the groundwork for the concept of a circular economy in its search for solutions to the unsustainable use of resources. Businesses must reconsider their supply chain operations and business structures (Cornescu *et al*, 2004) in light of the circular economy notion. In order to reimagine how businesses, produce value while upholding the key circular economy principles, several frameworks that can be found in both academic and practitioner research advocate circular economy business models. When these frameworks are examined it becomes clear that there is a need to integrate the state of the art because certain models are widely addressed, some are framework-specific, and some utilize different terminology to refer to comparable circular economy business models.

Business models are visual depictions of how organizations make revenue for themselves by delivering value to their clients in an increasingly digitized business world (Tohănean *et al*, 2018; Toma *et al*, 2018a). The value generation systems of businesses, business units, or other types of organizations can be described, managed, and designed with the help of these depictions, according to some experts (Massa *et al*, 2017). Value creation can be broken down into four categories:

1. value propositions, which reflect the advantages provided to customers based on goods, services, or product-service systems;

2. how value propositions are presented to clients by implicating actors and value delivery processes;
3. how value is created, which pertains to the stakeholders and activities performed in value-creating practices, such as production;
4. how focal businesses capture a portion of the created value (Chesbrough, 2010; Teece, 2010).

To continue to be able to create and offer value propositions, value capture is necessary to input into a company's value-creating system. Beyond consumer satisfaction and economic value, studies are increasingly examining the connections between business models and commitments to sustainable development (Toma, 2013; Schaltegger *et al*, 2016; Lüdeke-Freund *et al*, 2017; Toma *et al*, 2019).

Based on the preceding perspective, the following questions were established for this study:

Q1: How is a circular economy defined? Q2: What are some of the hallmarks of the circular economy, specifically? Q3: How would a business model based on principles of the circular economy look?

The purpose of this research paper is to introduce the circular economy concept and its business model. It also contributes to a better awareness of the real-world uses for this kind of company strategy in the current economic environment. The article is set up like follows: The literature review, which highlights some of the most pertinent contributions in this area, is illustrated in the chapter that follows. The research approach is presented in the third part. In the fourth portion, the authors reaffirm the study's findings, and the final piece serves to summarize the results.

## 2. Literature review

The conception of a circular economy has been credited to Boulding K. E. in 1966. He was the first to propose the concept of a circular ecological framework that is capable of perpetual synthesis of resources. He claimed that the earth's reservoirs of resources are finite and that nature cannot completely absorb pollution, therefore we should take steps to forestall the shortage of raw materials and reduce environmental pollution because these facts could lead to more serious issues for society in the future. In 1990, Pearce D.W. and Turner R.K. coined the term "circular economy" in their article "Economics of Natural Resources and Environment." They argued that the existing economic system is endangering the environment by turning it into a waste reservoir because producing operations continuously generate waste and pollution. As a result, the system needs to be changed into a circular one by viewing waste as an origin for additional resources. The need to comprehend the economy and the ecosystem in response to the growing global waste burden and the limited availability of resources has arisen as a contemporary research issue, despite the fact that this idea dates back to the 20th century.

Although the principle of circular economy cannot be conveyed through a single definition, various authors have offered a variety of interpretations. Using such a definition, circular economy can be seen as an economic system that aims to support sustainable development, by meeting today's needs without compromising those of tomorrow, and by separating economic growth from its negative effects on the environment and social stratification, redesigning how it consumes, produces, and interacts with the world and society itself, through innovative business strategies and a continuous public policy pursuing an optimal implementation of the four Rs, namely: reduce, reuse, recycle and recover (Carlos *et al*, 2021).

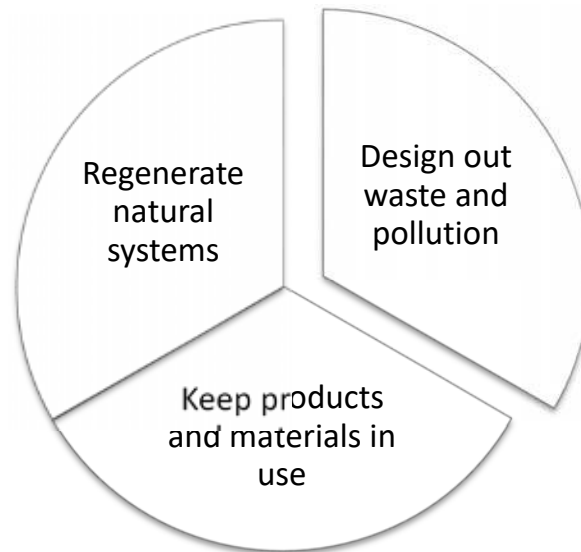
The Ellen Macarthur Foundation put forth new circular economy concepts in 2013. These appear to be a more detailed interpretation of the 4 Rs. These ideas include:

- Design out wastages: Create products whose parts can be used to create something else with the least amount of materials and energy;
- Create diverse connections in production to increase resilience through diversity and reduce uncertainty;
- Think in systems: examine and comprehend how one action can affect all of its settings and the possible outcomes;
- Rely on renewable energy sources: Take advantage of the plentiful renewable energies available, such as sun and wind;

- Think in cascades: get more use out of materials or goods by employing them in various applications.
- Waste is food: If a product's constituent parts cannot be salvaged or repurposed, they ought to be capable to be assimilated by the environment.

The concepts put forth in 2013 have changed over time, and in 2019 they have been suggested in a more simplified form to make them easier to understand and use in practice (Figure no 1):

Figure no. 1. Circular economy concepts.



Source: Authors' contribution

A major shift like the transition to a circular economy model would call for new ways of thinking and conducting business. The more revolutionary the technical or product development, the more difficult it will be, and the more likely it is that changes to the established economic model will be needed. Core business model strategies that meet the techniques of slowing and closing resource cycles are highlighted based on the business model principles of Bocken, N. (2014). This is why today's business strategies and models have to be not only socially and environmentally responsible (Toma *et al*, 2011; Imbrișcă *et al*, 2020) but also entrepreneurial (Grădinaru *et al*, 2017)), creative (Toma *et al*, 2018b) and based on the implementation of specific managerial methods and techniques (Toma, 2008; Toma *et al*, 2009). A strategic approach represents a prerequisite for obtaining business success in a turbulent environment (Toma *et al*, 2016a; Toma *et al*, 2016b).

Long product lives and product reuse are encouraged by business models with slow resource loops via model innovation. In business model innovation, closing loop is the process of extracting value from by-products or "trash" that would otherwise be seen as waste in a linear business model. These tactics can be more "macro" in nature when items are eventually thrown away and the substance is recycled through a totally unrelated network, or more "micro" in nature when materials are repurposed in manufacturing operations within a manufacturing plant. For some commodities, like aluminum, where the power costs of production are higher than liquefying, this business model is already lucrative (Bocken *et al*, 2016).

### 3. Research methodology

The current study used a qualitative research approach, collecting and analyzing secondary data on the subject from books, reviews, reports, and scientific publications that have already been issued. The formulation of the concept of a circular economy is examined in the first section by the authors, who then list its key components. As a result, various pertinent notions were put into use during this

approach, including value generation and capture and sustainable business models.

The study started with a briefing and explanation of the concepts that were later assimilated and exhibited via a case study in an effort to meet the stated purpose of this research, as is customary in prior research. This paper's point of view builds on earlier research conducted over the previous ten years by a number of well-known academics in the scientific field.

#### 4. Findings

The cosmetics industry can also benefit from the circular design approach. In reality, if one could plan ahead to create long-lasting items with packaging that is also simple to reuse, recycle, and deconstruct, one would prevent obsolescence while retaining goods and resources to provide the most value. In order to suggest an alternate and responsible approach to designing, the significance of design and the role of designers in developing progressively sustainable models have been extensively explored in the academic community and elsewhere (Romli, A. et al., 2015).

Design that is sustainable considers the consequences of long-term economic growth, social and environmental preservation. Durability is an issue with some of the concepts that might be used in the cosmetics sector when it switches to circular forms. All of this may be explained in terms of the environment, society, and economy, and then distributed for societal good. The packaging of modern cosmetic items, however, has drawn criticism from some authors since plastic packaging waste is not effectively recyclable (Issara, U. et al., 2014). Sustainable materials will also be required to take the place of chemicals in cosmetics. In order to apply innovation for the shift to the circular economy, new capabilities and skills are required, supported by legislation that can increase manufacturers' understanding of new circular layout processes (Charter, M., 2018). Businesses are becoming more interested in this innovative economic approach. Lush is one business that uses the circular economy business model. (Morea, D. et al, 2021)

The authors have studied the company Lush Cosmetics' business model and strategies in order to better comprehend the idea of the circular economy. Six co-founders, including Mo Constantine, Mark Constantine, Rowena Bird, Helen Ambrosen, Liz Bennett, and Paul Greeves, created Lush in 1995. It was the identical group that came up with and was inspired by the new business endeavor Lush after a prior mail order company named Cosmetics To Go, a huge success that failed due to over-trading and floods, collapsed. Lush considers its employees to be the heart of the company, hence 10% of the company is owned by them. (Lush, 2020)

The long-term goal of Lush is to become a fully circular business, producing nothing that cannot be recycled through natural cycles or currently accessible technological processes. This entails implementing a zero waste and circular way mindset that guides all aspects of the company's operations. Lush has started to put some of these ideas into practice as part of their emerging zero waste culture, but would like to develop them further. These ideas include going "naked," which means having no exterior packaging except when customers require packaging to-go, avoiding single-use in their product lines, using renewable materials when new materials are needed, purchasing high-quality raw material that lasts, avoiding landfill, incineration and recycling export markets, and recovering legacy materials from the environment. A circular economy depends on collaboration, thus they also want to grow their current network of partners.

In their naked lines, Lush designs consumer packaging that is as straightforward and lightweight as feasible. Although the intention is for customers to take things home rather than create more waste, certain packaging is still necessary for maintaining, shipping, and consuming products. Lush lessens the effects of that by prioritizing recycled, organically grown, or upcycled resources and, to the greatest extent feasible, ensuring that the packaging may be reused, repurposed, composted, or recovered at the end of its useful life. Although this is currently a work in progress, the Lush teams are persistently pursuing this ultimate goal.

Currently, 37% of packaging is used for product packaging, backed by 34% for transportation and distribution. Customers can typically find Lush's distinctive black wrapping, crystal clear bottles, and wrapped gifts wherever they choose to package their final goods. Customers are encouraged to bring their own shopping bags or try their hand at artistic gift-wrapping using one of Lush's reusable knot-wraps as 15% of the in-store bagging is completely optional. Lush has reduced emissions by 74% and water use by 36% by choosing to employ recycled paper, cardboard, and plastics in the

manufacture of its packaging. Finding value in what is typically regarded as garbage and upholding the actual zero waste principles are both components of a circular economy.

Lush distributes the great majority of the garbage produced at its manufacturing and headquarters locations in Poole, Dorset, to the Lush Greenhub, a recycling facility located there. 75% of the 1,343 tonnes of solid waste they produce are recycled in closed or open loops, or 188 kilogram for every product tonne they generate. Waste to energy is mostly used to discard of the remaining 47 kg of waste; landfills receive 1.3% of all waste. No manufacturing waste from the UK is shipped outside of the country. Since they make sure items don't end up in an illegitimate landfill on the other side of the globe, their recycling rate indicates actual recycling.

By emphasizing internally developed technical advances, Lush is encouraging a circular economic mindset in addition to other ways. Lush's digital team developed Lush Lens, a function on their Lush Labs App (available for download on iPhone or Android) that allows users to scan bare products with their phones to access information about those products that is generally found on physical labeling (like usage, ingredients, etc.). Lush Lens can be used to display pre-recorded movies and still images of what the goods appears to look like in use for items like bath bombs that are typically demonstrated in retail venues using sinks and large bowls filled with water. With consumers no longer requiring to wipe their hands following a product demo, this also results in less tissue waste. The Lush Lens component on the digitally available for download Lush Labs mobile application eliminates the need for signage that lists a product's price as well as, as was already mentioned, the need for physical packaging that lists a product's specifications. Instead, all of this information can be obtained by simply scanning the product being advertised. (Lush, 2019)

Lush cosmetics is one of the businesses that seeks to embrace the ideas of the circular economy in such a way that they can actually make an impact with their current practices, as can be shown in the preceding sections. However, as the circular economy model is increasingly taken into account, Lush has been able to gradually widen their inner circle and has developed into an international company. Some of their more well-known practices, such as not tolerating animal testing and cruelty and employing zero waste principles, have did lead to a constraint in their supply chain as they opt to only work collaboratively with other companies which represent the same principles.

The authors have found examples of the Ellen Macarthur Foundation's guiding principles used by Lush in its commercial operations. Through its zero waste rules and procedures, Lush has mostly succeeded in keeping any excessive waste and pollution out of their designs. Lush also makes an effort to preserve resources by providing a variety of packaging choices. Customers are urged to bring their own bags for purchasing, but Lush also offers recyclable materials in-store that they may use to artistically wrap their own products. Finally, Lush uses closed loop processes throughout their manufacturing system, which helps to regenerate natural systems.

## 5. Conclusions

This study paper's goal was to investigate the circular economy's theoretical underpinnings and business strategy. It has also improved understanding of some of the practical applications for this type of business strategy in the current economic climate. In this regard, this paper included a systematic review that was summarized and provided a synthesis of the published literature on the subject over the previous ten years. The procedure for carrying out quantitative and qualitative research for this study was covered in the chapter that followed. The study's findings and insights, as well as potential future directions, are summarized and discussed in the fifth section. The main questions of the study have been succinctly explained by the authors, who have illustrated their answers at every turn. The aforementioned study does have certain restrictions, though. One such restriction is that it only addresses the procedures of one business, a nearly ideal illustration of how such a model is used. It might be worthwhile to undertake additional research by examining what other businesses could accomplish by implementing more of these strategies.



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## NEETs' Attitude towards Entrepreneurship

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### Abstract

*The social and economic problems related to young people were a constant preoccupation for the EU governments. The NEET category represents young people, aged between 15 and 29 years, who are not in employment, education, or training, a very vulnerable group of persons. In Romania the NEETs agenda was correlated with the European framework, that includes entrepreneurship, as a specific solution for the economic and social inclusion of this category. Our study is based on the results provided by a questionnaire answered by 54 NEET participants in an entrepreneurial training course, that took place in Constanta County. The aim of this paper was to evaluate the respondent's opinion toward entrepreneurship. The results indicate that entrepreneurial education and entrepreneurial activity represent solutions for the economic and social problems related to young people in the region.*

**Key words:** young people, NEET, entrepreneurship

**J.E.L. classification:** J11, L26

### 1. Introduction

The term NEET refers to young people, aged between 15 and 29 years, who are not in employment, education, or training. The share of NEETs in total population has become an important indicator of sustainable development for both international organizations and the media. According to the International Labor Organization (ILO, 2013), a person must meet two criteria to be included in the NEETs category: to be unemployed and to have not received any education or training in the past four weeks.

Romania has one of the largest percentages of NEETs in the European Union. In 2021, 20.3% of young people were considered part of this category, compared to a 12.3% average for the EU (Eurostat Sustainable Development Indicators). The percentage of females (26.3%) in 2021 was almost double the males one (14.6%). Also, a big gap between the values of the indicator for the urban and rural areas can be noted. In cities the percentage of NEET for 2021 was 10.1%, in towns and suburbs 22.9%, while in the rural area it was 29.4%. In chapter 4, we present a more detailed evaluation of the evolution of the percentage of NEETs in Romania.

The above-mentioned data show that Romanian authorities and educational professionals should pay more attention to the needs of these young people and try to offer them the chance to develop skills that will allow them to change their occupational status. Entrepreneurial education can play an important role in this process.

Our study focuses on a group of NEETs from Constanta County that participated in an entrepreneurial training course. Using a quantitative analysis of a questionnaire, we will try to identify the perception of young persons that are not employed or in training and education towards entrepreneurship.

The paper is composed of a short chapter dedicated to the previous studies in the field, a presentation of the research methodology, an extended discussion about the findings of our study, and conclusions.

## 2. Literature review

The specific issues related to youths represented a constant preoccupation at the European Union level. In the Europe 2020 Agenda, the European Commission established specific objectives related to youths, including support schemes for young people that start a business, such as guarantee schemes and apprenticeships, volunteering opportunities or social entrepreneurship support.

The EU Council of Employment and Social Affairs (Feb. 2013) established Youth Guarantee Recommendation. Member-states are bound to take the necessary steps to provide good quality employment offers for young people up to the age of 25. They must ensure youth with opportunities to continue their education, offer guidance, training, and other useful solutions that would ensure their active presence in the economic and social life.

The NEET concept has been approached by different organizations and researchers. The complexity of this concept brought into discussion various aspects. One of the most important was related to the level of education of these young people. Some studies pointed out that those young people with lower education level are three times more likely to become a NEET compared to others (Eurofound, 2015).

An improvement in the situation of the of young people preparing to enter labor market was identified by Dănilă L.C and Dumitru C. (2018) and it is considered a consequence of Youth Guarantee Recommendation introduced in 2013 by the European Commission.

Regarding the measures used to reduce the NEET unemployability (apprenticeship, internships, entrepreneurship) some researchers concluded that they were less successful in Romania compared to other European countries (Strat V.A et.al., 2018).

Another point of view about NEETs problems was related to the differences between rural and urban young people included in this category. The used of the supportive measures and the assessment of their effectiveness should consider these differences (Petrescu C. et.al., 2022).

The level of education and especially the entrepreneurial education proved to be positively correlate with the skills required for self-employment by young graduates, thus reducing the unemployment level (Ilori, D.B. and Ayedun, T.A., 2022). The importance of NEETs' perception on entrepreneurship was highlighted by Baschiera et.al. (2018), who approached the role of senior entrepreneurs on reducing young people social and work disengagement.

Considering the points of view above depicted we can notice the importance of entrepreneurial education for NEETs and its role in offering them real opportunities. Consequently, this paper tried to analyze the perception of these young people on entrepreneurship.

## 3. Research methodology

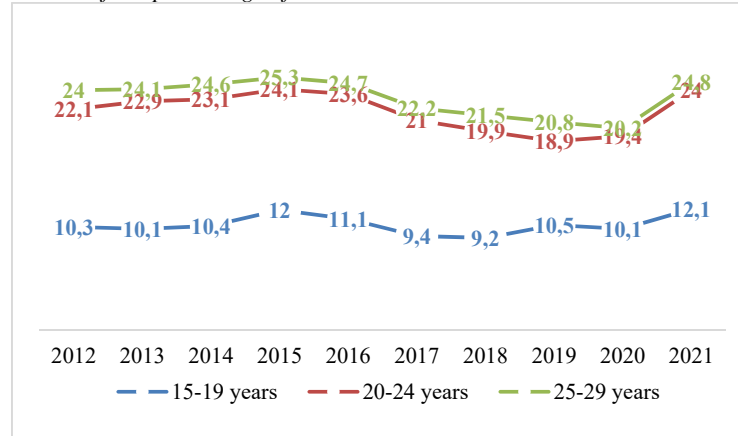
Our study was conducted between August and November 2022, on a group of 60 NEETs that participated in entrepreneurial courses in Constanta County. The questionnaire was distributed using a Google forms link that the participants received via e-mail or WhatsApp at the end of their training. All questions were mandatory, therefore all submitted answers were considered valid. A number of 54 questionnaires were collected, the response rate was 90%.

Based on the collected results we conducted a quantitative analysis of the studied group and their perception towards entrepreneurship. The results of the study are presented in the following section.

## 4. Findings

The percentage of NEETs in Romania increased in the last decade. The data provided by the National Institute of Statistics shows that for young people aged between 15 and 19 years the percentage of NEETs increased from 10.3% in 2012 to 12.1% in 2021. The percentage increases for young people aged between 20 and 24 years and is the highest for the 25-29 years category. For all three age groups, the period between 2017 and 2019 is characterized by a decrease in the percentage of NEETs, but as expected, the COVID 19 pandemic led to a new rise in the number of young people unemployed or not in education.

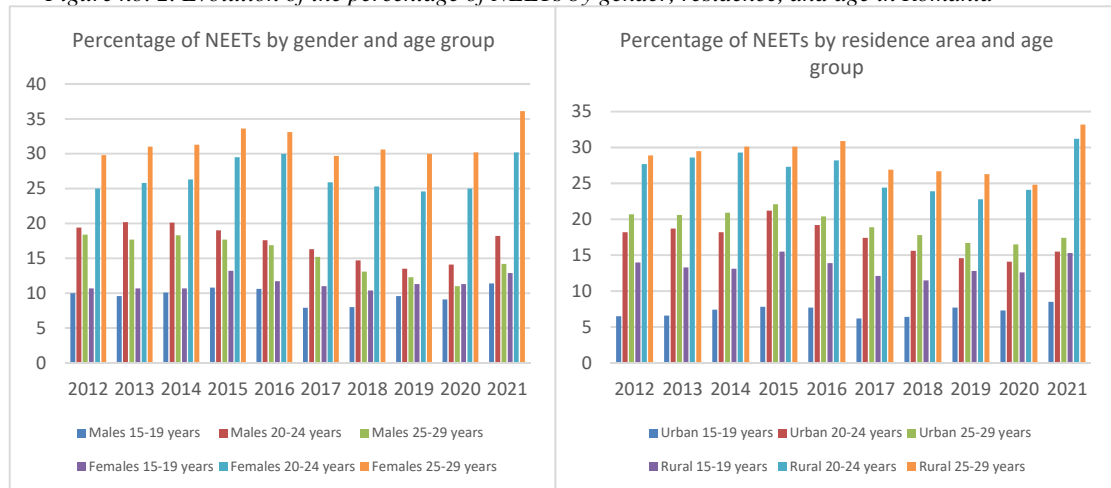
Figure no. 1. Evolution of the percentage of NEETs in Romania between 2012 and 2021



Source: authors' representation of data from the National Institute of Statistics Romania

A gender and residence area-based analysis of the data from the same period shows that the highest number of NEETs are in females with age between 25-29 years category and are living in the rural area (and the same age group). Figure 2 shows the percentage of NEETs by category between 2012 and 2021.

Figure no. 2. Evolution of the percentage of NEETs by gender, residence, and age in Romania



Source: authors' representation of data from the National Institute of Statistics Romania

The sample structure of our research was composed of 40 females and 14 males. Table 1 depicts the respondents' distribution by age, level of education, living area, marital status, and monthly income, both in absolute figures and as a percentage of the total. Also, in Table 1 we divided each criterion based on gender and presented the figures and the percentage of respondents from each gender that are included in that category. As it can be observed, the sample complies with the distribution of NEETs at national level, being composed of more females and persons in the 25-29 years age category.

Table no. 1. Structure of the sample

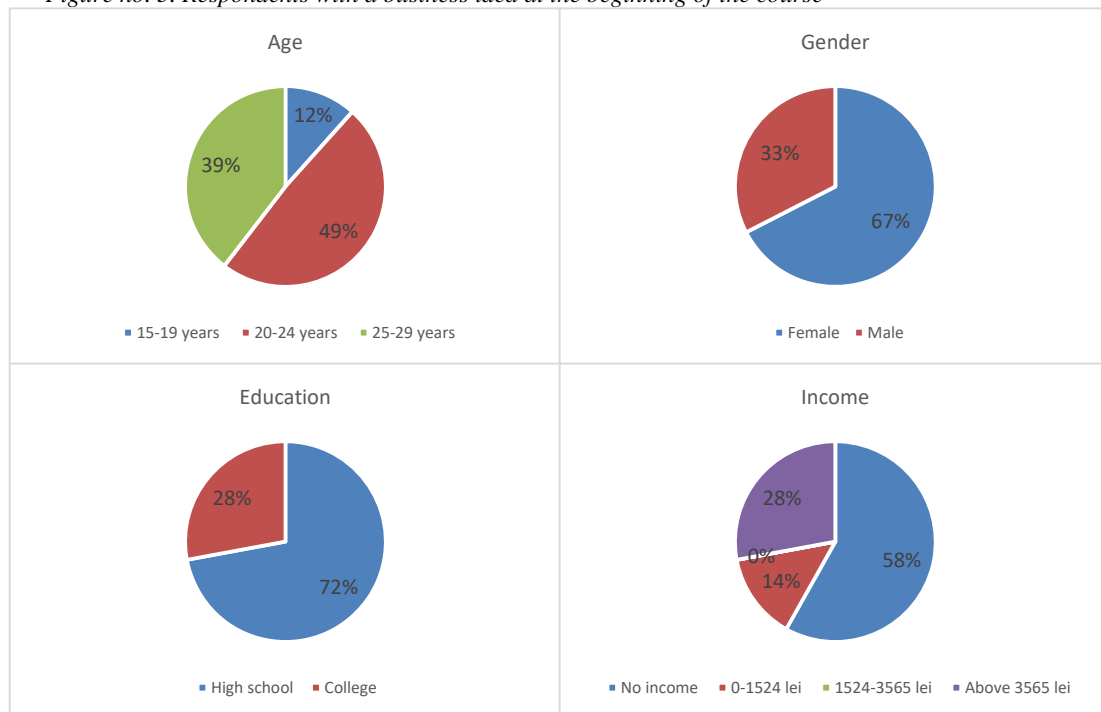
Category		Total		Females		Males	
		No	%	No	%	No	%
Age group	15-19 years	5	9.26	5	12.50	0	0
	20-24 years	23	42.59	13	32.50	10	71.43
	25-29 years	26	48.15	22	55.00	4	28.57
Level of education	High school	35	64.81	25	62.50	10	71.43
	College	19	35.19	15	37.50	4	28.57
Degree of urbanization	City	31	57.41	23	57.50	8	57.14
	Rural	23	42.59	17	42.50	6	42.86
Marital status	Married	25	46.30	25	62.50	0	0
	Single	29	53.70	15	37.50	14	100
Level of monthly income	No income	32	59.26	26	65.00	6	42.86
	0-1524 lei	6	11.11	2	5.00	4	28.57
	1524-3565 lei	4	7.41	4	10.00	0	0
	Above 3565 lei	12	22.22	8	20.00	4	28.57

Source: authors' calculations

5 participants were aged between 15-19 years (all females), 23 between 20-24 years (13 females and 10 males), and 26 between 25-29 years (22 females and 4 males). 35 respondents were high school graduates and 19 had a bachelor's degree. 31 persons lived in a city, while 23 were from a rural area. Regarding the marital status of the respondents, the distribution was almost symmetrical, with 25 married persons and 29 unmarried. None of the respondents were divorced or widowers. Most of the respondents claimed that they have no monthly income (32), 6 said that their monthly income is below the net minimum wage, 4 persons responded that their income is between the net minimum wage and the net medium wage, and 12 said they have incomes above the net medium wage.

We divided the participants into two groups: a) people that had a business idea prior to the start of the course and b) people that had no business idea when they registered for the course. Most of the respondents, 43 (representing 79.63% of the group) said that they already had an idea to start a business. Figure 3 depicts the distribution of respondents that had a business idea before the course.

Figure no. 3. Respondents with a business idea at the beginning of the course



Source: authors' representation

The percentage of respondents from each category that had a business idea prior to enlisting in the entrepreneurial course emphasizes the following: the existence of a business idea decreases with age (only 65.38% of the respondents aged between 25-29 years answered "yes", compared to 91.30% aged 20-24 years and 100% aged 15-19 years); all male participants had business ideas, but only 72.5% females said "yes"; people with only high school education said that they had a business idea in a 88.57%, while college educated respondents with a business idea were only 63.16% of the total college educated respondents. Finally, 78.13% of the respondents with no monthly income already thought of starting their own business, as well as all people with incomes below the net minimum wage and those with incomes higher than the net medium wage.

When it comes to the field of activity in which they would like to start their own business, we registered the following answers: 8 – production of goods; 5 – creative industries; 12 – services providing; 7 – commerce; 11 – other fields.

Females, aged between 15-19 years, with high school education, living in the rural area, unmarried and with no income are interested in starting a production business. All participants that opted for a business in the creative industries field were 20-24 years old, females, with high school education, living in the city, married and with incomes above the net medium wage. A service providing business was chosen by 9 persons 20-24 years of age and 3 persons 25-29 years of age, 6 females and 6 males, all with high school education, 9 living in the city and 3 in the rural area, 6 married and 9 single, 9 with no income and 3 with incomes above the net medium wage. All responders that opted for a business in the field of commerce were 25 to 29 years old, females, living in the city, 2 of them had high school diplomas and 5 were college educated, 4 were married, 5 had no income and 2 had incomes below the net minimum wage. The distribution of answers to this question is presented in table 2.

Table no. 2. Filed of activity for the business idea

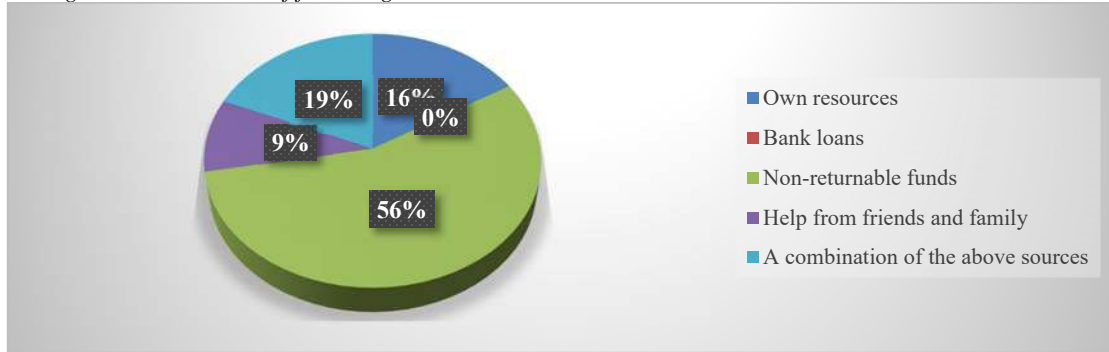
Category		Production of goods	Creative industries	Services	Commerce	Others
Age group	15-19 years	5	0	0	0	0
	20-24 years	3	5	9	0	4
	25-29 years	0	0	3	7	7
Gender	Female	8	5	6	7	3
	Male	0	0	6	0	8
Level of education	High school	8	5	12	2	4
	College	0	0	0	5	7
Degree of urbanization	City	0	5	9	7	11
	Rural	8	0	3	0	0
Marital status	Married	3	5	3	4	3
	Single	5	0	9	3	8
Level of monthly income	No income	8	0	9	5	3
	0-1524 lei	0	0	0	2	4
	1524-3565 lei	0	0	0	0	0
	Above 3565 lei	0	5	3	0	4

Source: authors' calculations

When asked how much the participation in an entrepreneurial training course has helped them to develop the business idea that they had, 10 participants answered that it has helped them very much and 33 that it has helped them a lot. None of the participants considered that it had no influence on the development of their business idea.

Next, we asked the participants to identify the primary source of finance for their business idea. Figure 4 shows the distribution of answers.

Figure no. 4. Sources of financing the business idea



Source: authors' representation

Most of the participants (24, representing 56%) answered that they intend to finance their business with non-returnable funds, 7 chose their own resources as a financing source, 4 said that they would ask for the help of family and friends, and 8 opted for a combination of sources of finance. An interesting fact is that none of the participants chose to finance their business by a bank loan.

All responses that identified the help of friends and family as the desired financial source came from males between 25 and 29 years old, with college education, single, living in the city and with incomes higher than the net medium wage. The respondents that intend to finance their business idea from their own resources were aged between 20 and 24 years, mostly male (57%), living in the city (57%), with incomes above the net medium wage (57%) or without incomes (43%). Non-returnable funds were the most frequent answer for females, 20-24 years old persons, people with high school training, living in the city and with no monthly income. A combination of financing sources was chosen by 5 persons between 15-19 years and 3 persons between 20-24 years, 5 persons with high school training and 3 with college education, 3 persons living in the city and 5 living in the rural area. All respondents that choose this variant were females and had no monthly income.

The number of employees that they intend to hire was the final question for the participants that had a business idea before starting the course. The distribution of answers is presented in table 3.

Table no. 3. Number of intended employees and the field of activity

No of employees	Production	Creative industries	Services	Commerce	Other	Total
1			9		3	12
2	3	5		1		9
3	5			4		9
4					4	4
5					4	4
6				2		2
7			3			3
Total	8	5	12	7	11	43

Source: authors' calculations

Most answers indicated that the respondents intend to create one job (mostly in the field of services). In the fields of production, 3 persons opted for 2 employees and 5 for 3 employees. For the creative industries businesses all five respondents said they will need 2 employees. We also had 3 participants who said that they would like to hire seven people for their business in service providing, and 2 participants that consider that their business idea requires six employees (in commerce).

For the second group of participants, those that did not have a business idea before starting the entrepreneurial training, we tried to identify the reasons why they were not interested in starting their own business, the impact of the course on their decision and the influencing factors that could determine them to start a business.



This group was composed of 11 females (100%), 1 person between 20-24 years old and 10 persons between 25-29 years old, 5 had high school education and 6 college education, 5 lived in the city and 6 in the rural area, 7 were married and 4 unmarried, 7 had no monthly income and 4 had incomes between the net minimum and net medium wage.

First, the participants that did not have a business idea were asked to rate the importance of several criteria in their unwillingness to start a business. The results are presented in table 4.

Table no. 4. Reasons not to start a business

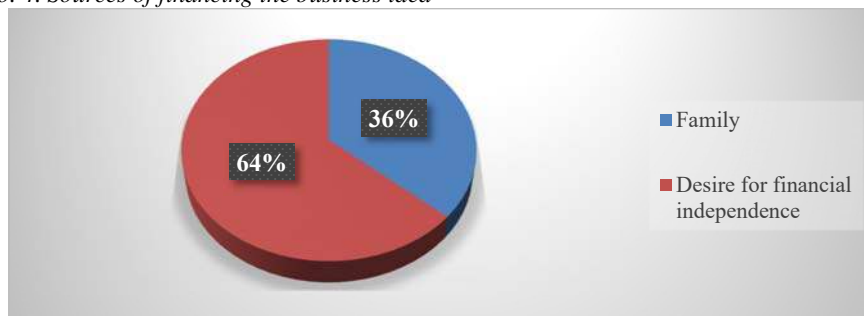
	<b>Very important</b>	<b>Important</b>	<b>Moderately important</b>	<b>Slightly important</b>	<b>Unimportant</b>
Bureaucracy	4 (36.36%)	4 (36.36%)	2 (18.18%)	1 (9.09%)	
Taxes		8 (72.72%)	3 (27.27%)		
Social and economic instability	4 (36.36%)	4 (36.36%)	2 (18.18%)		1 (9.09%)
Corruption		2 (18.18%)	4 (36.36%)	5 (45.45%)	
Bankruptcy risk		2 (18.18%)	9 (81.81%)		
Risk of not getting a profit	2 (18.18%)	4 (36.36%)	5 (45.45%)		
Time consumption of managing a business	2 (18.18%)	2 (18.18%)	5 (45.45%)	2 (18.18%)	

Source: authors' calculations

The high levels of bureaucracy involved in establishing a company and running its' day-to-day businesses was considered a very important set back by 4 participants and an important one by other 4 respondents. The high level of taxes that a company must pay is important for 8 participants. Social and economic instability is a very concerning for 4 people and concerning for another 4. Corruption was considered only slightly important by 5 participants. The majority of respondents (9) are moderately concerned about the possibility of going bankrupt, while the risk of not getting a profit from the business is very important for 2 respondents, important for 4, and moderately important for 5 persons. The extended amount of time required to manage their own business is a very important reason not to start a business for 2 participants, important for other 2, moderately important for 5, and slightly important for 2 respondents. Therefore, we consider that the most important reasons why the participants are not determined to start a business are the level of bureaucracy and taxes and the concerns about the economic and social instability.

When asked what would motivate them to consider starting a business, 7 participants identified the desire to become financially independent and 4 considered that their families might give them the motivation they require. The desire for financial independence was important for females of 25-29 years of age, married, and with incomes smaller than the net medium wage. Family motivated females of 20-29 years of age, unmarried, and without a monthly income. The distribution of results in presented in figure 5. We would like to note that the participants were also given two more possible answers (advice from friends or the example of other entrepreneurs), but none of them considered them as potential motivations.

Figure no. 4. Sources of financing the business idea



Source: authors' representation

To stress out the relevance of entrepreneurial training for generating a business idea, the participants were asked to what degree was the course helpful in identifying a possible business they would like to start. 5 participants considered that the course has giving them little help, 4 that it has helped them a lot, and only 2 that it has extremely helpful.

## 5. Conclusions

The youth related problems are a constant preoccupation for the European Union regulatory bodies. The regulators' main concern is related with the employability of the young throughout the European countries.

One category of young people with special characteristics is represented by the NEETs, term that refers to young people, aged between 15 and 29 years, who are not in employment, education, or training. The Europe 2020 Agenda includes specific objectives concerning this category.

In case of Romania, the government regulations have address quit efficiently the NEET's issues, complying to the European objectives prior mentioned.

Our paper has investigated the perception of these young people from Constanta County, Romania towards entrepreneurship, highlighting the importance of this specific solution for the economic and social inclusion of NEETs.

The group that has participated in this study was composed of 54 persons, 40 of them being women and 14 men. This structure corresponds to the official statistics that highlight a larger number of women than man in this category. Therefore, we consider that an interesting and important future research direction should approach the entrepreneurial orientation among the women in NEETs category.

A limitation of the study is that we have a smaller number of respondents living in the rural area compared to the situation registered at national level.

We identified two categories of participants in our study, those who had already an idea to start a business (almost 80% of the respondents) prior to their participation to the mentioned entrepreneurial training course. Only 20% of the respondents had no business idea prior to the course. This indicates a preoccupation of these young people for entrepreneurship.

Another result reflects the fact that the most numerous business ideas (19 answers) are related to the service and commerce sector, the most developed economic sector in Romania and also in Constanta County, followed by the production sector (8 cases) and creative industries (5 answers).

More than half of the respondents have indicated that they will try to access non-returnable funds to finance their business ideas, which are available in different financing schemes for entrepreneurs offered by the Romanian Government or European Union.

The participation in the entrepreneurial training course has helped them to develop the business idea that they had. In this case 10 participants reported that the course helped them very much and 33 of the respondents have indicated that it has helped them a lot.

Those participants that have no business idea prior to their involvement in the entrepreneurial training course were women. This indicates that an important segment of NEETs category that could be vulnerable to social and economic is represented by women.

As the main setbacks fort starting a business those participants with no prior business idea have indicated the taxes, bureaucracy, social and economic instability, that are reflecting ones the main concerns of the Romanian people in the present times.

The results of our study allowed to highlight the perception of the young people included in NEETs category towards entrepreneurship. Based on these results we can conclude that entrepreneurial education and entrepreneurial activity represent solutions for the economic and social problems related to young people in Constanta County.

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## The Influence of ICT on Labour Productivity in Romanian Companies

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### Abstract

*The ICT technologies are today a constant presence in every sector of economic and social life. These technologies have greatly influenced the development of economic activities for all types of enterprises. The boost of labour productivity can be explained along with other important factors, considering the role of ICT. This paper intends to analyse the influence of different indicators related to these technologies of labour productivity in Romanian companies. We considered the percentage of the employees using computers with Internet connection, the percentage of the companies providing training for their employees regarding their ICT skills and the percentage of enterprises using ERP software package to share information between different functional areas. The only significant correlation was identified in case of the percentage of the companies providing training for their employees regarding their ICT skills and the productivity levels.*

**Key words:** ICT, labour productivity, employees using computers, ERP software, ICT skills

**J.E.L. classification:** J24, M15

### 1. Introduction

Within the actual economic context, the countries and companies are struggling to maintain and improve their level of competitiveness. The Romanian companies are no exception and their race for improved level of competitiveness is essential for the success in the single economic European space, our country being part of it.

One of the most important indicators that reflect this level of competitiveness is represented by the labour productivity registered by each country. During the last decade Romania has registered a continuous increase of this indicator. This reflects an increasing of productivity level for the companies that are operating in our country.

In the same period the information and communication technologies (ICT) have rapidly developed and became an important part of social and economic life of modern societies. This situation represents a reality in Romania. Moreover, the pandemic period determined an increased use of these technologies in domestic economic activities. Such evolution had a positive influence over the productivity levels registered by the Romanian companies.

This paper aims to investigate the correlation between different indicators associated with ICT and the labor productivity levels registered by our country during 2017 and 2021. Therefore, the paper will be structured as follows: an introductory par, a second part focused on a briefly literature review on this subject, a part that will present the research methodology, followed by a section of results and another one presenting the conclusions of this study.

## 2. Literature review

The topic of the ICT impact on productivity represented a disputed research theme. According to Rangriz and Raja (2011), Jorgensen et.al. (2005) and other researchers who performed studies in this field it was established a positive and significant impact of ICT on productivity of companies and countries.

The ICT development was approached in different studies through specific key indicators such as ICT infrastructure, ICT use, ICT readiness, ICT producing and trade (OECD 2011, ITU 2012). Considering this indicators Mačiulytė-Šniukienė and Gaile-Sarkane (2014) have discovered in their study that for those countries with low and medium labour productivity the influence is generated by ICT use and ICT readiness indicators.

The results of the studies regarding the correlation between ICT and labour productivity remain controversial. For example, Ceccobelli et. al. (2012) have reached the conclusion that without complementary investments, it will not be possible to fully benefit from the advantages of ICT capital for productivity growth. Same conclusions have been reached by Skorupinska and Torrent-Sellens (2015) who noted that ICT do not act alone in impacting productivity, but require other factors such as human capital, work organization, knowledge and technology creation and institutions

The ICT use will not increase without and increase of ICT skills. This represent an constant preoccupation for European Union and also for Romania, that tries to fill the gap between our country and EU level (Titan et.al.,2014).

The positive impact of ICT use on labour productivity in Romanian companies was determined by other researchers (Tofan and Aivaz, 2022) that studied the influence of use of computers and Internet on employee's productivity.

Considering the studies presented this topic of correlation between ICR an labour productivity proves to be a complex one and needs further investigations, especially in case of Romanian companies.

## 3. Research methodology

The research objective of this paper will be reached using an analysis of the considered indicators and their correlations labour productivity, the percentage of the employees using computers with Internet connection, the percentage of the companies providing training for their employees regarding their ICT skills and the percentage of enterprises using ERP software package to share information between different functional areas.

We formulated the following research hypothesis:

H1 There is a significant statistical correlation between labour productivity indicator and the percentage of the employees using computers with Internet connection.

H2 There is a significant statistical correlation between labour productivity indicator and the percentage of the companies providing training for their employees regarding their ICT skills.

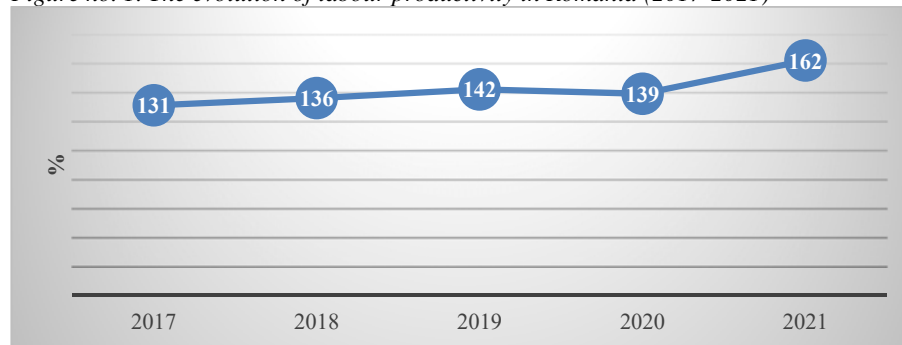
H3 There is a significant statistical correlation between labour productivity indicator and the percentage of enterprises using ERP software package to share information between different functional areas.

All the data used are retrieved form the Eurostat database and cover the period between 2017 and 2022.

## 4. Results

The evolution of labour productivity in case of Romania has constantly improved in the considered period. This positive evolution it is presented in figure number 1, listed below.

Figure no. 1. The evolution of labour productivity in Romania (2017-2021)

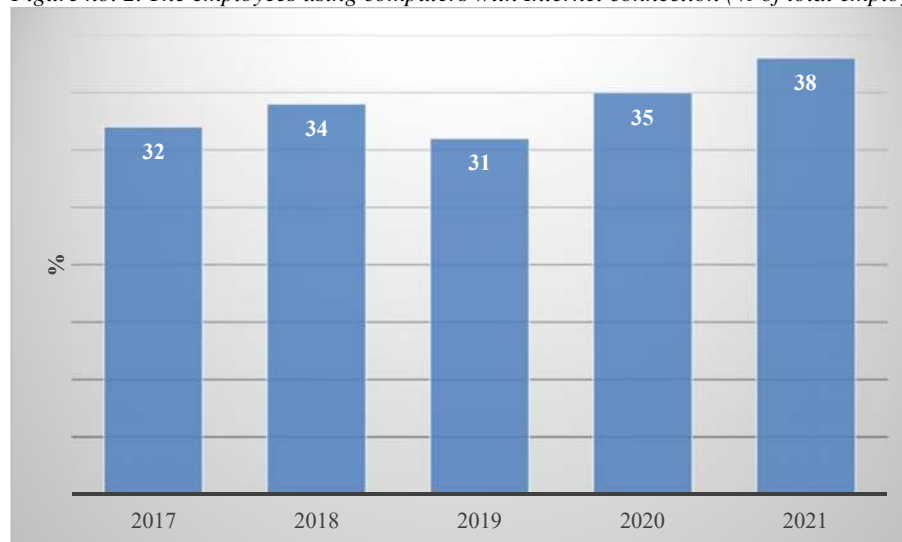


Source: (Authors' representation using Eurostat database)

The data presented in the figure number 1 shows that the labour productivity has registered a positive evolution in the considered period. The reference year is considered 2010 according to the Eurostat details. A slight decrease can be noticed in 2020 and could be explained by the COVID 19 pandemic.

Another indicator used in our analysis was the one regarding the percentage of the employees using computers with Internet connection. The data are presented in figure number 2.

Figure no. 2. The employees using computers with Internet connection (% of total employment)

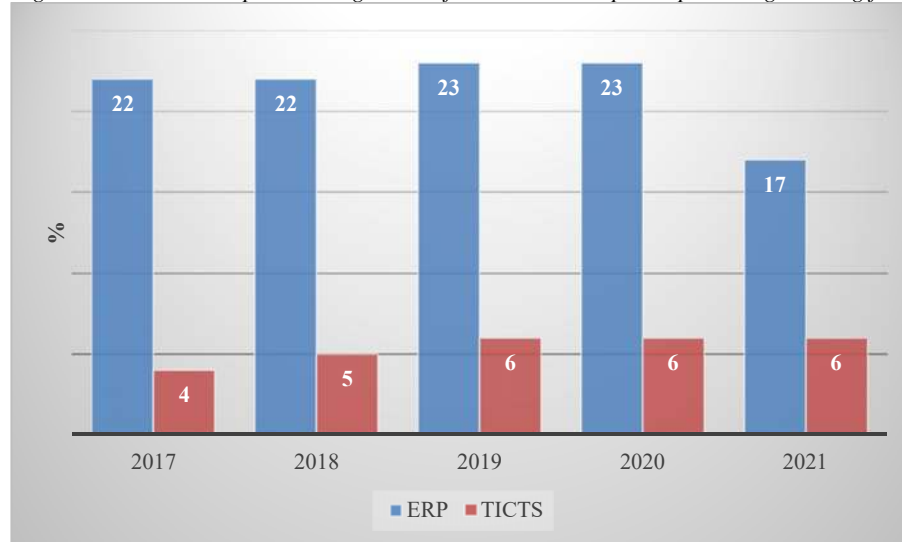


Source: (Authors' representation using Eurostat database)

The evolution presented in the figure above reflects a positive trend, with a slight decrease in 2019. These data show a trend of increasing use of ICT by the Romanian employees. Nevertheless, the percentage are still reduced which determine us to assume that there is still room for improvements.

Figure number 3 presents the data concerning the percentage of the of enterprises using ERP software package to share information between different functional areas and the percentage of the companies providing training for their employees regarding their ICT skills.

Figure no. 3. The enterprises using ERP software and enterprises providing training for ICT skills



Source: (Authors' representation using Eurostat database)

The data reflect a relatively constant evolution in case of the enterprises using ERP software package. The downturn registered in 2021 could be explained by the shock created by the pandemic that forced a considerable number of companies to suspend or close definitively their activities.

The percentage of enterprises providing training for their employees regarding the ICT skills was relatively constant during the analysed period and in this case, there are numerous opportunities for improvement.

In order to test the hypothesis presented in the previous section we used the Spearman's test. The results indicated that for the first hypothesis there was no significant statistical correlation between labour productivity indicator and the percentage of the employees using computers with Internet connection ( $r_s = .400$ ,  $p = .505 > .05$ ). In case of the second hypothesis, we also determined using the same test that there is a significant statistical correlation between labour productivity indicator and the percentage of the companies providing training for their employees regarding their ICT skills ( $r_s = .894$ ,  $p = .041 < .05$ ). The third hypothesis was also invalidated, no significant statistical correlation between labour productivity indicator and the percentage of enterprises using ERP software package to share information between different functional areas being tested ( $r_s = -.105$ ,  $p = .866 > .05$ ).

## 5. Conclusions

Nowadays, ICT are widespread in all economic and social activities. The influence that these technologies exert on the efficiency of the economic activities was a major topic of research. The correlation between ICT and labour productivity represented a particular field of interest for different researchers.

Modern companies are facing an increased competition every day and they are constantly trying their level of productivity to stay and maintain competitive.

The data provided by the Eurostat database reflected a constant improvement of labour productivity level in case of Romania. The ICT technologies became widespread in all economic activities, especially in the context generated by the COVID 19 pandemic. This paper intended to analyze the correlation between labour productivity indicator and several specific indicators reflecting the use of ICT in Romanian companies.

The research hypothesis tested proved that only the percentage of enterprises providing training for their employees in relation with their ICT skills was statistically significantly correlated with the labour productivity indicator.



This situation leads to the conclusion that those companies that are constantly seeking to improve the skills of their employees manage to attain higher levels of productivity.

The results obtained from testing the other two research hypothesis revealed our research limitations. Thus, the use of ERP software by the Romanian companies is still at a low level and could be improved. Another discussion related with this topic can be developed around the size an the activity sector of the companies that are using such software. The indicator provided by the Eurostat database considered the companies with 10 or more employees without the financial sector. We can assume, considering the national statistics that a future research direction should be concentrated on those companies with less than 10 employees (that are very numerous in Romanian economy). Those enterprises have an important contribution to the overall level of productivity. Also, the financial sector could be approached as separate research topic, knowing that in this case the use of ICT is well represented and the productivity of the sector registered high level in the past years.

The percentage of the employees using computers with Internet connection was not tested as being statistically significant correlated with the labour productivity levels. Even if the percentage is constantly increasing in the analyzed period, we can assume that this lack of correlation can be explained by the fact that not all the employees that are using computers are contributing directly to an improvement of productivity levels. This topic needs further detailed research.

Considering the results of this research we can conclude that ICT became a real presence in Romanian economy and is constantly evolving. The use of this technologies has a positive influence on productivity level of the Romanian companies.

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## The Potential of Future Human Resources Managers in Terms of Transactional Analysis

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### Abstract

*In the current times, finding the skilled work force needed for companies to run can be an issue. Many candidates are hard to be identified and also the required skills are difficult to be met. The question is, how will the human resource managers be able to identify the right talent for the right position in the future. In order to try to find an answer we evaluate the potential of people who intend to work in the human resource department as managers. For this we used the transactional analysis theory and applied a test in the form of a questionnaire. We took into account people who opted for the study program Human Resource Management on a period of two years. According to the results obtained, the potential of these people is above average.*

**Key words:** transactional analysis, potential, communication abilities, personality, human resources

**J.E.L. classification:** M12

### 1. Introduction

In the current context, with significant implications for businesses, generated both by the generational change and by other aspects of the turbulence of the external environment (post-pandemic, significant technological changes, conflicts, economic recession, etc.), many businesses are no longer able to find employees. Let alone finding the right employee for the right place.

The question can be asked, in this turbulent environment, does the human resources manager that will be engaged in the future has the necessary skills to face the changes and be able to communicate effectively with the new generation? To appreciate the potential, we focus on people who apply to the university program in the field of human resources management. Considering that it is a master's program, the second hypothesis is that they will occupy managerial positions in the future.

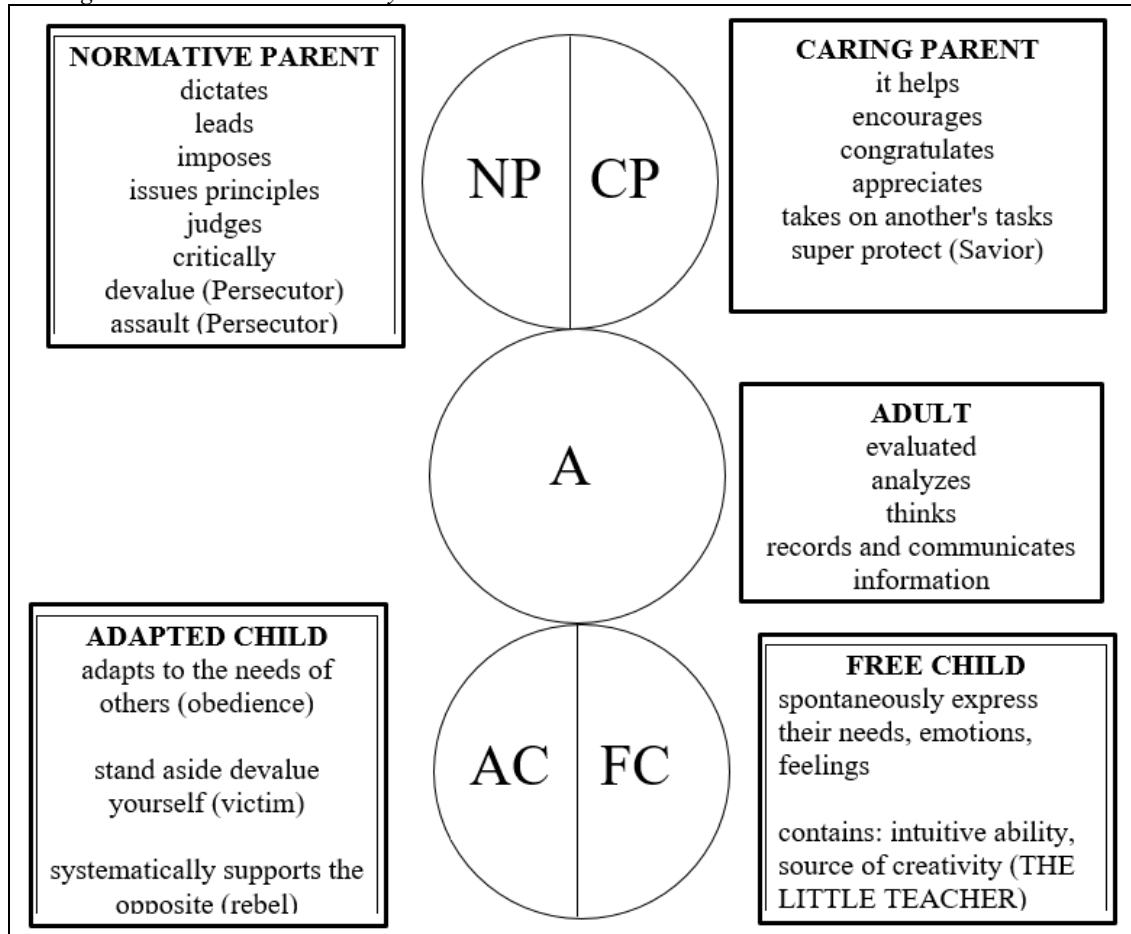
### 2. Theoretical background

The performance of managers, in general, in literature is approached from two perspectives, that of potential and that of results (Burz, 2018). The results are measured rather from a financial perspective, but also in terms of sustainability. Models that focus on intangible capital are also relevant (Sveiby, 2001).

Potential generally refers to expectations. In the area of managerial psychology, we find different models: Big Five Model (Rothmann and Coetze, 2003), Multiple Intelligence Model (Gardner, 2015), NLP Model (Lassus, 2005), AT Model (Lassus, 2000).

The transaction analysis proposes the following model:

Figure no. 1. Transactional analysis model



Source: adapted (Lassus, 2000)

From the point of view of the future employee's ability to communicate and convince, there are many approaches (Pânișoară, 2015; Mucchielli, 2015; Alan, 2020; Allan and Barbara, 2020; Petru and Alexandrescu, 1999; Sburlecu, 2005; Haineș, 2000; Keenan, 1997).

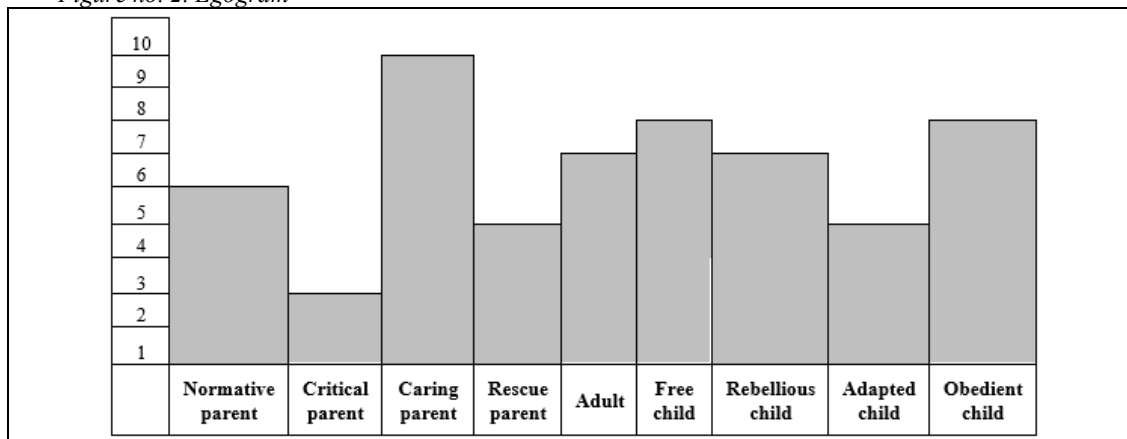
### 3. Research methodology

In the literature we also find different assessment tools. Considering the goal pursued, we opted for the model of transactional analysis and the questionnaire proposed in the literature specific to business communication (Prutianu, 2008). The proposed questionnaire includes 90 questions with three levels of appreciation (rather true, so and so, more likely false). The questions are formulated more like a self-assessment (*The opinion of others about myself concerns me and influences me in most cases; I do not hesitate to do the work of a tired colleague, even if I don't feel like it and I don't owe him anything; If I get frustrated, I get angry; I am demanding of myself and others; Sometimes I go to great lengths to hold back when someone annoys me, etc.*), so the answers can be considered subjective.

#### 4. Findings

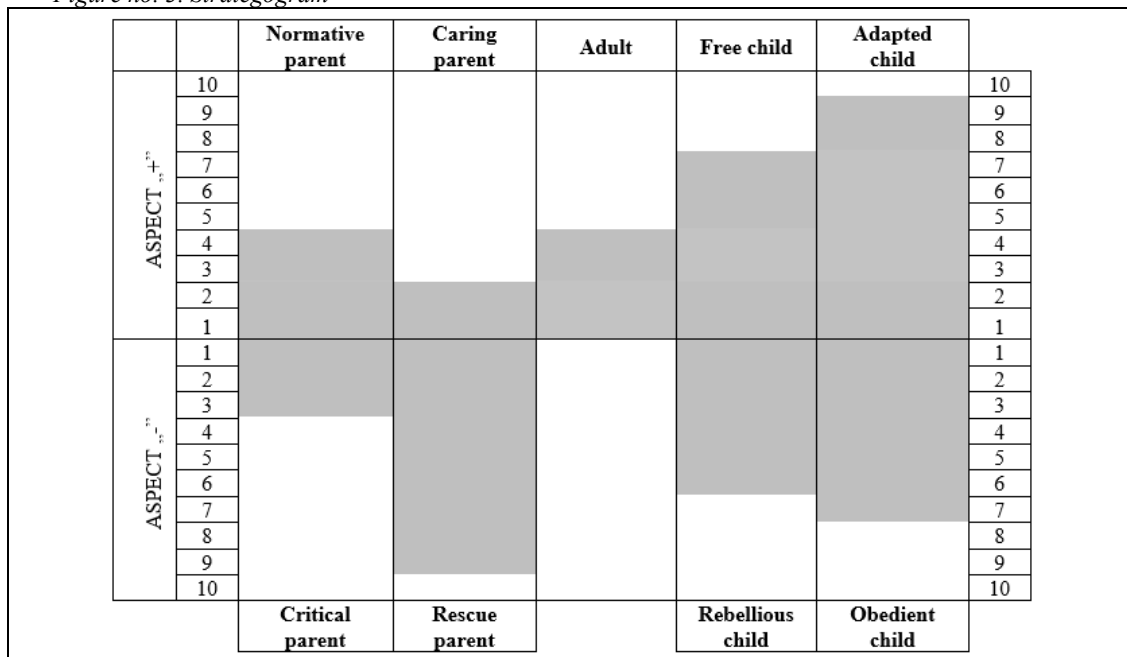
To position the attributes, it is suggested to use the egogram or the strategogram. The egogram shows the chained behavior and the strategogram the behavior in the mirror.

Figure no. 2. Egogram



Source: adapted (Lassus, 2000)

Figure no. 3. Strategogram



Source: adapted (Prutianu, 2008)

The strategogram was applied to 2 master's cycles in the field of Human Resource Management for a number of 62 participants. The average of the results can be seen in the following graph.

Figure no. 4. Results



Source: own processing

The people surveyed also received an additional question, about intending to work in the area of human resources.

Table no. 1. Intent to work in HR domain

I do not intend to work in the field of HR	17	27%
I already work in the field of HR	15	24%
I want and intend to work in HR field	30	48%

Source: own processing

From those that filled the questionnaire, 73 % work or intend to work in the HR area.

## 5. Conclusions

Based on the results, the potential of the people that work, or are thinking to work in the area of HRM, is staged on an optimistic level. The efficiency of the future recruiting process is favorable for companies. From the transactional analysis perspective, they seem to know themselves well enough to be able to know the others well and the ability to communicate and identify the right person is above average. The conclusion can be subject to errors because the questionnaires were administered nominally, online and the respondents may have overestimated themselves.

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## Investigation of the Impact of Social Responsibility on Organizational Performance

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### Abstract

*In recent years there has been a significant increase in interest in Corporate Social Responsibility (CSR), which is an essential research topic. In addition, corporate scandals have drawn public attention and once again emphasized the importance of CSR. As a result, this topic has received academic attention and is becoming a core issue for many organizations. In this research, we propose to build a methodology for analyzing the impact of social responsibility (SR) on organizational performance (OP) based on a review of the specialized literature. After thoroughly analyzing the specialized literature, a methodological framework was built based on a questionnaire applied to employees of large companies and SMEs operating in Romania. The paper demonstrates using SEM significant direct and indirect relationships between SR and OP.*

**Key words:** physical work environment, health, well-being, organizational results  
**J.E.L. classification:** M14, O15

### 1. Introduction

Today's global business environment is affected by social and environmental issues. As with large firms, SMEs must address these issues to remain viable and competitive (Arend, 2014). SMEs and large corporations share similar concerns when strategizing CSR initiatives: regulation, litigation, and cost avoidance (Sarbutts, 2003). The challenge for SMEs is to manage the threat of these three concerns immediately. Large corporations possess the resources to optimize the cost versus benefit of social responsibility activities, unlike smaller companies with more limited means (Sarbutts, 2003).

Researchers have shown that CSR presents significant issues for SME leaders. Individual SME leadership independently determines the degree of CSR involvement ad hoc, with resources being the major constraint (Sen and Cowley, 2013). Some researchers have suggested that the relatively small amount of resources and the tendency towards risk aversion lead SMEs to devote less effort to social responsibility, despite their owners' ethical and moral intentions (Sarbutts, 2003). Torugsa et al. (2013) conveyed that as a consequence of low financial and human capital, some SMEs may be able to only partially undertake proactive CSR activities or carry out limited social engagements in isolation, despite the owners' philanthropic motivations, a pressure to expand social networks from employees, the community and a competitive business environment.

The work is made up of five sections. The first section makes an introduction, and the second presents the theoretical framework. The third section includes the methodology, and the fourth is the findings. Finally, the last section provides the conclusions.

## 2. Theoretical background

A literature review on this topic indicated that SMEs' methods to manage and measure their financial performance are complicated depending on their business environment, management practices, and capabilities (Bocean, 2007a, 2007b). Bahri et al. (2017) argued that today's firms, especially SMEs, are forced to innovate, adapt strategies and regularly review performance monitoring methods due to the changing investment climate and the voluminous amount of information that needs to be reported in their financial statements. Studies have further indicated that SMEs face difficulties in implementing performance management and measurement systems due to the absence of formalized organizational strategies and structures, human resource limitations, and financial constraints (Bahri et al., 2017). Garengo et al. (2005) revealed that SME owners or managers usually do not possess a complete understanding of the critical success factors needed to develop and design effective performance management strategies (Bocean, 2015; Sitnikov and Bocean, 2010; Sitnikov and Bocean, 2012; Bocean and Sitnikov, 2015). These conditions are further complicated because existing models for managing and measuring performance are designed primarily for large firms. Models include the balanced scorecard, the performance pyramid, and the formal Cambridge assessment process, which most researchers have considered unsuitable for application within SMEs (Garengo et al., 2005; Garengo and Bititci, 2007). Implementing financial performance management and measurement is crucial for businesses. These performance management implementation difficulties faced by many SMEs could affect employee learning, stakeholder communication, and reputation (Bahri et al., 2017; Vărzaru and Bocean, 2021; Puiu et al., 2022; Vărzaru et al., 2022). Apparent inconsistencies in the measurement of SME financial performance and evaluation practices highlight the difficulty in conducting empirical studies on the financial performance of SMEs.

The literature indicated that the approach to financial performance and CSR variables was common in empirical social research. CSR dimensions as variables appear predominantly in studies evaluating social performance. Expressly, the environment, employees (workforce), community, and indicators that characterize customers represent the majority of social performance variables, followed at a distance by suppliers and shareholders (Boaventura et al., 2012). The most widespread variable used as a direct measure of financial performance in research on the relationship between SR and OP is ROA, followed by ROE (Boaventura et al., 2012). In addition, the literature has revealed that studies using perceptual measures such as questionnaire surveys to assess financial performance frequently include sales and profits as indicators.

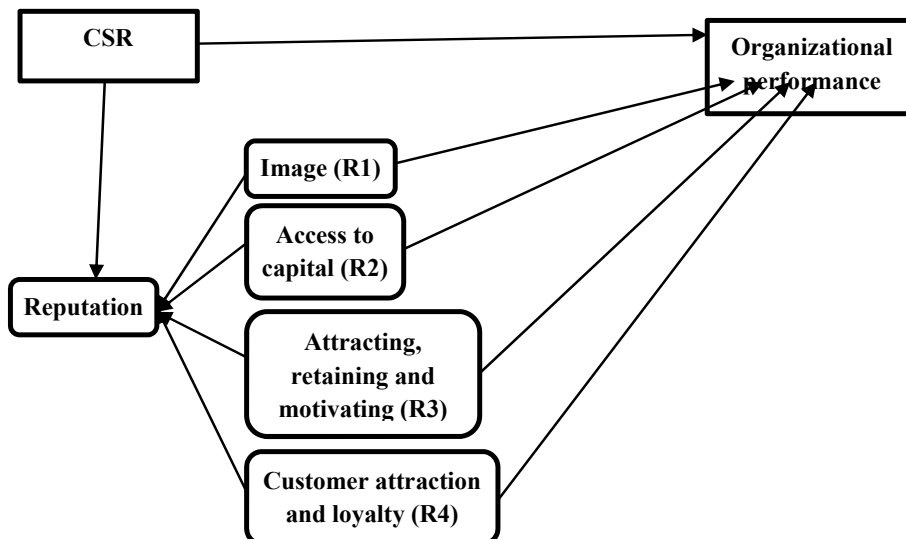
## 3. Research methodology

In recent years there has been a significant increase in interest in Corporate Social Responsibility (CSR), which is an essential research topic. Furthermore, corporate scandals have drawn public attention and once again emphasized the importance of social responsibility. As a result, this topic has received academic attention and is becoming a core issue for many organizations. In this research, we propose to build a methodology for analyzing the impact of social responsibility on organizational performance based on a review of the specialized literature. After thoroughly analyzing the specialized literature, a methodological framework was built based on a questionnaire applied to employees of large companies and SMEs operating in Romania. The relationship between SR and OP will be examined using inferential statistical techniques such as correlation analysis, analysis of associations and variance, analysis of artificial neural networks, and structural equation modeling. As a result, the findings not only measure the direct relationship between SR and OP but explain this relationship through intermediate variables identified in the literature as implications of social responsibility.

Therefore, this method will simultaneously measure the links between social responsibility and each business benefit predicted to follow from CSR, including increased employee attraction, motivation, and retention, customer attraction and loyalty, access to capital, and company reputation. In addition, the method will also measure the relationship between these benefits and financial performance, resulting in a complex model. Figure 2.1 illustrates the proposed model.

To test the direct relationship between SR and OP and also the indirect relationship between SR and OP mediated by the proposed business benefits resulting from CSR: enhanced reputation; improving customer attraction and loyalty improving employee attraction, motivation and retention; improved access to capital, the research used structural equation modeling.

Figure no. 1. Theoretical model



Source: Own construction based on literature review

The data used were collected in a questionnaire applied to a number of 267 employees of SMEs in Romania, in a study carried out in September 2022. To evaluate each of these relationships, the following hypotheses were proposed:

H1: There is a significant positive direct relationship between SR and OP.

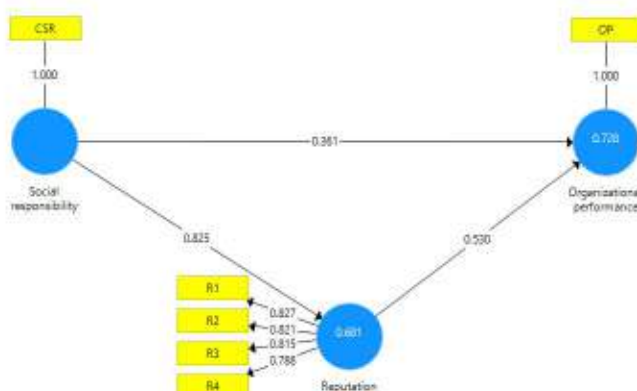
H2: There is a significant positive indirect relationship between SR and OP, mediated by organizational reputation.

To test the hypotheses, we used structural equation modeling that describes the direct and indirect relationships between variables.

#### 4. Findings

Using SmartPLS V3.0, we conducted partial least square structural equation modeling. Figure no. 2 shows the research model.

Figure no. 2. Applied model



Source: Own construction using SmartPLS v3.0



Figure no. 2 illustrates the validity of hypothesis H1. There is a direct significant positive relationship between SR and OP.

The reliability and validity of the model are presented in table no 2.

Table no. 2. Validity and reliability

	Cronbach's Alpha	Rho A	Composite Reliability	Average Variance Extracted (AVE)
Organizational performance	1.000	1.000	1.000	1.000
Reputation	0.829	0.832	0.886	0.660
Social responsibility	1.000	1.000	1.000	1.000

Source: Own construction using SmartPLS v3.0

Table no. 3 presents the direct and indirect effects between SR and OP.

Table no. 3. Path coefficients and specific indirect effects

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Reputation -> Organizational performance	0.530	0.535	0.049	10.877	0.000
Social responsibility -> Organizational performance	0.361	0.357	0.052	6.941	0.000
Social responsibility -> Reputation	0.825	0.824	0.020	41.589	0.000
Social responsibility -> Reputation -> Organizational performance	0.437	0.440	0.042	10.342	0.000

Source: Own construction using SmartPLS v3.0

Table no. 3 illustrates the direct and indirect relationships between SR and OP, which validates hypothesis H2. CSR directly influences organizational performance and is a significant indirect influence mediated by organizational reputation. Hypothesis H2 is fully validated.

## 5. Conclusions

The relationship between SR and OP remains unclear despite being the most questioned area of CSR. When analyzed directly, a weak positive relationship between SR and OP was found. In our research, we propose an analysis of both direct and indirect relationships through structural equation modeling. From previous research using SEM, it can be found that SR has a strong positive relationship with reputation, and OP. Thus, the main contribution of this research is that it responds to the call made by many authors to provide a finer understanding of the relationship between SR and OP.

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## Innovation Leadership – Stimulus for Individual Creativity

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### Abstract

*This article aims to demonstrate that innovation, which encompasses creativity, value creation, as well as a company's ability to find new solutions, requires innovation-oriented leaders who are demanding of subordinates and ready to support them.*

*In order to succeed in stimulating their creativity, these innovation leaders must carry out a series of actions that are related to the material and immaterial aspects of the work environment, such as allowing a certain autonomy to creative people, recognizing creative capabilities, bringing sufficient pecuniary, human, and physical resources.*

*New ideas can lead to programs that are superior to those already running or planned in the organization that would have been abandoned or never started if a better program or idea had come along. The mission of every leader should be to constantly pursue ideas and programs superior to those the organization is committed to pursuing.*

**Key words:** creativity, innovation, organization, leadership

**J.E.L. classification:** O30

### 1. Introduction

In recent years, the discourse around innovation has intensified, as it must enable companies to persist and grow. It is the key to differentiation and staying ahead of competitors; it is also the means of creating tomorrow's markets, as well as the future jobs and wealth of countries.

Innovation as an objective represents a challenge for business leaders, especially in relation to the means and conditions necessary to achieve it; Indeed, experts agree that workplace innovation is based on several material and immaterial conditions. It needs a very open physical and cultural environment, highly motivated and creative teams, but above all, innovation is a matter of leadership. Innovation leaders are tasked with leading their teams well towards continuous production of innovative ideas, so they need to create the right and conducive work environment, build and stimulate their teams, make them coexist and work together even accepting conflicting ideas. In addition, the role of true coach to their subordinates remains a key to catalyzing creative endeavors among creative individuals.

This communication is based on three essential ideas: - The first is that innovation is now an essential choice for company survival and growth - The second is that leadership is a necessity to effectively drive the innovation process - The third is that innovation leaders represent support for individual creativity. In this context, this article will try to provide an answer to the following question: What actions must be taken by the innovation leadership in the company to stimulate individual creativity? This article is important from the theme itself, the latter of which assumes that skilled leadership is the answer to the problem of coaching and stimulating innovation and creativity at the business level. In fact, increasing individual creativity as a goal for a company operating in a competitive climate cannot materialize without the support of well-innovated leaders.

"Change must be understood as a continuous goal, which, by fulfilling it, any organization can adapt to internal and external fluctuations, and leadership, team and team synergy are just means to achieve this." (Stegăroiu et al, 2020, p. 241).

## 2. Literature review

At the beginning of the 21st century, innovation is displayed in official discourses as a source of growth and progress, the preferred means both of sustainable development in the so-called developed countries and of improving the standard of living in developing countries.

Innovation is a polysemic term that is used with different meanings depending on the point of view adopted. We retain in our work several definitions of this term. First of all, it is important to note that the term innovation comes from the Latin *Novus*, which means new. The concept would have appeared in 1927 and denotes the fact of introducing something new into an established thing. Some authors consider innovation to be an important ongoing process for the survival and development of companies, which now need to be able to innovate in all aspects of their organization. The OECD defines innovation as the implementation of a new or significantly improved product (good or service) or process, a new marketing method or a new organizational method in company practices, workplace organization or external relations. From another angle, innovation is seen as a concrete process that is planned, that is feasible and that must adapt to business needs. Innovation is a means of achieving strategic objectives, improving competitiveness, differentiation and value creation. For us, innovation is the set of activities that lead to the launch of new products and/or the implementation of new methods and ways of business management.

"Leadership and Performance Beyond Expectations represents a major breakthrough in our understanding of who these leaders are, how they get results, and why their leadership often exceeds all expectable limits." (Bass, 1985, p. 1).

Innovation is invested more than ever with new roles and functions. It would be a driving force for the survival of companies in a highly competitive environment and it is in this framework that these companies manage to achieve their predetermined goals. Innovation is an important driving force in improving the living conditions of poor countries, and various innovations in the medical field are an excellent example of this, so innovation can be a lever to put countries on the paths of development and prosperity. On the other hand, innovation is designated as being at the origin of the renewal of industrial strategies and the development of new sectors of economic activity. An American study showed that the most successful companies would generate almost 50% of their turnover with products with a lifespan of less than five years.

Leadership plays a major role in the good governance of business and business practices and, consequently, in the implementation and realization of the strategies put in place, especially that of innovation. Depending on their specialties and/or the nature of their functions, researchers and practitioners have tried to define leadership. The behavior-based approach, which is based on the charismatic leadership model, believes that the charismatic leader has a strong enough personality to exert a significant influence on his subordinates. Charismatic leadership has an innovative spirit, self-confidence, an optimal vision of the future, an ability to change the situation and finally moral and ethical. On the other hand, leadership is seen as a way of influencing people to come together to achieve a common goal with a lot of courage, charisma and talent, while people-centered approaches situations, sees that the most effective leadership it depends on the situation and the people of the place; Therefore, the leader creates an enabling environment to facilitate performance and satisfy the group.

"The existing competition between organizations has greatly increased, and they are subject to changes. Corporate success depends on identifying and focusing on those factors leading to competitive advantage." (Croitoru et al, 2012, p. 237).

### ***Driving Innovation: A Driver of Individual Creativity***

For us, leadership is how a person exerts influence on others to achieve a common goal by giving them a good vision of the future to take effective action.

***Transactional leadership*** The transactional approach is based on transactional exchanges that intertwine between the leader and the subordinate on the "yes/yes" principle. A transactional leader provides assistance to others in exchange for their efforts to improve the level and quality of the performance of his subordinates. This means that the leader gives a reward in exchange for appropriate behavior

**Transformational Leadership** The transformational approach was based on transformational exchanges between leader and follower. Transformational leadership is a process that determines the mutual commitment of the leader and the placed subordinate. under its hierarchical dependence based on common membership. This type of leader is also attentive to the interests of followers. For this, the desire to succeed by stimulating them to work under new perspectives with a high level of motivation and satisfaction increases in subordinates. He considers that his main role is to facilitate the task of subordinates by providing information and acting as a link between the group and the external environment.

**Innovation Leadership** The need for innovation for companies has given rise to a new vision of the role of leaders in the success of creative endeavors, because without innovation leadership, companies lose a lot of face to the competition. Several researchers have defined the concept of innovation leadership according to their fields of activity and specialties. In his PhD thesis, Gliddon David Gregory defined innovation leadership as a philosophy and technique that combines different leadership styles to influence employees to produce creative ideas, products and services. Innovation leadership is about creating an environment where workers can first and foremost be themselves; and if they are allowed to be themselves, they feel free to express themselves, be creative and contribute to innovation. For us, innovation leadership is a way to manage subordinates, we stimulate them, guide them and create a quality work environment for them. to encourage them to present innovative ideas. These definitions allow us to say that an innovation leader is not necessarily a creative genius, he is above all the one who knows how to create a climate that allows his team to dare to propose new ideas.

Indeed, an innovation leader does not necessarily have to be the one who proposes innovative ideas, but he is the one who supports his staff and pushes them to advance their ideas. Companies can have innovators at the top, but even more important is having innovation leaders. Steve Jobs was both: a formidable innovator and a true leader in innovation.

### 3. Research methodology

Our research is theoretical in nature, that is, its purpose is to conceptualize a model through a documentary analysis. Indeed, theoretical research aims at the conceptualization of models of a complex object, through the analysis and synthesis of a plurality of conceptual or empirical data or other models. The investigation of a starting set consists of the grouping of data, publications and various previous communications dealing with the object of study. This stage allows the constitution of the corpus that is used for documentary analysis up to the proposal of the model. For this, it was first important to identify the elements of the notional field of research, i.e. the set of terms, more or less related, that make it possible to describe the object of study. These terms are used to inventory writings and review writings from the various catalogs and databases available. In order to conduct a rigorous literature review, establishing a list of selection criteria is essential and makes it possible to retain only literature relevant to the object of study.

Querying several databases made it possible to select texts according to predetermined criteria. Paper selection criteria are stored to keep only texts relevant to the subject of study. For the writing of this article, the following were used:

- Books (French or English) dealing with the definition of creativity and leadership.
- Reviews of scientific writings or statements of the creativity question included in certain texts, documents, papers, dissertations or theses.
- Texts from journals, textbooks, manuals, theses or dissertations.
- Papers dealing with creativity and leadership.

### 4. Findings

“Getting closer, using models of analysis, and dividing them into groups with different characteristics, requirements, and behaviors, the organizations will have the opportunity to obtain success.” (Radu, 2020, p.395).

At what level can we find innovative leaders? The concrete case studies of the companies reveal one constant: innovative companies, regardless of their field of activity, have many innovation leaders, and they are found at all levels. These companies typically have innovation leaders at various hierarchical levels in their organization; in small companies, these innovation leaders are usually found at the top of the hierarchy. In larger companies, they may hold senior positions, especially on the management committee, as heads of operational entities or important functions. In addition, innovation leaders may operate at the middle level, where they play a conduit role between the top, operations, and the bottom. In general, innovation leaders fall into three distinct categories of "champions." Very often we find: Leadership in innovation: a driver for individual creativity - technical champions in design offices or research and development departments; they are the ones who come up with new technologies or product concepts. - business champions, able to turn new products or services into revenue streams. - executive champions, those high-level leaders able to take risks, even relative to their management peers, to achieve these innovations.

**Individual creativity.** According to the dictionary of concepts, creativity is defined as the ability to quickly imagine different original solutions if someone is faced with a problem situation. A creative individual is a person who conceives a conceptual discussion and then exploits it with existing ideas and/or explores it by imagining new ideas. The literature teaches us that creativity is the result of a four-step process, which we are trying to present.

The first step is to become aware of the existence of a problem. the individual can achieve this for himself; he may receive complaints from a third party (a colleague, a client, a supplier, etc.), or his manager attributes it to a problem identified by the hierarchy.

The second stage: the individual collects the available information, analyzes it, "adjusts" it in creative ways to find an idea

Third stage: response generation stage

Fourth stage: The individual tests their idea before communicating it and that it is recognized as "THE" best solution to the problem.

Various studies show us that certain qualities of creative individuals are a priori innate or acquired through education, while others can be influenced by external factors such as innovation management or organizational culture.

Relative autonomy Autonomy is a major criterion in the creativity process. It involves the ability of the individual to create his own laws. For example, individual creativity held in exploratory mode requires self-design - even a reasoning model. However, this autonomy is "relative"; it can only be done from the individual, it must take into account its context.

Special abilities to think creatively Divergent thinking, an exceptional definition of a situation or heterogeneous connections between fields are some of the approaches of these creative people. Of course, there are tools for developing these capabilities, but they have their limits.

Social Abilities A final ability to grade places the individual in front of his entourage. his social skills lead him to open his mind to the ideas of others, to listen to them, and to develop and maintain good interpersonal skills. -Motivation The characteristics mentioned above depend in part on one major factor: motivation. by definition, it involves conscious or unconscious forces that determine a person's behavior. In the case of individual creativity, authors in psychology recognize two types: so-called intrinsic motivation because it comes from the individual and extrinsic motivation because it is induced by factors outside the individual. Driving Innovation: An Engine for Individual Creativity. The characteristics already mentioned are a sample of traits of a creative individual.

The characteristics of a creative individual are:

- to be resilient
- curious, enthusiastic
- have great energy and intellectual honesty
- being capable of relative autonomy
- having a taste for a challenge
- to have the ability to think creatively
- being attracted to risk

- maintaining and developing expertise.

Everyone agrees that innovation in human resources is based on several tangible and intangible conditions. It needs a very open physical and cultural environment, highly motivated and creative teams, but above all, creativity is a matter of leadership.

We present in this last part of the research the characteristics of innovation leadership and the actions that must be taken by this leader to stimulate individual creativity.

**Characteristics of innovation leadership.** Researchers have tried to create a profile of innovation leaders, they believe that these leaders have the following major behavioral traits:

Creativity Creativity has become the essential leadership skills for any organization. Creativity is the most important leadership skill for organizations of all types. The climate of uncertainty would be better managed by creative leaders, and the latter would use new business models more often than others

A mix of "excitement and realism" Some companies, like Logitech, try to promote leaders who combine these two interests, but not all companies do. It is sometimes easier to select certain leaders who are creativity-oriented and others who are more focused on the discipline of execution.

Acceptance of risks and failures The second characteristic of innovation leaders is the acceptance of risks and failures. But beyond that, their main quality is undoubtedly their ability to ensure that their teams learn as much as possible from their failures. Failure is part of the innovation game, even if analytical tools can prevent it. A good leader must know how to learn from failure and, when the time comes, teach his team to bounce back without getting demoralized.

The right questions The quality of the questions asked by the leader gives subordinates the opportunity to produce new ideas, or even to create a creative climate. For example, questions like: When we have successfully innovated, what does the new product look like? What problems do they solve for our customers? How does this bring new value to the market? it can inspire workers to generate new ideas.

The ability to attract innovators but also to train and lead multi-skilled teams to success. Successful innovation teams usually bring together people of strong character – innovation does not come from soft consensus. Leaders must know how to form these teams, make them coexist and work together by accepting conflicts of ideas (and not people) because only confrontation makes it possible to move forward and find innovative solutions.

Openness to ideas This quality of innovation leaders is openness to outside ideas and technologies and the ability to convince their teams to look outside for these ideas, instead of trying to reinvent the wheel internally.

## 5. Conclusions

“In a world of powerful computers, personal software applications, and easy-to-use analytical end-user software tools, managers and implicitly organizations have the power to segment and directly address marketing opportunities through well-managed processes and marketing strategies.” (Swift, 2001, p. 18).

In economic life, creativity is a factor of growth, dynamism, brand image, both at the level of companies and at the level of nations. The economic vitality of cities depends on the number of people who are part of the "creative class", such as engineers, university professors, novelists, artists, actors, designers, in short creative professionals in artistic, scientific and intellectual fields. Being creative today becomes an essential challenge. Creativity is at the origin of innovation processes and the design of new products and services. Also, creativity seems to have a decisive impact on differentiation strategies and therefore on competitive analysis. Creativity can have an impact on business strategy formulation. Our imagination is a living resource that only asks to be put at the service of the company for its competitiveness. We can generate ideas if we know how to stimulate our imagination. Creativity depends on personality traits, particular skills and the environment in which the act of creation takes place.

The company, in its context, is dependent on its environment. The more uncertain this environment is, the more organizational behavior changes. To remain competitive and develop in this climate, we must admit that the success of an innovation process, a differentiation strategy or a

problem-solving process depends in part on the company's ability to exploit organizational creative potential.

Creativity is thus a strategic asset that is not sustainable unless a barrier has been established to protect it. We can manage creativity, we can set up tools to manage, implement and lead creativity in organizations. It can be seen here that the role of general management is fundamental. Creativity must be organized into the process because top management is first concerned with a commitment to a creative approach likely to gain or maintain a competitive advantage.

## 6. Acknowledgement

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## The Impact of Leadership in Organizational Change

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### Abstract

*In an ever-changing environment, companies are constantly faced with change, whether big or small. However, "change management" and "being a change leader" are different, especially in their transformational impact.*

*The human factor is the main concern of management in the context of a change, because of its resistance it can block the process or its potential to facilitate the process.*

*The purpose of this study is to highlight the importance of leadership and its effects on the recipients of the change, an essential factor for the acquisition of the change desired or imposed by the leaders.*

*It is desired to promote human capital through the actions and behaviors of a leader who has the ability to generate the phenomenon of human-specific learning change.*

**Key words:** leadership, organizational change, manager, organization

**J.E.L. classification:** M10, M12

### 1. Introduction

The speed and extent with which the political, economic and social environment is changing condemns all public and private companies to recurring changes. Also, the needs for organizational transformations are now continuous in a constantly changing business world. Change and turbulence have become unavoidable parameters in the organizational field and require a significant improvement in adaptability in this field. From this observation arises the dilemma of change for the company. Standing alone, staying true to the established strategy and preserving the identity of the organization while evolving is a challenge for leaders. But managing the individual/collective dichotomy reminds them that the organization is above all made up of people and that it only progresses through the interaction of individuals. Managing change is not like managing day-to-day operations such as. People react differently to the other resources at stake (information, materials, finances and time) and the technical means are not enough to contain them. Change causes uncertainty among employees, and even among managers, which can be linked to three causes, namely the inability to estimate the probability of an event, the lack of information in the cause-effect relationship, and the inability to predict the outcome of a decision.

The usual approach to change management is based on the "what" rather than the "who." In companies, the focus is on the objects of change, such as deadlines, tools, methodology, strategies, technology and short-term results, while employees are asked to adapt and cope. In numbers, this trend translates into 80% management versus only 20% leadership. Thus, apart from the fact that changes can happen in a short period of time, each of these transformations often has increasingly confusing and destabilizing effects on individuals such as misunderstandings, increased stress.

In the wake of failures, leaders seem not to learn from their unfortunate experiences, the root cause of which is this lack of consideration of the human factor, especially in terms of supporting those directly affected by the transformation they desire. We see a tendency to neglect the implementation of a learning organization in this context of permanent change. Believing that learning through successive changes is child's play remains a fatal error of many companies whose activities are nevertheless potentially sustainable. In light of these facts, we can consider the extent

of change and reintegrate management into the analysis of this notion inherent in today's organizational life. This leads us to ask the following question: "To what extent do the leader's character traits and actions influence the process of organizational change?" To answer this question, we propose two hypotheses. The first assumes that "Recourse to the intrinsic qualities of the leader facilitates the adherence of the actors in the imposed and/or desired change". Giving meaning to work and creating openness among employees to change are tasks assigned to the leader. Each team member must have a shared understanding of the change. Motivation for change can then follow. Regarding the second hypothesis, it is about overcoming the adhesion of actors and turning changes into opportunities, taking advantage of resistance to change and driving the organization towards performance. It is formulated as follows: "Leadership contributes to the creation of a culture of change within the organization." This promotes the learning phenomenon of the entire organization as well as the formation of collective (emotional) intelligence of teams. Leadership is therefore assimilated to a true influence strategy in terms of organizational transformation.

The acceleration of technological innovation, the versatility of consumers and the volatility of the markets inherent in the New Economy are again causing companies and governments to take an interest in leadership, which again seems to be an essential ingredient in the mobilization of individuals and the agility of organizations.

Optimizing an organization, today, depends on awakening its human potential. This paper participates in improving the actors' view of the use of authority, the leader's legitimacy and his influences. Concretely, one of the objectives of this study is to highlight the roles of the key actors (leaders) involved in the entire change process; from the initiative to the pursuit of transformation. Therefore, it is essential for us to help managers pay more attention to employees, which means that the latter are an end in themselves, rather than a means to an organizational or financial end.

"Due to the use of new technologies and the fact that we live in a digital world, where the Internet has a significant impact on many processes, including customer' buying, the managerial implications are improving the enterprises' use of marketing databases and strengthening the relationships with their customers." (Radu, 2020, p. 395).

## **2. Literature review**

Studying the impact of leadership on the changes that take place in organizations first of all requires establishing the necessary foundations for understanding the different notions of the theme. This chapter will thus start with the different theories of organizational change and then continue with those of leadership and its particularities to arrive at the latter's influence in a change context.

Indeed, in a time when the environment is so versatile, organizational change becomes a necessary project for the proper functioning of companies. But what is change and how is it achieved?

### **The concept of change**

Several definitions of organizational change have been given by various authors who have studied the topic. However, we will retain only those that best explain what we want to study in the context of this paper. First, Van de Ven & Poole (1995) defined it as "a type of event, an empirical observation of a difference in the form, quality, or state of an entity over time... This entity may be a place of individual work, a work group, an organization's strategy, a program, a product or an entire organization". (Van, 1995, p. 21)

Organizational change is the means that translates the path between an initial state and a final state, that is, between two equilibria of the organization.

Organizational change is a process of radical or marginal transformation of the structures and skills that punctuate the organizational change process.

Organizational change is any relatively lasting change in a subsystem of the organization, provided that this change is observable by its members or people connected to this system.

### ***Incremental/radical change***

The specialized literature essentially distinguishes two forms of change. Theories speak of radical or incremental, revolutionary or evolutionary, first or second order, "piecemeal" or "quantum" change. Incremental change consists of introducing changes in structure, processes and behaviors in a sequential manner, without changing the essence of the organization or its activities.

#### ***Change required/desired***

According to adaptation theories, an organization that evolves in a particular environment will necessarily have to adapt to it, and if it evolves, it will have to evolve with it. The network organization of contemporary companies reflects this phenomenon. The emergence of ICT is therefore presented as a solution to overcome the spatial and temporal constraints that characterize the current economy. Change then consists of reacting, either by adapting to new constraints or by modifying the environment to escape these constraints. This type of approach must be considered with caution because the constraints generated by the environment only become a constraint through the representations that the actors of the organization construct. Therefore, they will impose their own vision of the need for change on all other actors in the organization.

#### ***Profile of actors***

The intervention of individuals in organizational change is necessary for the adaptation of the organization to its environment.

To change is as much to destroy an old order as to build a new one. In fact, it changes people's behavior and their relationships with each other. In this perspective, resistance to change is no longer seen as a barrier to change, but as a natural product of change.

The presence of an emblematic leader who reflects the will to change by disseminating a new vision of things within the organization is necessary.

#### **Leadership**

After reviewing some theories of change and its characteristics, we will now look briefly at the notion of leadership. Therefore, this section will discuss some essential definitions of the concept and the main qualities that make up the makings of a leader.

Simply defined, leadership is the art of getting people to perform a task voluntarily. More precisely, demonstrating leadership means enabling the members of a group to develop, share and carry out a common vision, a common project. The term "leadership" is therefore essentially described as a set of behaviors and actions. It is more about personality traits, relational skills and a good knowledge of one's self and functioning. In four points, leadership is a process, involves influencing others, takes place in a group context, and involves achieving goals (Northouse, 2004). Leadership is therefore a term coined for an individual who has enough influence over others to lead them towards a goal, whether for or against a change.

#### **Emotional intelligence**

Great leaders each have their own way of leading a team. But researchers have found that effective leaders have one critical quality in common: They all possess a high degree of what's called emotional intelligence.

Emotional intelligence is the ability to regulate and control one's own feelings and those of others, and to use these feelings to guide our thoughts and actions. Daniel Goleman (1999) defines it as "our ability to recognize our own feelings and those of others, to motivate ourselves and to manage our emotions well in ourselves and in our relationships with others". (Goleman, 2002, p. 8)

The Goleman Model This model of emotional intelligence is based on five essential components:

- Self-awareness This is the ability to recognize and understand one's moods, emotions and impulses and their effects on others. It includes self-confidence, self-evaluation and a self-deprecating sense of humor. This ability depends on the ability to monitor one's emotional state, identify and name one's emotions correctly.
- Self-control Corresponds to the ability to control disruptive impulses and moods and the tendency to suspend judgment and thought before acting. Its indicators are loyalty, integrity, calmness in the face of uncertainty and openness to change.

- **Motivation** Passion for work, for reasons other than money or status. There is a tendency to pursue goals with energy and tenacity. Strong desire to succeed, optimism even in the face of failures and organizational commitment are the indicators.
- **Empathy** Is the ability to understand the temperament of others and to treat people according to their emotional reactions. Empathy is demonstrated through expertise in training and retaining talent, cross-cultural sensitivity and a sense of customer service.
- **Social skill** This reveals the ability to manage relationships and build networks. It is the ability to find common ground and relate to others. Indicators of mastery of human relations include effectiveness in leading change, power of persuasion, and expertise in building and leading teams.

### **Leadership in change**

Management has long been seen as the search and implementation of universal models that can definitively answer the organization's problems. However, in times of transition, leadership is the essential element in helping the people concerned to accept and tame the orchestrated change rather than the change itself. In fact, the notion of leadership is closely related to this phenomenon. Indeed, organizational change is related to the relationships of influence exerted between all members of an organization to modify organizational activities and practices. Thus, it is recognized that leadership plays an important role in the process of organizational change. Because change requires the definition and implementation of a new organizational system and new practices, it is therefore highly dependent on how the influence relationships work. Thus, for many change theorists, leadership is seen as a variable that affects the organizational change process.

### **Individual approach**

The presence of an emblematic, charismatic leader who symbolizes the desire for change by disseminating a new vision of things within the organization is necessary. In classical leadership approaches, two main sources of influence are considered: personal influence based on charisma and power-based influence related to hierarchical position is considered in transactional or situational approaches.

The change is implemented by everyone. The process can therefore start at the level of employees when they detect a problem, try to solve it, find a solution, trigger changes that, subsequently, find an interest in management and are thus supported to be „initiated". This is what Mintzberg calls the "middle out" phenomenon, not everything is "top down" or "bottom up". The new leadership will not come from an elite "taking over" but will emerge from the capacity that resides in each person. It will be leadership that does not claim to have all the answers, but leadership that seeks to empower others. The collective approach to leadership therefore seems very complementary to the individual approach, focusing not only on the leader as the sole source of influence, but also on the involvement and influence of all members of an organization to build change.

By focusing on leadership from the point of view of social processes of influence, the collective approach focuses more on the context in which these collective processes are structured. It is a realistic approach that takes into account all the complexities of leadership in change.

## **3. Research methodology**

The accuracy of the methodological choice depends primarily on the subject of the research and its objective: testing and improving what is known or exploring and discovering what is not yet known. The approach adopted to carry out the work is, therefore, of a synthetic type, because it allows the analysis of leadership in the context of organizational change as a complex phenomenon and the examination of all the relationships between the variables that characterize it and that interact with each other.

*Choice of Assumptions* Any change ends up affecting workers in their deep motivations. However, how can we expect to achieve a goal if we do not know what that goal and the means put in place to achieve it bring to life for the workers in question? This task is the prerogative of the leader, given the many failures of change management through simple management.

*Hypothesis 1* Our first hypothesis mainly concerns the effects of leadership on the attitude of change recipients in relation to resistance to uncertainty. It is formulated as follows: "Recourse to the intrinsic qualities of the leader facilitates the adherence of the actors in the imposed and/or desired change". It is indeed recognized that to succeed in organizational change requires the buy-in and change of habits and behaviors of a critical mass of employees. Encouraging agents' buy-in to the change process requires giving meaning to the change. It is to create an opening in the minds of the recipients of the change so that they receive it in a subjective state of receptivity.

Membership also reflects the leader's actions on reducing resistance to change with a more or less high level of stress and, in many cases, acceptance of change by a large majority. We can also note a more favorable sign of adherence, which is engagement, i.e. high morale and commitment to change. Last but not least, leader accessibility is one of the key explanatory variables for change in staff acceptance

*Hypothesis 2* The second hypothesis refers to the effects of leadership on the behavior of the entire organization regarding the multiple changes that are part of the life of a group. It is expressed as follows: "Leadership contributes to the creation of a culture of change within the organization." Indeed, the challenge of organizational transformation is the formation of a smart organization, a group of people who continuously increase their ability to create the desired results. To create a culture of change among all staff, leaders must first create constructive exchanges between the actors involved in the change. This second variable can be explained by the positive attitude towards failures, the desire to learn new things. Leadership can also create a culture of change through reward or recognition mechanisms for employee contributions. Corporate culture and value integration will be strengthened. Finally, it can influence the effectiveness of teamwork through the gift of persuasion and accountability that lead to collective intelligence.

Several methods were adopted to collect the information necessary to carry out this work.

*Field studies* The case study is based on both qualitative and quantitative methods, as it is able to highlight the elements of context influencing how leadership is developed, exercised and evolved during the change process. Field trips are also part of the primary data sources.

*Documentary research* Written documentation is our external and secondary data sources, i.e. data outside the companies studied and collected by other people but which we were able to obtain according to the needs of the topic under study. This type of collection method is the main source of data. It mobilizes the fewest possible resources and is therefore the least expensive of all. Before engaging in other more expensive and specific types of research, we first consulted theoretical courses on leadership, the weight of change in companies, and their connections. We then supported this theoretical research by searching for books and articles focused on the importance of leadership in the context of organizational change or on data analysis and processing methods. Apart from that, we have also done online documentation, i.e. consulting the documents published in the network of networks. It should be noted that through this method, we were able to find several types of interesting works with academic value and/or bearing ISBN or ISSN codings but also other anonymous or uncoded writings that were of great help to us in our research work.

Other sources of data In terms of other sources of documentation, we have taken advantage of the opportunities offered today by New Information and Communication Technologies or ICTs to be able to transmit and collect data. Indeed, we were able to obtain audio-visual recordings of conferences, seminars and interviews focused on the impact of leadership on the organizational change process.

Aspects of globalization can be seen at the product level, sales level on market, competitive level, as well as at the level of consequences which globalization will have on environment." (Radu, 2011, p.1120).

#### **4. Findings**

An organization is not a scientific, orderly, regulated and coherent universe. Everyone's values, doubts and experience constitute so many conflicting logics that must be considered. In a context of change, these variables play an important role for the development and the very future of the entity. We aimed to highlight the essential elements of leadership that contribute to a better understanding of organizational change.

Successful change is inseparable from organizational performance. Therefore, all the resources of the organization are put into play, but managing the people at the center of change remains a heavy responsibility that must be left to leaders. So, to become a change leader, the key is to know yourself, to be aware of your strengths and weaknesses, to sharpen your emotional intelligence and to understand others. Leadership development is a process of self-development. Managers will thus learn that the starting point for others' change actions is self-change. Therefore, leaders will have to learn to cultivate more human than contractual relationships. Human relations is probably the most important problem to solve, especially in business. An organization's success is 15% technical skills and 85% human skills, personality and leadership. Having the ability to train others with you, to make them want to go further, will be a plus for leaders, which will make a difference in their many potentially sustainable activities.

Nothing is so contagious as example, points out Albert Einstein. Leaders must be able to reflect an honest view of the team's culture and ways of operating. Leading by example in their actions will gain the trust of employees. Shouting values you don't apply creates resistance and doesn't mobilize. How to manage change can generate more emotional discomfort than the events themselves. Change is welcomed when recipients trust and respect the person or group proposing the change. In this context where the human being is the pivot of the evolution of organizations, leadership and trust are two vectors that enable the success of a transformation. Leaders thus have an obligation to embody the change with behavior consistent with what they espouse, the deep values they want to be positively anchored in the recipients of the change. For the type of change made, i.e. constructed change, leaders should apply the collaborative/participative style.

The success of a change is based on a participatory approach. The more people are concretely involved in the project, the better the results. This mode of operation is in theory undoubtedly the one that allows the emancipation, development, evaluation of the person. Collaboration aims to explain and communicate change while involving actors in its implementation. The most persuasive way of communicating to stimulate the change effort is undoubtedly that of behaviors like those I have advanced in the example. This does not prevent the use of all the more obvious channels that show that the organization is on the move and that everything is moving towards new behaviors and new attitudes. The communication and involvement of headquarters staff will therefore consist of ensuring that the change is integrated into the daily practices of the actors and thus ensuring that they internalize it.

*Appreciation and recognition* Signs of recognition from leaders are indeed decisive for a better understanding of the introduced change.

*Development of supportive leadership* Socio-constructivist supportive leadership aims at sharing responsibilities with supported people and establishing a rigorous and consistent approach. It applies differently than one who has an ascendant over other individual followers. Companionship focuses more on the amount and quality of interactions between individuals in a group. The individual power of the leader and the collective power of the whole team will therefore serve as a vector of change. The team already has the advantage of teamwork and solidarity; what it needs is more creativity and autonomy. Rather than imposing a vision of change, the leader will instead seek to develop a shared understanding and vision of change with and for the recipients, so as to better support them in the process, renewing their practices or developing professional skills.

*Sharing emotions and a sense of humor* Humor is a characteristic often associated with leadership and is even considered one of the strong components of the manager-subordinate relationship. Good leaders are indeed often described as having a good sense of humor.

Leaders need to encourage their team members to realize how they can benefit from good practices, experiences and successes and start sharing them with their colleagues and colleagues in other organizations. This will improve the work performance of individuals and thus fuel the culture of the organization. Encouraging interaction enables the learning phenomenon that paves the way for the construction of new knowledge and can move people forward in their change process. Indeed, quality leadership is imperative to developing a school whose primary goal is to focus on the learning and success of each student while anticipating the changes necessary in an evolving society that is changing at breakneck speed. Stimulating interactions, recognizing efforts and highlighting employees' strengths and potential are also sources of performance and especially learning through the leader's actions.

Having long-term relationships with customers means understanding and influencing their behavior through effective communications to increase acquisitions, retention, loyalty, and profit." (Radu, 2020, p.395).

## 5. Conclusions

Change is life. They are everywhere and happen all the time. It is impossible to avoid it or rush it without hitting certain obstacles. As in nature, change can be brutal and have surprising consequences that may even call into question its very *raison d'être*. This conscious effort to "destroy" is necessary to ensure the survival of a project or organization, as the case may be. The theories that we presented at the very beginning of this paper facilitated our understanding of the notion of change in an organizational context. There are actually different areas in the company that can be subject to change. However, whether it is a technical change, a transformation of working methods or a transfer of teams to another site, the project promoters will touch the most important resources of the company, the people. Human nature is complex and cannot be analyzed in a linear or conceptual way. There is no set formula when it comes to the human factor.

People are in a comfort zone that they are used to and anticipate the difficulties that will arise when they are told to change. They may then resist change so that the process of the desired transformation is slowed down or blocked by those who must be mobilized to achieve it.

Through this research we wanted to know the relationship that management has with the organizational change that is now an integral part of the life of any company. Thus, we asked ourselves the question "To what extent does leadership influence the process of organizational change?" Our objective was to understand the mechanisms of change that result from this at the level of the human factor by approaching the nature and characteristics of daily proximity management, from the point of view of those we consider to be its supreme: referees, direct subordinates, leaders. Indeed, employees are mainly the recipients of change and who cannot simply be 'managed' by mere speeches or technical training in a context of uncertainty. It is leadership that embodies humanity. It promotes human values (Motivation, Communication) and is concerned with the human-specific psychological effects of change. And this attitude is essential, it is more what can make the organization succeed. The development of human capital means the development of efficient organizations.

## 6. Acknowledgement

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## Quality Management in Pre-University Education

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### Abstract

*The notion of quality management is an important link of the education which acquires a lot of relevance with the passage of time. In this article, the significance of quality management in pre-university education is valued; the concept of total quality management (TQM); the principles of the management system according to the ISO 9001 standard designed for the educational system; the techniques and tools used in quality management in education.*

**Key words:** quality management, pre-university education, total quality management, principles of the quality management system

**J.E.L. classification:** D01, M54, M40, M41

### 1. Introduction

Quality must be conceived as the standardized measure of perfection that the beneficiaries establish for certain educational services. Students, parents, employers are the ones who decide how a quality educational program should be, and the school unit must offer that program as it was defined by the beneficiaries. So, quality is ensured by the school, but it is defined by the beneficiaries. In order to ensure quality, respectively the trust of the beneficiaries, the quality principles must be explicitly formulated, because they guide the concrete management of quality, both in terms of compliance with standards and in relation to meeting and exceeding the limits of the beneficiaries' expectations. These principles are formulated starting from the fundamental values, assumed at the level of the school system and which, implicitly, must be part of the organizational culture of each school institution. A condition for ensuring to all the direct beneficiaries of education the skills necessary for social and personal development is quality.

### 2. Theoretical background

Management refers to all the organization, leading and management activities of the institutions. In order to provide quality studies and ensure the effective training of students, educational institutions need to implement a quality management system that would provide the assessment and the monitoring of quality to remove the shortcomings and promote the continuous improvement of studies. In this vein, the institutions in the educational sector turned to quality management systems validated in the business field, which were later adapted for the educational context.

Total quality management (TQM) is a very well-known management procedure in the educational sector, based on the idea that the performance that aims at a high level of quality can be achieved to the extent that the entire organization is involved in this effort of continuous improvement. The main objective of quality management is to increase both efficiency and effectiveness for customer satisfaction.

The concept of total quality management (TQM) was proposed by Edwards Deming in 1940, being applied in the year 1985, when the Americans managed to take over certain working principles from the Japanese, among which we mention:

- focusing on continuous improvement processes (Kaizen);
- analyzing and excluding inappropriate elements in production systems (Atarimae H.);
- the thorough research of the possibility of using the products by consumers, in order to be able



- to improve something (Kansei);
  - the development of managerial interest beyond the product (Miryokuteki H.)
- The support of Quality Management is based on periodic improvement within the organization too, elements that lead to the notion of feed-back.

### 3. Research methodology

In this research, it is emphasized the potential to make theoretical and practical contributions regarding the total quality management in the Romanian pre-university educational system using literature analysis as a researching method. The research values the significance of quality management in pre-university education is valued, the concept of total quality management (TQM), the principles of the management system according to the ISO 9001 standard designed for the educational system, the techniques and tools used in quality management in education.

### 4. Findings

The quality of a pre-university educational institution implies a set of its attributes and characteristics, in the constitution of which are included all the available resources and the environmental factors that give it the possibility of satisfying certain requirements of the direct and indirect beneficiaries of education, according to the quality standards.

It is the manager of an institution the one who must make an important and creative contribution to adopting the best techniques and useful means to make the instructional-educational activity more efficient.

Therefore, the educational quality management exposes the strategic vision of the educational institution, the organizational culture, the material and human resources, the teaching- learning-evaluation processes, the counselling services, the processes for improving the current activity. (Toca & Spuză, 2010, p.34)

The educational act is obviously focused on decisions and not on individuals, the quality being in the hands of the provider of the educational services and of the beneficiary.

Likewise, they must be delimited:

- benchmarks, rules and quality providers, for the various components of the learning and counseling approach;
- methods for quality control, which emphasize the quality of education;
- methods used to solve problem situations, which affect the educational quality.

The image that follows the quality of the school is valued by the extent to which the staff and the financial resources correspond to the requirements, through the application of the curriculum, of the teaching-learning-evaluation methods.

Quality implies the establishment of norms and criteria that the institution, in the development process, must reach and exceed. The principles of quality management in preschool, primary and general secondary education are represented by:

- focusing on meeting the requirements and expectations of students, parents and other interested parties;
- the attitude of the director of the institution towards the frequent improvement of the educational processes and results;
- staff involvement and awareness;
- establishing some relevant quality indicators and initiating their internal evaluation mechanisms;
- documenting the system aiming to provide objective evidence that produces confidence.

The quality of the educational process within an educational institution is provided by the quality of the processes and products, respectively by the quality of the institution's organizational system and the quality of the services offered to students.

Education quality assurance activities include: quality planning, quality assessment, quality assurance, quality improvement.

The ISO 9001 standard presents the general requirements for the development, implementation and improvement of quality management systems in order to satisfy customers' requirements. The ISO 9001 standard can be put into practice by any organization that wants to improve its operation, regardless of size or implementation field, being the most common management standard worldwide. The implementation of such a quality management mechanism aims at:

- the decision taken and the organization of the top management;
- the uninterrupted and assumed training of the entire staff, in decision-making;
- the contribution of some qualified persons in this field of quality;
- balance at the organizational and managerial level of the organization.

Punctual compliance with these principles in the quality management in pre-university education leads to the fulfilment of all consumers' needs (Prunău, 2021, p 88-89):

- *Consumer orientation.* Researching the demands and needs of consumers, represented by all the beneficiaries, follows the condition of achieving and ensuring quality.
- *The position of leader.* The purpose and the objectives of the educational institution can only be achieved with the help of the staff, who must fulfill their commitments.
- *The involvement.* The duties assigned to the institution must mainly be assigned, depending on the competence and capacity, as correctly as possible, among all the collaborators in the organization, in order to achieve the expected results: recruiting the beneficiaries of the educational services, meeting their requirements, obtaining the benefits of accreditation, recognition and so on.
- *The procedural approach.* Most of the activities in education are associated with other activities, making up a unitary process, with interconnections, focused on achieving the proposed objectives.
- *The systemic approach to management.* The manager of an institution supervises all the institutional activity, which focuses on human resources: the staff must focus on the qualification and the performing activity, and the students on the motivation for learning and obtaining the performances.
- *Continuous improvement.* Any individual who is part of the educational process (manager, teaching staff, auxiliary teaching staff, etc.) needs to be concerned with improving the quality of the work performed, by optimizing, streamlining the activity, implementing ICT, aiming at the quality of the training or forming of the students and at the perception of parents, society in general, following the quality of the approach and the permanent institutional development/modernization.
- *Making decisions based on facts.* The decision-making act represents a strong point in the institutional policies of quality assurance or control. The decisions will be final based on timely information and the analyzes regarding the situation and prospects of the educational unit, in full agreement with the evolution of the external environment of the institution.
- *Collaboration.* This supposes the creation of collaboration links between those who provide the basic material (parents, institutions and the environment) and those who receive the final production (educational institutions, society and employers). The basic material category includes the course of training, the manuals, the equipment, the resources, which constitute the entry into the system and which are adapted along the way, according to the predetermined objectives to ensure a level, at maximum odds, of the quality of the final product - the graduate.
- *Minimizing losses related to non-quality.* The educational process that covers all the teaching-learning activities, but also the activities outside the system, must be designed in such a way as to reduce possible losses of human and even material resources. All these things require managerial anticipation of the educational unit's activity, centered on ensuring quality in education.

The strategies and processes that prioritize the effective implementation of the principles mentioned above ensure the density and quality of all aspects of the educational offer. It was emphasized, in this way, the usefulness of the existence of some procedures that emerge from the management's functioning process: of reviewing the act of teaching, of training and learning, respectively of improving the students' results.

The manager is the person who ensures that these effective procedures have been applied, in order to respond to the complaints and appeals, being necessary the development of some recommendations of improvement which ensure that they are being dealt with.

## 5. Conclusions

It is noted that the educational area, in order to be able to put into operation an institutional quality management system, has used and combined certain verified strategies, such as the total quality management, quality management principles, according to the ISO 9001 standard.

Therefore, it can be stated that in each educational unit - the director, the group responsible for quality and its members, the teaching staff, the auxiliary teaching staff and the administrative staff are the ones responsible for implementing and ensuring the quality of the services offered that they guarantee to the beneficiaries of education. Quality management incorporates both assessment, quality assurance, and the means by which the educational performance is maintained, developed and improved. The strategic management needs to be operative, to be a management of change without the disruption of activities, to ensure consistency and stability for the educational process.

## 6. Acknowledgement

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## The Role of Talented Employees in Public Projects

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### Abstract

*This material aims to bring to the fore, through an empirical approach, corroborating the literature with the authors' view, the main features of key people in public projects, problems in organization planning, team arrangements, on the one hand, but also the directions of use of this information both, against the background of conditions for improving the performance of team management in public projects. This study combines significant elements of economic epistemology: performance management, project team management, organisation planning, role, responsibility, in order to grow the level of public administration capabilities.*

*Public administration reflects the institutional foundations of how countries are governed. Public administration responds to the needs of society and operates on the basis of organizational structures, processes, roles, relationships, policies and programs.*

**Key words:** administrative capacity, performance management, EMP, key people, public project,  
**J.E.L. classification:** H11, H43, H83, O22

### 1. Introduction

In today's managerial contexts, the development of a community often requires the completion of various local development projects. Project management continues to grow and to be implemented more and more in this corporate world (Lennon C., 2021), becoming a change agent. Many factors influence the performance of project management implementation, as new technologies, global environment changes (economic, political- energy crises, the wars, competition) or the implication and talent of human resources (Vannie, Rahul, 2021). However, their success is largely based on the human resources involved in the organization that manages such projects (Dinsmore, 1990). Through their inimitable knowledge and skills, engaged human resources provide sustainable competitive advantage to organizations (Guibbert, Veshi, 2004). But it is still necessary to know how to channel all these talents to the execution of projects, which is a delicate work. Indeed, public project management requires a unique management of human resources, which certainly raises many difficulties (Fabi, Pettersen, 1992).

### 2. Literature Review

The project context is different from other contexts in that it involves a particular organizational structure and that project human resources are subject to the triple constraints of cost-time-goal. It follows that human resource management in this context does not follow the traditional model used in other modes of operations management. Indeed, projects usually rely on a skilled workforce overseen by a body of managers who must coordinate various professionals, suppliers and other organizations whose sporadic involvement will change throughout the project. The fragmentation and dynamism of this process, as well as the need to integrate a wide range of professional cultures, make the application of good HRM practices more complex (Fabi, 1992). Turner determines seven

specific characteristics of project organizations (organizations that operate in project mode) with a direct impact on human resources (Turner, 2003)

The first characteristic refers to the temporary nature of the projects. This reality leads to a change in the human resources configuration of the parent organization every time a project starts or ends, which creates a need for HRM practices adapted to this context and different from those of traditional organizations.

The second characteristic refers to the dynamic nature of the projects. Indeed, the number and size of projects managed by an organization can be subject to continuous change. This makes it difficult to predict future human resource requirements and can create situations where project staff will be exposed to excessive levels of stress and/or be required to work long hours.

The third characteristic concerns the uncertainty of the requirements of a position or job. Since projects are unique and transient, it is almost impossible to accurately determine the requirements of a given job. To this end, Turner et al. (2008) explain that: "You don't define the job and then find the right person; find a competent person and let them define the job".

The fourth characteristic relates to the management "paradigm" specific to project organizations. Indeed, these organizations have a specific management culture that manifests itself in employee empowerment and teamwork, continuous organizational change, customer satisfaction, and networking with customers and suppliers. This specific management culture requires human resources to have specific skills and abilities to be able to successfully integrate into this process.

The fifth characteristic relates to the diversity of the organization's project portfolio. This means that an employee can simultaneously work on different projects and play different roles. This can give rise to role conflicts in certain circumstances.

The sixth characteristic relates to employee well-being. The temporary nature of projects, as well as the dynamic nature of their work environment, can put pressure on employees to increase their workload, cause work-family balance issues, and even cause problems. mental health at work (burns, stress, etc.).

Finally, the seventh characteristic reported by these authors relates to the need to retain and develop staff for future projects and the need to match project staff tasks with career development. This is important because project staff members may leave the organization if they feel that their project assignments do not provide the development opportunities they aspire to.

### **3. Research Methodology**

The research is based on the organizational paradigm of social systems theory (Luhmann 1995) and the epistemological paradigm of radical constructivism (von Glasersfeld 2005) which are combined with a qualitative research approach (Cresswell 1994, Yin 2003). In this research project, the following research methods are applied: Literature review, qualitative interviews with project managers, change managers, heads of project management offices and change management offices, case studies and focus group workshops with experts from academia and practice to ensure the viability of research results.

### **4. Findings**

#### **4.1. Key people of organisation and project management**

Sustainability of projects is very important in terms of human resources, financial, technological, informational or material (Chawla, Chanda, Angra, Chawla, 2021). Pressure of time, change, and challenges influences employees and efficiency of work (Van den Brink, 2013; Silvius, Kampinga, Paniagua, Mooi, 2012). Projects, must be faisable, according to efficient targets, policies and specific procedures (Silvius, Schipper, 2014), ethics rules (Martinsuo, Killen, 2014), use of nature-friendly materials (Eriksson, Olander, Szentes, Widén, 2014), based on specific key performance indicators and quantifiers for the project life-cycle (Zhong, Wu, 2015), including the support of local and government authorities (Yunus, Yang, 2014), and especially referring to human capital and managers training in order to obtain sustainability of projects

(Martens, Carvalho, 2017) and to have the right skills and knowledge in order to obtain competitive advantage (Florea, 2014). In some of the project-specific organizational structures, hundreds or even thousands of people may work, and it is clear that it is not possible to describe all these job roles in a few paragraphs. For example, the project organization and its manager will often depend on the functions of other managers in other departments, such as engineering, sales, purchasing, accounting, and human resource management. Although it may seem trivial, building a project management team can be a challenging activity. Before addressing the question of structure and organizational chart for a project team and a project management team, it is useful to emphasize a few important points.

First, the project for which a project management team (PMT) is needed must be known. The size and complexity of the project dictates the size and structure of the team. Then it is especially important to know the Life Cycle chosen for the project. From **predictive approaches** (often used in construction) to adaptive approaches there are a multitude of situations, most often there are hybrid approaches for the project. Here it should be noted that the people who will form the Project Manager Team will have to have knowledge, skills and abilities regarding the management of a project that has a certain life cycle, because the groups of processes are different and the approach is specific. Predictive life cycles require a certain set of knowledge and skills, while working in an agile environment (Agile approach) requires completely different knowledge.

After establishing the Life Cycle of the project, another important element is the methodology used. It is worth noting that the actors in the EMP must be familiar with the project management methodology to be used and this can be closely related to the way in which the organization that manages the project has implemented and uses a certain PM methodology, here putting in discussion Organizational Project Management. Now, at this stage the structure of the project management team - EMP can be discussed. The formation of the team must first begin with the establishment of ROLES for each position in the EMP, then defining the chain of command and execution that will be followed, the structuring of the team resulting in an organizational chart of the EMP. ROLE represents the team member's position or function, which could be described as the "part to play" to support the project's requirements. To the main role, that of Project Manager (PM), other roles must be added that can take over:

- I. Programming and management of the project schedule (Project Scheduler),
- II. Cost Management (Cost Engineer)
- III. Quality Management (Quality Assurance - QA and Quality Control - QC)
- IV. Resource Management (material, human, ...etc.)
- V. Communications Management
- VI. Risk Management
- VII. Procurement Management
- VIII. Change Management
- IX. Project document management

For each ROLE the RESPONSIBILITIES must then be identified. They define the work and activities that project team members must perform. Responsibilities help us identify the competencies of future EMP members. Then we will be able to select, evaluate and test them, identifying the skills and competencies necessary to carry out the responsibilities. Defining relationships within the team can be another challenge and without a professional approach it is very difficult to achieve and therefore requires a specialist.

#### **4.2. Organizational planning and project team roles**

Organizational planning is the process by which roles, responsibilities and reporting hierarchies are identified, documented and assigned within a project. Roles, responsibilities and reporting relationships can be assigned to individuals or a group of individuals.

Starting from the personnel requirements - competencies required in the project - constraints related to the project team and existing reporting relationships in the company (formal or informal), the process delivers an allocation of roles (who does what) and responsibilities (who decides what) in the project.

A general part of these roles could include the following:

**a. The role of the project financial:**

- formally accepts the product of the project;
- can impose milestones in the project and create deliverables of the project;
- is not necessarily the one who signs/approves the project for financing,
- provides the necessary financial resources for the project.

**b. The role of the executive manager:**

- determines the priorities in the context of the triple constraint;
- prioritize projects;
- protects the project from external influences;
- identify risks;
- approve the project plan.

**c. The role of the project team:**

- participates in making certain decisions related to the project;
- creates the activity allocation structure (WBS);
- contributes to making estimates in planning processes;
- identifies assumptions, constraints and risks that may affect the project;
- performs the assigned activities;
- participates in project team meetings.

**d. Role of stakeholders (other than those listed above):**

- participate in the evaluation of their knowledge and skills that may be necessary or useful in the project;
- receive information related to the project;
- they are informed about the changes that appear in the project;
- helps to create the project book;
- are involved in:
  - o development of the project plan;
  - o the change control system;
  - o the process of verifying the content of the project;
  - o risk management.

**e. The role of functional managers:**

- negotiation of resources with the project manager;
- allocation of certain human resources;
- are involved in making decisions to continue/stop the project;
- optimal use of resources;
- approval of the project plan;
- support in issues related to the performance of project team members.

**f. The role of the project manager:**

Since the project manager has the ultimate responsibility in the success or failure of the project, let's define some of his roles in more detail:

- Setting up the objectives: establishing or appropriating the objectives and the general directions of action, their interpretation, the reaction to their modification; clarification of problems and delimitation of problem areas;
- Obtaining resources: identifying resources, negotiating to obtain them, keeping and managing them for efficient use;
- Configuring roles and structures: clarifying and modifying own roles and those of the other members of the project team;
- Establishing good communications: creating links between the various stakeholders who contribute to the development of the project, so that they can show their support and involvement;
- Viewing the overall picture: adopting the "helicopter perspective/picture", managing time and other resources, anticipating the reactions of people interested in the project, detecting connections and unforeseen events;
- Propelling the project: carrying out actions and assuming the necessary risks for the good progress of the project, especially in its difficult phases;
- The project manager must have the authority to say "NO".

## 5. Conclusions

The trend in recent years has been encouraging, and project management is now widely recognized as a profession deserving of reasonable status and rewards, with its own professional associations and much less job title confusion.

The organizational structures described so far demonstrate that the levels of responsibility and authority given to project managers vary considerably from one organization to another. In some cases, the project manager will have full authority over everyone responsible for achieving the project's objectives.

A complete task force or team can be created for each project as a self-contained unit, with the project manager placed at its head. The project manager is given direct authority over the team and is responsible not only for planning, progress and work allocation, but also for all technical aspects of the project.

## 6. Recommendations

For institutions-type organizations in the local public administration, unless the organization is too small to bear the additional expenses, it is also advisable to support the project management function by establishing a central group of project management services or an office of Project Assistance (PSO). This group consists of people, not too many, who are able to undertake their day-to-day tasks, which may include the following functions:

- project registration
- planning
- resource scheduling
- cost estimation
- cost reporting and cost control
- the problem of work lists
- progress reporting
- change of coordination
- earned value management
- supervision of the company's project management IT systems
- program and portfolio management.

A project help desk focuses a company's expertise in project management techniques, just as any other functional group can enhance a particular professional discipline. Centralization helps standardize project management procedures across all projects in a company. A project support group can be the logical place in the organization to coordinate all parts of the project cycle, from authorization to closeout. It can perform procedures such as cost estimation, project registration, risk registration, planning, resource planning and change control.

Another recommendation is to use communication methods such as brainstorming which is an effective technique to consider many aspects of risks. A brainstorming meeting of key personnel is a particularly productive method for identifying all possible risks along with many unlikely ones. A lot depends on how the brainstorming session goes. The leader or chairman should encourage an atmosphere of "anything goes" so that participants feel free to propose even the most outlandish risks without fear of ridicule. All suggestions, without exception, must be recorded for further evaluation and analysis.

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## Increasing organizational performance through non-financial motivation of the employees

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### Abstract

*Over the last decades, the emphasis on human resources has grown considerably, companies understanding that human resources represent the main capital at their disposal and that they must capitalize on as much as possible to increase organizational performance. The present article analyzes the way in which human resources can be motivated by non-financial means so that the involvement of employees is constant, continuously increasing, thus ensuring benefits from the perspective of the results obtained, these, in turn, contributing to the increase of organizational performance.*

**Key words:** motivation, job satisfaction, organizational performance, non-financial rewards

**J.E.L. classification:** M50, J28

### 1. Introduction

The goal of every organization, regardless of the field in which it operates, is to be competitive, to have success, profit and to have a constant evolution. The challenge that organizations must manage in the contemporary era, regardless of their size, market share or field of activity, is to retain employees, and for this an intense and positive connection between employees and employers must be generated and maintained.

The most valuable resource of every organization is the human resource, so employees must always be motivated and determined to perform their tasks at high standards, in conditions of effectiveness and efficiency. Of course, the tasks of the employees are closely correlated with the competitive environment in which the company operates, so that strategies are defined to respond to the market challenge and to increase organizational performance. As long as the employees of the organization feel motivated and are comfortable working in the respective company, the fulfillment of the tasks and the achievement of the objectives are easily achieved, thus registering success.

Consequently, one of the most compelling challenges facing organizations today is how to ensure that employees are highly motivated (Kumar, Dhanonjoy, 2015). And this involves two aspects: financial motivation and non-financial motivation. The present article will analyze the non-financial motivation approach and will synthesize the ways employers should see this part of motivation process.

### 2. Literature review

The motivation term has its roots in the Latin word "movere", which means movement. In general, motivation is defined as a set of desires or considerations that generate the necessary energy for a person to fulfill certain goals or objectives. The reasons underlying such behaviors are

closely related to the inner needs of an individual and must be channeled in the direction of satisfying those needs.

At the workplace, employee motivation refers to the degree of involvement, satisfaction, autonomy, enthusiasm and comfort they feel within the company. For example, if an employee is motivated by a certain factor, it is more likely that he will put more energy into fulfilling a certain objective and contribute in this way for increasing company productivity and organizational performance. At the same time, he will feel greater satisfaction when he reaches that goal.

On the other hand, there are situations where obtaining an undesirable result can cause more disappointment to the employee. However, some employees may be more motivated to get over this event and learn from it. Such evidence of resilience and adaptability must be recognized and actively supported by the management staff of the organization.

Motivation is an internal feeling, which means that it cannot be imposed on employees. Therefore, entrepreneurs must know the needs of each individual employee, and know when and in what way they can help him perform as well as possible within the company. In these cases, non-financial motivation represent an easy way to increase confidence, highlight merit recognition and empower employees for their great work.

Dessler (2008) defines motivation as the force that energizes, directs, and sustains behaviour employee motivation. Motivation represents the employee's attitude towards performing the activities assigned to him and the impulse to perform them to high standards and with results that meet the employer's requirements. This personal motivation is influenced by various factors specific to each individual, of a biological, intellectual, social and emotional nature. Considering the factors that can influence the motivation of each individual, the lack of motivation becomes difficult to outline, being rather a complex process, an intrinsic force that can also be influenced by external factors. Each person is unique, therefore each employee experiences activities, events, interacts with different people and objects in life that they consider motivating, which is why we can say that the motivation for obtaining certain results exists in the consciousness and in the actions that each person performs. Employee motivation is pegged on the motivation theory that is concerned with what determines goal directed behaviour and how behaviour is initiated by needs and expectations on achievement of goals which will satisfy the need. Pfeiffer (2009) views the process of motivation as being initiated by someone recognizing an unsatisfied need, a goal is then established which, it is thought will satisfy the need, and a course of action is taken to reach the goal and satisfy the need (Buwembo Mohammed et. al, 2020).

The effect of non-monetary rewards on employees' job motivation has empirically been proven, therefore some researchers posit that praise and recognition are effective ways of motivating employee behaviour in the organization as they are considered the most important rewards. Aktar, Sachu, and Ali (2012) contend that non-monetary rewards which are represented by recognition, learning opportunities, challenging work and career advancement, have been found to be an effective tool in motivating workers and consequently increase their performance. This reward is highly appreciated probably due the opportunity it offers in terms of skill development of the workers which in the long run could be translated to higher monetary reward (Buwembo Mohammed et. al, 2020). Additionally, non-cash incentives like recognition can not only be cost effective, but also can contribute a lot to raising morale, increasing productivity, improving quality, safety standards and customer service (Wiscombe Janet, 2002).

The interaction that the employer establishes with his employees is an important factor in the motivational process. The methods that employers can apply to motivate employees can be grouped into the following categories: (without limiting only to those) (Neagu Cibela, 2014):

**Effective communication:** effective communication and the way in which the manager interacts with employees can have a major effect on their motivation, so that active listening, the manifestation of a high interest on the part of the manager regarding the opinion of employees, as well as providing clear feedback, at the right time, in a constructive way.

**Giving feedback:** giving positive feedback in public and negative feedback in private, so as to encourage positive behaviors, but also to correct the less appropriate ones.

**Enrichment of the job:** the manager's offering of some recommendations, support for professional development, accumulation of new skills / knowledge, can represent a way of motivating employees.

**Individual objectives:** defining individual objectives together with the employee, periodically monitoring the degree of their achievement, as well as evaluating the performance of employees is a way to motivate employees to perform their tasks effectively.

**Circles of trust:** Inclusion of employees in committees that are involved in defining decisions to solve problems or defining response strategies in the context of the competitive environment.

**Clear tasks:** defining clear tasks, fixed, well-detailed objectives, setting realistic expectations and providing answers whenever they are requested motivates employees and mobilizes them to achieve results.

**Brainstorming:** the involvement of employees in sessions that lead to the definition of ideas to solve some problems can increase the confidence they have in what they do, thus feeling motivated to get involved more and more.

**Delegation:** giving employees a responsibility for carrying out a task, supervising an activity or organizing an initiative increases the trust that the manager gives to employees, they feel that they are being trusted.

For a long time, employees learning things or learning new skills to help them develop professionally were considered factors that can negatively influence employee morale and satisfaction. At the same time, the achievement of objectives significantly influences motivation and satisfaction at work. Also, managers and the supervisors support towards encouraging employee participation, mutual commitment, and understanding of the diversity issues play a significant role in motivating and enabling performance (Snyder et al, 2004). The prerogative lies with the organization management, in order to extract performance should create an alignment between the organizational and employee goals and objective. The organizational behavior represented by the organization's management affects the level of motivation and satisfaction in food because of the beliefs, principles and values that are embraced by the organization (Roos, Van Eeden, 2008). Motivated employees, willing to continuously contribute to the achievement of the organization's goals and objectives, represent the basic potential of any organization (Varma, Chandrakant, 2017).

### 3. Research methodology

In order to properly evaluate the perspective of Romanian employees related motivation and its non-financial dimension, in August 2022 has been performed an survey for 1112 employees, of which 70% held an executive position and 30% a managerial position.

### 4. Findings

The survey had the purpose to identify what are the non-financial elements that motivates employees beside financial rewards, therefore the conclusions has shown that:

- approximately 70% of employees earn more than last year
- 30% of women would change their current job if they were offered a salary 200E higher than the current one!
- 57% of employees believe that they have no chance of promotion
- 30% of employees do not learn anything new at their current job
- 57% of employees do not receive appreciation for the work they do
- 43% of the employees consider that they do not have a pleasant atmosphere in the company
- 49% of women consider that they do not have a satisfactory level of authority, in contrast to 34% of men
- 45% of employees would work more if they were delegated more authority and trust

From employer/managers point of view, 35% of them add that employees would like to extend the benefits package to family members, and 30% believe that covering household expenses would be a benefit that would bring them a white ball in the relationship with employees and candidates.

The sabbatical period, nanny or housekeeper paid by the company would be two other benefits that Romanian employers would offer if they had a considerably larger budget.

The link between organizational performance and employee's motivation should be very clear for employers. The motivation of employees must be correlated with the achievement of clear objectives, to establish the direction in which they must go. But how they are motivated depends on the strategy of each organization (company) and may include both financial incentives and emotional rewards.

In contrast to financial motivation, non-financial factors are more common and can bring out managers' creativity. This method requires more time and effort on the part of the manager, but it has lasting effects. Non-financially motivation means implementing a Reward and Recognition system. The purpose of the non-financial move is to increase the productivity of the company, to improve its quality, to have satisfied employees, which directly leads to the increase of company performance.

Non-financial motivation could include actions such as (\*\*\*, 2021):

- building a climate of valuing work well done (praise from superiors, diplomas, medals, distinctive signs in work equipment);
- the multiplication of competitive work situations based on the diversification of tasks in order to demand the full productive potential of employees;
- decrease the level of bureaucratic and remove organizational barriers;
- defining competition between employees and/or groups of employees based on the clear definition of criteria and objectives in accordance with a predetermined regulation that simultaneously leads to the enhancement of cooperation;
- flexible work schedule to support achieving balance between personal and professional life;
- adequate working conditions and also legal and safe working environment;
- the presence of a set of very clear rules, as well as clear tasks, preferably in relation to what the employee knows how to do best;
- accepting work mistakes, avoiding criticism and practicing constructive feedback;
- awarding special merits and respect for employees;
- fast decision-making system and managerial transparency;
- motivational recognition messages and gifts/small symbolic attentions from the holiday;
- the manager cares about his people as people, not only as employees;
- congratulating and encouraging the team for the activity performed;
- supporting employees when they encounter performance challenges tasks;
- face-to-face meetings/meetings with efficient employees, in which to find solutions to the problems that have arisen within the company and not to find culprits;
- information emails regarding some activities, events;
- messages of information, of thanks, celebrating employees' birthdays;
- a team that, using a low budget, will take care of the motivation employees;
- celebrating employees' birthdays and/or outings in the city for various reasons;
- interest in creating and maintaining a collegial atmosphere between employees;
- respect for and between employees;
- fair treatment of all employees by clearly assigning tasks, by setting realistic objectives, by applying incentive measures, by giving employees confidence;
- creating a transparent system of promotion, accessible to all employees;
- offering to each employee the possibility to learn new things, to achieve new abilities, to receive appreciation for results, to receive enough information in order to perform the job, to have his opinion heard and to have access to a transparent salary and reward system;
- meal vouchers, gift vouchers, various vouchers, leisure facilities (vacation/mini-vacation vouchers);
- personal development trainings and professional development trainings (team-buildings, courses, etc.);
- subscriptions to sports and wellness programs, depending on performance;
- theater tickets, art galleries, movies, concerts, sports events, programs/vouchers for fashion and

- beauty;
- subscriptions to private clinics and private health insurance;
- settlement of transport;
- discounts or freebies for the company's products and services employers.

## 5. Conclusions

Non-financial instruments represent the way in which employers can increase the motivation of employees to progress, to excel in the field in which they work and to feel appreciated for the contribution they have to the development of the business. The involvement of employees and the fulfillment of tasks to high standards are directly proportional to organizational performance, the link between them being the factor that should always be taken into account by employers in defining non-financial motivation systems.

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## Study on the Influence of the Physical Work Environment on Organizational Results in Sports Clubs

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### Abstract

*The perception of control over the work environment often occupies a significant place in workplace behavior and reactions. The paper aims to demonstrate a close direct and indirect relationship between the work environment, working conditions, and relations, on the one hand, and the health, well-being, and satisfaction of employees, which ultimately leads to increased productivity and individual and organizational high performance. The data collected through a questionnaire from the county and municipal sports club employees are processed using structural equation modeling, providing an overview of the researched variables. Management can increase job satisfaction, improve retention, and reduce organizational turnover costs by improving working conditions and relationships.*

**Key words:** physical work environment, health, well-being, organizational results

**J.E.L. classification:** O15, Z22

### 1. Introduction

Many studies suggest that workplace relationships and conditions affect performance (Noe et al., 2016). For example, some places promote social skills and support connecting with others. In addition, some environments affect employees' health and well-being through stressor factors (Denhardt et al., 2019; Berman et al., 2019). Physical conditions can affect the management of general facilities and the labor relations that occur within the organization, affective results, behavioral outcomes, and organizational results. In conclusion, the organization is responsible for most employee satisfaction issues.

The research aims to evaluate the influence of employee satisfaction, well-being, and intention to leave on the internal perception of the corporate brand. The five-section structure of the paper begins with a brief introduction of the research theme, followed by a theoretical background. The third section presents the research methodology, while the last two present the findings and conclusions.

### 2. Theoretical background

Following the review of specialized literature on the work environment, conditions, and work relations, we found a close direct and indirect relationship between the physical work environment, on the one hand, affective results, behavioral outcomes, and organizational results, on the other hand, influencing performance and productivity (Bocean, 2015; Sitnikov and Bocean, 2010; Sitnikov and Bocean, 2012; Bocean and Sitnikov, 2015; Valentine et al., 2019; Dessler, 2019; Wilkinson, 2022). There are also demands for research that places employee health, well-being, and satisfaction at the center, providing support for the theory that employee health, well-being, and satisfaction can be integrated concepts (Bocean, 2007a, 2007b). Since no studies consider parameters affecting

employee health, well-being, and satisfaction from an integrated perspective in workplace research, this gap may warrant further research.

Stress resulting from poor working conditions can harm the organization. The most frequent harmful effects on the organization are increased absenteeism, staff mobility, morale deterioration, job dissatisfaction, and lack of performance at work (Vărzaru and Bocean, 2021; Puiu et al., 2022; Vărzaru et al., 2022). Therefore, the employer must implement strategies that benefit the employees and the organization to improve the organization's effectiveness. Consequently, we propose a research hypothesis:

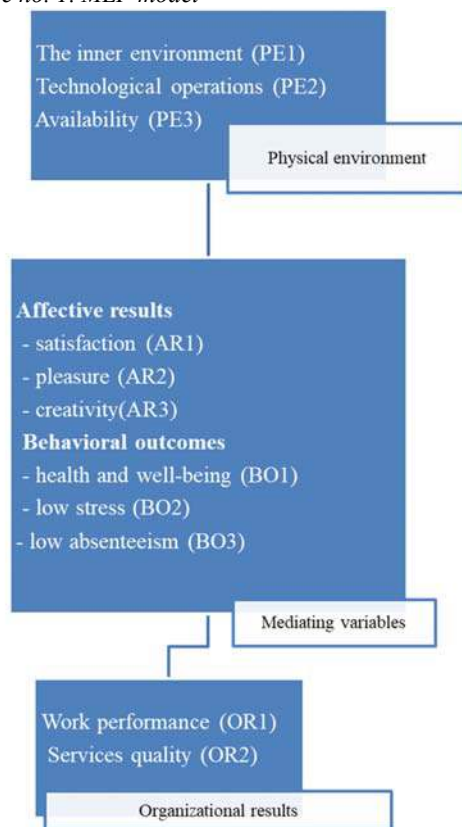
*H1. The physical work environment significantly influences organizational outcomes.*

*H2. Affective results and behavioral results outcomes.*

### 3. Research methodology

The chosen methodology consists of an empirical study carried out among municipal and county sports club employees during September and October 2022. In the specialized literature, it is considered that a better physical work environment promotes health at work and improves the. The theoretical model underlying the study is presented in figure 1.

Figure no. 1. MLP model



Source: Own construction based on LaMontagne et al., 2014 and Robbins and Coulter, 2017

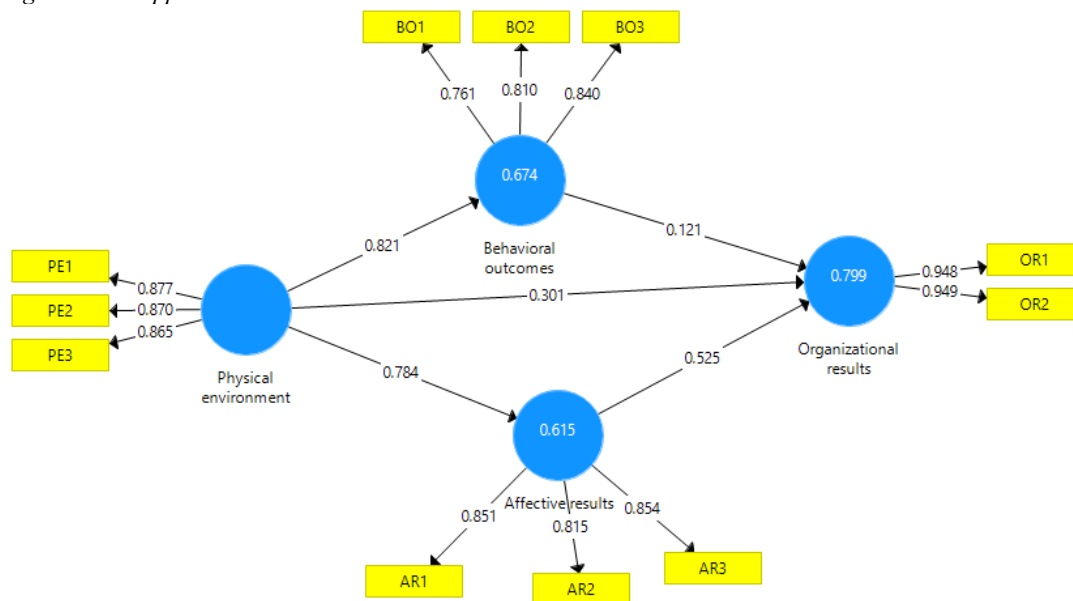
The method used to study the relationships between the physical work environment, affective outcomes, behavioral outcomes, and organizational outcomes is structural equation modeling.

### 4. Findings

Structural equation modeling was performed using partial least squares in SmartPLS V3.0 software. The model built based on the answers to the questionnaire is illustrated in figure no. 2.



Figure no. 2. Applied model



Source: Own design using SmartPLS v3.0

Figure no. 2 shows that hypothesis H1 is valid; the physical work environment significantly influences organizational results.

The reliability and validity of the applied model are illustrated in table no 2.

Table no. 2. Validity and reliability

	Cronbach's Alpha	Rho A	Composite Reliability	Average Variance Extracted (AVE)
Affective results	0.792	0.795	0.878	0.706
Behavioral outcomes	0.729	0.742	0.846	0.647
Organizational results	0.888	0.888	0.947	0.899
Physical environment	0.841	0.843	0.904	0.758

Source: Own design using SmartPLS v3.0

Table no. 3 presents path coefficients and indirect effects between model variables.

Table no. 3. Path coefficients and specific indirect effects

	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Physical environment -> Behavioral outcomes	0.821	0.822	0.017	47.220	0.000
Physical environment -> Affective results	0.784	0.785	0.019	40.441	0.000
Affective results -> Organizational results	0.525	0.525	0.052	10.186	0.000
Physical environment -> Organizational results	0.301	0.299	0.047	6.356	0.000
Behavioral outcomes -> Organizational results	0.121	0.124	0.063	1.924	0.055
Physical environment -> Affective results -> Organizational results	0.412	0.412	0.042	9.848	0.000
Physical environment -> Behavioral outcomes -> Organizational results	0.100	0.102	0.052	1.909	0.057

Source: Own design using SmartPLS v3.0

The relationships in table no. 3 show the significant direct links between the physical work environment and organizational results. The behavioral outcomes show a weak mediation effect in the relationship between the physical working environment and the organizational results among the employees of the sports clubs selected in the sample. Hypothesis H2 is partially validated.

Recent studies have supported the need to study the physical working environment on organizational results (LaMontagne et al., 2014; Robbins and Coulter, 2017) because this issue is still an unclear and underexplored area, although empirical studies are needed to explain these links.

## 5. Conclusions

The physical work environment influences employees through their level of job satisfaction. Improving the working environment by improving working conditions and relations requires attention to workload, adequate administrative support, professional relations, and organizational climate. Management can increase job satisfaction, improve retention, and reduce organizational turnover costs by improving working conditions and relationships.

Following the results of the empirical study, we demonstrated that the essential characteristics of the environment, which relate to sociocultural components, personal traits, and ways of adapting to the environment, can positively or negatively influence a person's well-being in various areas. Specific environmental stressors can generate acute and chronic illnesses, resulting in lower productivity and reduced performance.

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## The Role of Human Resources Management in the Internal Branding of Public Organizations

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### Abstract

*Efficient HR management enhance the internal branding in an organization whose end users are the public. In this research, we aim to evaluate the role of human resources management in internal branding in some public organizations. To achieve the purpose of the research, we conducted an empirical study on the employees of some insurance organizations. The collected data were processed and interpreted using a perceptron multilayer model from the analysis of artificial neural networks (ANN). The results show that employee satisfaction and well-being positively influence the perception of the organization's internal brand, generating a sense of belonging and commitment to the organization's values and goals. On the other hand, employees' intention to leave the organization negatively influences the perception of the corporate brand, diminishing the reputation and image of the organization.*

**Key words:** human resource management, internal branding, branding management, public organizations, assurance companies

**J.E.L. classification:** M31, O15

### 1. Introduction

Public marketing is not only an adaptation of the traditional tools of commercial marketing to generate a positive image of the public organization and increase the public's reputation, but it involves the development of tools specific to the public sector. Despite various types of research in the field of public marketing (Ashworth and Voogd, 1990; Hood, 1991; Walsh, 1991, 1994; Larsson, 2007; Kaplan and Haenlein, 2009; Garg 2015; Konda et al., 2015; Hansen et al., 2020; Makki and Mosly, 2020; Yang and Myrick, 2020; Tweneboah-Koduah et al., 2020; Duffett, 2020; Matos et al., 2020) there are gaps in public marketing research. One of these refers to the role that human resources management can play in improving the internal branding of the public organization

The research aims to evaluate the influence of employee satisfaction, well-being, and intention to leave on the internal perception of the corporate brand. The five-section structure of the paper begins with a brief introduction of the research theme, followed by a theoretical background. The third section presents the research methodology, while the last two present the findings and conclusions.

### 2. Theoretical background

An organization's employees interact with the users of public services, being the interface between the organization and the beneficiaries of public services. Whether or not users of public services will have a good experience depends very much on the employees. The organization can influence employees through effective human resource management that ensures employee satisfaction and well-being by aligning its external and internal branding strategy (Wilkinson, 2021). Employees will

embrace the corporate brand and deliver quality public services through fair and effective hiring practices, training, motivation, and communication. In this sense, human resource management can be seen as a facilitator for employees to identify with the corporate brand. The adoption of the corporate brand is reflected in personal values, attitudes, and behavior (Alshuaibia and Shamsudinb, 2016; Dessler, 2019).

Employee internalization of the corporate brand requires an accurate, consistent, and specific brand message to be communicated effectively throughout the organization (Miles and Mangold, 2004). Human resource management can be involved in the implementation of appropriate marketing strategies, processes, and policies (Bocean, 2015; Bocean and Sitnikov, 2015; Sitnikov and Bocean, 2010; Sitnikov and Bocean, 2012; Sitnikov and Bocean, 2015). According to Gotsi and Wilson (2001), human resources practices attract employee loyalty. Training and education also play vital in internal branding. Punjaisri and Wilson (2007) show that training participates to developing and strengthening internal branding. Communication is also essential in internal branding initiatives (Chiang et al., 2012).

Consequently, starting from the theoretical considerations, we propose a research hypothesis: *Employee satisfaction and well-being positively influence the perception of the organization's internal brand, while the employee turnover rate negatively influences it.*

### 3. Research methodology

An empirical study evaluated the influence of employee satisfaction, well-being, and intention to leave on the internal perception of the corporate brand. The empirical study involved the collection of responses to a questionnaire (table no. 1) that included the four research variables (satisfaction, employee well-being, employee intention to leave, and internal perception of the corporate brand). The study took place between September and October 2022 on a sample of 265 employees from insurance organizations. The response rate to the questionnaire was 73.8%.

To process the collected data, we used a perceptron multilayer model from the analysis of ANN, similar to other research methodologies (Nicolescu and Vărzaru, 2021). ANN analysis implies input and output layer mediated through a hidden layer.

Table no. 1. Questionnaire variables

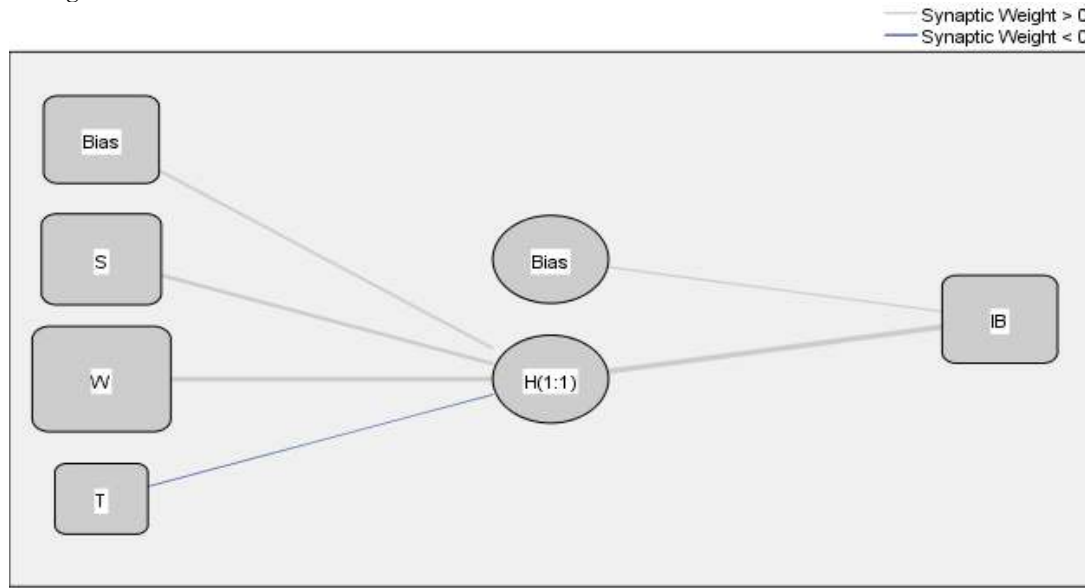
Variable	Scales
Satisfaction (S)	1 to 5 (1—very low, 5—very elevated)
Well-being (W)	1 to 5 (1—very low, 5—very elevated)
Turnover rate (T)	1 to 5 (1—very low, 5—very elevated)
Internal Brand Perception (IB)	1 to 5 (1—very low, 5—very elevated)

Source: Authors' own contribution

### 4. Findings

The relationships between variables established within the multilayer perceptron in ANN analysis are established within two layers (human resources management in the input layer and internal branding perception in the output layer (figure no. 1).

Figure no. 1. MLP model



Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Hyperbolic tangent

Source: Authors' own contribution using SPSS v.20

Table no. 2 contains the predictors of the multilayer perceptron model.

Table no. 2 MLP model predictors

Variables		Values	
		Hidden Layer 1	Output Layer
		H(1:1)	IB
Input Layer	(Bias)	0.228	
	S	0.256	
	W	0.377	
	T	-0.006	
Hidden Layer 1	(Bias)		0.038
	H(1:1)		1.272

Source: Authors' own contribution using SPSS v.20

Analyzing table no. 2 and figure no. 1, the research hypothesis proves valid. Employee satisfaction and well-being positively influence the perception of the organization's internal brand, while the employee turnover rate negatively influences it. However, the influence of the employee turnover rate is weak due to the high mobility of employees in insurance companies.

The investigation results demonstrate that a brand must be developed to create a perception of brand value for customers and other internal stakeholders, i.e., employees. For a brand to be known by the public, it must be accepted and appreciated by the employees. Insurance companies are public organizations by the nature of their activity, working directly with the public. Insurance companies create their brand mainly through employees' attitudes toward customers. Therefore, employee satisfaction and well-being are essential (Bocean, 2007a, 2007b) for external branding, which reflects external branding.

## 5. Conclusions

Internal branding is crucial in shaping employee attitudes and encouraging behaviors to promote the company brand. Because in public organizations such as insurance companies, employees are the interface between the brand and the company's customers, HR practices must be aligned and coordinated with marketing practices to support the organization's branding process. Buil et al. (2013) show that sales employees, including insurance companies, significantly impact brand experience. The experience of external customers concerning the services offered by insurance companies is influenced, in addition to financial indicators, by the quality of internal services, which is impacted by satisfaction, well-being, and retention. Our research highlights that branding strategies must be integrated into human resource management policies, and employees must identify with the organization's mission. Strategic human resources management promotes and reinforces brand behaviors through effective HR practices oriented toward internal branding.

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## The Influence of Information Technologies on Public Communication Within Sports Organizations

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### Abstract

*Information, communication, and digital technologies such as the Internet, social media channels, mobile communication devices, big data, and artificial intelligence technologies generate new challenges for public communication within organizations that have the public as users of services. Private organizations in Romania have already implemented information, communication, and digital technologies. Moreover, in the sector of public organizations in sports (municipal and county sports clubs), significant steps are being taken towards modernizing public communication based on information, communication, and digital technologies. The paper proposes an empirical study on the employees of municipal and county sports clubs concerning the impact of information, communication, and digital technologies on the public communication of these clubs. The collected data is processed using artificial neural network analysis. Following the interpretation of the data, we show that social media represent the most critical technologies that influence the public communication of municipal and county sports clubs.*

**Key words:** public communication, mobile communication, social media, Big Data, artificial intelligence, sports organizations

**J.E.L. classification:** M31, O15

### 1. Introduction

The new technological revolutions have shifted the focus from the human resources involved in communication (Bocean, C.G., 2007a; Bocean, C.G., 2007a; Bocean, 2015; Sitnikov and Bocean, 2010; Sitnikov and Bocean, 2012; Bocean and Sitnikov, 2015) to informational, communication, and digital technologies such as the Internet, social channels media, mobile communication devices, big data technologies and artificial intelligence (Sitnikov and Bocean, 2015; Balaban et al., 2016; Kannan and Li, 2017; Figueiredo et al. 2021).

In the context of the new tools and ways of communication generated by the implementation of information, communication, and digital technologies, public organizations, which are often seen as rigid and conservative in approach, must align with technological trends and respond to the needs of the public they address (Kannan and Li, 2017). Therefore, the paper aims to analyze and identify the new information, communication, and digital technologies that public organizations use and their effects on public communication efficiency as perceived by the municipal and county sports club employees who were the empirical study's object.

The work is structured in five sections. First, after introducing the research object, we presented the theoretical background. Then, the third section presents the research methodology, the fourth section presents the findings, and the fifth section concludes.

## 2. Theoretical background

Implementing Internet technology in the daily life of individuals and all organizational activities has changed the paradigms of the development of production processes in organizations, making organizations' communication more efficient (Balaban et al., 2016). Communication is carried out instantly in any corner of the world, the borders in time and space being torn down. The emergence of social media applications has raised the Internet to the rank of an essential tool of public communication of public organizations. If, in the past public communication was done through traditional mass media and aimed at a target group, nowadays, communication is globalized and aims to attract as many users of public services as possible (Zerfafi, 2007, p. 31).

The emergence and spread of mobile communication devices have generated an essential change in public communication. These devices have brought the communication flow within reach of all individuals at any time and anywhere. Also, users leave the role of passive receivers and get involved in generating online content without requiring a technical or financial effort from the public organization and without communication specialists. The most outstanding social media achievement supported by mobile communication is overcoming the linearity of communication boundaries and revolutionizing the roles of sending and receiving messages in public communication.

Big data and artificial intelligence technologies also significantly collect data about public service users, improve communication and interpret this data, and determine complex and asymmetric public communication models (Parot et al., 2019). The increased volume of data obtained through the digitization of accounting and managerial information systems allows clients to build flexible marketing strategies, and artificial intelligence solutions facilitate a better prediction of the response to the organization's promotion and communication policies (Ducange et al., 2018; Paschen et al., 2020).

Public marketing uses information technologies such as Big Data (BD) and artificial intelligence (AI) to collect and process data about public services and their users, and communication technologies such as mobile communications (MC) and social media (SM) to communicate with users to satisfy their needs (Langan et al., 2019; Gao and Zhang, 2020; Figueiredo et al. 2021)

Consequently, starting from the theoretical considerations, we built the following hypotheses of the research:

*H1. The effects of information, communication, and digital technologies on municipal and county sports clubs' public communication are significant.*

*H2. Among the information, communication, and digital technologies, social media has the greatest impact on the public communication of municipal and county sports clubs.*

## 3. Research methodology

The evaluation of the effects of the new information, communication, and digital technologies that public organizations use on public communication efficiency was conducted through an empirical study based on a questionnaire. The questionnaire structure is illustrated in table no. 1.

Table no. 1. Questionnaire structure

Variable	Scales
Sex	Male, Female
Age	18–30 years, 31–45 years, 46–65 years
Social media (SM)	1 to 5 (1—non-important, 5—most important)
Mobile communication (MC)	1 to 5 (1—non-important, 5—most important)
Big data (BD)	1 to 5 (1—non-important, 5—most important)
Artificial intelligence (AI)	1 to 5 (1—non-important, 5—most important)
Public communication efficiency (PCE)	On a scale of 1 to 5 (1—very small, 5—very high)

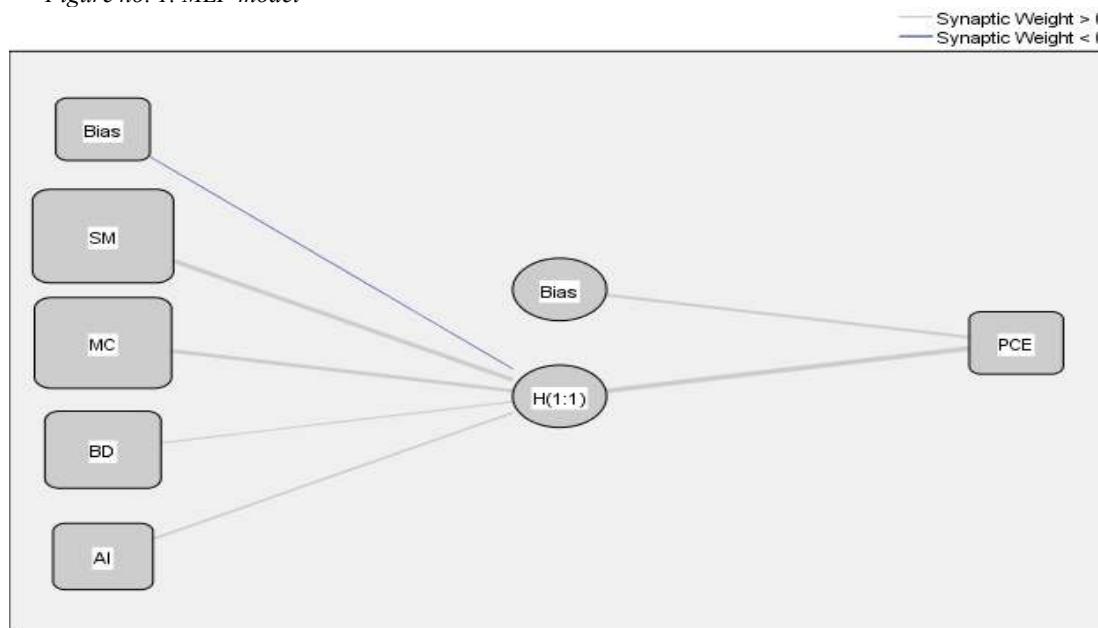
Source: Authors' own contribution

The survey was conducted between July and September 2022 among 239 municipal and county sports club employees. For data processing, we used the analysis of artificial neural networks similar to other researchers (Nicolescu and Vărzaru, 2021).

#### 4. Findings

We used a multilayer perceptron model to analyze artificial neural networks. The model has two layers (one input and one output), with an interposed hidden layer. The input layer includes independent variables, and the output layer the independent ones. The model allows for identifying the influences of information, communication, and digital technologies that public organizations use on public communication efficiency. Figure no. 1 shows the model.

Figure no. 1. MLP model



Hidden layer activation function: Hyperbolic tangent

Output layer activation function: Hyperbolic tangent

Source: Authors' own contribution using SPSS v.20

Table no.2 includes the predictors of the multilayer perceptron model.

Table no. 2 MLP model predictors

Predictor		Predicted values			
		Hidden Layer 1	Output Layer		
		H(1:1)	PCE	Importance	Normalized importance
Input Layer	(Bias)	-0.053			
	SM	0.285		0.307	100.0%
	MC	0.259		0.294	95.7%
	BD	0.200		0.226	73.5%
	AI	0.214		0.173	56.4%
Hidden Layer 1	(Bias)		0.254		
	H(1:1)		0.974		

Source: Authors' own contribution using SPSS v.20

The research hypotheses are valid, analyzing table no. 2 and figure no. 1. The effects of information, communication, and digital technologies on the public communication of municipal and county sports clubs are significant. Among the information, communication, and digital technologies, social media has the most significant impact on the public communication of municipal and county sports clubs, followed by mobile technologies, big data, and artificial intelligence.

## 5. Conclusion

Social networks generate new challenges and opportunities for the public communication of municipal and county sports clubs that were the object of the empirical study. Social media is an essential communication tool that significantly affects the organization's public communication efficiency. Also, mobile communication has enabled supporters to get closer to municipal and county sports clubs through interactive, non-linear communication. This circular communication ensures better feedback, offering the possibility of modern public communication. Digital technologies such as big data and artificial intelligence have an essential role in identifying the profile of users of public services and the organization's optimal communication models with them.

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## **Arrivals, Overnights and Area Distribution of Tourists in Romania and the Means of Transport Used by Foreign Tourists, in January–October 2021**

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### **Abstract**

*The main purpose of the study presented in this paper is to identify, calculate and analyses some of the indicators used to measure tourist traffic in Romania, during the period January-October 2021.*

*Based on the identified statistical indicators, namely the number of arrivals and overnight stays of Romanian and foreign tourists in Romania, the distribution of tourists by area in tourism reception structures with accommodation functions and the means of transport used by foreign tourists, we calculated the average daily number of tourists, the average length of stays, the density of tourist traffic. We also identified the relative preference for tourism by areas and carried out an analysis of the results obtained.*

*Following the calculations and analysis realized, we found that, although there were restrictions on tourists' circulation in Romania, as well as abroad, the tourism demand increased during the season and post-season periods.*

**Key words:** arrivals, overnight stays, reception structure, tourist traffic, tourism demand

**J.E.L. classification:** L8, L83

### **1. Introduction**

Tourism represents, according to its content and role, a distinct field of activity, an important component of economic and social life for a growing number of countries. The engine of tourism development is conceived through innovation and increasing the quality of tourist services offered by economic operators, and tourism development can only be ensured through strong national policies. "The tourism sector is, therefore, a catalyst for the growth and socio-economic development of a country" (Druiu, 2021, p. 262).

"As travelers' demands are constantly changing and their expectations are increasing, the touristic offer must reinvent itself through a new type of tourism, called creative tourism" (Sava, 2022, p. 486).

Of course, any type of tourism developed at the local level has a beneficial impact on the economic and social environment, contributing to the development of sustainable tourism and new touristic products in different Romanian touristic destinations.

Through the study presented in this paper, we identified, calculated and analyzed indicators used to measure tourist traffic, respectively tourism demand in Romania, in the period January-October 2021.

### **2. Theoretical background**

Specialized studies proved that, in order to value the touristic potential of a touristic area/destination, there is a need to meet the tourism demand with the components of the tourist offer. Tourism demand represents the second essential component of the tourist market. It can be defined

as representing "the desire for a certain tourist product, doubled by the possibility and decision to buy it" (Kotler, 1997, p. 36). In this context, "tourism consumption represents all the expenses incurred by the subjects of the request for the purchase of goods and services with tourist motivation" (Minciu, 2004, p. 137).

In order to meet the demand with the tourist offer, it is necessary to ensure the optimal means of transport for each tourist destination because "the evolution of tourism is also due to the existence of a well-developed transport network, a network that extends over the territory of the country, to reach different destinations as easily as possible" (Crăciun *et al.*, 2020, p. 69).

When choosing a trip, tourists consider three elements, namely: place, duration and reason. Thus, the choice of a tourist destination in the country or abroad is very important, because depending on it, the duration of the trip is determined, respectively 1-3 days - weekend tourism or more than 4 days - up to 12 months a year - holiday tourism. Of course, the number of arrivals and overnight stays in a tourist area, in tourist reception structures with accommodation functions, are recorded at various lengths of intervals, depending on the needs of the analysis.

When it comes to the identification of the reasons of a trip, this analysis is done aims at evaluating the consumption behavior and spending behavior of the visitors in the analyzed tourist area. Among the most important reasons for travelling, the following have been discussed by specialty literature: recreation and vacation, visiting friends or relatives, business, spa treatment, as well as other reasons.

It is important for tourism operators to know "the lifestyle of consumers of tourist products and services, in order to structure and diversify the tourist offer, to satisfy the specific requirements and demands of each consumer segment" (Gherghina, 2018, p. 26) .

During the last 30 years, the intensification of domestic and international tourist traffic, the diversification of forms of tourism and holiday spending, the changes in the tourism industry and the participation of an increasing number of countries in the tourism market make it more difficult to obtain information from the tourism field. Under these conditions, it is necessary to find some observation methods capable of ensuring a good knowledge of the tourist activity and the harmonization of the statistical instruments used to record and quantify it.

### **3. Research methodology**

In measuring the tourist phenomenon, an important problem is the collection of information. From this point of view, the registration methods and the basic tools used for tourism research are very important, respectively through direct observation of the phenomenon (inventory), as well as through partial observations (specialized survey), carried out on samples having the same behavior as the overall one. According to the place or unit of observation, the most used statistics are carried out in the key places of the tourist activity, respectively at the border points (departures/arrivals at the border), at tourist reception structures with accommodation functions, or depending on the means of transport used. Based on these tools, quantitative and qualitative information is obtained that allow the compilation of domestic and international tourism statistics that can be used to substantiate macroeconomic decisions and policies in the field of tourism.

In order to identify tourist traffic in Romania, during the period January-October 2021, we used statistical indicators, available on the website of the National Institute of Statistics, <https://insse.ro/cms/ro/comunicate-de-presa-view>. Thus, the method used was quantitative, the documentation method, the office research method that is based on the analysis of statistical documents on the basis of which we calculated averages, developed graphs and carried out a final analysis.

### **4. Findings**

In the following rows, the results of the research on indicators of tourist circulation are presented, namely the number and average results of arrivals and overnight stays of Romanian tourists and foreign tourists in Romania, as tourist destination according to the distribution of tourists by area, in tourist accommodation structures and according to the means of transport used by foreign tourists, during the period January and October 2021.

We have to add that, in the database presented in the 3 tables below, the 0 value was entered for \*) values below 0.5, and \*\*) for foreign tourists according to the country of residence.

- *The number and means of Romanian and foreign tourist arrivals, in tourist reception structures with accommodation functions in Romania, in the period January - October 2021*

*Table no.1 Arrivals of Romanian and foreign tourists, in tourist reception structures with accommodation functions*

	January	February	March	April	May	June	July	August	September	October
	thous and	thous and	thousa nd	thous and	thous and	thousa nd	thousa nd	thousa nd	thousa nd	thousa nd
<b>Total</b>	<b>796.3</b>	<b>498.3</b>	<b>431.3</b>	<b>448.9</b>	<b>609.3</b>	<b>804.9</b>	<b>1434.4</b>	<b>1729.9</b>	<b>1072.5</b>	<b>648.1</b>
Romanian tourists	668.7	477.9	406.4	424.3	572.1	734.6	1306.4	1577.3	931.6	549.1
Foreign tourists**) of which:	127.6	20.4	24.9	24.6	37.2	70.3	128.0	152.6	140.9	99.0
- Europe	93.4	16.9	20.9	20.2	28.3	57.2	95.2	125.8	109.1	75.9
- The European Union	65.8	12.0	15.2	15.4	21.4	40.6	77.0	98.4	87.6	58.7
- Asia	19.0	1.3	1.2	1.4	1.9	0.9	13.7	13.0	13.9	8.1
- North America	6.8	1.1	1.3	1.9	3.7	4.3	7.1	8.4	9.0	7.0
- South America	1.0	0	0	0	0	0.4	0.6	0.6	0.7	0.6
- Africa	1.2	0	0	0	0	0.4	0.6	0.8	0.9	0.6

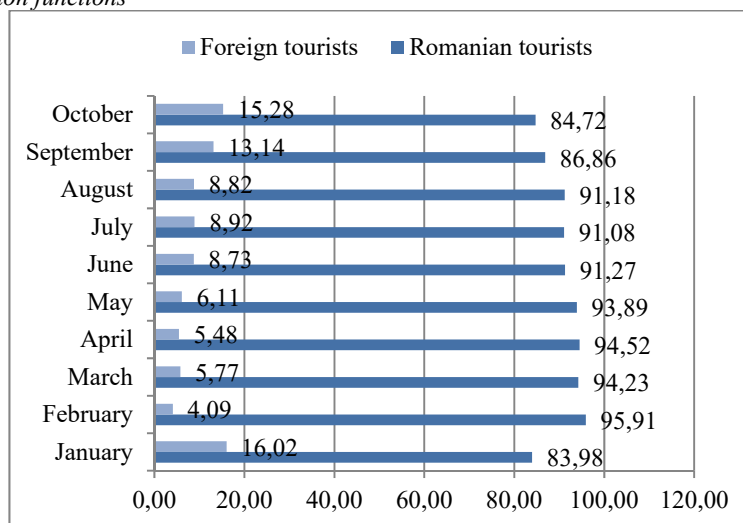
Source: <https://insse.ro/cms/ro/comunicate-de-presa-view>

Following the calculations based on the information presented the table above, we found that, out of the total number of tourist arrivals of 8473.9 thousand, 7648.4 thousand Romanian tourists (90.26%) and 825.5 thousand foreign tourists (9.74%), in the tourist reception structures with accommodation functions situated in Romania, in the interval January-October 2021, the highest number of tourist arrivals was registered in the season period and the peak season, respectively in the month of August - 1729.9 thousand (20.41%), in the month of July - 1434.4 thousand tourists (19.93%), as well as in postseason, respectively in September - 1072.5 thousand tourists (12.66%). Regarding the arrival of tourists during the tourist season, the highest number for people practicing tourism in Romania was registered for Romanian tourists in August - 1577.3 thousand tourists (91.18%) and July -1306.4 thousand tourists (91.08%) and - for foreign tourists in August - 152.6 thousand tourists (8.82%) and in September - 140.9 thousand tourists (13.14%).

If we compare the total number of tourists (NT) of 8473.9 thousand tourists to the total number of days (NZ), 304 days for the analysed period, we obtain an average daily number of tourists (NTZ) of 27.87 thousand tourists/day.



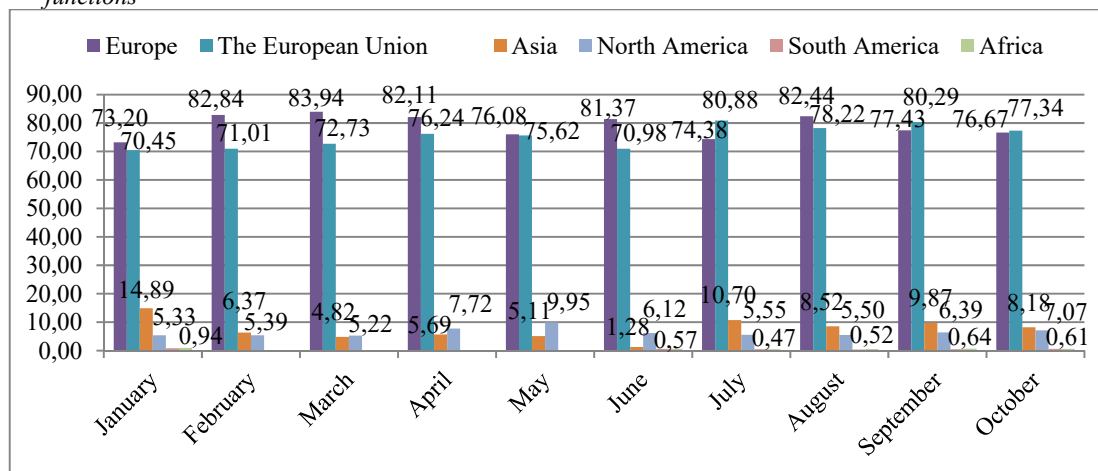
Figure no. 1 Means of Romanian and foreign tourist arrivals in tourist reception structures with accommodation functions



Source: designed by the author

By analysing the graph above for each month included in the interval, we notice that the highest demand for tourism in Romania came from Romanian tourists during the month of February - 95.91% (477.9 thousand tourists out of 498.3) and April - 95.52% (424.3 thousand tourists out of 448.9), and from foreign tourists during the month of January - 16.02% (127.6 thousand tourists out of 796.3) and October - 15.28% (99 thousand tourists out of 648.1).

Figure no. 2 Means of foreign tourist arrivals, in tourist reception structures with accommodation functions



Source: designed by the author

Regarding the arrivals of foreign tourists in tourist reception structures with accommodation functions in Romania, we found that out of the total number of foreign tourists, the largest percentage is held by tourists coming from Europe, during the month of March 83.94% (20.9 thousand tourists out of 24.9), and among these 72.73% (15.2 thousand tourists out of 20.9) came from European Union countries. In January, the highest demand came from foreign tourists coming from Asia - 14.89% (19 thousand tourists out of 127.6), South America - 0.78% (1 thousand tourists out of 127.6), and Africa - 0.94% (1.2 thousand tourists out of 127.6), and tourists from North America visited Romania during the month of May - 9.95% (3.7 thousand tourists out of 37.2).



- *The number and means of overnight stays of Romanian and foreign tourists, in tourist reception structures with accommodation functions in Romania, during the period January – October 2021*

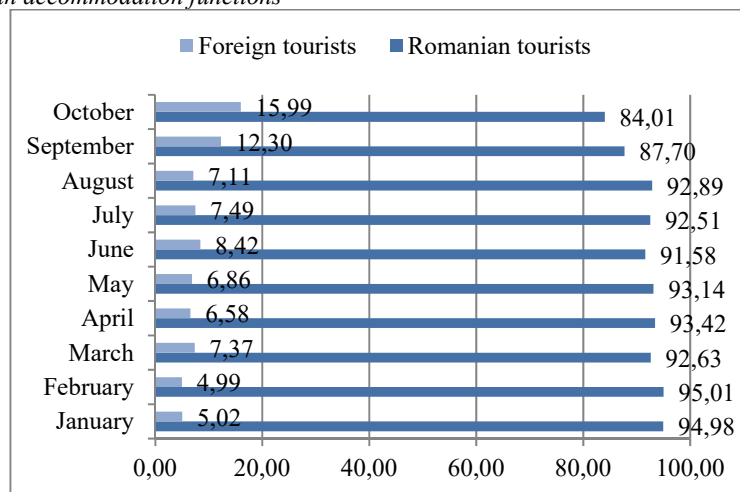
*Table no.2 Overnight stays of Romanian and foreign tourists, in tourist reception structures with accommodation functions, during the period January – October 2021*

	January	February	March	April	Mai	June	July	August	September	October
	thous and	thous and	thousa nd	thous and	thous and	thousa nd	thousa nd	thousa nd	thousa nd	thousa nd
<b>Total</b>	<b>884.3</b>	<b>942.7</b>	<b>781.8</b>	<b>852.4</b>	<b>1254.5</b>	<b>1840.9</b>	<b>3685.5</b>	<b>4491.3</b>	<b>2389.4</b>	<b>1364.3</b>
Romanian tourists	839.9	895.7	724.2	796.3	1168.5	1685.9	3409.5	4171.8	2095.5	1146.2
Foreign tourists**) of which:	44.4	47.0	57.6	56.1	86.0	155.0	276.0	319.5	293.9	218.1
- Europe	36.4	39.4	48.1	46.1	67.1	126.0	194.5	255.4	223.2	163.8
-European Union	26.4	28.5	35.6	35.9	50.8	90.5	155.3	193.6	176.4	123.8
- Asia	2.6	2.7	3.0	3.4	5.0	13.4	32.4	34.2	33.6	22.3
- North America	2.6	2.5	3.3	4	7.1	9.8	15.2	19.4	21.0	16.8
- South America	0	0	0	0	0.6	0.9	1.5	1.7	2.1	1.3
- Africa	0	0.5	0.7	0.6	0.7	1.0	1.3	1.6	2.4	1.7

Source: <https://insse.ro/cms/ro/comunicate-de-presa-view>

Based on the information summarized in the table above, we found that, during the period January-October 2021, out of the total number of overnight stays of 18487.1 thousand tourists, of which 16933.5 thousand Romanian tourists (91.60%) and 1553.6 thousand foreign tourists (8.40%), registered in the tourist reception structures with accommodation functions in Romania, the highest number of tourist overnight stays was registered during the month of July - 3685.5 thousand tourists (19.94%), August - 4491.3 thousand (24.29%) and September - 2389.4 thousand tourists (12.92 %). Regarding overnight stays of tourists during the season period, the highest shares of tourist activity in Romania came for Romanian tourists during the month of July - 3409.5 thousand tourists (92.51%) and during the month of August - 4171.8 thousand tourists (92.89%), and for foreign tourists in August - 19.5 thousand tourists (7.11%) and in September - 293.9 thousand tourists (12.30%).

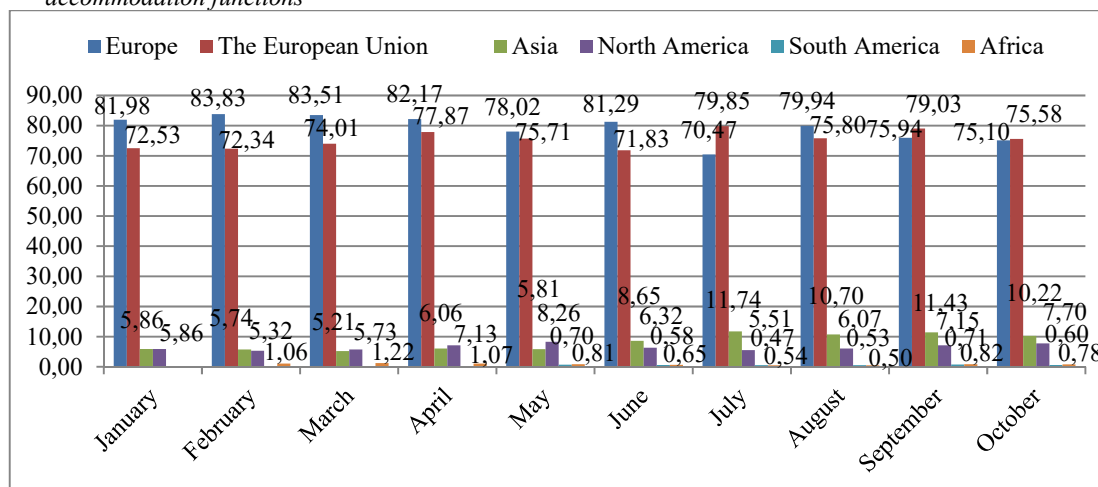
Figure no. 3 Means of overnight stays of Romanian tourists and foreigners, in tourist reception structures with accommodation functions



Source: designed by the author

Based on the Graph, the conclusion was that, depending on the months included in the analyzed interval, the highest demand for overnight stays came from Romanian tourists during the month of February - 95.01% (895.7 thousand tourists out of 942.7) and January - 94.98% (839.9 thousand tourists out of 884.3), and from foreign tourists in October - 15.99% (218.1 thousand tourists out of 1364.3) and September - 12.30% (293.9 thousand tourists out of 2389.4).

Figure no. 4 Means of overnight stays of foreign tourists, in tourist reception structures with accommodation functions



Source: designed by the author

When analysing the overnight stays of foreign tourists in tourist reception structures with accommodation functions in Romania, we found that out of the total number of foreign tourists, the largest share is held by tourists coming from Europe during the month of February 83.83% (39.4 thousand tourists out of 47), and among these 60.64% (28.5 thousand tourists out of 39.4) have arrived from European Union countries. When speaking about tourists from other continents, tourists coming from Asia spent the night in Romania during the month of July – 11.74% (32.4 thousand tourists out of 276), tourists from North America spent the night in Romania in October – 7.70% (16.8 thousand tourists out of 218.1), tourists from South America in September – 0.71% (2.1 thousand tourists out of 293.9), and from Africa in March – 1.22% (0.7 thousand tourists out of 57.6).

Relating the total number of overnight stays of tourists (NZT) of 18487.1 thousand tourists to the total number of tourists (NT) of 8473.9 thousand tourists of the analysed period, we obtain an average length of stay period of (Sj) of 2.18 days of stay of tourists in tourist destinations in Romania.

- *Distribution of arrivals of Romanian tourists and foreign tourists, in tourist reception structures, by tourist areas in Romania, during the period January - October*

*Table no.3 Distribution of Romanian and foreign tourist arrivals in tourist reception structures, by tourist areas*

<b>Tourism areas</b>	<b>January</b>	<b>February</b>	<b>March</b>	<b>April</b>	<b>Mai</b>	<b>June</b>	<b>July</b>	<b>August</b>	<b>September</b>	<b>October</b>
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
<i>Romanian tourists</i>										
Bucharest and the county cities, excluding Tulcea	35.8	46.4	45.0	44.1	40.6	35.8	27.2	26.0	38.2	43.7
Other localities and tourist routes	16.3	18.4	19.7	20.6	19.5	18.5	15.8	15.4	17.8	20.9
Mountain resorts	35.7	23.7	23.1	19.9	19.0	16.7	17.0	17.9	19.5	21.3
Spa resorts	11.2	9.8	10.7	12.3	13.7	11.8	9.3	9.5	10.8	11.9
Seaside Resorts, excluded Constanta	0.7	1.2	1.0	2.1	4.5	14.3	28.7	29.1	11.9	1.3
The Danube Delta area, including the city of Tulcea	0.3	0.5	0.5	1.0	2.7	2.9	2.0	2.1	1.8	0.9
<i>Foreign tourists</i>										
Bucharest and the county cities, excluding Tulcea	76.9	84.4	79.4	83.4	83.0	82.3	69.4	71.0	75.6	80.4
Other localities and tourist routes	9.4	8.9	10.1	10.0	8.5	9.8	12.6	12.1	14.0	12.6
Mountain resorts	9.2	5.3	5.1	3.0	2.5	3.6	6.9	8.3	7.1	4.6
Spa resorts	2.1	0.9	1.7	1.0	1.5	1.5	2.2	2.0	1.3	1.3
Seaside Resorts, excluded Constanta	1.3	0.4	1.3	1.4	3.4	2.1	8.0	5.9	1.5	0.7
The Danube Delta area, including the city of Tulcea	1.1	0.1	2.4	1.2	1.1	0.7	0.9	0.7	0.5	0.4

Source: <https://insse.ro/cms/ro/comunicate-de-presa-view>

A dynamic in the distribution of the arrivals of Romanian tourists and foreign tourists, in tourist reception structures, by tourist areas in Romania, in the period January - October 2021 is observed.

From the table above, one can see that the highest tourist demand, according to the Romanian tourists' preferences, is for Bucharest and the county cities, excluding Tulcea - 46.4% during the month of February, followed by mountain resorts 35.7% - in January, seaside, excluding the city of Constanta - 29.1% in August, other localities and tourist routes - 20.9% in October and spa resorts - 13.7% in May. The last place is occupied by the Danube Delta Area, including the city of Tulcea - 2.9% in June.

When it comes to the demand of foreign tourists, they preferred to visit the city of Bucharest and the county cities, excluding Tulcea - 84.4% during the month February, followed by other localities and tourist routes - 14% in September, resorts in the mountain area 9.2 % - in January, seaside resorts, excluding the city of Constanta - 8% in January and the Danube Delta area, including the city of Tulcea - 2.4% in March. The last place is occupied by spa resorts - 2.2% in July.

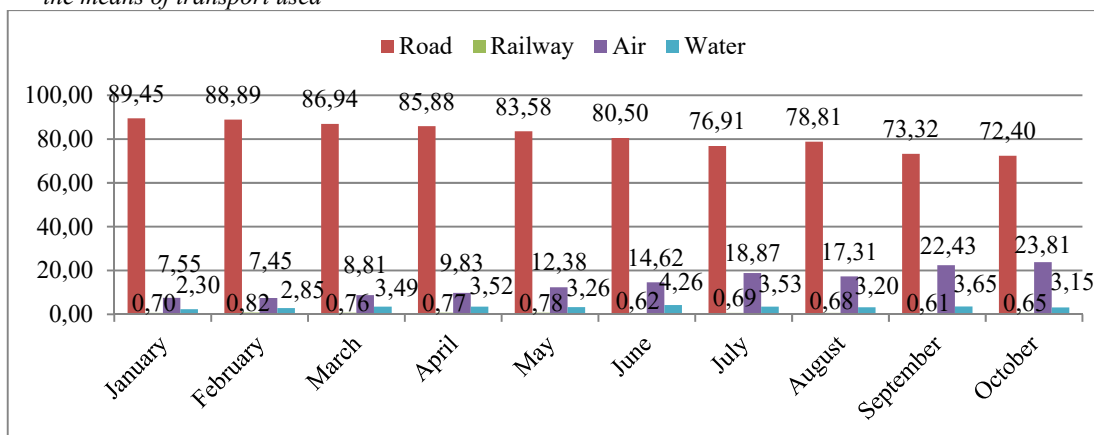
- *Arrivals of foreign visitors in Romania, depending on the means transport used, between January and October 2021,*

*Table no.4 Arrivals of foreign visitors in Romania, depending on the means transport used*

Transport	January	February	March	April	Mai	June	July	August	September	October
	number	number	number	number	number	number	number	number	number	number
<b>Total Arrivals</b>	<b>337416</b>	<b>289448</b>	<b>317767</b>	<b>330771</b>	<b>418066</b>	<b>673312</b>	<b>954315</b>	<b>1054545</b>	<b>755673</b>	<b>613391</b>
Road	301810	257288	276277	284076	349400	541986	733964	831077	554024	444074
Railway	2354	2368	2419	2537	3264	4192	6627	7203	4596	3976
Air	25489	21557	27990	32508	51770	98419	180065	182512	169483	146038
Water	7763	8235	11081	11650	13632	28715	33659	33753	27570	19303

Source: <https://insse.ro/cms/ro/comunicate-de-presa-view>

*Figure no. 5 Arrivals of foreign visitors in Romania, between January and October 2021, depending on the means of transport used*



Source: designed by the author

It is observed that the majority of foreign tourists preferred to travel to visit Romania by means of road transport, followed by air transport and water transport, and the last place being occupied by railway transport.

During the entire analyzed period, the highest values were recorded for road transport in January - 89.45% (301810 tourists), air transport in October - 23.81% (146038 tourists), water transport in June - 4.26% (28715 tourists) and railway transport in February - 0.82% (2368 tourists).

According to the National Institute of Statistics, on the 1<sup>st</sup> January 2021, Romania had an area (S) of 238397 km<sup>2</sup> and a population (P) of 19201662 inhabitants ([https://insse.ro/cms/sites/default/files/field/publicatii/romania\\_in\\_figures\\_2022.pdf](https://insse.ro/cms/sites/default/files/field/publicatii/romania_in_figures_2022.pdf)) for the whole analyzed period, as well as the total number of foreign visitors arriving in Romania (NTSRO) of 5744704 tourists. According to this data, the density of tourist circulation according to the population (DTP) was 0.30 tourists/inhabitants, and according to the surface (DTS) the density is of 24.10 tourists/km<sup>2</sup>.

## 5. Conclusions

With the emergence and maintenance for a period of two years of the Corona Virus (COVID-19) pandemic and the restrictions imposed on tourism, the general conditions led to a series of negative effects, from an economic and social point of view, respectively to the decrease in the number of arrivals and the number of overnight stays, due to the fact that some of the economic operators had their activity suspended, during the state of emergency, or operated at reduced capacity, during the state of alert.

Regarding the arrivals of Romanian and foreign tourists in tourist reception structures with accommodation functions in Romania, one could observe that for the entire period 8473.9 thousand tourists (100%) were registered, and the highest demand was during the peak season, respectively in August -1729.9 thousand tourists (20.41%), registering an average daily number of tourists of 27.87 thousand tourists/day.

Comparing the number of arrivals of Romanian tourists and foreigners to the total for each month, we noticed an increase in tourist demand from Romanian tourists during the month of February (95.91%), and from foreign tourists in January (16.02%). Out of the total of foreign tourists of 825.5 thousand tourists, the highest number of arrivals is recorded for tourists coming from Europe - 642.9 thousand tourists (77.88%), from Asia - 74.4 thousand tourists (9.01%) and from North America - 50.6 thousand tourists (6.13%). Regarding the distribution by month, the largest numbers of foreign tourists arriving in Romania during the month of March came from Europe (83.94%), in January came from Asia (14.89%), from South America (0.94%) and from North America (0.78%), and in May from North America (9.95%).

The total number of overnight stays of Romanian and foreign tourists in tourist reception structures with accommodation functions in Romania for the entire period was 18487.1 thousand tourists (100%). The maximum demand was also recorded during the peak season, respectively in August - 4491.3 thousand tourists (24.29%), depending on the total number of arrived tourists (8473.9 thousand tourists), resulting in an average length of stay of 2.18 days of tourist consumption in tourist destinations in Romania.

Comparing the number of overnight stays of Romanian and foreign tourists to the total of each month, we noticed an increase in tourist demand from Romanian tourists in February (95.01%), and from foreign tourists in October (15.99%). Out of the total number of foreign tourists of 825.5 thousand tourists, the highest number of overnight stays is registered from Europe tourists - 1200 thousand tourists (77.24%), from Asia - 152.6 thousand tourists (9.82%) and from North America - 101.7 thousand tourists (6.55%). Regarding the distribution by month, the more foreign tourists who stayed overnight in Romania in February came from Europe (83.83%), in July from Asia (11.74%), in October from North America (7.70%), in March from Africa (2.1 %), and in September from South America (0.7%).

According to the preferences of tourist areas in Romania, most Romanian and foreign tourists arrived in tourist reception structures in Bucharest and the county cities, excluded the city of Tulcea - during the months of February, March, April and May, in resorts in the mountain area - the month of January, in seaside resorts, excluding the city of Constanta - in July and August, in other localities and tourist routes - in September and October, in spa resorts - in May and July, in the Danube Delta, including the city of Tulcea - in March, May and June.

When visiting Romania, the majority of foreign tourists preferred to travel using road transport (79.62%) and air transport (16.29%), water transport (3.40%), with railway transport (0.69%) taking the last spot.

This study can be used in comparison with other studies in the field of tourism, as well as a basis for in-depth research.

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## Study Regarding the Preferences and Attitude of Consumers for Spending Vacations in Tourist Resorts in Romania

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### Abstract

*The purpose of the study presented in this paper is to identify and evaluate the preferences and attitude of consumers when it comes to spending vacations in tourist resorts in Romania, respectively of knowledge of tourist demand.*

*The study involves direct research, by applying an occasional survey-type survey, in order to discover if there was a demand for spending holidays in Romania, in the last two years and what is the type of resort preferred by Romanian tourist. At the same time, we identified the frequency of going on vacation, the preferred sources of information and the main motivations for spending a vacation in Romania, the main criteria in choosing a tourist accommodation structure, the preference for buying tourist services, the degree of satisfaction and the satisfaction regarding the offer and prices, and the minimum sum of money reserved for a trip in a tourist resort in Romania.*

**Key words:** tourist resort, accommodation structure, vacation, consumers, preference.

**J.E.L. classification:** M31, L83

### 1. Introduction

The sharp development of the economic crisis, caused by the emergence of the COVID-19 pandemic, during the last two years, resulted in restrictions in terms of free movement at national or international level for the Romanian population, as well as the fact that part of the tourist accommodation structures from Romanian tourist resorts of Romania suspended their activity for a period of time. Thus, this study was established in order to discover the actual and potential demand of tourists, respectively the preferences and attitude of consumers regarding spending vacations in tourist resorts in Romania, and to be able to propose suggestions for the improvement of tourist services in the resorts.

### 2. Theoretical background

Studies published in specialty literature prove that at the national and international level, a tourism development system is desired, by adapting Romanian legislation to that of the European level, including tourist resorts.

In Romania, according to Government Decision no. 852/13.08.2008 for the approval of the rules and criteria for the attestation of tourist resorts "the locality or the part of a locality that has natural and human resources and that cumulatively fulfills for one of the categories the criteria set out in annex 1, is certified as a tourist resort of national or local interest, as the case may be". (<https://turism.gov.ro/web/atestare-statiune-turistica/>).

In order to be certified, tourist resorts, of national or local interest, must meet several mandatory and additional criteria. The mandatory criteria for the attestation of tourist resorts aim at: "1. The natural setting, natural healing factors and the quality of the environment, 2. Access and roads to or in the resort, 3. Urban-building utilities, 4. Tourist reception and leisure structures, 5. Tourist information and promotion" (<https://legislatie.just.ro/Public/DetaliuDocument/96733>).

In a tourist resort, "the classification category of tourism companies with tourist accommodation functions is of particular importance, for example more than 30% of them must be classified between 3-5 stars/flowers" (Gherghina L. 2019, p. 101 -102).

Tourist resorts are "classic tourist destinations (mountain resorts)" or "destinations for business tourism (spa resorts)" (Gherghina (2017, p. 77)) and can be of local or national interest which "is certified by a Decision of the Romanian Government at the initiative of the Ministry of Tourism with the support of local public administration authorities" (Gherghina L., 2007, p. 16).

The tourist offer is particularly important in a resort, because it aims to satisfy the tourist demand. The tourist offer contains both the value of services and final goods created in tourism over a certain period of time, as well as the set of attractions that motivate the trip or visit of the tourist resort, respectively the network with specific tourist equipment and infrastructure.

"Tourism is one of the most dynamic fields of activity, which generates foreign exchange resources and jobs" (Boiță M. and Păiușan L., 2020, p. 568), and the increase in tourism activity is achieved if "there is a well-developed transport network" (Crăciun et al, 2020, p. 66).

The behavior of consumers of tourism services is important to be studied because tourism services are designed according to the needs, wishes and demand of consumers. "The totality of acts, attitude and decisions belonging to the buyer regarding the use of a part of one's income for the purchase of services defines the consumer's behavior. Satisfying the need for services is achieved through consumption" Gherghina (2009, p. 110). The consumer's behavior when it comes to tourist services can be influenced by factors such as: personality, group, price and image, the service desired and motivation.

### **3. Research methodology**

In order to identify and evaluate the preferences and attitude of consumers with regard to spending vacations in tourist resorts in Romania, and the tourist demand, in order to improve the tourism, offer, direct quantitative research was carried out, using a survey, and as a tool an online questionnaire, uploaded on Google Forms, it being completed by the respondents between January and July 2022, the sampling method being simple and random.

We established the objectives of the research, we designed the questionnaire with 17 questions, of which: 4 identification questions and 13 closed questions on the subject of the study, structured on scales, with binary and multiple variables. The questionnaire was pretested, unclear questions were reformulated, the final questionnaire resulting in a total number of 72 answers. After pre-testing the questionnaire, the research hypotheses were developed in order to discover if there was a demand for spending holidays in Romania, to identify the type of resort preferred by the respondents and the frequency vacations, the sources of information and motivations for spending holidays in Romania. At the same time, main selection criteria in choosing a tourist accommodation structure, the preference in choosing tourist services, the degree of satisfaction and satisfaction regarding the offer, prices and the minimum cost reserved for a vacation in a tourist resort in Romania were also analyzed.

A direct research method was used to obtain the information needed, the occasional survey based on a questionnaire was used to evaluate the consumer preferences and attitude was carried out using the method of percentages and scales, respectively the nominal scale (questions Q01-Q05), the ordinal scale (preferences) - Likert scale (questions Q08, Q10, Q11, Q17, Rank ordering method (questions Q06, Q09), interval scale (attitude) - semantic differential (questions Q07, Q12, Q13, Q14, Q15) and the scale for the constant sum, amount (question Q16).

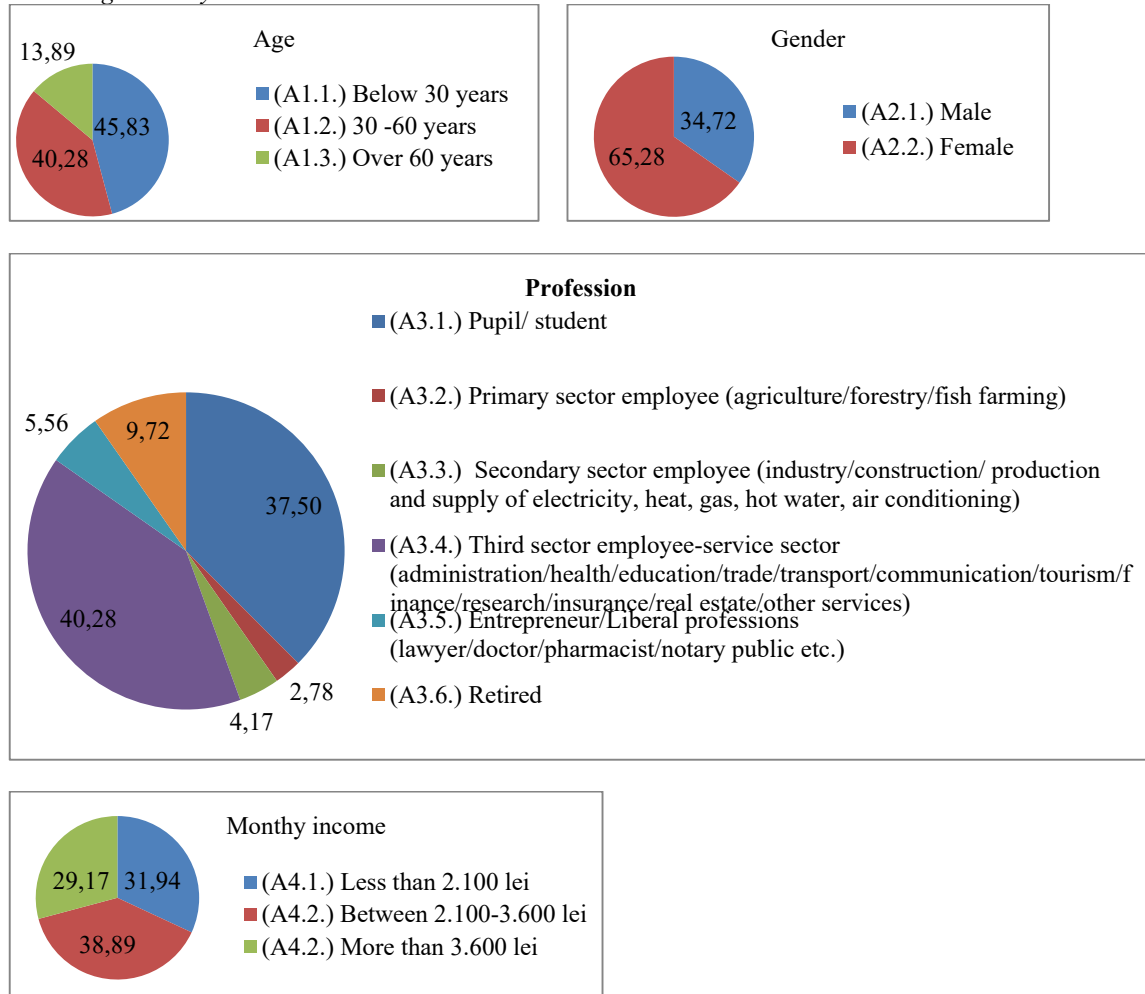
### **4. Findings**

The results of the study regarding the preferences and attitude of the consumers introduced in this study, in connection to spending holidays in tourist resorts in Romania, are presented below



➤ *Identifying respondents according to socio-professional criteria*

Figure no. 1., no. 2, no. 3, no. 4. Respondents' percentages according to age, gender, occupations and average monthly income criteria

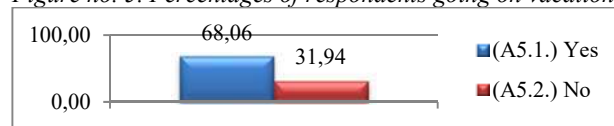


Source: realized by the author

According to the graphs, the majority of respondents are younger than 30 - 45.83% (33 respondents), female - 65.28% (47 respondents), According to their employment- 40.28% (29 respondents) are employed in the tertiary sector - the service sector, with incomes between 2,100-3,600 lei (28 respondents).

➤ *Identifying tourist demand for vacations in Romania for a period including the last two years*

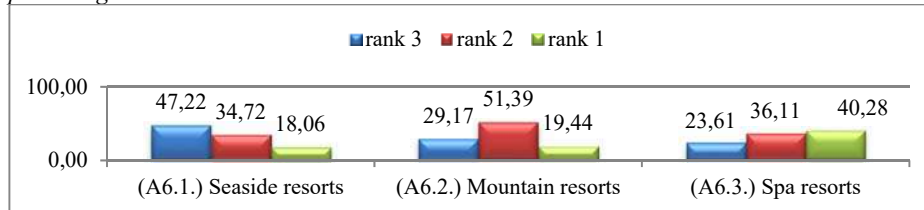
Figure no. 5. Percentages of respondents going on vacation in the last 2 years in Romania



Source: realized by the author

From the graph presented above, one could observe that in the last 2 years, 68.06% (49 respondents) went on vacation in Romania, and 31.94% didn't (23 respondents).

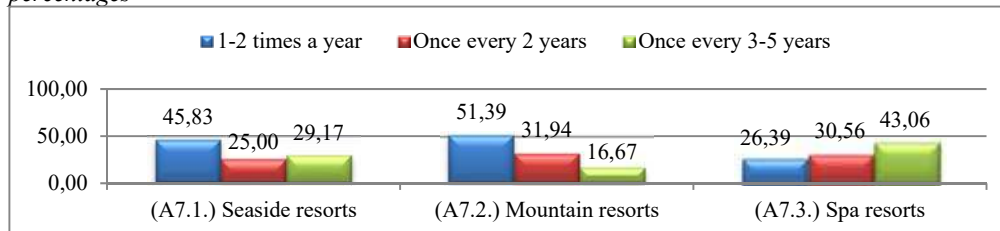
- *The type of resort preferred by the respondents for spending their vacation in Romania*  
Figure no. 6. The type of resort preferred by the respondents for spending their vacation in Romania - percentages



Source: realized by the author

According to the graph and the average of the ratings, the majority of respondents prefer resorts for spending their vacation in Romania, on the first place one could observe seaside resorts, rank 1 - 47.22% (34 respondents) and a score of 2.29, on the second-place rank 3 mountain resorts - 51.39% (37 respondents) and a score of 2.10, and on the third-place rank 1 spa resorts - 40.28% (29 respondents) and a score of 1.83.

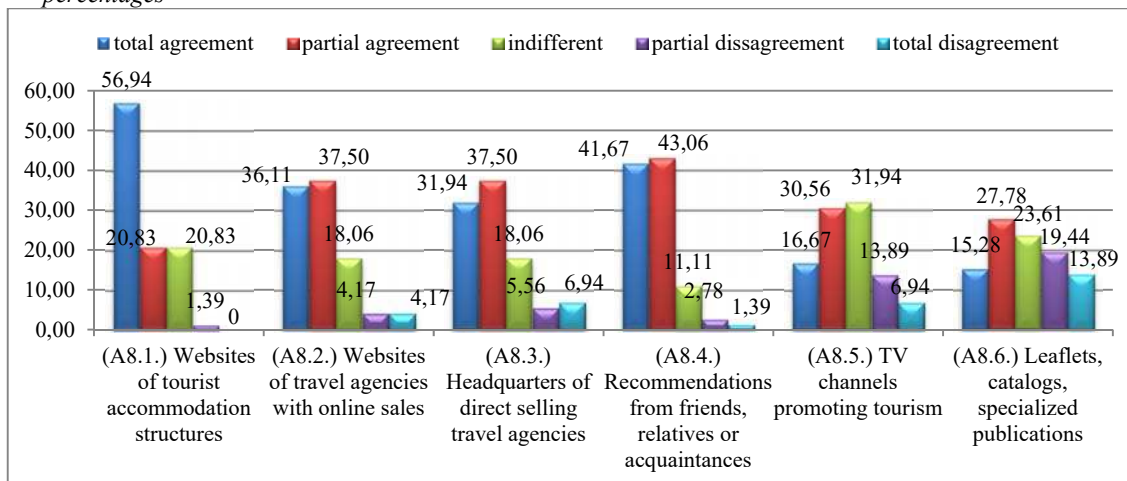
- *The frequency of respondents' vacations, in Romanian resorts, in the last 10 years*  
Figure no. 7. The frequency of respondents going on vacation, Romanian resorts, in the last 10 years - percentages



Source: realized by the author

Regarding the frequency of respondents going on vacation, in the last 10 years, in Romanian resorts, most respondents appreciate that they went to mountain resorts 1-2 times a year - 51.39% (37 respondents) with a score of 2.35, to seaside resorts once every 2 years - 31.94% (23 respondents) with a score of 2.17, respectively to spa resorts - once every 3-5 years - 43.06% (31 respondents) with a score of 1.83.

- *Information sources preferred by respondents for choosing a tourist resort in Romania*  
Figure no. 8. Respondents' preferred sources of information for choosing a tourist resort in Romania - percentages



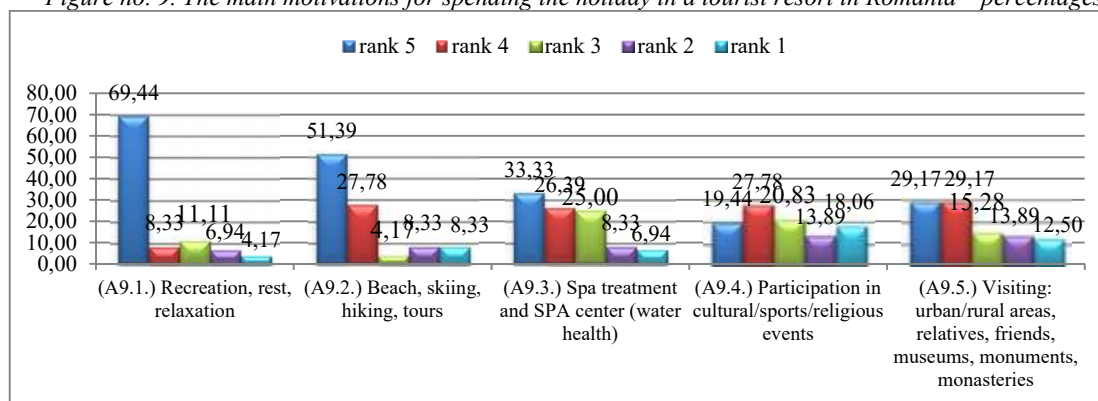
Source: realized by the author

Regarding the information sources preferred by respondents for choosing a tourist resort in Romania, 56.94% (41 respondents) with a score of 1.33 totally agree that they prefer the website of tourist accommodation structures, 43.06% (31 respondents) with a score of 1.21 partially agree that they prefer recommendations from friends, relatives or acquaintances, and the cumulative weights are 75% (54 respondents) for the website of travel agencies with online sales with a score of 0.97, respectively the headquarters of travel agencies with direct selling with a score of 0.88.

31.94% (23 respondents) with a score of 0.36 are indifferent if they can get information on tourism promotion from TV channels, and 19.44% (14 respondents) with a score of 0.11 partially disagree, respectively 13.89% (10 respondents) with a score of 0.11 I totally disagree with the information in leaflets, catalogues, specialized publications. The total score of 0.80 demonstrates that the respondents prefer to get information from the online environment from tourist accommodation structures and travel agencies, as well as from friends, relatives, acquaintances and direct sales travel agencies, and less from the others sources.

➤ *The main motivations for spending the holiday in a tourist resort in Romania*

Figure no. 9. The main motivations for spending the holiday in a tourist resort in Romania – percentages

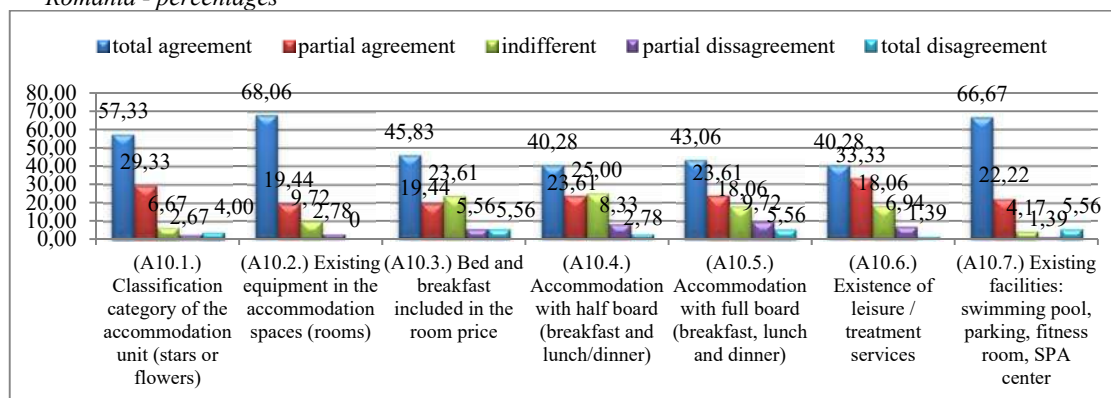


Source: realized by the author

In order of preference, the main motivations for spending a holiday in a tourist resort in Romania are: on the first place - Rank 5 recreation, rest, relaxation - 69.44% (50 respondents) and a score of 4.32, second place - Rank 4 beach, skiing, hiking, excursions – 51.39% (37 respondents) and score of 4.06, third place -Rank 3 spa treatment and SPA center (water health) – 25% (18 respondents) and score 3.71, fourth place -Rank 2 visiting: urban areas /rural, relatives, friends, museums, monuments, monasteries – 13.89% (10 respondents) and score 3.49, fifth place - Rank 1 participation in cultural/sports/religious events – 18.06% (13 respondents) and score 3.17.

➤ *The main selection criteria of a tourist accommodation structure in a tourist resort in Romania*

Figure no. 10. The main criteria for selecting a tourist accommodation structure in a tourist resort in Romania - percentages



Source: realized by the author

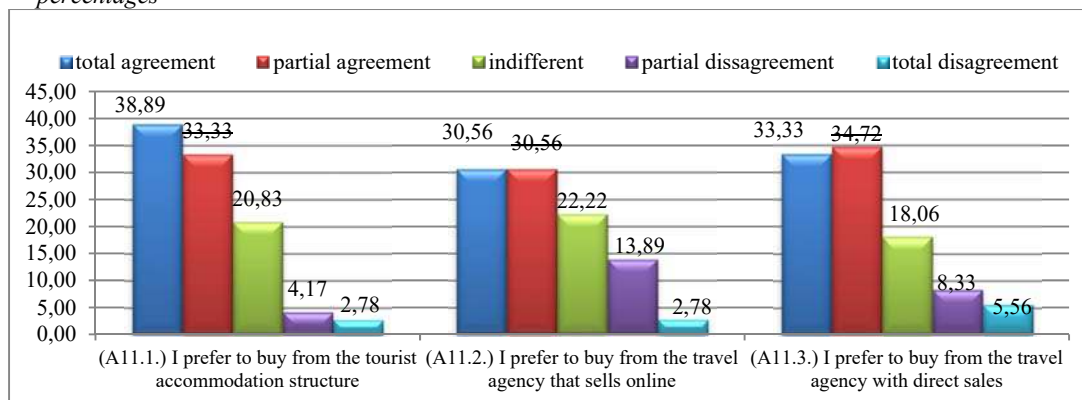
Regarding the main criteria for selecting a tourist accommodation structure in a tourist resort in Romania, the majority of respondents fully agree that they choose the tourist accommodation structure according to the existing facilities in the accommodation spaces (rooms) – 68.06% ( 49 respondents) with a score of 1.53 and existing facilities: swimming pool, parking, fitness room, SPA center – 66.67% (48 respondents) with a score of 1.43. The respondents partially agree with the criterion of the classification category of the accommodation unit (stars or flowers) - 29.33% (22 respondents) with a score of 1.33 and the existence of leisure / treatment services - 33.33% (24 respondents) with a score of 1.04.

25% (18 respondents) with a score of 0.94 are indifferent to the selection criteria according to accommodation with half board (breakfast and lunch/dinner), as well as accommodation with breakfast included in the room price – 23.61 (17 respondents) with a score of 0.90, and 9.72% (7 respondents) with a score of 0.89 partially disagree with the selection criterion based on accommodation with full board (breakfast, lunch and dinner).

The total score of 1.15 demonstrates that for the respondents the main criteria for selecting a tourist accommodation structure in a tourist resort in Romania are the existing facilities in the accommodation spaces, existing facilities: swimming pool, parking, fitness room, SPA center, the classification category of accommodation unit, the existence of leisure/treatment services and less the other criteria.

➤ *Respondents' preference for purchasing tourist services in a tourist resort in Romania*

Figure no. 11. Respondents' preference for purchasing tourist services in a tourist resort in Romania - percentages



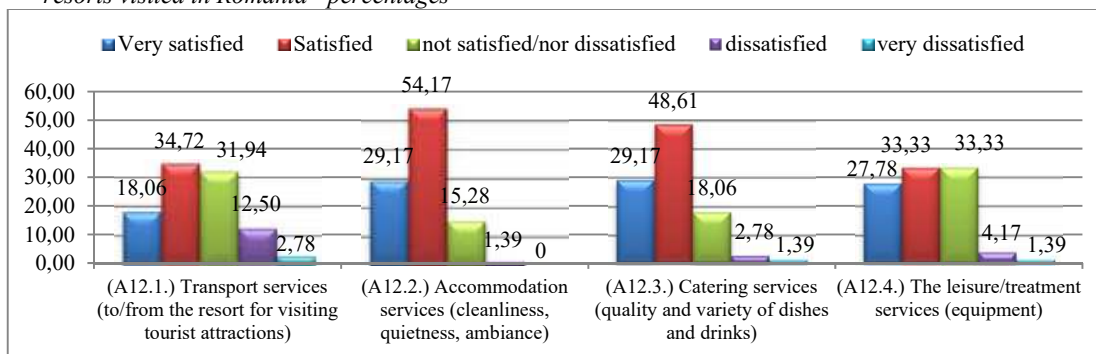
Source: realized by the author

The majority of respondents who prefer to buy tourist services in a Romanian tourist resort fully agree with the tourist accommodation structure - 38.89% (28 respondents) with a score of 1.01, partially agree with the direct sales travel agency - 34.72% (25 respondents) with a score of 0.82.

22.22% (16 respondents) with a score of 0.72 are indifferent if they buy tourist services in a resort in Romania from a travel agency with online sales.

The total score of 0.85 shows that most respondents prefer to buy tourist services in a Romanian tourist resort directly from the tourist accommodation structure and less from travel agencies.

- *The degree of satisfaction of the respondents regarding the basic tourist services offered in the tourist resorts visited in Romania*  
Figure no. 12. Respondents' degree of satisfaction with the basic tourist services offered in the tourist resorts visited in Romania - percentages

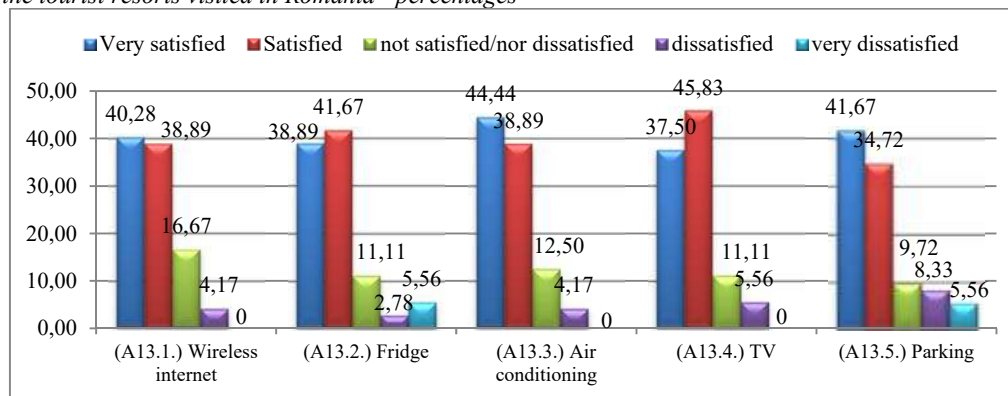


Source: realized by the author

Regarding the degree of satisfaction with the basic services offered in the tourist resorts visited in Romania, 54.17% of the respondents are satisfied, with a tendency towards very satisfied - 29.17% of the accommodation services (cleanliness, quietness, ambience), with a score of 4.11 – the cumulative percentage being 83.34% (60 respondents), as well as public food services (quality and diversity of dishes and drinks) – satisfied 48.61% with a tendency towards very satisfied – 29.17%, with a score of 4.01 – the cumulative weight being 77.78% (56 respondents).

At the same time, some of the respondents are neither satisfied/nor dissatisfied with the leisure/treatment services (equipment) – 33.33% (24 respondents) with a score of 3.82 and the transport services (to/from the resort for visiting tourist attractions) – 31.94 (23 respondents) with a score of 3.53.

- *The degree of satisfaction of the respondents regarding the additional services offered in the tourist resorts visited in Romania*  
Figure no. 13. The degree of satisfaction of the respondents regarding the additional services offered in the tourist resorts visited in Romania - percentages

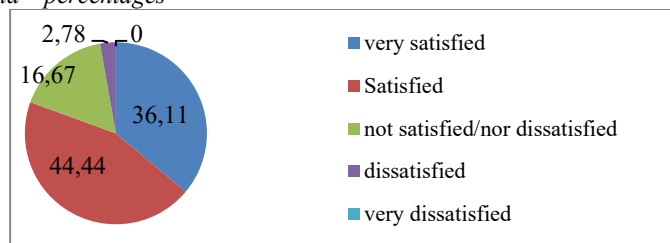


Source: realized by the author

Regarding the degree of satisfaction of the additional services offered in the tourist resorts visited in Romania, 44.44% (32 respondents) with a score of 4.24 are very satisfied with the existence of air conditioning, 41.67% (30 respondents) with a score of 3.99 are satisfied with the parking available at the tourist accommodation structure, and 45.83% (33 respondents) with a score of 4.15 are satisfied with the provision of a television, as well as the provision of a refrigerator - 41.67% (30 respondents) with a score of 4.06 . Only 16.67% (12 respondents) with a score of 4.15 are indifferent if there is wireless Internet at the tourist accommodation facility.

- *The respondents' degree of satisfaction regarding the attitude of the staff in the resorts visited in Romania*

Figure no. 14. The respondents' degree of satisfaction regarding the attitude of the staff in the resorts visited in Romania – percentages

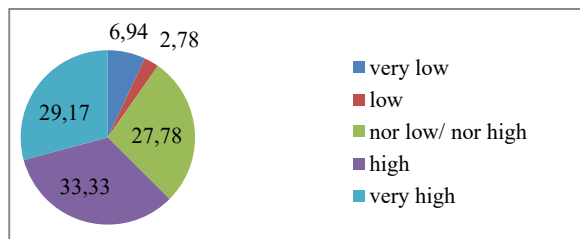


Source: realized by the author

44.44% (32 respondents) are satisfied with the attitude of the staff from the tourist resorts visited in Romania, and with a tendency towards very satisfied - 36.11% (26 respondents) the score being 4.14.

- *The respondents' evaluation of the prices charged in the tourist resorts visited in Romania*

Figure no. 15. Respondents' assessment of the prices charged in the tourist resorts visited in Romania – percentages

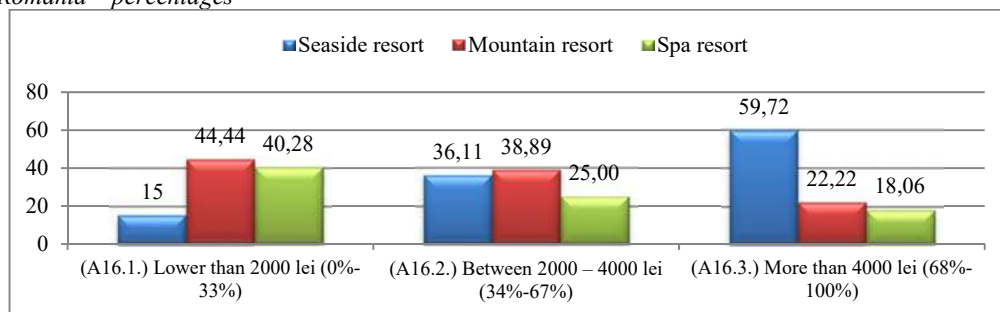


Source: realized by the author

The prices charged in the tourist resorts visited in Romania by the respondents are appreciated as high by a percentage of 33.33% (24 respondents) with a tendency towards neither low/neither high 27.78% (20 respondents) with a score of 2.25.

- *The minimum value allocated by the respondents for a vacation in a tourist resort in Romania*

Figure no. 16. The minimum value allocated by the respondents for a vacation in a tourist resort in Romania – percentages



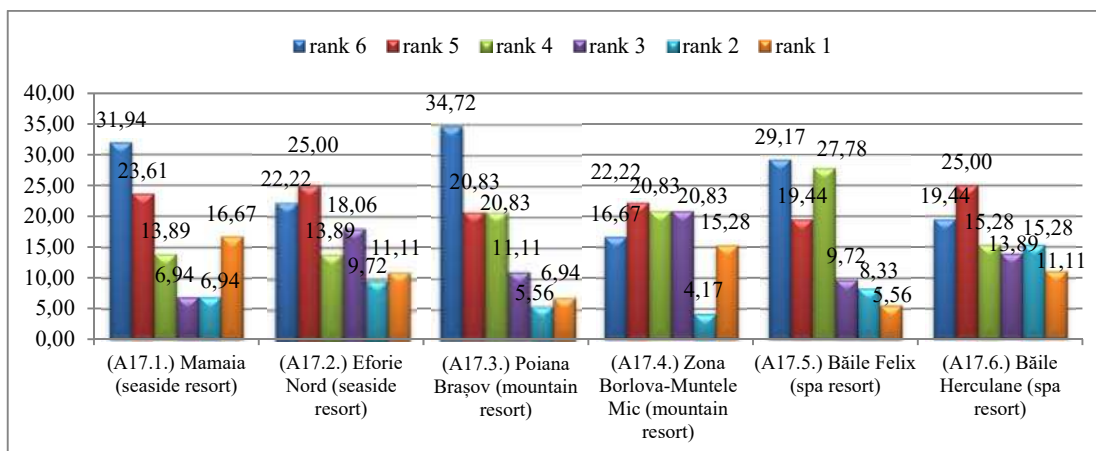
Source: realized by the author

The minimum value reserved and offered by the respondents for a trip to a tourist resort in Romania is over 4000 lei for a seaside resort - 59.72% (43 respondents) with a score of 2.40, under 2000 lei for a mountain resort - 44.44% (32 respondents) with a score of 1.79, respectively for the spa resort – 40.28% (29 respondents) with a score of 1.73.



➤ *Respondents' preference for six tourist resorts of national interest in Romania, for spending holidays in the coming years*

Figure no. 17. Respondents' preference for six tourist resorts of national interest in Romania, for spending holidays in the coming years – percentages



Source: realized by the author

The respondents chose in order of preference the six tourist resorts of national interest in Romania where they want to spend their holidays in the following years as follows: first place Poiana Brașov (mountain resort) – 34.72% (25 respondents) with a score of 4.47, second place Băile Felix (spa resort) – 27.78% (20 respondents) with a score of 4.35, third place Mamaia (seaside resort) – 31.94% (23 respondents) with a score of 4.17, fourth place Eforie Nord (seaside resort) – 25% (18 respondents) with a score of 3.99, 5th place Băile Herculane (spa resort) – 25% (18 respondents) ) with a score of 3.86, 6th place Zona Borlova-Muntele Mic (mountain resort) – 20.83% (15 respondents) with a score of 3.81.

## 5. Conclusions

The study presented in this paper had as motivation the desire to discover what is the preference and attitude of consumers regarding spending vacations in tourist resorts in Romania. As part of the direct research, the objectives of the research were established, and after pre-testing the questionnaire, the hypotheses to be researched were developed, through which we identified that in the last two years there was a demand for spending holidays in Romania, and currently, in order of importance, the type of resort preferred by Romanian tourist consumers is both for mountain resorts and seaside resorts, and less for spa resorts, as evidenced by the frequency resulted from the respondents answers on going on vacation in the last 10 years, 1-2 times a year in mountain resorts, once every 2 years in seaside resorts, respectively once every 3-5 years in spa resorts.

For respondents, the most important sources of tourist information for choosing a tourist resort in Romania are the website of tourist accommodation structures and travel agencies with online sales, recommendations from friends, relatives or acquaintances, as well as the headquarters of travel agencies with direct sales, and the main motivations for vacationing in Romania are recreation, rest, relaxation, beach, skiing, hiking, excursions, as well as spa treatment and SPA center.

The respondents chose as the main criteria for selecting a tourist accommodation structure in a tourist resort in Romania, both the existing equipment in the accommodation spaces and the existing facilities - swimming pool, parking, fitness room, SPA center, as well as the classification category of accommodation unit.

The respondents prefer to buy the basic tourist services in a tourist resort from the tourist accommodation structure or from the travel agency with direct sales. They are satisfied with the attitude of the staff, the cleanliness, the tranquility and the existing ambience of the accommodation services, as well as of the quality and diversity of the dishes and drinks in the public catering

services, as well as satisfied with the additional services, as the provision of air conditioning, parking, television and refrigerator.

The prices practices in the tourist resorts visited in Romania are considered to be high, and the minimum value to be spent in a trip is over 4000 lei in a seaside resort, under 2000 lei in a mountain resort and spa resort.

When asked to choose from six tourist resorts of national interest, the type of resort preferred for spending holidays in the coming years, the respondents prefer the mountain resort Poiana Brasov, the spa resort Băile Felix, as well as the seaside resort Mamaia.

In order to improve tourist services, tourist resorts should be located in an optimal natural environment where there are no sources of soil, air or water pollution. All tourist resorts of national interest must have rail and road transport services, respectively to have a train station and a bus station, with a panel displaying the times and routes of the trains and buses. At the same time, tourist resorts must have first aid and pharmaceutical points, ambulance service, illuminated pedestrian roads, tourist information centres, ATMs and commercial spaces, tourist signs, parks and playgrounds for children, spaces for the organization of shows and treatment bases with qualified personnel. The previously mentioned in some resorts do not exist.

In the rural environment, emphasis must be placed on the tourist promotion of resorts in Romania through TV channels and through printed promotional tools because some consumers do not have phone or internet signal or do not know how to use Internet sources, respectively they do not have a tourism agency in the locality from which they could find out about certain cultural, sports, religious events or monuments, museums and monasteries they want to visit.

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## The Sales Strategies of "Online" Stores, in the Context of Increased Competition

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### Abstract

*"Online" stores have grown in popularity all over the world. These tend to become dominant, even covering large "en-details" sales segments and some niches on the "en-gross" market. This situation forces companies to follow very carefully the competition situation, the appearance of "new players" on the online market.*

*The situations and developments of several online sales companies, which cover a large segment of the current market, were followed, as well as their management and marketing strategies, which they use to maintain and develop. Several aspects have been observed that can be used by the managers of smaller firms that have entered this market or are about to enter.*

**Key words:** internet, strategy, trade, manager

**J.E.L. classification:** M13, M15, L81

### 1. Introduction

With the outbreak of the Covid19 pandemic, the world economy as a whole and the national economies were faced with a new challenge that of selling without coming into contact with customers, of reducing contacts between sellers and customers to a minimum. The "online" Internet sales companies that had activities before the pandemic had the advantage of having everything set up, from the website, the order center, contracts and contacts with manufacturers and wholesalers, with carriers, so that they managed to cope with the high demand for products. Companies that had sales only from the warehouse or from the shelf, faced a decrease in demand, especially in the field of non-food products, which are not part of the category of those called "strictly necessary". This situation gave an impetus to companies to invest in online sales. From here, in a fairly short period of time, the number of online stores and warehouses increased, and their number is constantly increasing.

### 2. Theoretical background

From the point of view of specialized literature, in recent years there has been an increase in the number of specialized papers published in publishing houses or at international conferences indexed in databases. They deal with a wide range of situations, from sales strategies, to the hiring of specialized personnel and even aspects of sales psychology. As the producers of "online" stores appreciate (Senior, 2020), "electronic commerce is expanding and will include ever larger market segments". From here we can understand the fact that we do not yet have studies for all the situations that have appeared or may appear on the market, because it is a relatively new market, which depends on technology, on the devices and instruments that appear, but also on the applications for computer and mobile phone, which have a continuous development and complexity. Practically since the first sales on the Internet, which were made through an email order, nowadays, purchases can be made through a mobile phone application, through which payment is also made for the chosen product, from a very wide range sea of products and services. In this paper, an analysis of Internet sales is carried out for "wholesale" products, for which a series of strategies are proposed, considering the continuous increase in competition.

### 3. Research methodology

The research methodology consisted of the study of specialized works, regarding the strategies used in sales, then I studied the situation of online sales stores, in Romania and in other countries. Based on the information and data obtained, used the "concept transfer" method, which consists in taking ideas, concepts and working methods in the online environment from scientific works and real situations. Then I carried out the transfer of ideas in the field of research, for this work and looked for a solution for using the best strategies for Internet sales.

### 4. Findings

#### 4.1. The market segment for an "online" store

For this type of business, it is important to know the market segment that the management of a company wants to enter, to organize and coordinate its business. The most important "actors" for the "online" market are manufacturers (producers), importers, wholesale distributors, transporters and customers.

**A. Producers.** They are faced with a series of problems related to production, storage, transport, sales, obtaining profit and recovering investments. Any kind of business on the online market, for intermediation of business with products, must take into account the problems faced by producers, how they solve their problems related to production and storage, etc. The market segment they represent is a heterogeneous one, unevenly distributed on a territorial, zonal, county and national level, covering all categories, from small producers to large companies. Among the problems they face, the following can be listed:

- Small producers do not have the financial power to reach the big chain stores or the wholesale distributors, who will take over their products.

- Medium and large producers have problems related to transport, storage and obtaining money, in a reasonable time, to resume production and make investments.

- Many of the small and medium producers do not receive their money on time for the delivered products.

A business that depends on this kind of producers must be very well organized, coordinated and managed, in order to respond to the requirements imposed by customers, the dynamics of sales and the quick response to orders.

**B. Logistics operators.** Logistics operators or providers of logistics services, storage, storage and conservation, have developed at a sustained pace in the last 10 years in Romania. They meet the needs of business development for manufacturers and distributors. Their main problem is given by the fact that many logistics companies are concentrated around big cities and fewer in small towns or in rural areas. This means that there is a certain distance from the producers located in the localities in the depth of the territory, and this fact leads to high costs for transportation and then for storing the products. Because of this, some of the owners of the logistics centers have become buyers of many products, which they resell at certain seasonal times, against the background of the increase in demand and prices, thus leading to an increase in the price, at the time of purchase by the final buyer.

Lengthening the supply chain solves a problem for producers, but ultimately leads to higher product prices, which leads to lower demand. This results in a series of problems and difficulties for producers, who can no longer obtain the expected profits, a situation that leads to losses due to the increase in the storage period, in addition to the fact that some products spoil and thus increase losses for producers. Some of the logistics operators take advantage of the fact that producers: do not know how many such warehouses are in their area, county or region; they do not have the means of transport to transport their products to long distances, compared to the place where they have their headquarters or warehouse and from here they can increase the prices for storage, buy their products which they resell at a higher profit than the one obtained by the producers. It can be appreciated that "that's the free market", but such phenomena, in the end, have negative implications on demand and supply.

**C. Transporters.** For an "online" business, knowing and using information about carriers, creating a database with them, comes to the aid of producers and end customers, who will be able to quickly receive the products purchased from the portal of the company that makes the sales. All the more important is the fact that it is very easy to find the companies and means of transport, the closest to the place of storage of the products, at the producers or at the logistics operators, where the producers store their products. The fact that through a portal, with the purchase of the product, you can obtain the optimal method and means of transport, comes to the support of the client and practically the business depends on the carrier, so that the product reaches its destination on time. It is also important that once the product is delivered, the carrier is guaranteed to receive his money immediately.

**D. "Wholesale" importers.** They bring the products into the country, imported from abroad and which they sell directly to customers (in the case of raw materials or semi-finished products, usually processing factories), to county or local wholesale distributors, to large store chains such as "mall", but also to small shops. They do not sell directly to private customers, due to the small quantities of products requested and the problems related to transport.

#### 4.2. Competition and current challenges

For such a business, at present, it can be appreciated that there is already competition, and this is no longer only at the national level, but also at the international level, because a customer can buy directly from a manufacturer or distributor from abroad and offers the guarantee that he can receive the purchased product at home. The competition for such a business must be understood by following and analyzing the situations of the following economic entities:

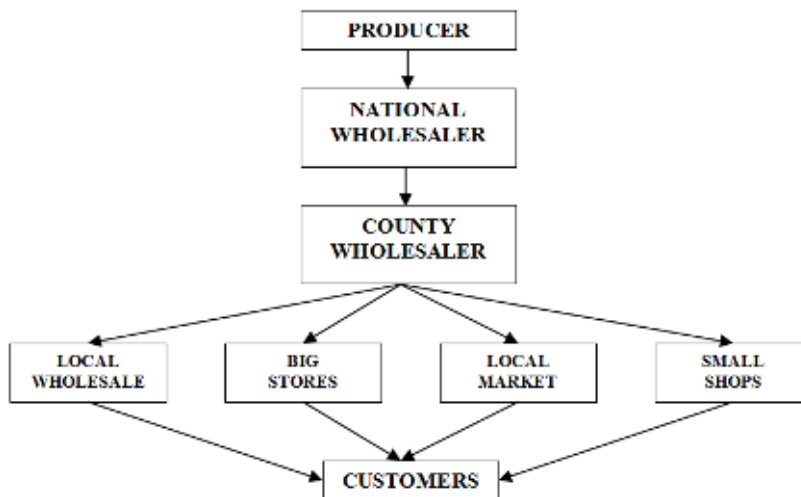
**1. The large national chains of stores of the "mall" type.** These are the ones that take over large quantities of products, directly from the producers, with payment after the sale or on time. Large store chains have a national level distribution, usually in big cities, county seat, but also in other big cities in the province. For certain products, they offer the possibility of online purchases. From the estimate of the reported turnover, even if there is no detailed information, it can be appreciated that they will invest and increase the online sales capacity of the products they offer on the shelf. For this study, we followed the situation of the following store chains: Cora, Kaufland, Lidl, Mega Image, Metro, Penny, (Cora, 2022), (Kaufland, 2022), (Lidl, 2022), (Mega Image, 2022), (Metro, 2022), (Penny, 2022).

**2. Importers.** Against the backdrop of the decrease in national industrial and agricultural production, importers have taken over the role of intermediaries for all types of products, from food to materials, machines and installations. They use partnerships for the distribution of imported products to large stores, wholesale distributors and even directly to stores. We analyzed the situation from the following companies: Aliadi and BTF Grup General, (Aliadi, 2022), (BTF, 2022).

**3. The local market.** This is represented by the agri-food markets and various products, in cities and in larger rural localities. Within them there are shops and stalls of producers or distributors, alongside those of small traders, natural or legal persons. These markets still have a large share in the purchase of food and non-food products, by customers with low and medium incomes, in most localities in the country. Even if the large stores have started to be sought after, these markets still constitute themselves as real competitors for online stores.

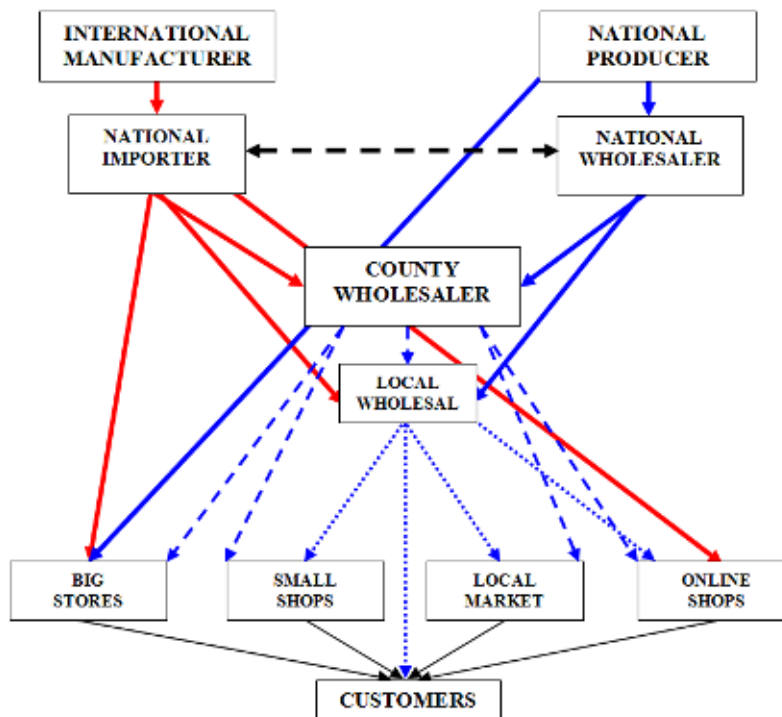
**4. Wholesale deposits.** At the national level and in each county, there are the headquarters of some companies whose object of activity is the purchase of products in large quantities, from producers or importers, which they then distribute to stores or agri-food markets. Among them are a number of product importers, who also purchase products from local or national producers. Compared to what we call "classic trade", figure 1, we can see a change in the way transactions are carried out, which differs from the "classic" one and which can be called a "cross trade", figure 2.

Figure no. 1. "Classic" trade



Source: Author's study

Figure no. 2. Modern "cross" trade



Source: Author's study

**5. Online stores.** The competition of some online stores, with a similar or close object of activity, which addresses the same producers and customers, is in full development. Some of these stores have concluded framework contracts with the manufacturers and based on the orders they receive from customers, they request the products from them, hire the means of transport and send them to the customers. Customers pay for products and shipping online, at the time of purchase or when they arrive at their destination. Another category of online stores, they only sell information about manufacturers and products, the so-called "information brokers", such as: "Market" Magazine and Olx, (Market, 2022), (Olx, 2022).

#### 4.3. Managerial strategies for "online" sales

In order to understand the strategies that companies must adopt and managers must manage, several aspects must be followed, as follows:

**A. Service and pricing policy.** This consists in connecting, indirectly, producers, storage and transport service providers, with customers (final beneficiaries). The products can be found at the manufacturer, importer, wholesale distributor or at certain stores, from the own chain of stores or from partners. An online sales company must enter into partnership contracts with everyone and when the customer places an order, it sends the order to the person who owns the product, who then transfers it to the customer.

With the help of the website or the portal, customers will find a series of information shared as follows: product presentation, prices for each individual product. Customers can benefit from the following facilities:

- To choose their products, depending on the quality or brand.
- To choose the products according to their prices, from the cheapest to the most expensive, which are presented on the page.

- To make the payment online, from his bank account, to the company's account.

The online sales company can perform the following operations and activities:

- Apply the commercial surcharge and VAT to the product.
- Collect the money for the product and then transfer the price of the product requested by the manufacturer.

- If the product is in its warehouse, prepare the product to be delivered. If the product is in the warehouse of the manufacturer, importer or wholesaler, they will prepare the product for delivery, to the company or directly to the customer, as established by the contract.

- The online sales company hires the necessary means of transport, groups' deliveries from the same locality or from a certain region, for a single distribution transport, with the aim of reducing transport costs.

- Along with the product, it sends the accounting and accompanying documents to the customers.

The carrier, together with the delivery of the products, requests and receives the price for the transport, directly from the customer, when he makes the payment for the product. A number of online stores separate the shipping payment, so the carrier receives the shipping payment when they deliver the product to the customer.

- The company does not intervene regarding the price for storage or transport. He can only increase or decrease the commission he applies to each product. But, any kind of intervention on the price of the product will lead to an increase in the price for the final customer. That is why pricing policy is essential for this type of business.

**B. Distribution policy.** An online sales company can use the following distribution policy:

- The customer is the one who accesses the internet page and enters it until the product he wants to purchase.

- The customer chooses the product, makes the payment and sends his contact details. Then he receives a message from the company regarding the estimated date for the delivery of the product to his home. During this time, the company contacts the owner of the product and arranges the transport.

In practice, the online sales company mediates transactions with products, to which it adds a commission and offers the guarantee of the collection of money by producers or importers, and logistics operators and carriers are protected from non-payment situations, which occur in other types of commercial transactions.

**C. Managerial analysis of the business.** In order to establish the strategies it can follow, an online sales company has several managerial tools at its disposal, of which the easiest to use is the SWOT type analysis (Bacanu, 2006), which appreciates that "for an effective use of the SWOT analysis, it is necessary to know its theoretical and practical limitations". It can be appreciated that such a business, of this type, needs a SWOT type analysis, even under certain conditions, because it is easy to understand and use by managers who do not have specialized economic training (management or marketing). For this type of business, the following aspects can be considered:

**I. The positive aspects.** They can be classified as follows:

1. New business, launched on the Internet, targeting a very large number of manufacturers, logistics operators and carriers.
2. Free access to information and products for natural and legal customers.
3. It allows a very large number of clients to access information and data.
4. The majority use of the online menu, for purchases and making payments.
5. Optimized prices, lower than those in regular stores, which have a reduced commercial markup (5-10%).
6. It offers the possibility to easily find a product, a warehouse and a means of transport, all on the same page.
7. It provides the quick receipt of the response regarding the orders launched, the price and the means of transport.
8. Provides the guarantee of making payments for product purchases, for the rental of storage spaces and means of transport.
9. Excludes the situation in which a legal person, declared insolvent or in which the liquidation or bankruptcy procedure has been initiated, can purchase the products, whose accounts are blocked.
12. It guarantees the customer's receipt of the requested products, at the time sent by the carrier.
13. Offers the possibility of returning products that contain hidden defects or are of lower quality than those for which payment was made.
14. Provides a legal framework for carrying out transactions, presents guarantees for the protection of personal and company data.

**II. Negative aspects.** Like any kind of business, starting from scratch, the following aspects must be considered:

1. Very big investment. At the very beginning, the investments will be borne from the income of the sole owner, associates or shareholders for:
  - Purchases of: electronic equipment, computer programs, communication equipment, vehicles, office equipment, furniture, etc.
  - Payment of market studies.
  - Payment of court fees for establishment.
  - Payment of the accounting service, payment of salaries, fees and taxes.
  - Administrative expenses, telephone, fuel, travel, bank fees, etc.
2. The time required to create the website. A long duration of time is estimated for the creation of the database and the website, depending on the number of specialized people employed by the company to create them.
3. Dependence on carriers. The dependence on the means of transport of the carrier partners is given by the fact that they must respond promptly to the requests of the customers. Any kind of delay in transport can lead to the loss of customers, problems and conflicts between partners.
4. Competent staff. The difficulty of finding and hiring specialized, competent people who remain loyal to the company.
5. It is the type of "directors' company", that is, the activities require the employment of a large number of employees in managerial positions, which leads to very high costs with salaries.
6. Collaboration with partners. It is estimated that there will be difficulties in convincing producers and large customers to become partners of the company, to conclude collaboration contracts and, above all, to respect them. An important role will be played by the representatives of the company who will contact and then negotiate with them, because the style of the negotiator and his way of being can influence the conclusion and maintenance of contracts.

**III. Threats.** They must be analyzed and understood in the context of the general affairs of the national economy, but also geopolitically, in this region, because they can influence the development of the business or, on the contrary, bankruptcy. Among the most important threats can be listed:

1. The stability of large customers. One of the most important strategies is to keep big customers (big stores, factories) to use the company's website for their purchases. The predictability of customer stability is very important to ensure constant profit, to cover the company's operating costs and to be profitable. Even if partnership contracts will be concluded, with firm contractual clauses, they do not offer the guarantee that these large customers will make

purchases only with the help of the company's page, considering the competition that already exists at the national level, in different product categories.

2. The problem of transport. It is possible that as the number of individual clients increases, especially in certain seasonal periods (autumn, before public holidays). This situation is favorable for the company, but it will require a large number of means of transport, which will lead to certain logistical problems, both for producers and, above all, for transporters. If the grouping of products is chosen to be transported when loading a means of transport, it is possible that the duration to reach the destination will be longer, which may lead to the loss of customers, who have been waiting for the products to reach them within a reasonable time.

3. Loyalty of partners and customers. A predictable and possible situation is that after the first sale, producers and beneficiaries can collaborate directly with each other, without using the internet page, with the idea of "saving" the commission, VAT payment and even "doing business at black market". Another situation is that they can stay on the site, trade a much smaller amount of products and directly purchase a much larger amount. In this way, they remain partners, to have easy access to information, to receive the financial-accounting documents for part of the purchased products, but they will pay less for the transactions carried out.

4. The commercial addition. The small commercial add-on, promoted by the company, requires a very large number of transactions to be able to cover the operating costs and obtain a profit. From here it follows that the best option must be chosen, in order to ensure the existence of the company and the obtaining of profit. This means that, from the launch of the business, a very large number of producers and beneficiaries must be registered in the database, who must be convinced to use the company page.

5. Inflation. For the next period, the biggest threat is inflation and uncertainties regarding the evolution of the national economy, which have direct influences on production and transport in particular. A rising inflation will make producers artificially increase prices, due to fears that it will rise even more, and products sold at a lower price will lead to big losses. Also, the purchasing power of the population will decrease, which will have the following negative effects:

- It leads to a decrease in the demand for products.

- Decreases the number of transactions per page.

- Customers will look for solutions to eliminate intermediaries, in order to maintain price control.

In such a period of crisis, as a rule, the first to disappear from the market are the intermediaries.

6. Government programs. There is a possibility that for some of the producers in agriculture and the food industry, through programs financed from the State Budget, a series of presentation and retail stores for small producers will be created. Such an investment by the state, if it will be realized in every county, will represent a strong competitor for all business intermediation firms with products sold over the Internet.

7. The risk of minimizing expenses. Considering the objectives of such a business, the estimated costs and the number of people that must be employed, there is a tendency for some managers to seek to minimize costs and investments, according to the aphorism "seeing and doing", which can lead to the following situations :

- Employing people who accept salaries below their level of professional training. This may mean that the respective persons are not trained at a high level in their profession and that they accept a salary below the level of the position. But also the fact that very well professionally trained people agree to get hired and work for a period of time, until they find another better paying job.

- Postpone the purchases of equipment, installations and materials, considering that they are of little importance

**IV. Opportunities.** Regardless of the state of the national economy and the fiscal legislation, there are still a number of opportunities that companies can use to develop and obtain profit. For this type of company, the following opportunities can be estimated:

1. Large number of manufacturers. It is estimated that the number of producers in Romania will increase, especially regarding agricultural and food products. Considering the granting of financing for small producers, from governmental and European funds, for investments and ensuring production, it can be appreciated that domestic production will increase in certain segments and

from here, the need to sell and distribute will also increase, so that the products reach the beneficiaries in a reasonable time, and the producers obtain a real profit, which will allow them to make new investments and develop.

2. Very large number of beneficiaries. The opportunity is particularly given by the fact that there are localities in the country, which do not have easy access to online product purchases, where the products purchased via the Internet are difficult to reach and which still prefer to go to the agri-food market or to the shops, for to shop for consumer goods. This situation represents an opportunity in that such a company offers the possibility of choosing the product from the place closest to the customer, then the most convenient means of transport and there is a guarantee of receiving the product on time.

3. Providing business consultancy. Such a firm, which has a database with a large number of partners, can offer consultancy for those partners who do not have sufficient information about the market, about prices, storage and transport. This is an opportunity for partners, because the costs to obtain this consultancy can be high and small producers, in particular, cannot afford to request this type of service from companies that offer them a fee, and the company can offer it for free, in order to maintain and retain its partners. The company of this type of "directors" has specialized staff that can offer this consultancy. In this way, the social responsibility of the company is no longer just a theory, but becomes a reality.

**D. Management strategies.** Managers must understand that the company's strategy aims to obtain a competitive advantage in accordance with its mission (Iordanoia, 2012), that is, they must consider the future period of activity, for a term of 3-5 years, to contain the essential elements with a focus on the company's major developments. One of the basic ideas for defining a company's strategy is that of "not engaging the fight, except on the ground where it has assets" (Ciobanu, 1998).

Following the way of carrying out the SWOT type analysis, I believe that the management strategies must be designed starting from the positive aspects, presented previously. Among these, a few managerial strategies can be chosen as follows:

1. Attracting a very large number of partners and customers. The business must address a very large number of producers, logistics operators, transporters and customers. From here, the marketing plan for searching, finding and attracting them to the business must be designed.

2. The internet page – the engine of the business. Creation of a website that provides free access to information about products and complementary services, for all partners and customers. The website must have a name that is easy to remember, that can be accessed from a computer, tablet and phone, in a simple way, for posting offers and for placing orders. It must also offer the possibility of online payments.

3. Price flexibility. Depending on the evolution of sales, the company must establish a strategy to design and optimize prices and, above all, to quickly change them in order to stimulate demand from customers. Cheap products = small commercial markup to stimulate a large number of transactions. Expensive products = high commercial addition, leads to low number of transactions.

4. Correctness of transactions. Through the partnership contracts, the way of creating the page, the company must offer the guarantee of the correctness of the transactions, of the fact that the customers, as well as the producers and the transporters will receive their payment, at the terms established by the contracts or upon the delivery of the products at their destination. Fairness means respect for partners and this, in the medium and long term, will lead to the growth of the company's reputation. It also intervenes when the products have deficiencies, when it is necessary to return them and send a corresponding product or return the money. All fees and taxes to the state will be paid on time, to avoid any situation of fiscal evasion.

Depending on the evolution of the company and the market, the strategies can adapt or change, constantly aiming for the company to be one step ahead of the competition, in terms of adapting to changes in the economic environment, to the introduction of new technologies and above all, to have as employees, the best professionals in the field.

**E. Marketing strategies.** These can be established through the annual marketing plan, through the long-term plan and through the strategic plan (Kotler et.al, 1999), which involves the following stages since the establishment of the company:



1. Carrying out a Marketing study. A Marketing or market study, which the company must do, with the help of its own employees or through a specialized company. The company can use its employees, if they have specialized studies and have experience in conducting market research, because the main strategic directions of action will depend on the results of this study.

2. Promotion of the website. After the market study, it is necessary to establish the promotion strategy. This may include the following elements: advertising, personal contacts, page promotion, advertising, direct public relations, participation in trade fairs and profile exhibitions. As a rule, the means of promotion that a company of this type can use are the following: presentation catalogs; organization of stands at fairs and exhibitions; advertising on radio, TV and print media; presentation on social media pages; the use of a "call-center", through which potential clients are searched, etc. This activity can be carried out on a local, county, regional and national level.

3. Monitoring the competition situation. The analysis of the competition is necessary to be able to develop marketing strategies efficiently (Kotler et.al, 1999), to be able to permanently compare the products, prices, distribution and promotion channels, with those of the competition. In this way, "areas of competitive advantage or disadvantage" can be discovered. From here, the company can better organize its activities, optimize or reduce costs, adapt to the market, adapt the promotion, find the market segments that bring it profit and in this way reduce the impact of the competition.

These marketing strategies can be supplemented and adapted to the market situation, to the appearance of new competitors and to changes in the attitude and behavior of consumers.

## 5. Conclusions

This type of business primarily depends on the technology part for the Internet and the specialized programs for creating a database, the presentation page and for making transactions.

Secondly, the component related to human resources is very important, because it requires a higher specialized training, and a large number of employees will occupy management positions within the company.

Thirdly, the final goal of developing strategies is to obtain a competitive advantage, which will mean that the company has provided high-quality services, which matter to partners and clients, who can constantly compare them with those offered by the competition.

Finally, the company must pursue innovation in this field, the one that will guarantee profit and stay in business.

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## The Evolution of Tourist Accommodation Capacity in Romania. The Case of the Romanian Black Sea Tourist Coastal Resorts

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### Abstract

*After 1990, in Romania, following the privatization of most tourist accommodation units, investments were directed towards modernizing and raising the comfort level of tourist accommodation units and new units were built.*

*In this paper, we have analyzed the evolution of Romania's tourist accommodation capacity in recent years, especially regarding the coastal area. The analysis can be useful in making future investment decisions in new units.*

*Even though, compared to the EU-27 countries' average, in Romania the increase in the number of bed - places has been superior in the last decade, nevertheless we consider that there is still a need for investment in new units of superior comfort and for further modernization of the older units.*

*The main issues faced by tourism in Romania are not about the existing accommodation capacity, but rather with the low occupancy rate, the short average length of stay and the small number of foreign tourists.*

**Key words:** tourist accommodation capacity, Romania, Romanian tourist coast, net occupancy rate, evolution perspectives

**J.E.L. classification:** L83, O11, O47, O57, Z31

### 1. Introduction

The tourist accommodation capacity of a country, region or tourist destination, as well as its structure, by type of tourist accommodation unit/establishment and by category of comfort are essential for the tourist offer of the respective destination. Not only the number of tourist accommodation units with tourist accommodation facilities and the number of existing bed - places are important, but also their level of comfort and their structure, by type of accommodation unit.

The existing tourist accommodation capacity in Romania has undergone important transformations in the last 3 decades, both in terms of quantity and of quality, in terms of the significant increase in the number of accommodation units and tourist bed - places classified into medium and superior comfort categories. Thus, after 1990 there was, on the one hand, a significant decrease in the capacity of operating tourist accommodation, through the removal of some old units from the tourist circuit, and on the other hand, especially, an improvement of its structure in terms of increasing the degree of comfort through investments which allowed the classification of tourist accommodation units into higher categories of comfort.

The highest concentration of Romania's tourist accommodation capacity is in the Black Sea coastal area, namely in Constanța County. Romania's coastal area has a total length of about 245 km, from the Danube River's mouth into the Black Sea, through the Chilia branch, from the border with Ukraine, to the North, down to Vama Veche, at Romania's border with Bulgaria, to the South.

The resorts and tourist localities on the Romanian coast are concentrated exclusively in Constanța County, on a length of about 100 km. In Constanța County, more than 99% of the existing accommodation capacity is located in the coastal area, which is why, often, when referring to the Romanian coast, the analysis focuses, in reality, on data about Constanța County (INS-DJSC, 2021, p. 119).

The aim of this paper is to demonstrate the fact that, although Romania's tourist accommodation capacity has developed and expanded at higher rates in the last decade compared to the average developments in EU countries, there is still a need for further investment in new units, especially in the ones pertaining to superior comfort categories, including those in the coastal area. For example, Romania still has insufficient tourist accommodation capacity as far as 5-star units are concerned.

## 2. Literature review

An attractive tourist area cannot become a tourist offer without first having the necessary facilities to welcome tourists (Minciu, 2004, p.178).

Tourist accommodation capacities in the hotel industry, i.e., those units of the material base of tourism which ensure the conditions for tourists to stay overnight for a certain period of time, make up the most characteristic element of the technical-material base of tourism (Snak *et all.*, 2001, p. 320).

While analyzing the evolution of tourist accommodation capacity in Romania since 1970, Minciu highlighted the trend of increasing the number of tourist accommodation units and bed-places until the years 1988-1989. Thus, in the year 1988 the maximum number of 427,543 bed-places was reached, followed by almost continuous annual reductions in the period after 1990, mainly due to the removal from the tourist circuit of some old units in an advanced state of wear and tear (Minciu, 2004, p. 183).

More recent analyses of the evolution of accommodation capacity in Romania, including after the outbreak of the COVID-19 pandemic in the year 2020, have highlighted not only the changes in the size of tourist accommodation capacity in Romania after the year 1990, but also some changes regarding their structure, by comfort category (Jugănar, 2022, pp. 309-318).

## 3. Research methodology

In order to achieve the intended purpose, namely the analysis of the evolution of the tourist accommodation capacity in Romania, in this paper we have used the desk research method, so as to create a secondary, quantitative, longitudinal database (Jugănar, 1998). The information was selected from official statistics published by the Romanian authorities at central and territorial level, as well as from Eurostat and it refers to indicators, such as: the number of tourist accommodation units with tourist accommodation facilities by tourist destinations, the tourist accommodation capacity in tourist accommodation units with tourist accommodation facilities; the existing tourist accommodation capacity by types of tourist accommodation units; the number of tourist bed - places in some EU-27 member states; the net occupancy rate of operating tourist accommodation capacity, as well as other relevant tourism indicators (Tables no. 1-7).

The processing of statistical data and the interpretation of their evolution have been the basis for the elaboration of conclusions and proposals for further analysis, with a view to formulating future decisions regarding the realization of new investments in the expansion and modernization of tourist accommodation capacity in Romania, by tourist areas and destinations, as well as regarding the construction of new units, according to the evolution of tourist demand.

## 4. Findings

Although some tourist resorts in Romania are more than 100 years old (as is the case, for example, of Mamaia resort, on the coast), the most important development of the tourist accommodation capacity took place in the 7th-8th decades of the last century, especially through the construction, from the ground up, of new tourist resorts totaling tens of thousands of tourist bed - places, in the Black Sea coastal area.

Whereas in the year 1970, in Romania there were 2,385 operating tourist accommodation units, with a total number of 248,434 bed - places, due to the investments made in the construction of new units, in order to meet the growing tourist demand, in the year 1980, there were 2,570 units, with 301,519 bed - places. In the year 1985 the number of units reached was 3,330, with 353,236 bed - places, until the maximum capacity was reached in 1988, of 427,543 bed - places, after which the

accommodation capacity was significantly reduced, so that in the year 2000 there were only 3,121 units, with 280,005 bed - places (INS, Statistical Yearbook of Romania, 1997, p. 712 and Operational Statistical Information Bulletin no. 4/2003).

In the year 2010, the tourist accommodation capacity on the Romanian coast was 124,643 bed - places. However, in the subsequent statistics published by the National Institute of Statistics of Romania (INS) a change in methodology was made, i.e., the statistical research on the occupancy of tourist accommodation units with accommodation facilities only addressed the tourist accommodation units with at least 10 bed - places. This is why, in the year 2011, the data published by the INS showed a capacity of only 83,751 bed - places on the coast. In other works, such as the annual publication entitled *Tourist accommodation capacity existing on 31 July*, available since 2016, the INS shows tourist accommodation units with a capacity of at least 5 bed - places.

In the 2012-2019 period, in Romania, the total number of tourist accommodation structures with tourist accommodation facilities increased by 44% (Table no. 1); however, the developments were quite different, depending on the main categories of tourist destinations (Table no. 1). Thus, the most important increase in the number of units was recorded in the tourist resorts in the Danube Delta area, including the city of Tulcea (+87%), followed by those in the mountain region (+70%) and other localities and tourist routes (+53%). More modest increases were recorded in Bucharest (the capital of the country) and in the county seat localities, but also in the balneary resorts (+19% each), as well as in the coastal resorts, with the exception of Constanța city (+25%).

*Table no. 1. The evolution of the number of tourist accommodation units with tourist accommodation facilities by tourist destinations, in Romania, in the 2012-2019 period*

<b>Year</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2019 / 2012</b>
<b>Tourist destinations</b>									
Total Romania	5821	6009	6130	6821	6946	7905	8453	8402	1,44
Balneary resorts	488	499	451	479	486	577	594	597	1,19
Coastal resorts, excluding Constanța city	676	689	690	686	701	776	766	848	1,25
Mountain resorts	1376	1497	1609	1822	1878	2270	2374	2342	1,70
Danube Delta area, including the city of Tulcea	136	135	138	138	136	125	286	254	1,87
Bucharest and county seat cities, excluding Tulcea	1295	1337	1318	1450	1433	1472	1545	1535	1,19
Other localities and tourist routes	1850	1852	1924	2246	2312	2685	2888	2826	1,53

*Source:* Author's own calculations, based on information taken from the INSSE Tempo online database

While in the year 2019, compared to the year 1990, the number of tourist accommodation units increased by more than 3.3 times, in Romania, in the tourist resorts from the coastal area of the country it increased by only 12%.

However, more significant and more important than the evolution of the number of units is the evolution of the existing tourist accommodation capacity, expressed in bed - places (Table no. 2).

Table no. 2. The evolution of tourist accommodation capacity in tourist accommodation units with tourist accommodation facilities in Romania and in the coastal resorts, excluding the Constanța city, in the 2012-2019 period

Number of bed - places									
Year	2012	2013	2014	2015	2016	2017	2018	2019	2019 / 2012
<b>Indicator</b>									
Number of bed - places Romania	293,036	301,109	305,707	328,313	328,888	343,720	353,835	358,119	1,22
of which, by categories of comfort:									
-5*	7,881	7,806	7,887	8,650	8,608	8,925	8,918	9,150	1,16
-4*	38,635	40,710	42,496	46,699	49,065	54,361	61,618	62,917	1,63
-3*	96,579	104,249	109,691	117,153	119,403	125,940	134,075	141,355	1,46
-2*	91,700	90,747	86,092	87,726	84,862	82,923	75,905	70,790	0,77
-1*	23,822	19,364	20,025	22,039	19,937	17,676	15,982	14,802	0,62
- unclassified	15,039	14,056	14,617	10,852	9,619	9,396	8,763	8,495	0,56
-in coastal resorts, excluding Constanța City -total	80,840	82,563	83,625	83,353	81,635	80,618	80,665	85,081	1,05
of which, by categories of comfort:									
-5*	868	818	818	836	952	1208	1184	1386	1,60
-4*	6,444	8,097	7,369	9,039	9,512	11,242	12,802	13,000	2,02
-3*	21,237	23,580	26,887	26,946	28,446	30,828	34,843	39,267	1,85
-2*	35,631	35,240	32,739	32,432	30,699	28,918	24,709	24,346	0,68
-1*	11,549	9,583	10,805	12,235	10,505	7,010	5,685	5,506	0,48
- unclassified	4,872	5,006	4,768	1,652	1,286	1,228	1,228	1,214	0,25
Share of bed-places in coastal resorts, excluding Constanța City in total Romania	27,5 %	27,42 %	27,35 %	25,34 %	24,82 %	23,45 %	22,80 %	23,76 %	

Source: Author's own calculations, based on information taken from the INSSE Tempo online database

From the developments presented in Table no. 2, we can notice the fact that, in Romania, in the 2012-2019 period, the total existing tourist accommodation capacity, expressed in bed - places, increased by 22%, reaching 358,119 bed - places in 2019. However, compared to the year 1990, the total existing accommodation capacity of the country was only 4% higher in 2022 (Table no. 6).

In terms of structure, by category of comfort, the highest increase was recorded in the 4-star category, i.e., 63%, followed by 3-star units, with an increase of 46%. On the other hand, there were significant decreases in the number of bed-places in the one-star category (-385%) and in the two-star category (-23%). This means that there has been an improvement in the comfort level of the tourist accommodation offer, given that the share of bed - places in the 3-star category was 39.48% in 2019, and the share of 4-star bed - places was 17.57%, compared to the shares of 32.96% in the 3-star category and just 13.18% in the 4-star category in 2012. The 9,150 bed - places with a 5 stars

classification remain, however, too few, in 2019, representing only 2.59% of the total number of bed - places in Romania.

As regards the evolution of the tourist accommodation capacity in the Romanian Black Sea coast area, which represents the area with the highest concentration of tourist accommodation capacity in Romania (over 24% in 2019), its quantitative evolution was rather modest, the increase in the total number of tourist bed - places being only 5% in the 2012-2019 period; however, the qualitative evolution, by category of comfort, was better than that of the whole country. Thus, the number of bed - places in the 4-star category doubled during this period, and the number of those in the 3-star category increased by 85% (they account for more than 46% of the bed - places in the coastal area). Moreover, there was a 60% increase in the number of 5-star bed - places. In contrast, there was a 52% decrease in the number of bed - places in the 1-star category and a 32% decrease in the number of 2-star bed - places.

We would like to point out that these figures do not accurately reflect reality, given that the statistical data of the National Institute of Statistics (INS) in Romania do not include in this category the tourist bed - places in the city of Constanța, even though it is also located on the Black Sea coast. Therefore, in reality, the number of tourist bed - places found on the Romanian coast exceeds a quarter of the total number of tourist bed - places in the country.

Taking into account the fact that all the tourist resorts and localities on the Romanian Black Sea coast are located in Constanța County, and that almost 99% of the tourist accommodation capacity in this county is found on the coast, we consider that it would be closer to reality to compare the evolution of the tourist accommodation capacity in Constanța County, which concentrates the entire tourist offer on the coast, with that of Romania (Table no. 3).

*Table no. 3. The evolution of existing tourist accommodation capacity by type of tourist accommodation units in Romania and Constanța County in the 2012-2019 period*

Year	Number of bed - places								
	2012	2013	2014	2015	2016	2017	2018	2019	2019/ 2012
<b>Existing tourist accommodation capacity</b>									
Total Romania	301,109	305,707	311,288	328,313	328,888	343,720	353,835	356,562	1,18
Constanța County total, of which, in:	84,690	85,756	87,496	87,848	85,285	84,157	85,418	89,902	1,06
- hotels	63,148	64,232	65,209	65,616	64,083	65,733	66,949	69,272	1,10
- hostels	2,117	2,141	2,302	3,607	3,837	4,081	4,134	3,534	1,67
- apartment hotels	672	672	672	752	752	752	704	704	1,05
- touristic villas	4,519	4,483	4,580	4,833	4,439	4,698	4,925	5,248	1,16
- bungalows	1,599	1,599	1,531	1,531	1,543	1,779	1,785	1,896	1,19
- camping	6,907	6,770	6,963	9,037	8,087	4,366	3,883	5,815	0,85
- tourist lodges	194	194	702	194	194	194	619	619	3,19
- tourist cottages	1,102	1,102	978	456	456	506	506	482	0,44
-tourist pensions/ guest houses	351	468	468	537	569	501	450	635	1,81
Share of accommodation capacity from Constanța County in total Romania	28%	28%	28,1	26,8%	25,9%	24,5%	24,1%	25,2%	

*Source:* Author's own calculations, based on information taken from the INSSE Tempo online database

If we analyze the situation by types of tourist accommodation structures, we can notice that in the year 2012, the share of tourist bed - places in hotels was 74.6% of the total accommodation capacity in Constanța County, and in the year 2019 the share increased to 77.1%.

### 5. The evolution of tourist accommodation capacity in some EU-27 member states, in the 2012-2019 period

Throughout the analyzed period (2012-2019), the number of tourist accommodation units in the EU-27 increased overall by 33% (Table no. 3), whereas the increase in the number of bed - places was only 9% (Table no. 4), which indicates the fact that more new establishments, with relatively small accommodation capacities in comparison with those with large capacities, were created and put into operation during this period.

In order to adhere to the size limits required for the publication of this paper, we have selected for our analysis a limited number of EU countries: Romania, Bulgaria (Romania's neighboring country, with a similar, comparable tourist offer), Italy, France, Spain, Germany, the countries with the largest accommodation capacities in the EU, as well as Greece and Croatia, other important European destination countries undergoing interesting developments.

From the analysis of the evolutions recorded in these countries, we can notice different situations, namely significant increases, well above the EU-27 member states' average, in the number of tourist accommodation units in Croatia (+97%), Romania (+60%), and in other countries we note smaller increases than the EU-27 member states' average, in France (+4%), Greece (+13%), Spain (+16%), while in Germany there was a 4% decrease in the number of units, even though the number of bed - places increased. Bulgaria registered the same increase in the number of existing tourist accommodation units as the EU-27 member states' average (+33%).

Table no. 4. Number of establishments in the European Union and in some selected countries

TIME GEO	2012	2013	2014	2015	2016	2017	2018	2019	2019 vs 2012
European Union - 27 countries (from 2020)	466, 363	475, 200	483, 230	501, 355	524, 752	571, 674	599, 507	617, 953	1,33
Bulgaria	2,758	2,953	3,163	3,202	3,331	3,346	3,458	3,664	1,33
Germany (until 1990 former territory of the FRG)	52,401	51,652	50,925	50,572	50,152	50,032	50,020	50,498	0,96
Greece	33,540	33,657	34,563	35,112	35,597	35,867	37,919	37,827	1,13
Spain	45,740	46,488	47,689	48,328	48,701	50,518	51,418	52,894	1,16
France	28,480	28,246	28,895	30,045	30,047	29,835	29,652	29,683	1,04
Croatia	57,808	62,026	67,724	73,439	83,233	98,341	108, 212	113,761	1,97
Italy	157, 228	157, 521	158, 412	167, 718	178, 449	204, 903	216, 141	218, 327	1,39
<b>Romania</b>	<b>5,113</b>	<b>6,027</b>	<b>6,191</b>	<b>6,949</b>	<b>7,028</b>	<b>7,762</b>	<b>7,720</b>	<b>8,202</b>	<b>1,60</b>

Source: Eurostat, Tourism Database

The evolution of the number of tourist bed - places in the selected EU-27 countries during the analyzed period was much more modest compared to the evolution of the number of tourist accommodation units. Thus, the average increase in the number of tourist bed - places in the EU-27 countries was only 9% in the 2012-2019 period (Table no. 5). Out of all the analyzed countries, the



highest growth was recorded in Croatia (+45%), followed by **Romania (+23%)**. The most modest growth was recorded in France (+2%), followed by Spain (+7%) and Italy (+9%). These are European countries with a tradition in tourism, which have developed their tourist accommodation capacity over many decades, in order to cope with the increasing tourist demand for their respective destinations. Greece recorded a 12% increase and Bulgaria a 13% increase.

Table no. 5. The evolution of the number of tourist bed - places in some EU-27 member states in the 2012-2019 period

<b>TIME</b> <b>GEO</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2019 vs 2012</b>
European Union - 27 countries (from 2020)	26,316,227	26,658,362	26,964,220	27,215,720	27,407,105	27,785,616	28,284,065	28,752,559	1,09
Bulgaria	301,140	302,433	314,257	322,465	328,264	348,724	335,597	341,506	1,13
Germany (until 1990 former territory of the FRG)	3,326,576	3,326,821	3,318,592	3,340,072	3,336,207	3,377,728	3,473,630	3,594,701	1,08
Greece	1,204,845	1,207,394	1,256,518	1,265,992	1,272,640	1,275,436	1,320,890	1,348,890	1,12
Spain	3,414,798	3,437,362	3,482,983	3,526,937	3,515,810	3,558,650	3,599,886	3,638,875	1,07
France	5,013,188	5,049,726	5,109,884	5,133,314	5,133,645	5,113,963	5,111,960	5,098,729	1,02
Croatia	798,928	867,110	893,827	938,613	987,272	1,059,992	1,115,659	1,157,870	1,45
Italy	4,762,601	4,728,180	4,849,432	4,879,333	4,942,512	5,037,798	5,113,197	5,175,803	1,09
<b>Romania</b>	<b>285,488</b>	<b>303,236</b>	<b>308,997</b>	<b>325,841</b>	<b>326,098</b>	<b>338,791</b>	<b>348,592</b>	<b>351,161</b>	<b>1,23</b>

Source: Eurostat, Tourism Database

## 6. The evolution of the accommodation capacity in Romania and in its coastal area after the outbreak of the COVID-19 pandemic

Contrary to many expectations, in Romania, both in the year 2020, after the outbreak of the COVID-19 pandemic, and in the following years, not only has the existing accommodation capacity not decreased, but it has increased each year. The explanation for this situation lies in the fact that there were many investment projects, at various stages of implementation, regarding the creation of new tourist accommodation spaces or the expansion of existing accommodation spaces at the beginning of the year 2020, which continued and were completed in the following years, given that during the pandemic period construction works could be carried out in Romania without severe restrictions, compared to other categories of activities.

The total number of tourist bed - places existing on 31 July 2022 was 367,4 thousand, most of which were in hotels (60.5%). In the coastal tourist area (excluding the city of Constanța), 79,7 thousand bed - places were recorded (INS, 2022, pp. 2-3). However, this tourist accommodation capacity (leaving aside the influence on the results of the changes in the measurement methodology

of the National Institute of Statistics) is 14% lower than the one in the year 1988, when the highest tourist accommodation capacity in Romania was recorded (427,543 bed - places).

In the Romanian coastal area, the evolution has been different in recent years from the one recorded at national level, with decreases in tourist accommodation capacity being recorded in both the year 2020, compared to 2019 and in the year 2021, compared to 2020. However, in the year 2022 there was an increase in the accommodation capacity on the coast which compensated the decreases recorded in the previous years, and a higher capacity than in the year 2019 was reached in the year 2022. Compared to 1990, the existing tourist accommodation capacity on the Romanian coast decreased by 40% in 2022; however, this happened not only as a result of the removal of some old tourist accommodation units from the tourist circuit, but especially as a result of the change in the methodology of the INS, which starting from the year 2010 stopped monitoring the tourist accommodation structures with less than 10 bed - places, which were numerous in the coastal area in the years 1980-1990 (and still are today, because, in the meantime, many other small-sized units have been built).

Table no. 6. The comparative evolution of the tourist accommodation capacity in Romania and in Constanța County in the 2019-2022 period

Year Tourist accommodation capacity	1990	2019	2020	2021	2022	Bed - places				
						2020 / 2019	2021 / 2020	2022 / 2021	2022 / 2019	2022 / 1990
Total Romania	353, 236	356, 562	358, 119	364, 507	367, 386	1,004	1,018	1,008	1,030	1,04
In Constanța County	149, 442	89, 902	89, 304	88, 992	90, 146	0,993	0,996	1,013	1,003	0,60

Source: Author's own calculations, based on information taken from the INSSE Tempo online database

## 7. The evolution of the net occupancy rate of tourist accommodation capacity and the average length of stay in Romania and in the coastal area, after the year 1990

According to the National Institute of Statistics, the net occupancy rate of tourist bed - places "expresses the relationship between the operating tourist accommodation capacity and its actual use by the tourists in a given period" and is calculated by relating the total number of overnight stays to the operating tourist accommodation capacity throughout that period (INS, Tempo online, 2022).

While analyzing its evolution since the year 1992, we can see that the net occupancy rate of tourist accommodation capacity (net occupancy rate of bed-places) in Romania has decreased significantly, from 46.7% in the year 1992 to 34.5% in 1999, to a minimum of 25.2% in 2012, then it improved, reaching 33.9% in 2019, while the fall to 22.8% in the year 2020 was caused by the travel restrictions during the pandemic period, whereas in the year 2021, when restrictions were less severe, the rate rose to 26.3% (INS Tempo online, 2022).

In the coastal tourist area, respectively in Constanța county, the values of the occupancy rate were better, but this is explained by the fact that most of the tourist accommodation capacity on the coast (about 90%) operates only during the summer season, for a duration of only 3-4 months. Thus, after the year 1990 and until 2011, the net occupancy rate of the tourist accommodation capacity in Constanța County gradually decreased, down from 53.2% in 1990 to 40.2% in 2000 and to only 29.7% in 2011, after which it started to improve, up to 35.7% in 2012, then to 48.3% in 2018 and 49.3% in 2019 (Table no. 7).

Table no. 7 also shows the evolution of other significant tourist indicators concerning the coastal area tourism of Romania after the year 1990. Thus, we can notice the fact that, after the sharp decreases in the early 90s of the past century, after 2011 the decrease in the operating accommodation capacity continued, even though the existing accommodation capacity increased every year, due to the reduction of the operating periods of tourist accommodation units, most of them only being

opened on the coast during the summer season, i.e., 3-4 months/year.

*Table no. 7. The evolution of the net occupancy rate of the operating tourist accommodation capacity and of other relevant tourism indicators in Constanța County, after the year 1990*

<b>Indicator Time</b>	<b>Existing accommodation capacity (bed - places)</b>	<b>Operating accommodation capacity (thousand bed places-days)</b>	<b>Number of arrivals (thousands)</b>	<b>Number of overnight stays (thousands)</b>	<b>Net occupancy rate of accommodation capacity (%)</b>
1990	149,442	23,387	1,696	12,448	53,2
1995	121,169	12,124.3	1,042.9	6,859.8	56,6
2000	122,598	9,571.7	757,8	4,801.9	40,2
2010	124,643	9,965.6	803,1	3,166.7	31,8
2011	83,751	11,328.9	844,8	3,361.1	29,7
2012	84,690	10,656.9	953,0	3,799.5	35,7
2018	85,418	10,376.2	1,312.4	5,010.8	48,3
2019	89,902	10,541	1,381	5,197	49,3

*Source:* INS - Constanța County Statistical Directorate, Statistical Yearbook of Constanța County, 2020, p. 217

On the other hand, although the number of tourist arrivals has increased in recent years, surpassing the number of those registered in 1995 (but still well below the level recorded in 1990), the number of overnight stays registered in 2018 and in 2019 barely exceeded the threshold of 5 million, compared to over 6.8 million in 1995 and over 12.4 million in 1990, due to the gradual decrease in the average length of stay, both nationally and in the coastal area of Romania.

The average length of stay has been decreasing in recent years and it remains modest. Thus, for Romanian tourists it was 2.5 days in 2014 and in 2015, decreasing to 2.4 days in 2016 and to 2.3 days in 2017-2019, while for foreign tourists it was even more modest, from two days in 2014 and in 2015, to 1.96 days in 2014 and in 2015, to 1.9 days in 2017-2019 (INS Tempo online, 2022).

In the coastal area, the reduction in the average length of stay has been much more severe, especially after the year 2000. Thus, while the average length of stay in Constanța County was 7.34 days in 1990, it fell to 6.58 days in 1995, 6.33 days in 2005, then to only 3.94 days in 2010, reaching just 3.76 days in 2019. (INS-DJS Constanța, 2021, p.117).

## 8. Conclusions

Romania's tourist accommodation capacity has undergone profound transformations in the last 3 decades, especially in terms of the significant increase in the share of tourist bed - places with a higher comfort, 3 - star and 4 - star, achieved both through investments in the modernization and increase of the comfort level of the old 1- star and 2 - star units, which represented a majority in the early 1990s, and through the construction of new establishments in all tourist destination areas of Romania. Nevertheless, compared to the year 1990, the total existing accommodation capacity of the country was only 4% higher in 2022 (Table no. 6).

In order to adhere to the maximum limits allowed for publication, this paper does not include an analysis of the evolution of bed - places in apartments and rooms for rent.

Regarding the evolution of the existing tourist accommodation capacity in the Romanian Black Sea coastal area, the tourist accommodation capacity of Constanța County in the year 2022, expressed in bed - places, was only 60% of the one existing in the year 1990, which means that investment is still needed for its development; however, this development should not be chaotic, as it has been the case in the last 3 decades.

The main issues faced by tourism in Romania are not related to the existing tourist accommodation capacity, but rather to the low occupancy rate of the existing accommodation capacity, the short average length of stay and the low number of foreign tourists, due to the low interest in its external tourism promotion.

The analysis in this paper will be detailed and expanded taking into consideration the tourist resorts and localities in Romania, the types of tourist accommodation units and the categories of comfort.

In some tourist resorts located in the coastal area of Romania, but also in other areas, there has been significant investment in recent years in the construction of new tourist accommodation units, without always respecting the rules of urban planning and without adhering to sustainable limits in the process of developing the territory for tourism purposes, as is, for instance, the case of the tourist resort Mamaia Nord-Năvodari, where many of the new buildings (most of which are holiday homes or second homes) are located too close to each other, they are very cramped and lacking sufficient parking spaces.

In Romania, the legal framework for the establishment of Destination Management Organizations at local, county, regional and national levels was adopted in the year 2022 (Jugănaru, 2022, pp. 298-308). These organizations will have to monitor, among other things, in collaboration with the destinations' local public administration authorities, the compliance with the urban planning rules and the limits of the territory's tolerance for new constructions in the tourist resorts, so as not to end up in situations of a decreased attractiveness of the respective destinations due to excessive real estate development. In other words, as McCool and Lime put it: 'Tourism carrying capacity is the maximum level of use before degradation occurs' (McCool and Lime, 2016, p. 381).

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## Some Recent Evolutions and Trends, Both Worldwide and in Europe, in the Events Industry, Before and After the COVID-19 Pandemic

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### Abstract

*In recent decades, the global events industry market has grown exponentially in terms of the number of organized events, the total number of participants and those involved in this sector, and its contribution to job creation and GDP formation has become increasingly significant.*

*Studies carried out before the COVID-19 pandemic have shown a series of trends in this sector, such as the reduction in the number of participants in international meetings of organizations.*

*The restrictions introduced during the pandemic period have led to other trends, such as the increase in the number of online or hybrid events. This trend is expected to continue, within limits, when the pandemic restrictions are lifted. However, it seems that many participants in the events continue to want to be present "in-person" whenever possible.*

*The analysis of these trends is of great importance to this industry's stakeholders.*

**Key words:** the events industry, business events, evolution and trends, tourism events, international association meetings

**J.E.L. classification:** L83, Z31, Z32

### 1. Introduction

Gradually, events have become more and more common in our daily lives, becoming important marketing tools (Jugănar, 2021, p. 543).

In recent decades, long-distance travel has become increasingly easy, and events held in various parts of the world have become larger and more inclusive, as participants no longer have to live nearby (Roberts *et al.*, 2022, p. 1147).

Getz defines "tourism events" as the events which are developed and marketed as a way of attracting tourists to destinations, so that they act as a "catalyst" for economic growth in the respective destination (Getz, 2012). Moreover, Getz considers that events are spatio-temporal phenomena, and each of them is unique, due to the interactions between "setting, people and management systems" (Getz, 2008, p. 404), whereas Fenich points out that the events industry touches virtually every aspect of hospitality (Fenich, 2019, p. 2).

The economic and social importance of the events industry has grown increasingly in recent decades, both in terms of its contribution to the global GDP, and in terms of the number of jobs created and retained worldwide.

Oxford Economics, in collaboration with a team of industry professionals and researchers within the Events Industry Council Research Committee, conducted an in-depth research on the global significance of business events (Events Industry Council, 2018).

The information contained in this research provides a clear base of credible statistical data, which allows the significance of this vast and diverse industry to be better understood.

The Events Industry Council is made up of over 30 event industry associations, representing over 103,500 individuals and 19,500 organizations involved in the organization of meetings, conventions, as well as events within the exhibition industry.

The results of the research show the performance of this sector of activity in terms of direct, indirect, and induced expenditure and in terms of employment, as well as the overall impact of business events on the wider economy.

This paper aims to identify the most significant evolutions and trends in the organization of international associations' meetings in recent years. This information can be particularly useful to both the organizations involved in organizing such events, and to the owners of the facilities/venues hosting these international meetings.

### The definition and content of business events

Within this research, the term "business events" refers to bringing together 10 or more participants for a minimum duration of 4 hours at a contracted venue (Events Industry Council, 2018, p. 8).

Business events include conventions, congresses, conferences, trade shows and exhibitions, corporate business events, incentive events, as well as other business events that fit these criteria. Not included in business events are social activities (such as weddings or holiday parties, etc.), formal lifelong learning activities (at primary, secondary or university level), purely recreational activities (such as concerts or performances of any kind), political campaign rallies or the bringing together of consumers by a company for the purpose of introducing them to specific products or services (consumer shows, product launches to consumers) (Events Industry Council, 2018, p. 8).

### The economic impact of business events

The *direct impact*, within the above-mentioned research, includes direct expenditure and the number of jobs directly involved in the planning and producing of business events. The *indirect impact* is the supplier industry impact, also known as the supply chain impact. For example, the facilities (venues) in which business events take place require inputs such as energy. Moreover, many of the venues hosting the events also hire other specialized suppliers who provide cleaning, equipment maintenance, accounting, financial, legal, marketing, etc. services, all of which are examples of indirect impact.

The *induced impact* occurs as the respective employees spend their earned money in the wider economy. For example, the hotel employees who spend their wages on rent, utility bills, transportation, food, etc. (Events Industry Council, 2018, p. 15).

In the year 2017, business events involved over 1.5 billion participants from over 180 countries, generating direct expenditure, i.e., spending on planning and producing the respective events, plus travel expenses for participants and exhibitors, amounting to more than USD 1.07 trillion.

Business events contributed 10.3 million direct jobs to the global economy in the year 2017, and they generated a direct contribution of USD 621.4 billion.

After calculating the indirect and induced impact, the authors of the research estimate the total global economic impact of business events in the year 2017 at USD 2.5 trillion of output (business sales), a number of 26 million jobs involved and a contribution to GDP creation of USD 1.5 trillion. Thus, the business events sector directly generated more output (business sales) than many of the major global economic sectors, including consumer electronics and computers and office equipment. The contribution of the business events sector to global GDP creation was higher than the economies of countries such as Australia, Spain, Mexico, Indonesia, and Saudi Arabia (Events Industry Council, 2018, p. 5).

Table no 1. Business events' summary data, 2017

Indicator Region	Direct spending (billion USD)	Participants (millions)	Average spending (USD)	Share of total Participants	
Global total	1,071.2	1,5020.7	704	100,0%	100,0%
North America	381,0	329,7	1,156	35,6%	21,7%
Western Europe	325,0	444.4	731	30,3%	29,2%

Asia	271,4	482,7	562	25,3%	31,7%
Latin America & The Caribbean	33,0	91,2	362	3,1%	6,0%
Central and Eastern Europe	24,6	66,0	373	2,3%	4,3%
Africa	23,4	80,6	290	2,2%	5,3%
Middle East	12,8	26,1	488	1,2%	1,7%

Source: Events Industry Council, 2018, p. 9

Table No. 1 shows some significant data on business events in the year 2017, as reported by the Events Industry Council.

## 2. Literature review

In the tourism and hospitality journals, articles on the various segments of the events are ubiquitous (Dolasinski, 2021, p. 554). The acronym MICE is frequently used in the specialized literature to refer to events including Meetings, Incentives, Conferences and Exhibitions. The MICE Industry is a component of the Tourism and Hospitality Industry.

The World Tourism Organization (UNWTO) has identified the Meetings industry as an important and growing component of tourism and an important contributor to national economies; however, it needs to work with clear definitions and concepts, in order to highlight its contribution as fully and accurately as possible. To this end, UNWTO has identified two categories of measures needed on both the supply side and the demand side, and it has formulated a series of recommendations on Meeting Industry Data Collection (UNWTO, 2006, pp. x-xii).

Event industry research is considered part of a relatively new field of study within academic research, which is growing in popularity. Such research has only become a field of study in the last 50 years or so, since the 1970s, while research in this area only began to gain widespread momentum in the late 1990s. Much of this research has focused on event tourism, event impact, venue selection and event attendee motivations (Draper *et al.*, 2018).

Conferences and congresses aim to create a certain community of participants during each event. In Fenich's view, for example, the convention is an event in which the participants (attendees) main activity is the participation in meetings, discussions, socializing and attending other events organized on this occasion, such as exhibitions (Fenich, 2019).

Roberts *et al.* set out to generate a theory of events whose aim is to identify and explain human behavior when people engage in events. The authors consider that there are 5 key components of the theory, as identified in the specialized literature, namely: (1) Share purpose, (2) group setting, (3) logistics, (4) safety and security and (5) behaviors (Roberts *et al.*, 2022, p. 1155).

## 3. Research methodology

In this paper, in order to achieve the proposed aim of highlighting the trends in the evolution of the meetings organized by international associations, the desk research method has been used, based on which a secondary, quantitative, longitudinal database has been compiled (Jugănar, 1998).

The information used (consisting of representative indicators) was selected from publications of international bodies and organizations in the field, in particular the Events Industry Council, ICCA and UIA.

The processing of the statistical data and the interpretation of their evolution were the starting points for the formulation of conclusions and proposals for further analysis, in particular with a view to formulating future decisions on further investment in new Conference/Congress Centers for hosting such events.

## 4. Findings

Among the categories of events included in business events, we have chosen to highlight, in this paper, the meetings organized by international associations. In order to do this, we have analyzed reports, studies or other information published mainly by ICCA (The International Congress and Convention Association) and by UIA (Union of International Associations).

### 4.1. Trends in the evolution of the association meetings market before the COVID-19 pandemic

The international meetings market can be segmented according to numerous criteria, such as the size of the event, the type of delegates attending, the purpose of the event, the subject matter (theme) of the event and many others. Nevertheless, the main criterion is the initiator of the meeting, as this determines the type of event to be organized and what services could be offered. According to this criterion, the segmentation of the meetings market is done by defining the two main categories of events: Corporate Meetings and Non-Corporate Meetings (ICCA, 2018, p. 14).

The events in the second category belong to international governmental organizations, as well as non-governmental organizations and associations.

The International Congress and Convention Association (ICCA) is "the global community and knowledge hub for the international association meetings industry. ICCA currently represents over 1,100 companies and organizations, from nearly 100 countries worldwide, from all service categories within the meetings industry. ICCA's area of expertise is the international associations market.

### 4.2. The typology of association meetings

The market for international association meetings covers a wide range of types and categories of events, with medical themes (the most numerous), as well as themes pertaining to scientific, other academic fields, trade organizations, professional bodies, etc.

Although there are important differences between the categories of events, in terms of their size, duration, allocated budget, etc., few similarities can still be identified:

There is at least one organization holding one or more meetings in each specialized field;

Most of the associations' meetings are repeated at regular intervals, most of them annually;

The principle of venue rotation is respected, as the event rarely happens to be hosted in the same venue at short intervals:

The planning (choice) of the destination where the meeting would take place is done many years before the period of its development, often 5 years before;

The local stakeholder is usually a national association which initiates and hosts the meeting (ICCA, 2018, p. 14).

ICCA estimates that there are about 23,000 association meetings organized on a regular basis, 90% of which have been collected in ICCA's database.

However, the international meetings market is not analyzed only by ICCA, but also by UIA (Union of International Associations), even though the criteria of the two organizations are different. Thus, UIA defines "International Meetings", included in its statistics, as those events that meet one or both of the following two criteria:

1) Those meetings organized or sponsored by international organizations included in UIA's Yearbook of International Organizations and which have at least 50 participants (or an unspecified number of participants).

2) Those meetings which are not organized or sponsored by international organizations, but which nevertheless have a significant international character, in particular those organized by national organizations and national branches of international organizations, and wherein at least 40% of the participants come from countries other than the host country, at least 5 nations being represented. The duration of these meetings must be at least 3 days (or an unknown duration) and the event must also host an exhibition with at least 300 participants.



A third category of meetings included by UIA in its own statistical database is that of meetings which meet the conditions of the second category, but which last at least two days and the organized exhibition must have at least 250 participants. Strictly national meetings, as well as those with an exclusively religious, political, educational, commercial or sport theme are not included in UIA's statistics.

Although there is an obvious overlap between UIA's and ICCA's statistical databases, the most important difference between them, from a marketing point of view, is that the events in UIA's records include those hosted in fixed locations, while the events in ICCA's records must follow the rotation rule, being hosted, successively, by at least 3 countries.

The first category of events in UIA's statistics also includes intergovernmental and transnational meetings, such as, for example, those of the EU institutions or of ...

Some information on the content of the 61st UIA's International Meetings Statistics Report was provided in a July 25, 2020 press statement of UIA Statistics Coordinator, J. Fisker. In fact, UIA has been publishing such annual statistical reports since the year 1960.

The meetings included in UIA's database are those organized or sponsored by international organizations, as well as meetings of their main governing bodies, congresses, conventions, symposia, regional meetings bringing together representatives from several countries, as well as some national meetings with international participation organized by the national branches of international associations.

According to the data in this report, the total number of meetings in UIA's database for the entire period was 504,822, of which 465,381 were included in the report, being hosted by 11,468 cities in 254 countries and territories. In the year 2019, 12,472 meetings held in 161 countries were documented in UIA's records.

Of the 41,534 active international organizations, according to UIA's records, 25,709 were known to carry out activities related to the organization of meetings (Fischer, 2020).

#### **4.3. The evolution of the meetings association market in the 1963 – 2017 period, according to ICCA's data**

The special edition of ICCA's Statistics Report, produced on the occasion of ICCA's 55th anniversary, analyzed the evolution of the International Association meetings market in the 1963-2017 period.

During the analyzed period, the growth rate of the number of meetings in ICCA's database was of about 10% per year, i.e., practically the number of organized events doubled every 10 years. Thus, while in the 1963-1967 period, 1,718 organized meetings were recorded, in the 2013-2017 period, the number of meetings reached 65,182.

By major regions of the world (continents, subcontinents), there was a significant decline in the share of meetings hosted by Europe, from 71.8% in the 1963-1967 period to 53.6% in the 2013-2017 period, while the share of meetings hosted by Asia increased from 8.4% to 18.5% during the same period. Moreover, Asia managed to overtake North America, which, from a 13.3% share of events hosted in the 1963-1967 period, rose to a maximum share of 17.3% in the 1983-1987 period, after which the share declined continuously to only 11.7% in the 2013-2017 period. A significant increase was recorded by Latin America, whose share of hosted meetings steadily increased from only 4% in the 1963-1967 period to 9.6% in the 2013-2017 period (ICCA, 2018, p. 24).

In terms of ranking by the country hosting the events, the US has always occupied the first place during the period under review, starting with 167 meetings hosted between 1963 and 1967 and reaching 5,014 in the 2013 – 2017 period. Germany came second, with an increase from 144 to 3,633 meetings in the same intervals, followed by the UK (from 162 to 3,117), France (from 144 to 2,868), Spain (from 49 to 2,830) and Italy (from 100 to 2,666). A spectacular increase was recorded by People's Republic of China, which had no international meetings in ICCA's records in the 1963-1967 period, then hosted only one in the 1973-1977 period and it reached 2,186 hosted meetings in the 2013-2017 period.

The average number of participants in these meetings steadily decreased (by 66% over this period), from an average number of 1,263 attendees in the 1963-1967 period to only 409 attendees in the 2013-2017 period. Over the last 15 years analyzed in this report, the average number of

participants in these meetings has decreased by 15%, while the number of events has tripled over the same period (ICCA, 2018, p. 29).

In terms of the categories of meetings, according to their size (in terms of number of participants), it can be noted that meetings having between 50 and 149 participants have registered an increasing share, ranking first, starting from a share of 12% in the 1963-1967 period and reaching 40% in the 2013-2017 period. Continuous, but not as spectacular, increases were recorded by meetings having between 150 and 249 participants (from 12% to 22% over the same period), while meetings having between 250 and 499 participants had a share of 23% in the 1963 – 1967 period, peaked at 30% in the 1983 – 1987 period and then decreased to 21% in the 2013 – 2017 period.

The most severe decrease in percentage was recorded by meetings having 500-999 participants, from 25% in the 1963-1967 period to only 10% in the 2013-2017 period. Significant decreases were also recorded by meetings having 1,000-1,999 participants (from 13% in the 1963-1967 period to only 4% in the 2013-2017 period). In the last period analyzed (2013-2017), meetings having 50 to 249 participants were the majority (62% market share), and in the 55 years analyzed, the share of meetings having 150 to 249 participants almost doubled, while all other categories of meetings, with over 500 participants, suffered dramatic decreases in their share of the total organized meetings (ICCA, 2018, p. 30).

However, while the average number of participants has decreased, the total number of participants in organized meetings has grown at a very high rate, rising from about 2.1 million participants in the 1963-1967 period, to over 11.9 million in the 1998-2002 period and to over 28.7 million participants in the 2013-2017 period (ICCA, 2018, p. 31).

The highest estimated number of participants in these meetings, calculated by multiplying the total number of meetings held by the average number of participants per meeting in a given region or country, was recorded in the US, which remains at the top of the list throughout the entire 55-year period analyzed, with 2,095,712 participants just in the 2013-2017 period, followed by Spain (1,383,291 participants in the same period), Germany (1,318,984 participants), the UK (1,119,030 participants), France (1,057,565) and Italy (1,022,442).

There is a clear trend regarding the preference for the meetings organized in rotation. Whereas the share of meetings organized by rotation in different places of the world has decreased over the 55 analyzed years (from 77.4% to 43.7%), during the last 5 years analyzed (2013-2017), one can notice that the preference for the meetings organized by rotation to be hosted mainly in Europe has increased. Table no. 2 shows the evolution of the number of meetings, of the estimated number of participants and of the average number of participants in the 1963-2017 period, according to ICCA's estimates, and Figure no. 1 shows the evolution of the number of meetings organized during this period.

*Table no. 2. The Association Meetings evolution in the 1963-2017 period*

<b>Meetings main indicators Period</b>	<b>Total number of meetings</b>	<b>Estimated total number of participants</b>	<b>Average number of participants</b>
1963-1967	1,718	2,178,452	1,263
1968-1972	2,562	2,877,928	1,036
1973-1977	3,817	3,269,321	839
1978-1982	5,556	4,034,402	729
1983-1987	7,895	4,831,533	599
1988-1992	11,179	6,559,131	577
1993-1997	15,268	8,694,344	618
1998-2002	22,621	11,907,383	547
2003-2007	35,511	16,017,342	481
2008-2012	53,934	21,611,286	432
2013-2017	65,182	24,718,204	409

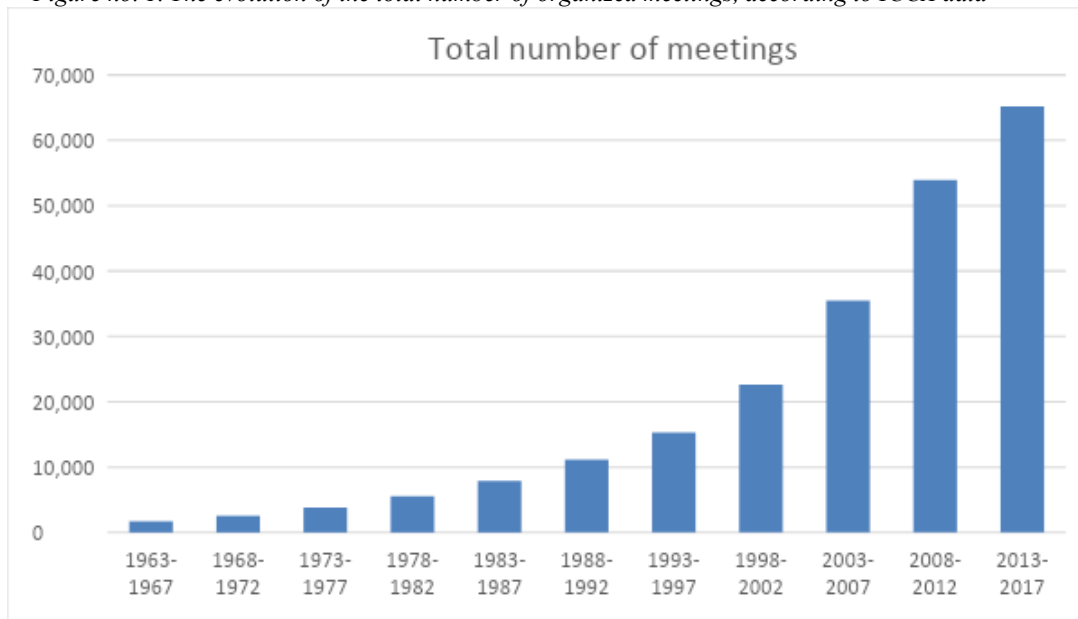
*Source:* ICCA Data Processing, 2018, pp. 22; 29; 31

#### 4.4. The main evolution trends emphasized on the international association meetings market, as recorded by ICCA

Summarizing the results of ICCA's research, over the 55 years analyzed, the main *trends* could be synthetized as follows:

- The spectacular, even exponential, increase in the number of meetings of international associations
- Europe remains the most popular region hosting these meetings, even if its market share has decreased over time
- The significant decrease in the average number of participants in these events
- While the average number of participants has continuously decreased, the total number of participants in these meetings increased due to the rise in the number of organized events
- The tendency to rotate the meetings between the countries in the same region, especially in Europe
- The most important increase in the share of meetings in recent years has been in the field of technology (technological meetings); however, those in the field of Medical Sciences remain the most numerous and popular
- The decreasing popularity of Conference/Exhibition Centers as a venue for meetings in recent years and the significant increase in the share of the meetings hosted by universities
- The continuing decline in the duration of the meetings
- The increasing share of meetings organized on an annual basis (ICCA, 2018, pp. 18-20).

Figure no. 1. The evolution of the total number of organized meetings, according to ICCA data



Source: ICCA data processing, 2018

#### 4.5. The impact of the COVID-19 pandemic on the International Association Meetings, according to UIA

During the year 2022, UIA conducted a large-scale survey on the problems faced by the international organizations and associations which are hosting meetings. The 2022 survey was the tenth survey conducted by UIA, following those in the years 1985, 1993, 2002, 2009, 2013, 2015, 2018, 2020 and 2021, and it aimed to help all those involved in the process of organizing international meetings make sense of the changes that have occurred in recent years and of the challenges of the current international environment.

According to data from the International Congress Calendar, produced by UIA, whereas in the 2015-2018 period, the average number of international events organized was over 13,500 per year, with the exception of the year 2017, when their number dropped to 12,895, in the year 2019 the number peaked at 14,445, after which, due to the effects of the COVID-19 pandemic, in 2020 the number of organized events decreased dramatically to only 7,992 and it continued to decline in 2021 to 7,657 (UIA, 2022, pp. 3-4).

In the following, we are presenting a few developments and conclusions drawn from the answers to the surveys conducted by UIA in the years 2021 and 2022.

Thus, to the question "How many delegates usually attend your major international meeting (excluding accompanying persons and staff)?", most respondents (25% in both the year 2021 and in 2022) indicated meetings with 101-250 participants, followed by meetings with less than 50 participants (22% in 2021 and 19% in 2022), meetings with 251-500 participants (15% in 2021 and 18% in 2022) and meetings with 51-100 participants (down from 21% in 2021 to 14% in 2022). Somewhat surprisingly, the share of meetings with 1,001-2500 participants increased from 7% in 2021 to 13% in 2022 (UIA, 2022, p. 8).

International organizations made changes to the format of their meetings, transforming a large proportion of in-person meetings into virtual/online events (44% in 2021 and 36% in 2022). Moreover, they had to postpone or reschedule planned events by 29% in 2021 and 26% in 2022, and some meetings had to change their format from in-person participation to hybrid. 16% of scheduled events in 2021 and 13% in 2022 were cancelled with no prospect of rescheduling (UIA, 2022, p. 9).

However, the total number of cancelled meetings was not that high, considering the bans imposed by public authorities with regard to limiting the number of participants in an event or even banning the events from being held. Thus, according to the answers to the UIA surveys, most associations cancelled less than 5% of their major events (58% in 2021 and 49% in 2022), and some associations even managed not to cancel any events (27% in 2021 and 43% in 2022) (UIA, 2022, p. 11).

#### **4.6. How international associations have been affected by the pandemic**

In terms of how the pandemic has affected associations, most UIA surveys' respondents indicated a "Reduction in their income" (by 31% in the year 2021, respectively 29% in 2022), while others chose the answer "Reduced membership" (resignations or less renewals than expected), with a share of 19% in 2021 and 23% in 2022. Others mentioned the "Decline of sponsorship" (17% in the year 2021, respectively in 2022), and 15% in 2021, respectively 14% in 2022 indicated "Reduced donation/financial contribution". Only 7% of respondents in the year 2021, respectively 5% in 2022 chose "Staff dismissed or reduced hours" (UIA, 2022, p. 20).

Despite the above-mentioned negative impact and challenges, the overwhelming majority of respondents (84% in the year 2021, respectively 81% in 2022) were optimistic that their organization would be able to survive the economic and social impact of the pandemic, while 14% of respondents in both years answered that this would depend on the duration of the pandemic (UIA, 2022, p. 22). Since the pandemic appears to have already ended in most countries of the world, with only a few exceptions, such as, mainly, China, those who gave such an answer have less cause for concern.

#### **4.7. Why face-to-face events are preferred by the participants**

After a large number of events, which were not cancelled or postponed, during the pandemic period were organized in online or hybrid format, we believe that event organizers are justified in asking themselves about the changes in the behavior of business travelers participating in this respect. How many of them will abandon in-person participation in favor of online or hybrid participation?

The German Convention Bureau (GCB), the Fraunhofer Institute for Industrial Engineering IAO and their research partners carried out a study in order to identify changes in the patterns of business travel and in-person event participation. In the first phase of the research, titled "Redefining Event Attendance", the Future Meeting Space (FMS) innovation network explored the reasons why people choose to attend or not attend future business events in-person.

The results of the first two phases of the research revealed the following clear trends in terms of the participation in face-to-face events: the need for networking and the opportunity for the participants to generate new ideas during the discussions.

People's travel behavior has changed significantly in recent years due to the advances related to the means of transportation for persons and in the field of digitalization.

Obviously, when a person has a choice between attending an event online and in person, they also consider the cost of attending, which is much lower in case of the online option.

However, the results of the research also highlight the importance of the social aspects of attending certain events. Thus, face-to-face events create opportunities for people to interact with each other and to generate new ideas and inspiration. 82% of those surveyed responded that they get new ideas from the face-to-face events that they attend, and 74% of them said that attending such events provides them with important changes compared to their day-to-day work activity. Moreover, destinations offer, in today's digitalized world, authentic experiences and services.

The second phase of this research focused on the overall attractiveness of business and professional travel and how it contributes to employee recruitment and retention. The third and final phase of the research was due to be completed in December 2022, when the results would be presented at a virtual event. The objective of this phase of GCB's research was to identify the key components that would lead to the development of attractive and effective conferences and meetings (GCB, 2022).

Therefore, the results of this research can be considered encouraging for event organizers, as well as event venue owners, as many participants want to be present in-person at such events.

## 5. Conclusions

The analysis of the evolutions in the international association meetings market has revealed certain trends, which have been apparent over the last few decades, but also more recently with the restrictions imposed by the authorities after the outbreak of the COVID-19 pandemic.

These include a reduction in the average number of participants per meeting, and in the last two years an increase in the number of meetings organized online or in hybrid format, to the detriment of those organized with in-person participation.

In order to adhere to the maximum dimensions required by the editor, this paper could not include the analysis of the evolution of other categories of events, such as exhibitions, which will be the subject of a separate analysis.

We consider that further research into these evolutions is needed, both from the perspective of the organizers of such events, and from that of the venue owners. Particularly difficult will be the decision of those who have proposed to build new Conference/Congress or Exhibition Centers, as well as conference rooms within hotel establishments. The bans during the pandemic period related to limiting the number of participants in an event or even banning the organization of events have severely affected the owners of these venues, and the trend towards more and more events being converted into a hybrid or online format is likely to call into question the efficiency of the use of the venues set up for this purpose. However, some research results also show that many participants are opting for in-person events.

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## Changes in Terms of Buying Behavior Influenced by the Pandemic Period and the Economic Crisis

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### Abstract

*Humanity has been facing the pandemic (triggered at the start of 2020) generated by the new coronavirus for about two years. In a short space of time, the entire economic and social activity has been disrupted. For a lot of areas/sectors, uncertainty, insecurity and chaos were becoming the normal framework for doing business. New needs and desires, some of them difficult to anticipate, were starting to emerge. Gradually, each individual would experience the consequences of the pandemic with a different intensity and in various aspects of his/her personal and professional lives. All these changes have led to the emergence of a new lifestyle, which has also brought about far-reaching changes in terms of buying behavior.*

*The objective of this paper is to analyze the results obtained by a real estate company which has capitalized on the changes in buying behavior in the new environment generated by the pandemic.*

**Key words:** consumer behavior change, pandemic, opportunities, real estate market

**J.E.L. classification:** R21, M31, D91, O18, L26

### 1. Introduction

The entire human existence is marked by actions which express needs/desires and, on the other hand, by activities which reflect the concern with satisfying them in the best possible conditions, aspects that can be concentrated into two economic concepts: demand and supply (the fundamental components of the market). If we shift our attention to the multitude and diversity of the decision-making acts, which are formed at the level of the individual or the group, in terms of how to obtain and/or use products/services to satisfy current or future needs/desires, we bring attention to another concept, namely that of consumer behavior (Florescu *et al.*, 2003). Various sciences, including economics, marketing, social psychology, sociology and cultural anthropology, work with this concept, giving it an interdisciplinary dimension.

In marketing, the study of consumer behavior is of major importance precisely because practice shows, more and more clearly, that the success of a business depends on consumers and on finding the explanation to the question "why" they would buy and/or consume the product/service offered by a certain company. In marketing theory, consumer behavior is approached through the interdependencies it creates with the current role of marketing science, the marketing mix, the market segmentation concerns, and with a newer approach, i.e., relationship marketing.

For a company, understanding consumer behavior should be an investment in its own business, a starting point in setting its marketing strategy, an opportunity to be stronger than its competitors.

In the structure of this paper we have included a theoretical part, allocated for a brief analysis of the approach to the concept of consumer behavior in the specialized literature, and also the presentation of its correlation with the peculiarities of the real estate market, and in the second part we have presented a case study represented by the change in apartment - buying behavior during the pandemic period, based on data obtained from a company operating on the real estate market in Constanta.

## 2. Theoretical background

The market, an economic concept, has acquired a broader dimension in the marketing approach, beyond its limitation to the meeting of supply and demand and its materialization into sale-purchase actions: "The marketing vision of the content of the notion of market takes into account, first of all, not only the general coordinates of its two correlative factors, but also all the conditions and circumstances that establish the framework of the confrontation between the supply and the demand in the functioning of its mechanism", with reference to "the state and evolution of prices, competition, consumer behavior". In marketing, the concept of the market includes "both the actual components of its mechanism and those aimed at their future evolution" (Florescu *et al.*, 2003, p. 515). In the marketing approach, categories such as actual supply/demand, potential supply/demand, ideal supply/demand, supply without subject, demand without object are used (Florescu *et al.*, 2003). Moreover, it is specific to marketing to approach the market in a strict interdependence with the elements of the external environment, namely the micro-environment (represented by suppliers of goods, service providers, competitors, customers) and the macro-environment (gathering demographic, economic, cultural, technological, natural and political-institutional components).

Professor Kotler defines the market as "the set of actual and potential buyers of a product or service" (Kotler *et al.*, 2015, p. 7). Depending on the product/service which is the subject to the transaction, it can be observed that specific or specialized markets have emerged, among which we enumerate some of the most common: the labour market, the capital market, the gold/oil/coffee market, the pharmaceuticals market, the energy market, the real estate market.

Specialists consider that the real estate market is represented by transactions with property rights or rights to use of land and buildings. "A real estate transaction means the permanent or temporary transfer of a right from one party to another in exchange for a reward which is usually a sum of money" (which may take the form of price or rent) (Competition Council, 2019, p. 4).

In this paper's approach to the real estate market, we limit ourselves to transactions in residential real estate, or more specifically, buildings intended to be inhabited.

According to the Fiscal Code, Art. 453(f), a residential building is defined as: "a building consisting of one or more rooms used for habitation, with the necessary outbuildings, facilities and utilities, which satisfies the habitation requirements of a person or family" (Fiscal Code, 2020, art. 453).

In the DEX (Explanatory Dictionary of the Romanian Language), a dwelling is described as: "a place, house, building in which someone lives or can live" (DEX, 1998, p. 580).

According to Law no.114 of 11 October 1996, the Dwelling/housing law, Art.2 (b), the types of dwelling in our country are specified, namely: "suitable housing (which, at a given time, covers the essential needs for rest, food preparation, education and hygiene); social housing; company accommodation; intervention housing; housing of necessity; protocol housing; holiday home (dwelling which is occupied temporarily, as a secondary residence, intended for rest and recreation); condominium; individual unit" (Law no.114/1996).

The real estate market has its particularities, including:

- it is considered speculative;
- it represents a short-term or long-term investment;
- the buyer's motivations may relate to the need/desire to own a dwelling, the intention to make a profit, or the desire to have a fixed income, through leasing;
- the transfer of ownership or right of use of the dwelling does not imply the actual transport of the property;
- each dwelling offered for sale is almost unique in terms of location, size, layout/compartmentalization, facilities/finishing, related infrastructure, connected services, etc.;
- to carry out transactions, the presence of related services provided by banks, notary offices, real estate agencies, surveyor experts and assessing officers, is necessary;
- the price of the asset/housing is high, and high transaction costs are added.

In the marketing vision, the activity of any company must be thought and organized starting from the customer: identifying the customer's needs/desires, knowing the buying/consumer behavior, tracking the level of satisfaction felt through the consumption of its product/service offer. Marketing



specialists are increasingly highlighting the importance of knowing buying/consumer behavior, emphasizing the impact this approach has on the success of a business.

There are many definitions of buying/consumer behavior in the specialized literature, which leads us to believe that this concept is so complex and dynamic that not even specialists are arriving at a point of view which is unanimously accepted and expressed in a definitive manner. The American Marketing Association defines consumer behavior as "a dynamic interaction of impression and perception, conduct and common natural events through which human beings are managing the changes in their lives" (Blythe, 1998, pp. 10-11). Two renowned Romanian marketing professors classify consumer behavior as being "people's conduct when buying and/or consuming material goods and services" (Cătoiș et al., 2004, p.13). According to the same specialists, in order to define the concept of consumer behavior, the following processes should be combined: "perception, information, attitude, motivation and actual behavior" (Cătoiș et al., 2004, p.18).

In practice, the biggest concern is related to finding the answer to the question "why" someone buys a certain product/service/brand. In describing the consumer behavior model (which he constructed), Professor Kotler stated that "understanding the why component of the buying behaviour is very difficult". "Marketers spend a lot of time and money in order to figure out what motivates consumers" (Kotler et al., 2015, p.137).

More and more studies are highlighting the importance and influence of motivations on the buying behavior. "Motivation is simply the cause that determines a certain behavior" (Blythe, 1998, p. 20). "Motivation is regarded as the inner state that mobilizes an organism so as to achieve a particular goal" (Cătoiș et al., 2004, p. 19). Motivation is "a need that is pressing enough to drive a person to seek satisfaction of that need" (Kotler et al., 2015, p.148). "Nothing happens until a person is motivated by something to perform an action" (Imbriale, 2008, p. 25). "Nothing is sold until you can motivate people to make a purchase. Motivation is that thing which determines people to act" (Imbriale, 2008, p. 27).

Motivation can be generated by internal factors (specific to each individual), but also external factors (specific to the external environment). Motivation is multidimensional, subjective, difficult to observe and it derives from human's needs as a biological and social being. Motivations can be of several types: primary (innate) and secondary (acquired); rational and emotional; conscious and latent; general and special" (Blythe, p. 21) (Cătoiș et al., 2004, p.21). Blythe considers that "many motivations are neither rational, nor conscious" (Blythe, 1998, p. 33). The psychologist Sigmund Freud "assumed that people are largely unaware of the real psychological forces that drive their behavior" (Kotler et al., 2015, p.148). The point Freud is trying to make is that an individual's buying decisions can be determined by subconscious motivations, not even understood by that person. Imbriale believes that although a multitude of motives currently exist and manifest themselves, marketers should focus on eliciting answers from potential customers to questions such as: What are they thinking? What do they feel? What emotions might they use to determine them to buy something? This approach helps to establish successful strategies for the company. "The key to motivational marketing is to do everything you can to motivate your potential customers to buy from you and to keep them motivated after the buying process is over" (Imbriale, 2008, p. 28).

### 3. Research methodology

The present study represents a longitudinal, quantitative, desk research on marketing (Jupp, 2010). The database, represented by the main economic indicators (turnover, gross profit, net profit, investment volume), recorded by the company SEASIDE RESIDENCE S.R.L., in the 2017-2021 period, allowed us to create a representation of the evolution of this company's offer. Two other indicators: the number of apartments built and the number of apartments sold were used to analyze the evolution of the demand. This quantitative and indirect information, together with direct information, obtained through the method of observation by marketing specialists within the same company, have allowed us to achieve the purpose of the research, i.e., to identify the change in buying behavior, on the real estate market, due to the influence of certain factors on the motivations involved in making the purchase decision.

#### 4. Findings

The pandemic period, through the compulsory measures put in place, which mainly concerned movement restrictions, new ways of carrying out teaching activities (for pre-school children, pupils, students and teaching staff), new forms of carrying out professional activities for certain categories (teleworking), as well as other aspects, contributed rapidly and significantly to changing people's lifestyles. The home of each person has taken on new functions, no longer being just a place for rest, food preparation, education and hygiene, and gradually becoming a place for some family members to carry out their teaching activity, work activity and even recreational activities (games, sports). For some individuals/families, the home was beginning to be perceived as too small, unable to meet the demands of the new lifestyle forced upon them by the pandemic. These issues, combined with the changing economic and social environment, have also led to broad changes in purchasing/consumer behavior for certain products and services. Some individuals/families, who were able to tele-work, became interested in buying housing in more remote areas or localities with attractive natural surroundings (seen as elements that could help to alleviate some of the restrictive measures imposed).

This paper's case study aims to present aspects regarding changes in dwelling/housing-buying behavior, highlighted by analyzing the evolution of certain economic indicators of a company operating on the real estate market.

The company SEASIDE RESIDENCE S.R.L. was established in 2017, its main activity being buying and selling of its own real estate assets (CAEN Code: 6810). The company owns a land of 21,000 sq. m., located in the North of Mamaia resort, at an approximate distance of 15m. from the beach.

Currently, Mamaia is the best known and the most attractive of the 17 resorts and tourist localities of the Romanian coastline, namely: Năvodari, Mamaia village, Mamaia, Constanța, Eforie Nord, Techirghiol, Eforie Sud, Costinești, Olimp, Neptun, Cap Aurora, Jupiter, Venus, Saturn, Mangalia, 2 Mai and Vama Veche.

The history of this resort is, however, rather unknown. As early as 1892, Constanța was considered a "balneary resort". The tourist activity in the city grew continuously from the end of the 19th century to the beginning of the 20th century, and at some point the beaches in the city became insufficient. The authorities decided to build a new beach, for Constanța, in the North of the city. At that time, the respective area was a deserted strip of coastline, with sand dunes up to 5-7m high, and at the end of the strip there was a modest fishermen's settlement with sparse houses and a famous water mill at the end of Lake Siutghiol (Jugănar, 2020) (Jugănar *et al.*, 2019). However, that settlement, while modest and deserted (as it was described in the documents of that period), was, ever since the end of the 19th century, a favorite place for the aristocracy of the time to spend their summer holidays (Păuleanu, 2006).

Mamaia, as Constanța's beach, was inaugurated on August 28, 1906, and no one had anticipated then that the city's new beach would become, in fact, a new tourist resort, named, over the years, "The Pearl of the Romanian Black Sea Coast" (Jugănar *et al.*, 2019).

On the land it owns in the North of Mamaia resort, the company SEASIDE RESIDENCE S.R.L started the construction of a residential complex, consisting of 13 identical buildings, each of them having seven floors, with 56 two-room apartments, which represents a total of 728 apartments.

The evolution of the activity was, as follows: the construction of the first block (A4) from September 2017 to May 2019; the second block (A2) was built from May 2019 to March 2021; and the construction of the third block (A1) started in September 2021 and it is due to be completed in March 2023.

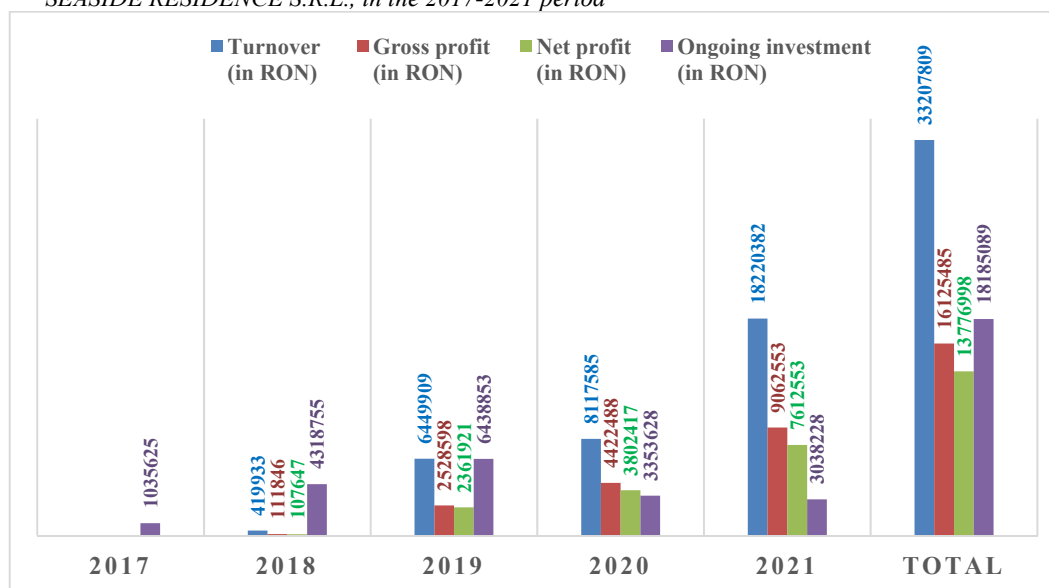
Moreover, in order to present and examine the evolution of the company's economic activity, we have selected the main economic indicators, the absolute values being included in Table no. 1 and represented graphically in Figure no. 1.

Table no. 1. The evolution of the main economic indicators of the company SEASIDE RESIDENCE S.R.L., in the 2017-2021 period

The main economic indicators	Evolution in absolute value (in RON)					
	2017	2018	2019	2020	2021	TOTAL
Turnover	0	419.933	6.449.909	8.117.585	18.220.382	33.207.809
Gross profit	0	111.846	2.528.598	4.422.488	9.062.553	16.125.485
Net profit	0	107.647	2.361.921	3.802.417	7.612.553	13.776.998
Investment	1.035.625	4.318.755	4.318.755	3.353.628	3.038.228	18.185.089
No. of ap. built	0	0	56	56	0	112
No. of ap. sold	0	0	30	30	52	112

Source: Internal documents of the company SEASIDE RESIDENCE S.R.L.

Figure no. 2.1. The graphical representation of the level of the main economic indicators of the company SEASIDE RESIDENCE S.R.L., in the 2017-2021 period



Source: Internal documents of the company SEASIDE RESIDENCE S.R.L.

Table no. 2 A comparative analysis of the evolution of the main economic indicators of the company SEASIDE RESIDENCE S.R.L., in the 2017-2021 period, in absolute and relative value (%)

The main economic indicators	Evolution in absolute value (in RON) and relative value (%)					
	2019/2018	2020/2019	2020/2018	2021/2020	2021/2019	2021/2018
<b>Turnover</b>	+6.029.976 1435,94%	+1.667.676 25,86%	+7.697.652 1833,07%	+10.102.797 124,46%	+11.770.473 282,49%	+17.800.449 4238,87%
<b>Gross profit</b>	+2.416.752 2160,78%	+1.915.890 75,77%	+4.310.642 3954,09%	+4.640.065 104,49%	+6.533.955 258,40%	+8.950.707 8002,70%
<b>Net profit</b>	+2.254.274 2094,13%	+1.440.493 60,99%	+3.696.770 3432,30%	+3.810.136 100,2%	+5.250.632 222,30%	+7.504.906 6971,77%
<b>Investment</b>	+2.120.098 49,1%	-3.085.225 -47,92%	-1.280.527 -29,65%	-315.400 -9,4%	-3.400.625 -52,81%	-1280527 -29,65%

Source: Internal documents of the company SEASIDE RESIDENCE S.R.L.

The location of the land in Mamaia resort, near the sea (at a distance of approximately 15 m), but also the quality of the construction (of the blocks/apartments) are important aspects in motivating the potential clients of the company SEASIDE RESIDENCE S.R.L. The offer of this company is represented by a dwelling, which is part of a larger construction - a block, a component of a residential complex. All these can be considered particular aspects of the offer of a product on the real estate market, with an impact on the motivation of potential customers.

The company's marketing strategy aims to offer a complex product which is capable of satisfying customers' desires. In this context, when building the apartments, the company uses good quality building materials, properly certified, obtained with modern working technologies, made by domestic manufacturers or imported from various European countries and complying with all national legal regulations in the field of construction, as well as with those issued by local administrative authorities, including those aimed at protecting the natural environment. In addition to this, several criteria were taken into account when choosing the materials used for the construction of the blocks/apartments: to be resistant, suitable for the climate conditions specific to the area (salty air, intense wind, humidity, temperature fluctuations) and, last but not least, aesthetic. The buildings of the SEASIDE RESIDENCE complex are unified in character and stand out through their modern and elegant architectural style. Moreover, the architectural concept of the complex is designed to make the most of the natural landscape, so that each apartment offers the possibility to admire the beach and the sea. The apartments ensure maximum comfort through the way the interior spaces have been designed. They are fluid, interconnected, have a minimalist feel, while also exuding elegance.

One marketing activity that the company applies in order to better satisfy the needs/desires of the customers (who increasingly choose personalized offers) is to involve them in the process of creating/realizing new products. Each customer, at the time of selling/purchasing an apartment, has the possibility to choose certain characteristics of the materials and items supplied (e.g., color, size, pattern of the tiles and floor tiles and sanitary items; color and pattern of the wood flooring and walls' finishing). Another particularity of the marketing activity is that the company SEASIDE RESIDENCE S.R.L. offers, in addition to the main product, represented by a dwelling/apartment, various services, such as: consultancy services, representation services in the relations with various partners/providers, cleaning services, security services.

Another approach within our analysis is to present the impact that the changing external environment has had on the company's activity.

The first block (A4) was built in a period of 21 months, September 2017-May 2019, which is considered a normal period, from an economic and social perspective. The sale of the 56 apartments took place over a longer period of time (approximately two and a half years). In terms of buying behaviour, these aspects could be interpreted as follows: in a period of stability, an apartment offered by SEASIDE RESIDENCE S.R.L. was perceived as a holiday home, especially for people who had the possibility to spend longer periods of time on the seaside and no longer wanted to stay in hotels. Moreover, it was seen as an investment, and for other people (who intended to rent the purchased apartment) it was seen as a source of income.

The second block (A2) was built over a slightly longer period than the first (23 months, from May 2019 to March 2021), but the sale of the 56 apartments in its structure was completed in a very short period of time, i.e., June-September 2021. The first 10 months of the construction period was considered a normal period, then the pandemic hit. For the builder, the period at the start of the pandemic meant disruptions in the organization and conduct of its work, which could explain the longer overall duration of the block's construction. For people (seen as potential buyers), the pandemic represented a series of restrictions, a change in lifestyle. Some people were beginning to want to move out of the big cities (where they had their main home) and move to more remote locations, closer to nature, but with the conditions for modern living at their disposal. SEASIDE RESIDENCE S.R.L.'s offer of apartments was able to satisfy these wishes.

One could say that the pandemic has changed the buying behavior on the real estate market, increasing the motivation to buy a dwelling in more remote areas/places and has been exploited by the company SEASIDE RESIDENCE S.R.L. as an opportunity.

The pandemic has been an external factor, which acted independently of the marketing decisions of the company SEASIDE RESIDENCE S.R.L.; nevertheless, it had the effect of accelerating the purchase process of the apartments in the second block.

## 5. Conclusions

Buying and/or consumer behavior is a complex and dynamic concept and the last three years have accentuated these features.

On the Romanian real estate market, buying behavior has evolved significantly compared to other types of markets in recent years.

Even if the goods traded on the real estate market satisfy a basic need (the need for shelter), this market differs significantly from the other markets where other goods are traded and which also satisfy basic needs: food, clothing / footwear.

Through marketing research, the company SEASIDE RESIDENCE S.R.L. has identified, ever since the beginning of its activity, a niche market, represented by those people who wanted a living space located near the sea, which would offer them both the pleasure of a special natural view and a high level of comfort, specific to their lifestyle. The desire to live as close as possible to the sea, finding an alternative to hotel accommodation, avoiding the effort of making an appointment/reservation, the dissatisfaction generated by not finding available accommodation in the desired period, as well as the location of the land owned by SEASIDE RESIDENCE S.R.L., the quality of the buildings and the comfort provided by them were essential elements in the formation of the motivations of the clients, who purchased the apartments in the first block (during the 2018-2019 period).

The emergence of the pandemic was a new factor that acted on the motivations of the customers, and the effect was evident in the acceleration of the process of apartment-buying in the second block (all 56 apartments were sold between June and September 2021).

Since February 2022, the international economic and social context has changed significantly, with the outbreak of the military conflict between Russia and Ukraine. Consequences of the new conjuncture were also felt on the real estate market in Constanța. We are at a stage where we are building up a database to be used in a future analysis of the changes in real estate-buying behavior under the impact of the military conflict.

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## The Use of Marketing Research in Studying the Internationalization of Higher Education at "Ovidius" University in Constanța

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### Abstract

*Globalization, seen as a complex economic and social process, also has certain consequences for higher education. In this context, the issue of internationalization of education is of interest to all types of higher education institutions, governments, and international institutions.*

*The aim of this paper is to present the content of the concept of internationalization of higher education, in order to highlight its impact and its connection with the increase in the quality of education and research, and with the development of an open higher education system adapted to the current global context.*

*The specific aspects of this study are represented by the research into the internationalization of higher education within "Ovidius" University of Constanța (UOC), and the presentation of the results of a direct type of research on the assessment, at the level of international students, of the actions carried out by the institution within the internationalization strategy framework.*

**Key words:** internationalization of higher education, mobility, student perception, opportunities

**J.E.L. classification:** I23, I24, I25, I28, I29

### 1. Introduction

"Ovidius" University of Constanța (UOC), a component of the Romanian public education system, is a public higher education institution, with legal personality, it is autonomous, open, being in permanent contact with the activities and performance of other universities and research institutes in the country, as well as from abroad. UOC is a "multidisciplinary and multicultural university, which presents to the interested persons an offer of undergraduate, master's and doctoral degree programmes, organised and carried out in compliance with the national legislation, while also taking into account international trends" (UOC, 2014, pp. 3-4).

The mission undertaken by "Ovidius" University of Constanța is to develop a competitive and collaborative educational and research environment capable of creating, preserving, and disseminating knowledge to the society. The essential coordinates by means of which this mission is accomplished are education, scientific research, and artistic creation at the highest European standards. Among the fundamental elements of the university's mission we are focusing on the objectives of particular interest from the perspective of the topic of this research, i.e., "ensuring a high quality of educational, research and management activities in order to increase the competitiveness of UOC at a national and international level; promoting national and European values in the scientific, cultural and educational fields, through international academic cooperation" (UOC, 2014, pp. 5-6).

### 2. Theoretical background

Demarcating the content of the concept of internationalization of higher education has been the object of the concerns of various international specialists, and of much research carried out under the coordination of prestigious institutions, such as: Organization for Economic Cooperation and

Development - OECD, Academic Cooperation Association - ACA (Schneller *et al.*, 2009), United Nations Educational, Scientific and Cultural Organization - UNESCO (Barrows, 2000), World Bank (Jaramillo *et al.*, 2011; World Bank, 2020), European Union (de Wit *et al.*, 2015a), etc..

Within certain approaches, one can notice a tendency to equate the terms internationalization of higher education and globalization, by limiting them to "cross-border activities", thus referring to those higher education activities which, in various forms, take place outside national borders.

According to a study published in 2008 by the OECD, there are differences in terms of content between the internationalization of higher education and globalization, even though, in reality, there is a reaction-response type of relationship between globalization and internationalization (Pricopie *et al.*, 2011, pp. 8-9).

Globalization is associated with the tendency towards creating an "integrated global market", "global interconnectivity", "realization of a global society", "a global system", "a world without borders, manifested through a flow of technology, products and services, knowledge, people, values and ideas which crosses national borders" (Pricopie *et al.*, 2011, p. 9). Whereas globalization represents a tendency towards uniformity, the internationalization of higher education is seen as an approach which highlights the specificity "of each cultural, political, economic, etc. space" (Knight, 2008, pp. 1-2 ; Pricopie *et al.*, 2011, p. 9).

The content of the concept of internationalization is constantly changing, as stated in the study "Affirming Academic Values in the Internationalization of Higher Education - A Call for Action", of April 2012, by the International Association of Universities (IAU) (UEFISCDI, 2013, p.11). It is considered that we can talk about the concept of internationalization since the 1990s, as until then the concept of "international education" was used, both concepts referring to the different ways in which the international dimensions are shaped in higher education, with reference, on the one hand, to mobility (materialized in studies abroad, exchanges, international students or academic mobility) and, on the other hand, to the curriculum (internationalization of the curriculum and of the teaching and learning process, also called "Internationalization at Home", which became as relevant as mobility) (De Wit *et al.*, 2015a, p. 4). More recent theoretical approaches to 'Internationalization at Home' point out the fact that it "refers to both formal and informal curricula and it aims to develop international and intercultural knowledge, skills and attitudes for all students, regardless of whether they also participate in mobility opportunities" (De Wit *et al.*, 2015a, p. 5).

The shift towards the new concept emphasizes its character as a more comprehensive process, and compared to the 1960s and 1980s, internationalization takes place "in a new, complex, differentiated and globalized context" (UEFISCDI, 2013, p. 11; Knight, 2008, p. 3).

Researcher Jane Knight, from the Ontario Institute for Studies in Education, University of Toronto, Canada, points to the fact that there are four approaches to internationalization, namely: the activity approach (which includes academic exchange activities for students and teaching staff); the competence approach (which focuses on developing skills, competences, knowledge, attitudes, values and it targets students, teachers and the administrative staff); the ethos approach (aimed at creating an intercultural approach) and the process approach (dealing with research and community service through a combination of various activities, policies and procedures) (UEFISCDI, 2013, p. 9).

Furthermore, De Wit (director of the Center for International Higher Education and Boston College professor) points out that "there are tensions between a short-term neoliberal approach to internationalization, which focuses primarily on mobility and research, and a long-term comprehensive approach to quality, global learning for all" (De Wit, 2019, p. 9).

According to OECD, internationalization is "the set of processes whose combined effect, whether planned or unplanned, is to ensure the international dimension of the higher education experience within universities and similar educational institutions" (Pricopie *et al.*, 2011, p. 9).

The same University of Toronto researcher, Jane Knight, defines internationalization as "the process of integrating an international, intercultural or global dimension into the purpose, mission and delivery of post-secondary education", thus emphasizing the dynamic nature of this approach" (Pricopie *et al.*, 2011, p. 9).

De Wit expands this definition and considers that internationalization is: "the intentional process of integrating an international, intercultural, or global dimension into the mission, functions and delivery of secondary or higher education services, with the aim of enhancing the quality of education



and research for all students and personnel, as well as making a meaningful contribution to society" (De Wit, 2020, p. iii; Petcu *et al.*, 2015, p. 6; De Wit *et al.*, 2015b).

The same specialist considers that the 1990s created the framework for the intensification of the globalization process at the level of economies and societies, a process which, combined with the specific aspects of the knowledge economy, created a new context, suitable for a more strategic approach to internationalization in higher education by all countries, regardless of their level of development. In the first decade of the 21st century, one could notice that, in addition to increasing student and teaching staff mobility, there was also a change in strategy, from cooperation to competition (An analysis of the profiles of the universities in Romania on several dimensions: Internationalization and Equity of Higher Education in Romania, p.12). The expansion of some universities beyond national borders has led to the perception that the internationalization of education has become a means to increase revenue, and also a way to improve their image/prestige. At the same time, De Wit considers that what were once considered traditional values in higher education (referring to exchanges and cooperation, peace and mutual understanding, development of human capital and solidarity) would now be overtaken by concerns about competition, rankings, positioning, income, image and prestige (De Wit, 2020, p. iii ; De Wit *et al.*, 2015b).

Furthermore, researcher Jane Knight even mentions an existential crisis regarding the conceptualization of internationalization, drawing attention to the fact that "due to the unprecedented expansion of internationalization at the institutional and national level, there has been a shift from internationalization as an academic goal towards a more commercial definition, thus raising questions about the value added to education" (UEFISCDI, 2013 p.11; Knight, 2008).

As a reaction to these trends, over the last decade more attention is considered to have been paid to issues related to the "internationalization of the curriculum at home" and the "comprehensive internationalization, which deals with all aspects of education in an integrated way" (De Wit, 2020, pp. iii).

The importance of shifting attention/interest towards "qualitative aspects of internationalization, such as citizenship development, employability and improving the quality of research, education and services to society" is emphasized. In this context, De Wit recalls that a study for the European Parliament on the state of internationalization in higher education, "gave this momentum an additional dimension" in the sense that the internationalization of education should be "The intentional process of integrating an international, intercultural or global dimension into the purpose, functions and delivery of education, in order to improve the quality of education and research for all students and teaching staff and in order to make a meaningful contribution to society" (De Wit, 2020, p. iii).

### **3. Research methodology**

The aim of this research is to assess the degree of satisfaction of international students with regards to the educational, social, and administrative activities at "Ovidius" University of Constanța.

In order to achieve this, a selective survey type of field research was organized, in which we have used the questionnaire as an instrument for collecting direct information and a sample of 81 international students from the UOC (Jupp, 2010; Silverman, 2004).

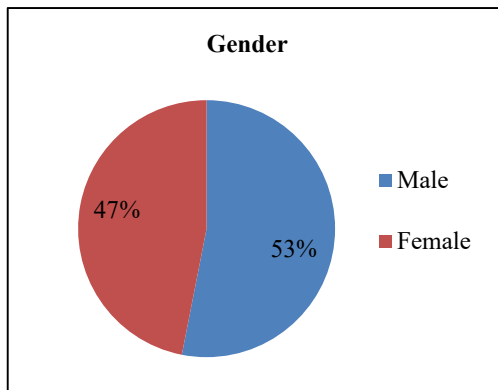
The questionnaire used in this study contained closed-ended questions (with a simple answer or multiple choice) and open-ended questions. The questionnaire, transferred into Google Form, was distributed online in the 15 June - 2 August 2022 period, via the university's social networks and through email services. The entire collectivity was represented by UOC's international students, enrolled in the full-time form of education, in all study programmes.

Furthermore, within this research, information about the real, undeclared, manifested behaviour of the students in the relationship with the Erasmus Office staff of the UOC, collected through the observation method, was used. The provisions of the GDPR were respected throughout the study. IBM SPSS Statistics software, version 26, was used to process the collected data, and Microsoft Office 356 was used to create the graphs.

#### 4. Findings

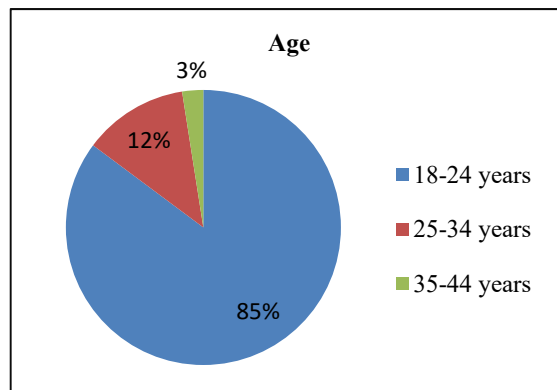
✓ In the first part of the questionnaire, a set of identification questions was formulated, so as to outline the profile of the respondents.

Figure no. 1. Sample structure (Gender)



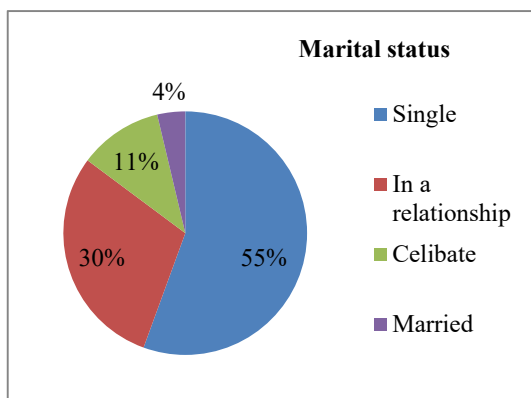
Source: Author's own processing

Figure no. 2. Sample structure (Age)



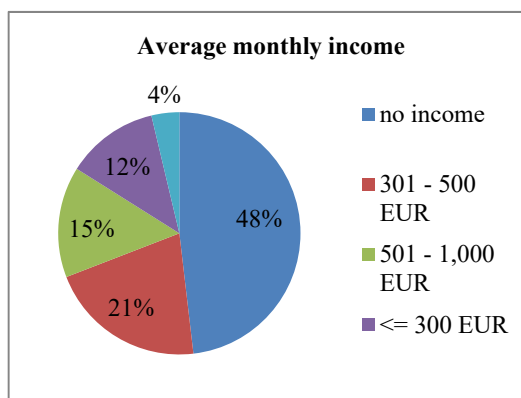
Source: Author's own processing

Figure no. 3. Sample structure (Marital status)



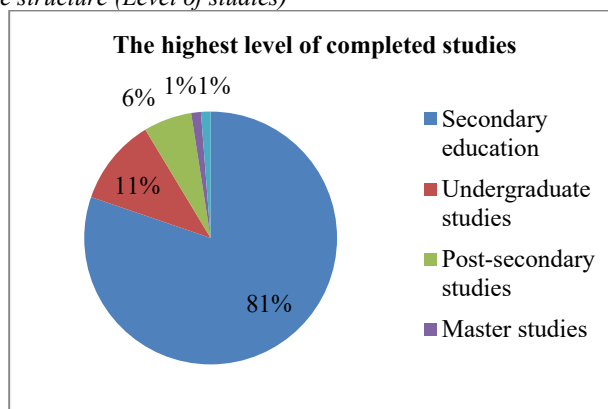
Source: Author's own processing

Figure no. 4. Sample structure (Average monthly income)



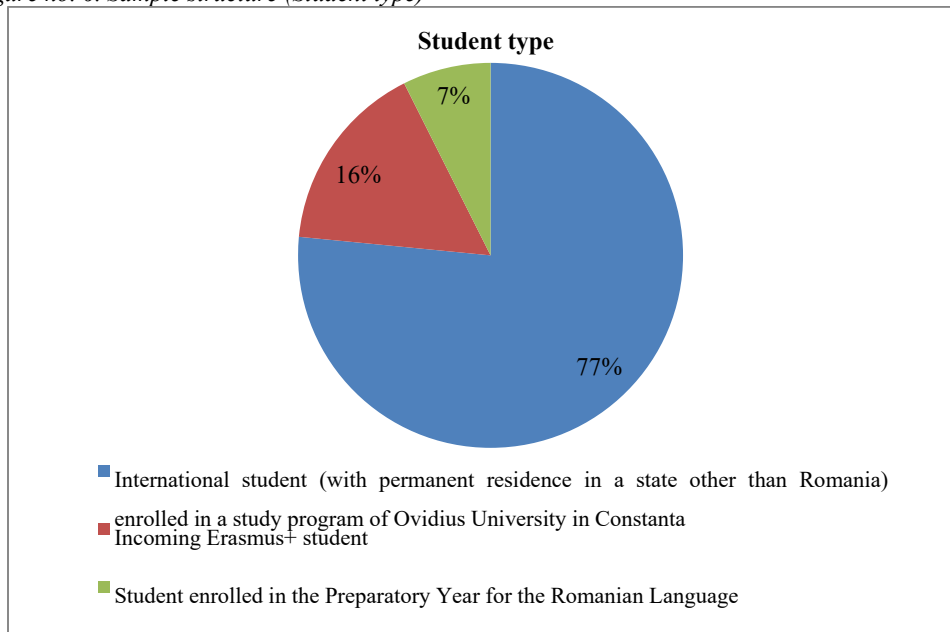
Source: Author's own processing

Figure no. 5. Sample structure (Level of studies)



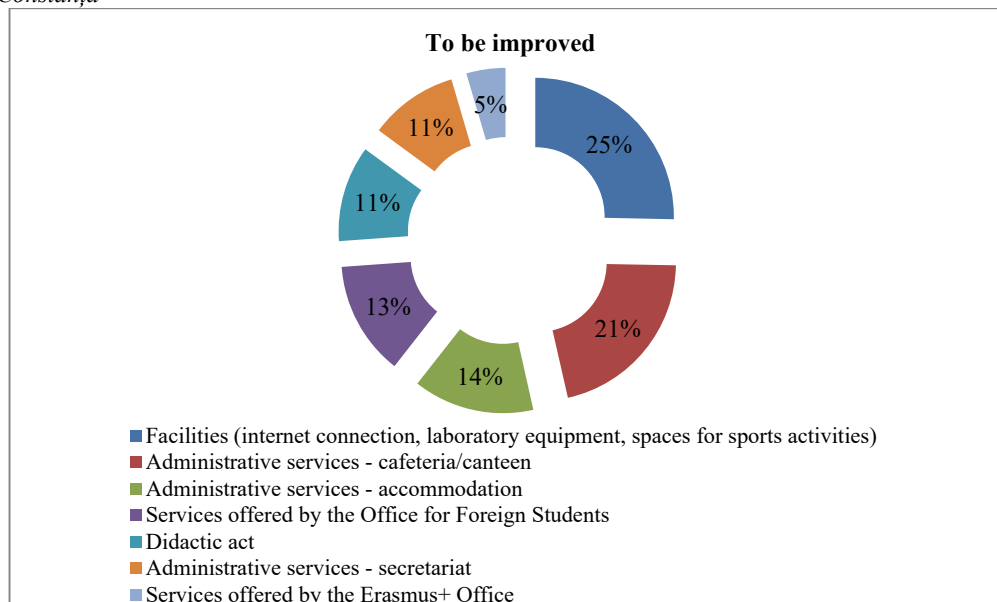
Source: Author's own processing.

Figure no. 6. Sample structure (Student type)



Source: Author's own processing

Figure no. 7. Aspects to be improved in the educational services offered by "Ovidius" University of Constanța



Source: Author's own processing

As can be seen from the graphical representations (Figures no. 1-7) the sample of 81 people used in our research has the following characteristics:

- 43 people are men and 38 are women;
- 69 of them are aged between 18-24 years; 10 people are in the 25-34 age group and only 2 people are in the 35-44 age group;
- most of them, namely 45, are single, 24 are in a relationship, 9 are celibate and only 3 are married;
- in terms of level of education, 65 people are undergraduates, 9 have Bachelor's degrees, 5 have post- secondary education, 1 person has a Master's degree and 1 person has a postdoctoral degree;

- 62 persons have international student status (with permanent residence in a country other than Romania), being enrolled in a UOC study programme, 13 persons are Erasmus+ incoming students and only 6 persons are students enrolled in the "preparatory year" for the Romanian language;

- the majority of people came to study Medicine (67), 2 people each study Economics, Psychology and Education Sciences, Letters, Natural and Agricultural Sciences, Informatics, Construction/Civil Engineering, and 1 person studies Engineering, while another studies Physical Education and Sports;

- the 81 people in the sample come from 27 countries, as follows: 11 people from the United Kingdom of Great Britain and Northern Ireland, 10 from Greece, 8 from Turkey, 6 from Sweden, 5 from Italy, 4 each from Egypt, Germany and Spain, 3 each from Morocco, Pakistan and Syria, 2 each from Finland, France, Iraq and Israel, only 1 from Belgium, Colombia, the Dominican Republic, Georgia, India, Jordan, Portugal, Switzerland, the Republic of North Macedonia, Albania, Ukraine and Yemen.

✓ The answers given to another question provide interesting information about the motivation of the people in the sample for choosing to study at UOC.

Even if more than one answer could have been chosen, the ranking of the reasons (after processing the information collected) is the following: the cost level (chosen by 37 people); the geographical location (30 people); recommendations from other people (29); the educational offer of the university (23), the standard of living in the city/country (20), to meet new people (18); to get to know the culture and traditions of another country (14); the social life in the city/country (14); the alignment of the study programme with their personal needs (12); the feedback received from university graduates (11), the language used in teaching activities (10); to get a better job (10), the reputation of the higher education institution/position in international rankings (6); the desire to learn a language different from that of their home country (5).

✓ The processing of the answers from another question allowed us to make a prioritization of the sources of information used by the people in the sample regarding the educational offer of "Ovidius" University of Constanța. In fact, this was a multiple-choice question in the questionnaire used.

The most important sources of information are considered to be the following: colleagues, friends (for 46 people); the university's website (for 42 people); the social networks (Facebook, Instagram, etc.) (for 20 people). To a lesser extent, recruitment companies were also used for information (for 11 people); educational platforms (8 people); Erasmus+ students who visited the respondents' home country and governmental organizations in their home country (5); reports from specialized institutions (4); various student associations (3 people).

✓ A set of questions in the questionnaire aimed to provide information about how international students assess UOC's offer in terms of teaching activities and administrative services.

Closed-ended questions were formulated, and the statistical-mathematical model "Semantic Differential" was used to process the answers.

The results obtained from the processing of the answers contributed to the knowledge of the degree of satisfaction expressed by the students regarding the aspects pursued, which can be grouped as follows:

- Aspects related to the performance of teaching activities in the UOC: the quality of the course content; the quality of the teaching methods; the interaction with the teaching staff; the classrooms; the study rooms; the laboratories, etc.; the library; the access to a computer room; the access to the Internet; the access to various scientific publications.

- Aspects related to the involvement/participation of foreign students in different activities, such as: opportunities for practice; internship opportunities; volunteering opportunities; Erasmus+ opportunities; Confucius Class opportunities; opportunities offered by student associations; student conferences, congresses, workshops; student camps/excursions; student information service.

- Aspects related to the integration of international students into the UOC, in relation to: the daily life of the institution; the local students; other international students; the local community.

- Aspects related to the administrative and social services, namely: dormitories; cafeteria/canteen; the interaction with local students; the interaction with other international students; the interaction with the faculty's secretariat; the interaction with the administrative staff.

Among the highest values, which signify a high level of satisfaction, the following are worth mentioning: the quality of course content; the interaction with other international students; the interaction with the faculty's secretariat; the integration into the daily life of the institution; the interaction with the teaching staff; Erasmus+ opportunities; the quality of the teaching methods; the integration into the local community.

A low level of satisfaction (reflected in the lower values obtained by processing the information) was recorded in relation to the aspects related to: dormitories; cafeteria/canteen; Internet access; access to a computer room; library; interaction with local students.

The research results helped to identify the strengths and weaknesses of some of the activities carried out by UOC in relation to international students.

## 5. Conclusions

We believe that this research, whose partial results we have presented in this paper, has allowed us to achieve our objective.

The international students, who were studying at the time of the research being conducted, have a positive general image of/ "Ovidius" University of Constanța.

The main sources of information about the UOC offer are represented by colleagues, the university's website and social networks, and the main motivations for choosing the institution are: the level of costs, its geographical location, other people's recommendations, the educational offer of the university, the standard of living in the city/country, the desire to meet new people, to know the culture and traditions of another country, the social life in the city/country, and also the alignment of the study program with their personal needs.

The 81 international students come from 27 countries (different in terms of the level of economic development, but also in terms of the organization of the higher education system) and study within 9 of the 16 faculties in the UOC structure. The Faculty of Medicine attracts the highest proportion of international students (82.72%).

The aspects which were less liked by international students (resulting from the processing of the information obtained from the questionnaires) should be the main directions of action for the UOC's management in the future. These aspects particularly deal with the administrative services offered to the students, but also the support services in order to improve the level of language skills with the objective of participating in the teaching activities of "Ovidius" University of Constanța. Moreover, special attention should also be paid to the initiation and implementation of certain activities which can contribute to increasing the interaction between international and Romanian students, and to the satisfaction of certain motivations expressed by the foreign students with regards to their desire to meet new people, to know the culture and traditions of the city/country and to get more involved in the life of the community.

Increasing the degree of satisfaction of international students with UOC's educational offer can help attract a higher number of international students.

The internationalization of "Ovidius" University of Constanța represents an opportunity to increase the prestige of the institution, to practise a modern higher education, in line with the current and future requirements of the international economy and society.

This direct research, a selective survey based on a questionnaire, was a part of the ESPERO project's activities, code CNFIS-FDI-2022-0532, carried out by UOC and financed by the Ministry of Education through the Institutional Development Fund.

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## Review of Employees' Priorities at a Workplace

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### Abstract

*Several studies have indicated that work-related priorities have shifted for employees. The pandemic restructured the mindsets of the workers by introducing remote working, and as a result, the companies had to adapt themselves accordingly. The present study is a literature review that highlights various work-related aspects such as employee well-being, job satisfaction, and corporate social responsibility. It also proves how employee satisfaction plays a crucial role in the productivity of an employee's work and ultimately in an organization's performance. Finally, we conclude that companies must adapt and pay more attention to their working environments in order to retain talent within the organization, which provides a competitive advantage.*

**Key words:** corporate social responsibility, employee well-being, job satisfaction, remote work

**J.E.L. classification:** E24, J24, J28, J81, L20

### 1. Introduction

Companies make the decision to adhere to statutory guidelines for a positive workplace. Additionally, some businesses decide to make an even greater investment in their working surroundings by promoting workplace wellness. In other words, workplace priorities vary from company to company, and various elements could also be highlighted (Hayat et al, 2022, p.392). Previous research has shown an oppositional association between work satisfaction and company size. Larger businesses tend to have lower levels of job satisfaction, which can be explained by the rigidity of the work structure (Hayat et al, 2022, p.390).

It is widely accepted fact that the pandemic has caused the employees to reflect on their purpose in life, which has led to a restructuring of their priorities at work. The sudden COVID-19 pandemic breakout compelled enterprises to implement remote work platforms. To stay operationally active in such a dire circumstance, organizations had to embrace remote work. However, a lot of problems have been highlighted by the quick uptake of remote work solutions. There are no studies on how businesses can successfully use a remote work system while preparing themselves to handle emergency scenarios (Chatterjee et al, 2021, p.1506).

The main goal of the study is to learn more about people's work-related priorities and how they have changed over time. The studies show that employee satisfaction and productivity are thought to have a real effect on how well a business does. Since job satisfaction depends on things like work-life balance, relationships with coworkers, opportunities for career growth, and has a direct effect on productivity and, in turn, on how well an organization does.

### 2. Literature review

Despite the expanding scholarly interest in technological innovation, there are several informational gaps in the current literature. First, there has been heated discussion surrounding the influence of human resource management practices on employees' psychological health and positive mindset. Examples of these practices include training, rewards, extensive communication, and motivating job design. However, given changes in production processes in the technological

age, MSMEs must focus on more than just human resource management to safeguard their employees' psychological well-being (Zahoor *et al*, 2022, p.5). On one hand, there are companies that need to follow national legislation and certain regulations that mandate them to maintain a safe and healthy working environment for their workers just to respect the legislated requirements of a satisfying workplace environment. On the other hand, there are companies that take one step ahead and invest in their work environment by using workplace health promotion. Thus, one may conclude that each company has its own way of prioritizing its work environment (Nordlof *et al*, 2015, p.701). Well-known human resource management practices can be adopted and improved upon by managers to increase employee happiness, job satisfaction, employee retention, and recruitment success (Sakka *et al*, 2020, p.356).

## 2.1 Employee Well-being

Despite the expanding scholarly interest in technological innovation, there are several informational gaps in the current literature. First, there has been heated discussion surrounding the influence of human resource management practices on employees' psychological health and positive mindset. Examples of these practices include training, rewards, extensive communication, and motivating job design. However, given changes in production processes in the technological age, MSMEs must focus on more than just human resource management to safeguard their employees' psychological well-being (Zahoor *et al*, 2022, p.5). On one hand, there are companies that need to follow national legislation and certain regulations that mandate them to maintain a safe and healthy working environment for their workers just to respect the legislated requirements of a satisfying workplace environment. On the other hand, there are companies that take one step ahead and invest in their work environment by using workplace health promotion. Thus, one may conclude that each company has its own way of prioritizing its work environment (Nordlof *et al*, 2015, p.701). Well-known human resource management practices can be adopted and improved upon by managers to increase employee happiness, job satisfaction, employee retention, and recruitment success (Sakka *et al*, 2020, p.356).

Recent managerial practices define employee well-being as encompassing psychological, physical, and social well-being. Physical well-being is mostly correlated with health, whereas social well-being is associated with things like interpersonal relationships, community involvement, and acceptance. Psychological well-being is primarily correlated with happiness with one's career and life (Yang *et al*, 2022, p.461).

Employee well-being is positively impacted by taking brief pauses to engage in non-work-related activities (such as taking several deep breaths to relax the brain) (Yang *et al*, 2022, p.460). Although businesses may promote "wellbeing" as a company-driven initiative, employees still see it as something they can control on their own and do not link it to their happiness with and loyalty to the business. Employee "self-initiative factors" have a significant impact on employee welfare, which is seen as a stand-alone endogenous construct (Hegyes *et al*, 2021, p.16). High levels of wellbeing are linked to a number of favorable organizational attitudes. These include higher effort and thinking put into work, less absenteeism, and fewer job-related injuries. Given the connection between work and wellbeing and the significance of wellbeing for organizational performance, it is in an organization's best interest to support and encourage workplace wellbeing (Keeman *et al*, 2017, p.9). Over the past two decades, keeping talented employees has risen to the top of the list of human resource management (HRM) practices' most essential objectives (Pittino *et al*, 2016, p.80).

Both stress and wellbeing are distinct but connected concepts. The absence of stress does not imply wellbeing, just as the absence of mental illness does not mean mental health. Evidence, however, indicates that thriving may act as a buffer against the detrimental impacts of stress, suggesting that investments made to promote wellbeing may help reduce stress while also yielding extra advantages related to flourishing at work (Keeman *et al*, 2017, p.7). Nevertheless, a toxic working environment is a climate element that destroys a person's sense of security and is therefore certain to have a detrimental effect on well-being (Rasool *et al*, 2021, p.11).

Organizations have historically prioritized lowering employee stress rather than enhancing



employee wellbeing, despite the numerous favorable organizational attitudes linked with employee wellbeing. When a situation's perceived expectations and personal resources are out of balance, stress results. According to prior research, stress is connected to decreased production and thus decreased profit, which is why businesses prioritize putting stress management strategies in place (Keeman *et al*, 2017, p.9). Organizations are crucial in developing and maintaining a high-quality work environment. Additionally, managers are conscious of the significance of employee well-being in luring top talent, enhancing output, and forging a competitive edge (Uysal *et al*, 2020, p.3).

## 2.2 Work-Life Balance

Businesses may now recruit and keep skilled individuals globally, which offers both advantages and disadvantages for firms. However, companies must deal with cutting-edge problems including employee happiness, work-life balance, and burnout (Aleem *et al*, 2022, p.8).

Work-life balance (WLB) is a concept that refers to how well an employee is able to balance work and personal commitments. As a result, progressing toward WLB becomes an essential component of the employee recovery process. From the standpoint of the employer, assisting employees in achieving this ideal state - WLB - gives the business a competitive edge in luring and keeping talent. Trait mindfulness, which refers to one's ability for non-judgmental awareness and attention in a current circumstance, is one way to achieve WLB (and the more general objective of employee recovery from work-related stress) (Yang *et al*, 2022, p.461).

According to the authors of a study, employees' manifestations of emotional tiredness are likely to differ depending on their dispositional mindfulness. In other words, mindfulness can lessen bullying at work. According to the authors, management may foster a positive work environment by utilizing the right tools and putting rules in place that will increase employee resilience. The resultant rise in staff loyalty to the company and less employee burnout can all benefit employee well-being. To adequately monitor workplace bullying, though, is a difficulty (Uysal *et al*, 2020, p.2). Since employees today greatly value flexible work schedules and work-life balance thanks to home office arrangements, mental wellness has taken on special importance (Hegyes *et al*, 2021, p.14).

## 2.3 Remote Work

The sudden COVID-19 pandemic breakout has compelled enterprises to implement remote work platforms. To stay operationally active in such a dire circumstance, organizations have to embrace remote work. However, a lot of problems have been highlighted by the quick uptake of remote work solutions. There are no studies on how businesses can successfully use a remote work system while preparing themselves to handle emergency scenarios (Chatterjee *et al*, 2021, p.1509).

Studies have indicated that one of the primary human motivators is the desire for competence. When there is a desire to receive more, there is a requirement to boost professional progress. Working from home has resulted in a lack of professional stimulation due to the COVID-19 pandemic (Shiri *et al*, 2021, p.23). It is expected that workplace flexibility, work-time flexibility, and organizational infrastructure flexibility would all have an effect on remote work flexibility. These have an effect on both productivity and employee satisfaction, which ultimately have an effect on organizational performance. According to prior scholars, remote work is a crucial component of today's business environment. Individuals employed by organizations that carry out their duties away from traditional office settings are referred to as "remote workers". Remote work is essential for ensuring the efficient operation of nearly every organizational function, including marketing, finance, and supply chain management, for companies that cross geographic boundaries and operate in various time zones (Hegyes *et al*, 2021, p.10).

The need for remote work may increase the need for automation, collaboration, and a greater migration to cloud computing. To attain these future goals, it is crucial to maintain staff enthusiasm and motivation. The challenge for human resources professionals in this environment is to enable and implement programs and policies that will maintain employee engagement (Shiri *et al*, 2021, p.25).

The COVID-19 pandemic has undoubtedly made it more difficult for HR professionals to build procedures, regulations, and chances that can offer workers greater employment opportunities for the now as well as the future, particularly with regard to remote working (Shiri *et al*, 2021, p.23)

## 2.4 Job Satisfaction

According to previous research, job satisfaction is defined as employees' favorable feelings toward aspects of their job. An employee's level of enthusiasm for their work and the organization is a measure of their job satisfaction (Hayat *et al*, 2022, p.390). Some researchers believe that the phrases "happy and well-being at work" and "job satisfaction," "commitment," "job participation," and "normal mood at work" were once interchangeable. So, the three factors and assessments used in earlier research on employee happiness were job satisfaction, commitment to the organization, and work engagement. Therefore, despite the well-known significance of interpersonal relationships in well-being, some studies concentrated only on the relationship between happiness and satisfaction while ignoring employees' emotional well-being and new constructs like having pleasant relationships with other people at work (Sakka *et al*, 2020, p.359).

As per the findings of a study conducted on the staff members of a hospital, Gen Z (87.2%) had the highest level of job satisfaction, followed by Gen Y (77.5%), Baby Boomers (72.9%), and Gen X (71.6%). 3,781 Baby Boomers, 9,022 members of Generation X, 4971 members of Generation Y, and 1,189 members of Generation Z participated in this survey. The majority of participants felt they had little influence over the things that stressed them out, and the experience of workplace change was the one that had the most negative effects and grew with age (Gen Z: 34.3%; Gen Y: 49.3%; Gen X: 53.6%; and Baby Boomers: 56.3%) (White *et al*, 2020, p.180).

It is believed that workplace flexibility, work-time flexibility, and organizational infrastructure flexibility would all have an effect on remote work flexibility. These have an effect on both productivity and employee satisfaction, which ultimately have an effect on organizational performance (Chatterjee *et al*, 2021, p.1508).

Previous research has shown and documented the positive effects that creative workplace cultures have on workers' job satisfaction (Sahut *et al*, 2022, p.9). Employee loyalty, which is described as an attitude and behavioral element (Cachón-Rodríguez *et al*, 2022, p.5), and retention, which is defined as the intention to stay, are both relational variables of a long-term relationship. Their absence has a number of unfavorable effects on the organization and its employees, including decreased productivity, profitability, and employee satisfaction (Cachón-Rodríguez *et al*, 2022, p.5). Previous research has shown an oppositional association between work satisfaction and company size. Larger businesses tend to have lower levels of job satisfaction, which can be explained by the rigidity of the work structure (Nordlof *et al*, 2015, p.699).

## 2.5 Corporate Social Responsibility

It can be difficult to define corporate social responsibility (CSR) because it encompasses a wide range of strategies and varies depending on the situation, time period, and culture. In general, CSR suggests that businesses have a moral duty to behave ethically toward the society in which they operate, going above and beyond what is permitted by law, beyond their responsibilities to typical stakeholders like employees, customers, vendors, and the neighborhood.

CSR is a cutting-edge strategic management technique used by businesses that are socially and environmentally sensitive in the twenty-first century. Although internal company CSR initiatives like workplace health promotion and their effects on employee wellbeing are less well-researched than external CSR initiatives, this is especially true during pandemics when job security is generally poorer across a wide range of industries. Additionally, as part of the third Sustainable Development Goal of the United Nations, wellbeing and good health have been acknowledged as vital objectives to attain (Hegyes *et al*, 2021, p.18).

The term "corporate social responsibility" refers to the actions taken by a corporation in an effort to positively affect society or the workplace environment. The primary goal of an organization's CSR initiatives should be to go above and beyond the obligations of the law in order to reduce negative externalities and increase positive externalities (Hayat *et al*, 2022, p.391). CSR

programs could contribute to the development of a productive workplace that fosters employee wellbeing and encourages active engagement in environmentally friendly conduct (Rasool *et al*, 2021, p.11).

### 3. Research methodology

We used literature review methodology while writing this article. For this purpose, we assure that information used to write this paper was mainly extracted from various scientific papers published in electronic journals. We also made sure to include references in this article, mainly from recent studies, to add more value.

We present a literature review of some of the work-related aspects, briefly elaborating them and mentioning recent studies done in the field. The paper is written for readers of different backgrounds and not particularly for the experts in field or professionals working in the HR domain.

The main objective of this paper is broad. Since the subject is not very specific, it is challenging to study the vast literature that already exist and select only the most suitable sources for the paper. Priority has only been given to those works that are thought to be of special contemporary relevance and significance due to the subjectivity of the selection process and the authors' deliberate inclination toward those areas of interest.

### 4. Findings

Several studies argue that employee well-being has a favorable impact on staff productivity and, ultimately, organizational performance. We also found out how organizations play a vital role in providing a better working environment for employees to encourage talent retention and attract more talented people to the company. Work-life balance is something that helps these companies achieve that goal and gives them a competitive edge. We also saw how, in today's world, employees value more flexible schedules and more comfortable working arrangements than before.

We discovered that the sudden pandemic led organizations to embrace the remote working model, which has currently become an integral part of the business environment. On one side, there are companies that make sure to provide a healthy and safe environment to their employees just because it is mandatory. On the other side, there are companies that give much needed priority to their employees and safeguard their well-being.

### 5. Conclusions

To conclude, work-related priorities have seen a substantial evolution in the past few years. Especially after the pandemic, the work-related priorities have shifted, and people have started to value more flexibility (workplace flexibility, work-time flexibility, and organizational infrastructure flexibility). As a result, companies also had to embrace change and adapt accordingly for better employee satisfaction. Employee satisfaction is crucial for a company, as mentioned earlier, because of its positive impact on the productivity of an employee and ultimately, the organizational performance. CSR may be used by firms to improve their work environment and increase productivity at the workplace.

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## Management of Organizational Culture – Achievements So Far and Challenges Ahead

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### Abstract

*The purpose of this study is to present the changes experienced in the field of organizational culture, and also an inquiry regarding to the future of organizational management. Although the organizational culture is a social concept, the present work analyses the organizational culture (OC) as an economic phenomenon, through the prism of its influence to companies' performance, giving them a competitive advantage.*

*The article carries out a qualitative analysis for the theory of organizational culture management (OCM). In a first stage, are brought to the fore a series of definitions and understanding about the notion of OC and its influence on the organization's performance. Summarise, OC is defined as the sum of all the meanings that members attach to a set of interconnected experiences that they have at job. This synthesises the totality of all the basic assumptions and values that guide the organization entire life. Following is a brief presentation about the specialized literature and an overview of the study and the concern of OC, but also an exposure of the particularities of OC as a variable in organizational behaviour research. The paper concludes with a proposal of practical implications for a competent management of the contemporary organizations.*

**Key words:** organizational management, organizational culture, human resources, HR management  
**J.E.L. classification:** D23, M10, M14, O15

### 1. Introduction

Organizational culture has become an increasingly intense concern for various specialists, academics, students but, especially, for company managers and administrators, and it tends to gain more and more value among employees as well. The complexity of this concept is also given by the strong connection that it has with the human resource which is treat not only from a rational point a view but, especially, emotionally and sentimentally, at a conscious or subconscious level, determining for each individual level, for the groups of individuals and for the organization a series of varied and dynamic laws, established into a formal or an informal way, on vertical or on horizontal hierarchy of the entity.

Previous researches had suggested that the implementation of a strong OC has the power to influence the relationships between the management and the operational departments, but also the entire design that the activity within the company is organised and performs, and, implicitly, the result as well as the OC can be influence, in turn, by the level of the employees training, by the field of the activity and by the other internal company factors. (Nguyen, 2020)

The changes in the labour market in the recent years related to the transition of work from office to online activities, had led that a greater attention to be paid to the OC, so that most of its basic elements have been readjusted. The process of digitalization in companies' activities has been accelerated, people have found new solutions and methods of managing their problems that

ultimately have proved to be constructive. The borders between personal life and work suddenly disappeared and the new reality became a challenge for many employees, who were put in the position of taking care of their own family while participating in virtual meeting with colleagues. (Sînchevici, 2021). In addition, there are currently active four different generations in the labour market: Baby Boomers, Generation X, Millennials and, the youngest generation, Generation Z – each one of this having its own set of values, ambitions, family/work balance, expectations from their employers and different ways of action (Raiu,2021).

Taking into account all the above, the motivation for choosing the present topic is justified by the fact that the way of organizational and management has experienced a complex dynamic in recent years, the OC is also in a continuous evolution and recognition and the issue of the impact that the OC has on the whole activity and results is a subject of maximum interest.

On this exploratory level, most of the approaches and definitions in the specialized literature are not antinomial but only complementary, demonstrating, once more, the complexity of the term, resulting from the very complexity of the determining human capital. The inability to anticipate the evolution of OC as well as the rejection to recognize the need for change or the delayed reaction of managers to all these changes, can generate organizational disasters, loss of control and even its end.

The present work proposes to highlight more aspects related to the management of organizational culture, its attributes and also the factors that can influence it, providing an overview of organizational trends. It aims to become a point of interest for managers in their intentions to implement and develop a solid OC, but also to serve as research resources in the future. Expanding the object of study of OC towards the identification of its various characteristics and towards the way of achievement in the technology era and post-pandemic period, bring to this work originality and uniqueness.

The first part, summarizes a briefly introduces and motivates the choice of this research topic. The second part, focuses the concerns of the specialists regarding the OC and the factors with impact over the modelling and the development in a unitary concept. The third section describes the research methodology of this study and limitations of the paper. In the fourth section, we framed the concept of OC, its attributes and its functions within the organization, in a general sense. This multidisciplinary approach reveals the complex nature of OC and its role in managerial decision-making, in design and implementation of the managerial policies. Finally, section number five, provides a synthesis of the results as well as a research opportuneness in the future.

## **2. Literature review**

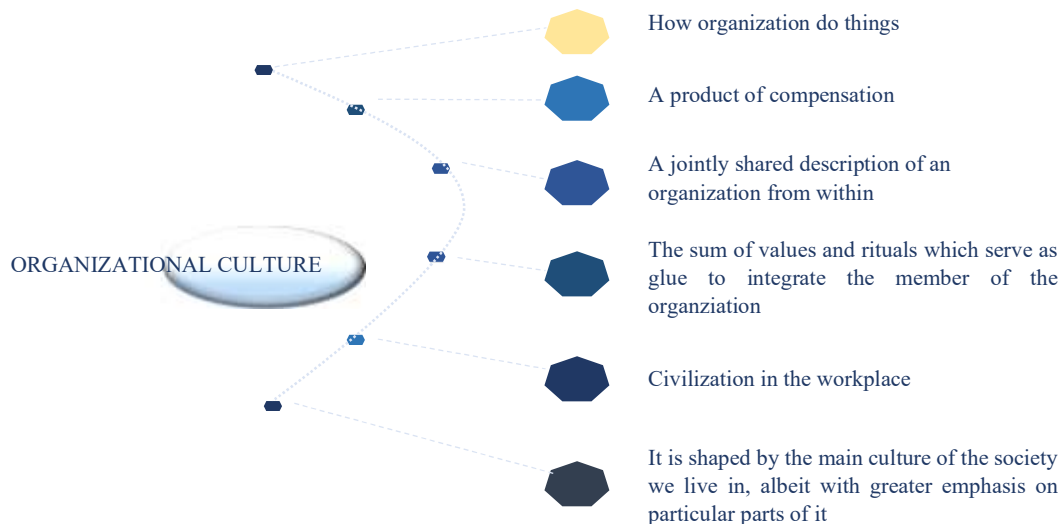
Organizational culture is a system of values and concepts shared by the members of all hierarchical levels, within an organization that determines the character and the behaviour of employees.

Eastwood (2021) places an idea of the Maori cult (which embodies the universal human need for belonging and spiritual faith to an uninterrupted and unbreakable chain of people who share a common identity and culture) – Whakappa (you belong to this place) in the centre of his maximizing methods for team performance and to convert human diversity into a competitive advantage.

The findings indicate that the implementation of OC at the level of the whole company and the acceptance of it as an innovation of the management process gives to the company a competitive advantage. OC is attended as a standard for all organizational activities through which the company's goals, vision, mission and plans are reflected. (Soto-Acosta, 2016). OC has real effects over the organizational performance. It is an imperative principle for companies to base their business activities on the OC so that all their activities to work efficiently, correctly and accurately (Kwarteng et. al, 2018).

Starting from the idea that in order to provoke a vigorous debate you have to dare to broach the subject of OC, Professor Prof. Michael D. Watkins facilitated a LinkedIn discussion on Organizational Culture in May 2013 and launched a topic on which he receives over 300 perspectives and varied opinions from stakeholders.

Figure no. 1 The perceptions of Organizational Culture in Watkins study from 2013



Source: made by the authors

A study carried out by Microsoft (2020) addressed the issue of OC through the lens of the satisfaction or dissatisfaction level of employees, demonstrating, once again, that all the organization that foster an environment of continuous innovation, with a strong OC achieve a long-term result over those that do not, and their training programs lead to a greater employee's engagement.

Despite the developed organizational system for managing companies, the number of organizations that inspire assurance and devotion to their employees represents, in the modern world, a small but a growing minority (Sinek, 2017). Happy, inspired, motivated employees are the exception rather than the rule.

The Chinese model of change (Nicolescu, 2007) presents two entities: one that says "danger – chaos" and another one, much more solid that says "opportunities". Change is presented as a positive force, management's goal being to improve constantly the life of every employee at work through an integrated system, submitted to a continuous enhancement, which ensures a participatory environment, where every member, at any level, is involved in achieving the organization's aims.

Managerial culture is presented by Nicolescu (2007) as a system of values, faiths, expectations and behaviours of the organization's management that is transposed into the management style and that influence in details the organizational culture and its performance.

These insights provide an integrated and nuanced view over OC and over its management, that leaders need to truly understand their organizations and to change them for better.

### 3. Research methodology

In order to think out the issue of OC, this research used qualitative methods. The theoretical knowledge was used for a better understanding and description of the phenomenon and the qualitative aspects concerned the role and the importance of organizational management and culture within an organization, as well as its main particularities and typologies.

The qualitative research was mainly based on interpretative methods for understanding the effects that OC scratch on the entire company activity and performance and which are certain archetypes of strategies and for illustrating the way that a manager can choose the best management strategies for his organization.

Some elements specific to the critical methods were also used, especially to analyse the frame in which OC can be positioned, but also elements of specific to the social and human sciences analysis: non-participatory observation (due to the nature of this research field and the current state of knowledge in the interest area) and the comparative analysis (resulting from the shaped analogies and from methodized conclusions of the research).



Concerning to describe completely, accurately and properly the spectrum of OC, we consulted specialized literature (research journal, articles, business and strategy publications found in Web of Science database) from various domain: management, information technology, accounting, sociology, public relations, human resources management, organizational psychology.

Approaching the figured methodology, the paper aims to highlight the positive aspects of this proceeding in the research prospect of OC.

However, the study has also inherent and pertinent limitations, enmeshed to the general approach of presenting the precepts, excluding the analyse of its distinctive features according to the national specifications of the phenomenon. Accomplish an approaching, elaborate and refined analysis that capture the particularities of organizational culture assign to the national ones, would have allowed the purchase of much more complete overview, this aspect could be the theme of future research.

#### 4. Findings

Organizational culture performed as one of the important theories that has known an exponentially grown interest under the pressure of the internal and external concern of the companies' environment, from their need to endured, develop and innovation along all those accelerated changes that appear in economic and social intercourse. It is described as a driving force, a motivation that acts on all activities within an organization, as an energy engine that sets all its members in motion.

The conceptual structure of OC has its essences in the social, biological, anthropological, psychological, managerial, human behaviour, human relationships background. The organizational culture gives rise to a strong sense of trust and confidence among its individuals and helps them to understand the consequences of their relationships in accomplishing successfully their mission.

Most of the system component of the human body action to support our existence, survival and development. Although humans have been on this planet for a relatively short time related to other species, they have quickly become the most successful and unmatched species on the planet, so much so that their decisions and actions can deeply affect the ability of other species to survive and to thrive of – and even other humans. But this achievement was not just a simple luck – people worked hard, they always helped one each other, protected each other and, by joining their efforts, they achieved this accomplishment.

*Figure no. 2 The role of protection of the Organizational Culture*



*Source:* made by the authors

The beginning of the OC's study can be found in the interest of American and European economists after the Second World War to explain the "Japanese miracle" – when a country with almost no natural resources and with an overpopulation of more than 126 million inhabitants, managed to record the highest economic growth rate, the lowest unemployment level and a friendly working environment for their employees. They all had considered that the organizational culture was the engine of the individual progress but also for the entire society.

In the 19<sup>th</sup>-century, the anthropologist Edward Burnett Tylor (1871, 1881) provides the next definition: "Culture... is that complex whole which includes knowledge, belief, art, morals, law, customs, and any other capabilities and habits acquired by man as a member society". In 1952, another U.S. anthropologists A.L. Kroeber and Clyde Kluckhohn cited in their paper 164 definition



of culture, ranging from „ideas in the mind”, „learned behaviour”, „a logical construct”, „a statistical fiction”, „a psychic defense mechanism” to „an abstraction from behaviour”.

Despite the multiple definitions, a number of common features can be observed, as it is shown in Figure no. 3.

*Figure 3. The Common Features of Organizational Culture Definitions*



Source: made by the authors

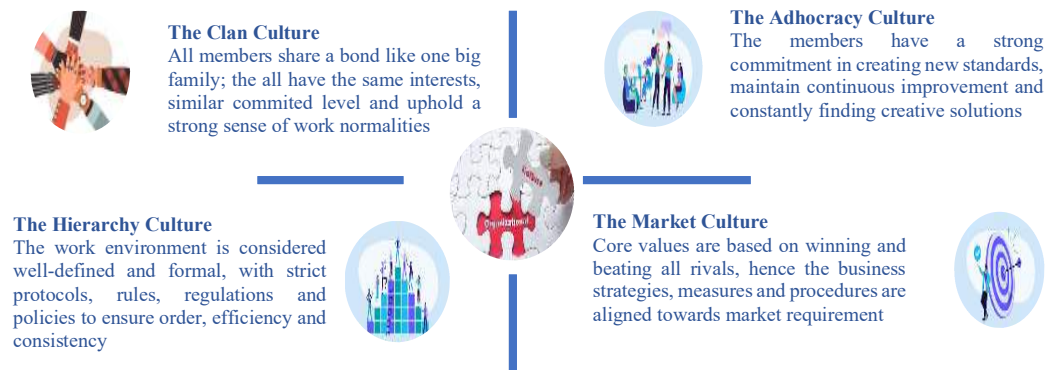
*Figure no. 3. Primary Characteristics of the Organizational Culture*



Source: made by the authors

There are many types of organizational cultures, more or less reliable, but from afar, the most powerful structure is the clan, an organization that can be found especially in military teams, especially among the US Marines (Sinek, 2017).

Figure 5. The Main Four Types of Organizational Culture



Source: made by the authors

There are a lot of roles that OC fulfils within the organization, roles that have a significant influence on company activity and performance.

First of this, is that it creates a connection between the national culture and that of the individual members of the organization. Each individual is born in a certain culture, he is formed and developed in a certain cultural horizon and he is equally a culture creator and a receiver. An organization reflects images of the world, relating to the realities of time and space. All his members operate by adapting their national culture elements to the specific activity and to OC where the last one is acting more like an interface of all the others elements.

Secondly, organizational culture dominates the relations between the organization and its stakeholders. Stakeholders relate all their action to the received signals from inside and outside the company and act according to their own aims.

The third role of OC is that of shaping individual and group identity. In a more or less conscious way, each organization holds its own consolidated organizational culture. Whenever a community is formed, its culture will also be born together with it. Organizations themselves are culture that can be designed, accommodated, learned and addressed in a way partially conscious, exceeding the individual's values.

The role of preserving and reporting the values and the traditions of the company takes into account elements related to: managerial knowledge, the motivation level of organization's members, the public image. Therefore, the OC is seen as a phenomenon characterized by a continuous dynamic which influences its own elements but which is influenced proportionately by the features of the exterior environment.

Unconcerned with the national culture of the organization's members, the OC cannot be regarded as a statistical element, its dynamics being generated by the continuous modification of the existing environmental conditions, each of those having influence on the other.

From the accomplished studies emerges a number of causes that can dominate the organizational culture, summarized as follows:

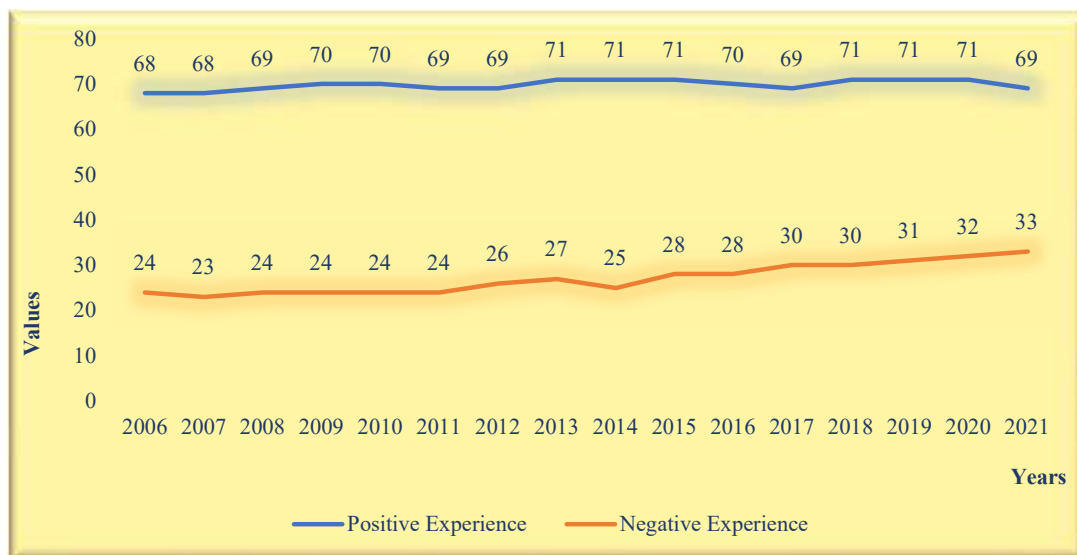
Figure 6. Causes that Dominate Organizational Culture



Source: made by the authors

Analysing the data provided by the Gallup Global Analysis Center in the period of 2016-2021 regarding the positive and the negative experiences of employees at their work, it was observed that, although the whole world considers the pandemic year 2020 as the greatest possible harm of the contemporary era, the year 2021, has broken all records in this. The data shows that positive and negative experiences are not yin & yang – darkness and light – the two opposites that make up the whole entity. The decrease of approximately three percent of the positive experience in 2021 compared to 2020 did not increase the negative ones to the same extent (Negative Experience Index gained only one percentage point). For those interviewed, indicators such as the level of rest, the joy experienced at work, the level of respect, the relaxed atmosphere had an exclusive emphasis, over the remuneration level.

Figure no. 7. Positive vs Negative Experience Worldwide Index during 2006-2021



Source: made by the authors based on Gallup Global Emotion Report (2006-2021)

Figure no. 8. Positive Experience Index per Countries in 2021

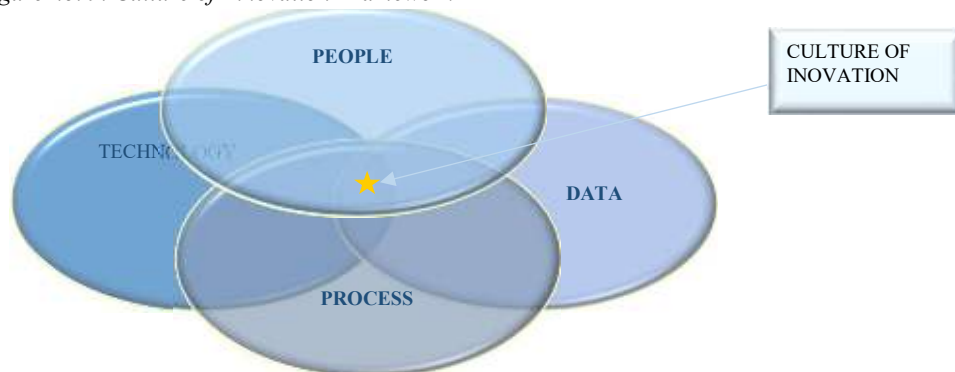


Source: Gallup Global Emotion Report, 2021

Managerial culture plays its major role within the OC as much as the managers become aware of their performance within the company, not only formally but also informally, and decides to allocate an appreciable part of their time to employees training and to communicate the company's values, symbols, beliefs, facts, attitudes, tolerances in accordance with the company's management philosophy and values sets.

The strong emergence of Information Technologies (IT) in both economic and social life, their fast integration into the social and private lives of individuals is about to transform the entire society into a genuine "information society", where the access to the information and knowledge, to communication and innovation becomes a basic economic resource. In this context, innovative culture is identified as the synergy between the four dimensions of the organization, that lead it towards a sustainable, solid, viable and innovative development: "people", "data", "processes" and "technology". It represents that part of the OC that is formed within an organization and widely used information technology as an important channel of communication inside and outside the organization, in constructing and validating decisions and influence their member's behaviour, attitudes, results and performance.

Figure no. 9. Culture of Innovation Framework



Source: made by the authors

## 5. Conclusions

The purpose of this articles was to develop a framework that would allow to any organization to choose that strategy that would lead to the best results.

The traditional organizational universe used to offer to its members security, equity, harmony and stability. The changes that took place on all development plans of society, especially those in the field of information technology, initiated had initiated changes on OC, on theirs's management strategies from the context of organization's survival, of the economic viability and of the human resource achievement.

Changes in the approach to organizational relation are becoming more and more visible, there have appeared new strategies and organizational policies, new methods are used in human resources, strong motivational systems have been born and all of this are based on the review of the values system, attitudes, symbols, morals, ethics, beliefs, faiths priorities of the organization members.

We consider that, in the not too far future, companies will report their own values, faiths, symbols, attitudes as elements of their own organizational culture, as a voluntary instrument of communication, governance and discussion with reference stakeholders. Organization presents his financial results within the balance sheet and financial statements but it can join the economic indicators and the social impact of his activity and emphasizes the capacity for identification, individualization, communication and improvement of his strengths so, a part of the organizational culture will become visible.

The appearance of some major changes in the organizational environment to which the company is slow to respond because the managerial culture does not perceive or appreciate them at the true level of influence, develop a performances decline. So, the top management's task has become that of balancing the conservatism and stability inclination of its members in relation with internal and external pressure exercised by the need for change and evolution, so that there to be an optimal level of creativity and risk-taking, a maximum active service of resources in order to achieve the general objectives.

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## Corruption Risk in the Public Sector

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### Abstract

*The purpose of this article is to assist public sector organizations, including integrity officers and other personnel involved in integrity and anti-corruption efforts, to establish and institutionalize corruption risk management, as well as to empower anti-corruption authorities to exercise preventive functions.*

*Integrity is a core value that underpins our decisions, actions and behaviors on an ongoing and consistent basis. In concrete terms, for public organizations, the decisions and actions of a person of integrity result in or conduct faithful to the organization's mission, the prevailing value system, and the applicable ethical, legal, and regulatory frameworks. It provides a list of recommendations to achieve this goal and thus prevent an implementation deficit. It also includes the recommendation to seek a balance between control and incentive approaches, as well as to structurally anchor integrity management in the organization (through an integrity committee or office), a list of specific integrity management tools which can be applied by public sector managers to support ethical behavior for themselves and for organizational members.*

**Key words:** Integration, integration management, organization, corruption

**J.E.L. classification:** D81, D83

### 1. Introduction

While the vast majority of public officials carry out their duties honestly, all public organizations and institutions face the risk of corruption. Whether in the awarding of public contracts, the collection of taxes or other revenues, the payment of social benefits or any other form of interaction between the state and its citizens, there is always the risk of a public official engaging in corruption through the abusive use of certain powers, knowledge and access to information. Similarly, people who are in contact with public institutions and officials may try to use corruption, for example, to influence or circumvent rules, procedures and decisions..

The challenge for most organizations is to identify where corruption is most likely to occur, develop and implement strategies to prevent it from occurring, and ensure that all of their staff work with integrity to fulfill their mandate. Corruption risk management can contribute to a more neutral and objective delivery of services to the public, limit revenue losses or protect law enforcement operations and human security, to name just a few examples. It is therefore of paramount importance for the rule of law and sustainable development. The United Nations Convention against Corruption requires States Parties to establish effective risk management and internal control systems to promote „transparency and accountability in the management of public finances”. Eliminating corruption is also essential to achieving the Sustainable Development Goals (SDGs) and related targets adopted by Member States on 25 September 2015 under the 2030 Agenda for Sustainable Development, which is an action plan for people, planet and prosperity.

Integrated and inseparable, these goals and targets cover the economic, social and environmental dimensions of sustainable development. The integrated nature of the SDGs and the interconnections between them are essential elements in achieving the objective pursued by the 2030 Agenda. It is therefore essential for the achievement of each SDG to eliminate corruption, which is specifically targeted by target 16.5, and to build effective, accountable and transparent institutions at all levels, as called for in target 16.63.



## 2. Theoretical background

There is no single definition of corruption; the term has a great cultural specificity and its definition within the legal systems of the countries also differs. Despite this heterogeneity, the fundamental forms of corruption involve the abuse of power or influence to gain an advantage, usually related to access to resources. With this broad definition, corruption can take many forms, the differences between which influence the strategies that can be used to prevent or detect it. A selection of terms and types of corruption are provided below to inform further analysis. (Masschalck, 2005)

*Big corruption:* This term is used when corruption occurs at the level where the rules of the game are defined, involving politicians, and when the rules are defined to achieve a given result.

*Systemic corruption:* Endemic or systemic corruption occurs when it is an integral and essential part of the economic, social and political system. Systemic corruption is not a special category of corrupt practices, but rather a situation where key state institutions and processes are routinely dominated and used by corrupt individuals and groups, and where most people have no choice but to confront corrupt officials. It can be contrasted with sporadic and more individualized corruption.

*Active/passive corruption:* involves a mutually beneficial exchange between a person in a decision-making position and another who is likely to benefit from the decisions to be made. It usually takes the form of a financial incentive paid to achieve something, for example, the award of a contract. Active or passive corruption can be a simple one-off transaction or take more elaborate and planned forms, such as rigging tenders, with illicit kickbacks paid into foreign bank accounts, or the purchase of assets such as a house or luxury car for the benefit of the official concerned. However, the essential characteristic of active or passive corruption is that it involves a bribe demanded and/or offered – and accepted.

There are two interested parties involved, both likely to benefit from the transaction.

*Fraud:* „Fraud is an economic crime involving deceit, deception, or false pretense by which someone obtains an illicit advantage”. Thus, the fact of paying ghost workers, claiming payment for non-existent construction works, recording transactions for the purchase of materials in books that were never carried out are all cases of fraud. There may be collusion between a number of parties, all of whom gain an advantage, but this should still be distinguished from, for example, seeking or offering a revocation for the award of a contract of employment which is then actually executed.

The risk assessment process and the implementation of a mitigation plan includes the following steps:

STEP 1: Establishing the operating environment

STEP 2: Risk identification

STEP 3: Determining priorities

STEP 4: Develop measures or a mitigation plan and choose indicators to measure effects

STEP 5: Implementation of planned measures

STEP 6: Assessing the effect of the measures and proposing recommendations

STEP 7: Adjust process, infrastructure, resources and capabilities

Public sector organizations include public institutions, state bodies or agencies and national anti-corruption authorities. In the case of an organization with abundant resources, the corruption risk mitigation plan may include comprehensive operating procedures with clear audit trails, appropriate levels of supervision and control, and explicit written rules that guide officers on how to apply these procedures. Many government agencies simply do not have the human or financial resources or know-how to implement such comprehensive measures. By embarking on lengthy and often expensive risk identification processes, organizations can end up using all their resources to detect risks, leaving little to implement the necessary mitigation measures.

The purpose of this article is to help public bodies carry out effective risk assessments, within the limits of available resources. It is about finding the most effective ways to implement realistic measures to mitigate the most damaging corruption risks identified by the organization. Organizations may not have sufficient confidence in their own skills or technical abilities to conduct a self-assessment, or the use of a third party may be required by law. In this case, the

organization should seek the assistance of one or more external parties experienced in conducting corruption risk assessments.

The United Nations Convention against Corruption is based on the observation that corruption is an ever-evolving phenomenon that depends on many factors and whose descriptions, in the absence of a single, commonly accepted definition, may vary according to legal regimes. This is why it contains a list of universally recognized manifestations of corruption and leaves each state free to exceed the measures it provides (Paine, 1994):

*Active corruption* – the act of promising, offering or giving a domestic public official, a foreign public official or an official of a public international organization an undue advantage to do or refrain from doing an act in connection with his duties official.

*Passive bribery* – the fact that a national public official, a foreign public official or an official of an international public organization requests or accepts an improper advantage to perform or refrain from performing an act in connection with his official functions.

*Embezzlement* – the theft or embezzlement by a public official of property, funds or securities or anything else of value granted to him under his duties.

*Embezzlement in the private sector* – embezzlement by anyone who runs a private sector entity or works for such an entity in any capacity.

*Malpractice* – the act of a public official doing or refraining from doing an act in violation of the law in order to obtain an improper advantage.

*Influence peddling* – the act of a public official abusing his influence with an administration, state authority or other public authority in order to obtain an advantage.

*Illicit enrichment* – the substantial increase in the wealth of a public official that cannot reasonably be justified by the legitimate income of the latter.

*Money laundering* – concealing the origin of money obtained through corruption, often by transfer involving foreign banks or legitimate businesses.

*Concealment* – the continued concealment or retention of assets derived from acts of corruption.

It should make a distinction between „corruption” and „risk of corruption”. While „corruption” refers to the crime that has already been committed, „risk of corruption” is that a corruption crime is likely to be committed. In this sense „corruption” only gives rise to a posteriori measures, while, in the face of a noted „risk of corruption”, the measures taken are preventive. This guide focuses exclusively on the risks of future corruption.

### 3. Research methodology

National and international sources of inspiration were used to write this article: articles, specialized books, OECD recommendations. In order to carry out this research activity, we consolidated our theoretical knowledge acquired during the course hours by collecting data from various sources, especially through documentary research and web explorations, such as conferences or interviews. Along the way, we have noticed a high level of research interest in the risk of corruption in EU countries.

Very important risk information was obtained from public sector employees, information obtained by using the questionnaire method.

This helps raise awareness of the issue and can generate a sense of ownership for future policies. This article uses primary sources. Primary sources are used for a deeper analysis of the more critical corruption risks (or perceived risks). Much of the data presented for the risk assessment was collected from existing sources, although some additional primary sources may be required for the specific system/process analyzed. A careful selection of stakeholders who are consulted as part of the assessment had an important influence on the identification and prioritization of risks. Following the guidance outlined by Hagen-Zanker and Mallett 2013 on how to conduct an evidence review using systematic principles, the approach to identifying relevant sources consisted of three separate tracks: 1) a literature search; 2) seeking relevant advice from key experts; 3) literature capture, which involved hand searching a variety of pre-selected institutional websites. Following all three tracks allowed us to produce a focused review that involved material from a diverse range of sources.



#### 4. Findings

Defining the scope of the risk assessment It is essential to obtain the full cooperation of managers and employees. As a first step, the scope and process of the risk assessment, as well as its potential outcomes, should be discussed with the management team. In preparing the risk assessment, the organization must decide whether it will be comprehensive or focused. In the private sector, identifying all potential corruption risks is often a way to demonstrate the adequacy of a compliance strategy. Perhaps not all public sector organizations need to go through this comprehensive process.

Launching a corruption risk assessment process is dictated by various motivations. A scandal, the results of an audit, a publication in the media or the adoption of a national anti-corruption strategy that requires all public bodies to carry out a risk assessment and develop a prevention plan are as many stimulating factors as possible. Organizations can also try to proactively assess their vulnerabilities to prevent future risks. When such concerns arise, a useful starting point may be to focus on the immediate problems facing an organization. Multiple scandals, a drop in revenue, an increase in citizen complaints or an inexplicable change in an employee's lifestyle: each of these elements can serve as a trigger for the evaluation process. In addition, focusing on visible and identifiable problems can help manage an unfortunate side effect of some anti-corruption efforts, namely the risk of organizational witch-hunting. It is easier to build a consensus among staff about the need to address performance issues rather than a general sense of fear built around the danger of corruption.

##### **Initiating the risk assessment process**

All activities require resources, and corruption risk assessments are no exception. The main resources needed are experienced staff and the financial means to obtain external assistance if necessary (facilitators, auditors, forensic accountants, anti-fraud experts, etc.).

Management should also support staff by redistributing workload or temporarily reassigning certain projects to allow team members time to focus on risk assessment. (Cooper, 1982). Organizational processes must have a manager. An essential first step is to decide who will be responsible for the risk assessment process (and for actually carrying it out). Responsibility for assessing the risk of corruption is usually given to a specially appointed group: the working group or task force for assessing the risk of corruption. However, the composition of the team and its position in the organizational hierarchy depends on several factors described below. Activities should be carried out by a working group of staff appointed by management to conduct the assessment and develop a mitigation plan. At this stage, they should be expressly invested with these functions. Otherwise, there is a risk that their direct superiors will not release them from their regular duties, considering the hours they have to devote to the assessment and the mitigation plan as an additional load to fit into their work schedule, only if the program allows them. Larger organizations will need a larger task force and more time to assess risks and develop a plan. Typically, at least several brainstorming meetings are required, followed by two to three months of data collection, analysis, and validation.

##### **Factors that influence the composition of the work group**

The size of the organization. Large, complex organizations have different needs than smaller, more flexible organizations. A simple rule of thumb would be that the greater the need for coordination, the more team members should occupy.

The mandate and operational structure of the organization. More complex structures with multiple mandates require an approach that integrates staff from multiple departments and divisions. Conversely, small organizations with a single, well-defined mandate may entrust the assessment of corruption risk to a small team of officers. Very small organizations might even supplement the task force with one or more members seconded from a larger organization.

The cooperative or adversarial nature of the relationship between the organization and its stakeholders. The nature of these relationships should be considered when determining whether the working group should include members of stakeholders, the general public or non-governmental organizations. The involvement of these stakeholders and their eventual extent will depend on their relationship with the organization. For example, a customs authority will have a close and ongoing relationship with importing companies and their trade associations (and therefore could consider

including representatives of these companies in the working group as appropriate), while a management fee will have fewer connections with taxpayers. There is no one-size-fits-all solution to creating a well-functioning workgroup. (Maesschalck, 2004)

**Skills needed in the work group.** In general, the composition of a work group includes members who have: an in-depth understanding of the operation of the organization; skills in law and in internal audit, internal control, human resources or procurement; experience in performing risk assessments; knowledge of the organization's main mandates. Depending on the number of mandates of the organization (and their complexity), one or more officers familiar with the organization's operations should be involved in the process. (Sinclair, 1993)

**Necessary resources**

**Staff time:** The time staff members must spend on risk assessment and the skills required to perform the required tasks.

**External consultants:** Includes travel and consulting costs, which may be paid by the organization or other sources (auditors, forensic accountants, fraud experts, consultants).

**Travel:** This will vary depending on whether the organization's offices are spread across the country or clustered in one place or city.

**Communications:** These costs include Internet connection, postal, telephone costs, etc.

**Printing and reproduction:** Includes the costs of developing data collection tools, reports and other materials.

**Supplies and equipment:** This is the cost of supplies and equipment (e.g. computers, software packages) that must be purchased or rented as part of the risk assessment.

Many internal auditors perform „risk assessments” on the projects entrusted to them. It is important to understand that a corruption risk assessment at the organizational or divisional level is different from the process carried out as part of an audit. An internal auditor performing a risk assessment uses a risk-based approach to determine which business processes and procedures need to be assessed and then conducts tests to determine the adequacy of the workforce and the extent to which they follow these procedures. Not all procedures are evaluated at each audit cycle. An organizational or divisional risk assessment is much broader. This involves management reviewing the entire operation of the organization to determine where and to what extent there may be risks of corruption. Its purpose is not to ensure hierarchy regarding the level of compliance with existing systems, but to deal with identified corruption risks. Such an assessment may reveal that internal policies and procedures are insufficient for this purpose, even if staff follow them scrupulously. Therefore, by carefully selecting its members, the working group will acquire the necessary practical experience and knowledge of the various activities of the organization.

This will also facilitate dialogue, allowing turn to be kept informed of the group's work. The task force should be chaired by a senior, knowledgeable member of the task force to gather information from all parts of the organization and this in official who can ensure the active participation of group members and steer the process without the need for direct and constant consultation with his or her hierarchy. Also, if the workforce is geographically dispersed, it is essential to include field agents in the task force. Communication about the creation of the task force.

Experience shows that sometimes staff in an organization misunderstand the process and confuse risk assessment with an investigation. Some may even fear that their position or job may be threatened.

The best way to alleviate these fears is to clearly and regularly communicate to staff information about the process and its expected outcomes, and to ensure that task force members and other staff members can dialogue freely and openly. Initially, the organization's management should issue a directive establishing the task force, appointing its members and briefly outlining the process. It should contain specific information and emphasize that the process is not an investigation. It should also establish rules governing record keeping, document storage and other administrative matters. In this instruction, management must clearly explain to all staff the importance of working with the task force. When external stakeholders are to be consulted, the instruction should specify the affected groups that will participate in the process. If the names of the people outside the organization who will intervene in the process have not yet been established, the instruction must specify that this information will be communicated later in the same form.

Risks of including external stakeholders in the working group it may be reasonable to open the process to external review or to include in the working group actors outside the organization, such as representatives of private sector entities that work closely with the organization and have relevant information.

However, the risks associated with such a decision should be carefully considered. These risks include sharing sensitive information with outsiders (which the task force may not be empowered to do) and leaks (with the risk that the entire process becomes hostage to political power struggles), as well as the practical risks of he could see the talk going everywhere. place or decisions being needlessly delayed. These factors (and other considerations relevant to the organization) should be carefully weighed when deciding whether or not to include external stakeholders in the working group.

#### **The benefits of self-assessment**

No one knows more about an organization's procedures and vulnerabilities than those who work for it. The preferred model is a staff-led process that forces the organization to identify and confront its own vulnerabilities and the corruption risks these vulnerabilities create. Staff are in the best position to tailor the assessment methodology to exactly what is needed and to determine what information and data are available or can be collected easily and inexpensively. A self-assessment will also help build or reinforce a culture of integrity within the organization. Additionally, it has been observed that when the risk assessment and development of a mitigation plan is entrusted to an internal working group, the rest of the staff is more inclined to accept the conclusions and implement them. A self-assessment is much more likely to fit seamlessly into the operation of the organization and produce measures to reduce the risk of corruption that are relevant and enforceable.

#### **Potential disadvantages of self-assessment**

However, regardless of the goodwill of the management and the skills of the work group, self-assessment has its drawbacks. For example: Staff may be reluctant to point out objectively and openly the types of corruption the organization faces. His hesitations may be motivated by fear of reprisals from colleagues or the hierarchy, or fear of damaging the organization's reputation. Because of this reluctance, the task force risks missing certain forms of corruption to which the organization is highly vulnerable or, if known, not addressing them as a priority.

Having said that, in all circumstances a good knowledge of the sector and the environment in which the organization operates will be essential. An organization with little experience in preventing corruption should consider recruiting someone who can explain what corruption can look like in a range of common situations and who has the skills and experience to work with the organization throughout the process until it implements a plan to reduce the risk of corruption. It is also possible that the initiation of the assessment process is motivated by problems resulting from weak internal controls.

One solution is to use the services of an international advisor not connected to a local or national organization, but with specialist knowledge in substantially relevant areas. Once the working group is established, its members must be provided with the necessary means to carry out their duties. It is recommended that an internal expert or an external facilitator organize a first information session on risk management, its assessment and the reasons why the organization decided to start such a process, as well as the roles of each stakeholder.

To begin, the facilitator should ask the participants what corruption means and explain that the purpose of the mitigation plan is to strengthen existing integrity controls or create new ones. This will identify vulnerabilities and reduce the risk of internal or external people committing actions that could harm the organization financially, operationally and reputationally.

## **5. Conclusions**

Public sector organizations with limited resources will make better use of them if they implement a risk assessment and management process to combat and reduce corruption. By adopting such an approach, they can focus on implementing realistic measures that mitigate the risk that the most likely and harmful corrupt practices will cause them financial harm, damage their reputation or affect their ability to fulfill their mandate. To support the success of the risk

assessment process, a working group consisting of personnel with a wide range of knowledge and skills should be formed and supported by the highest possible authority. In cases where experience or expertise is lacking, or where staff are reluctant to candidly address corruption issues for fear of reprisals from colleagues, the involvement of external consultants can be valuable. Throughout the process, it should be emphasized that the corruption risk assessment is not a witch hunt. The objective is not to eliminate people who are corrupt, but rather to highlight any vulnerabilities that could expose the organization to opportunities for corruption. The purpose of the risk mitigation plan is then to reduce these possibilities and to introduce control mechanisms and measures to remedy the organization's vulnerabilities or to strengthen existing mechanisms and measures.

In order to use their limited resources as effectively as possible to reduce corruption, public bodies should focus their efforts during the assessment process on the priority risks (the most likely and the most harmful) and the most practical countermeasures (the most feasible and more affordable) mitigation.

Monitoring and reviewing the progress and effectiveness of the risk assessment and mitigation plan makes it possible to improve the process and review certain measures.

This guide recommends that public bodies regularly repeat the process and incorporate risk management into their normal operations so that they can deal with the ever-changing corruption risks they face and thus contribute to the achievement of the Sustainable Development Goals, in particular Goal 16 and Target 16.5, which aim to „significantly reduce corruption and bribery in all their forms”.

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# The Relationship Between Organisational Learning and Employee Development. Results From an Extensive Research Project on Organisational Culture in An IT Company

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## Abstract

*This study presents a series of results obtained through extensive research in the field of organisational culture, carried out in a multinational company in the IT industry and aimed at identifying and implementing good management practices in the company under analysis.*

*The study thus aims to present a model for analysing and evaluating the relationship between organisational learning and employee development in a multinational IT company.*

*Among the main results obtained, it should be mentioned that there is a statistically significant relationship between organisational learning and employee development. In other words, organisational learning significantly influences the level of employee development.*

**Key words:** organisational learning, employee development, organisational culture

**J.E.L. classification:** M10, M12, M15, M16

## 1. Introduction

One problem that companies find themselves faced with nowadays is that of the sometimes sudden and dramatic changes in their customers' behaviour, meaning that the focus is shifting from capital in the traditional sense (material resources) to people, notably human capital and talent management (Ali & Anwar, 2021).

The characteristics of the current labour market and workforce, together with unprecedented technological changes governing companies' day-to-day operations, are making it difficult for organisations to find employees with suitable skill sets for open positions and are causing uncertainty as to the best way to manage and capitalise on the talents of a workforce that is increasingly diverse in terms of age, race and national origin (Noe *et al*, 2014, p. 246).

Employee expectations in terms of work are also changing. They value feedback about their job performance, opportunities to develop their skills and work that is challenging and personally fulfilling whilst still contributing to their organisations' goals. However, they also want the flexibility to decide when and where to work, to effectively balance the demands of their professional and personal lives (Noe *et al*, 2014, p. 246).

Employee development is one of the most important functions of human resource management. Employee development means developing both the skills of an individual employee and the organisation as a whole (Bell *et al*, 2017).

Therefore, employee development is about individual employee development and overall organisational growth, for when employees develop the organisation, it becomes more efficient and employee performance increases (Bell *et al*, 2017).

There is thus a direct relationship between employee development and employee performance (Hameed & Waheed, 2011, p. 224).

The same authors (Hameed & Waheed, 2011, p. 224) mention that when employees are more developed, they are more satisfied by their work and more committed to it, and their performance is higher. When employee performance increases, it leads to increased organisational efficiency.

## 2. Literature review

### 2.1. Organisational learning

Organisational learning is the process of increasing the capacity for effective organisational action through knowledge and understanding. The learning process is a cycle of action and reflection, i.e. doing and thinking, performing and conversing (Carroll & Edmondson, 2002).

A combination of values, competences and structures is needed to support comprehensive systemic organisational learning. "Organisations that value long-term rather than short-term performance and care about a wider range of outcomes (performance, safety, quality, environment) and stakeholders (shareholders, employees, customers, suppliers, community, society) are likely to recognise the need to learn and take the time to learn" (Agrawal *et al*, 2020). "Such organisations cultivate a variety of skills or disciplines to support learning, including acknowledgement of doubt, collaborative inquiry, personal and shared visioning, conflict management, team learning and systems thinking" (Carroll & Edmondson, 2002, p. 52).

According to Patky (2020, p. 1), organisational learning can be defined as the process by which organisational knowledge bases and insights are developed via associations between past actions, the effects of those actions and future operations. Organisational learning has two widely-acknowledged dimensions, namely, exploratory learning and exploitative learning.

Other authors adds that research in organisational learning has resulted in many definitions that can be differentiated through criteria of inclusiveness, width and focus (Fink *et al*, 2017). Most definitions are only partial, as they deal with organisational learning from one specific theoretical perspective, without taking into account the holistic conceptual view (Hernaus *et al*, 2008, p. 4). To present just a few of them, Senge 1990 defines organisational learning as "a continuous testing of experience and its transformation into knowledge available to the whole organisation and relevant to its mission" (Hernaus *et al*, 2008, p. 4).

Other authors state that "organisational learning emerges when organisations acquire information (knowledge, understanding, know-how, techniques and procedures) of any kind by any means" (Hernaus *et al*, 2008, p. 4).

Some authors mention that the number of studies in the field of organisational learning has increased dramatically in recent decades. However, there are no significant contributions to the review articles covering the last two decades (Patky, 2020, p. 2).

Patky (2020, p. 5) mentions studies who consider that learning occurs through experience and involves lasting change. In contrast, some researchers focus on collective actions, processes and systems. They argue that when an organisation institutionalises new routines, creates and transfers new knowledge or information, learning takes place at the organisational level. Many researchers have tried to define OL from different perspectives, such as the cognitive, behavioural or cultural perspective (Fink *et al*, 2017).

### 2.2. Employee development

Traditionally, organisations have relied upon, and researchers focused on, learning which takes place through formal training and development programs. Employee development (ED) may include some forms of training but typically refers to formal education, job experiences, relationships, and personality and skill assessments that help employees prepare for future jobs or positions. Increasingly, the majority of formal training and development initiatives are and should be strategic in the sense that they are necessary to help organisations increase their ability to detect change, adapt and anticipate trends (Noe *et al*, p. 247).

According to a study by Dachner *et al* (2019), employee development involves "the expansion of an individual's capacity to function effectively in his or her present or future job and work organisation" (Dachner *et al*, 2019, p. 1).

Other authors (Noe *et al*, 2014) mention that development activities include formal education, job experiences, professional relationships, and personality and skill assessments that help employees develop professionally.

ED can be defined as a planned effort by an organisation to improve its employees' knowledge, competences and skills. According to some studies, there are several indicators of employee development, namely (Sianipar *et al*, 2022, p. 2371):

- Development goals and objectives must be clear and measurable.
- Trainers must have adequate qualifications.
- Development materials must be adapted to the objectives to be achieved.
- The method of development must be in accordance with the level of ability of the employees.

By definition, employee development is a collaborative and consistent effort made by the employees/employer with the purpose of enriching employees' attitudes, knowledge, experiences, skills and abilities and improving their overall efficiency (Rahman & Nas, 2013, p. 567).

Employee development satisfies both the individual's career needs and goals and the organisation's requirements. The purpose of employee development is to improve employee abilities (Ali & Anwar, 2021). When an organisation invests in improving the knowledge and skills of its employees, that investment is returned in the form of more productive and efficient employees. Researchers believe that the employee development efforts made by the organisation work as signals to the employees that the company values their contributions and cares about their career needs, and the employees reciprocate through positive attitudes commensurate with the amount of appreciation they feel the organisation has toward them (Rahman & Nas, 2013, p. 567).

Employee development is a very complex process. There are a number of approaches that organisations can adopt to achieve the end result of employee development. Rahman & Nas (2013, p. 567) mention some authors who divide the employee development process into four components: formal education, interpersonal relationships, assessment and job experiences.

The latest employee development methods provide access to growth opportunities anytime and anywhere. The implication for talent management is that organisations may support and encourage learning but rely on their employees to serve as their own talent agents by taking advantage of opportunities and embracing the roles of life-long learners (Bell *et al*, 2017). Literature on lifelong learning emphasises the fact that it is essential for individuals to enhance their personal, social and professional development by enriching their knowledge, skills and competences throughout their lives (Dachner *et al*, 2019).

### 3. Research methodology

This study presents a series of results obtained through extensive research in the field of organisational culture, carried out in a multinational company in the IT industry and aimed at identifying and implementing good management practices in the company under analysis.

The study thus aims to present a model for analysing and evaluating the relationship between organisational learning (OL) and employee development (ED) in a multinational IT company.

The results of the study are based on quantitative methods of data analysis used to assess the respondents' perception of the practices that the company uses to achieve organisational learning and of the HR practices through which employee development is undertaken within the analysed company.

The questionnaire was used as a quantitative analysis tool, consisting of items designed to identify the features of organisational culture and including elements of the organisational learning process, i.e. HR practices through which employee development is achieved. The variables analysed were rated on a Likert scale from 1 to 5 (1 - completely disagree; 5 - completely agree).

This research was based on a sample of 221 respondents, managers and employees.

The following statistical variables were used to build the model for analysing and assessing the organisational learning process, i.e. the HR practices through which employee development is achieved:

(1) *Organisational Learning (OL)*

▪ OL 1 - 5

(2) *Employee Development (ED)*

▪ ED 1 - 5

#### 4. Findings

Table 1 shows the main statistical indicators that characterise the items and aggregate variables summarising organisational learning (*OL*) as a dimension of organisational culture on the one hand, and employee development (*ED*) on the other.

First of all, it is important to mention that for all the analysed variables, Cronbach's alpha coefficient has very high values,  $\alpha > 0.8$ , indicating that all these variables have a very good internal consistency. This confirms that the variables give an accurate measurement of the analysed elements, i.e. organisational learning (*OL*) and employee development (*ED*).

Table no. 1 Statistics for the analysed variables

Variable	Index	Cronbach's alpha	Sign	item-test correlation	mean	sd	cv	se(mean)
		$\alpha$		$\alpha$				
Organisational Learning	OL1	0.8831	+	0.7723	4.135747	.7625543	.1843813	.051295
	OL2	0.8747	+	0.8120	4.0181	.8088364	.2012983	.0544082
	OL3	0.8825	+	0.7751	3.927602	.7652737	.194845	.0514779
	OL4	0.8850	+	0.7633	4.067873	.7567331	.1860267	.0509034
	OL5	0.8922	+	0.7280	4.20362	.7622846	.18134	.0512768
<i>OL</i>	-	0.8285	+	1.0000	4.070588	.5942865	.1459952	.039976
Employee Development	ED1	0.9107	+	0.7653	4.067873	.808989	.1988727	.0544185
	ED2	0.8972	+	0.8356	4.054299	.8403149	.2072652	.0565257
	ED3	0.8980	+	0.8316	4.00905	.8994491	.2243547	.0605035
	ED4	0.9091	+	0.7739	4.058824	.7453959	.1836483	.0501408
	ED5	0.9037	+	0.8025	4.00905	.7686526	.1917294	.0517052
<i>ED</i>	-	0.8611	+	0.9998	4.039819	.6527202	.1615716	.0439067

Source: (Own research)

Below is the analysis of the descriptive indicators characterising the analysed variables:

- The *OL1* variable, which summarises the extent to which the company under analysis encourages innovation and rewards rational and effective risk-taking, has a good mean of 4.1357 and a standard deviation of 0.7625, with a coefficient of variation of 18.43% and a standard error of 0.0512.
- The *OL2* variable, which summarises the extent to which the company treats problems as an opportunity for learning and improvement, has a good mean of 4.0181 and a standard deviation of 0.8088, with a coefficient of variation of 20.12% and a standard error of 0.0544.
- The *OL3* variable, which summarises the extent to which learning in the company is an important objective of the current activity, has a good mean of 3.9276 and a standard deviation of 0.7652, with a coefficient of variation of 19.48% and a standard error of 0.0514.
- The *OL4* variable, which summarises the extent to which company management encourages direct contact between its front-line employees and its customers, has a good mean of 4.0678 and a standard deviation of 0.7567, with a coefficient of variation of 18.6% and a standard error of 0.0509.
- The *OL5* variable, which summarises the extent to which supervisors encourage employees to express themselves and exchange opinions and ideas on work-related issues, has a very good mean of 4.2036 and a standard deviation of 0.7622, with a coefficient of variation of 18.13% and a standard error of 0.0512.
- The aggregate variable *OL*, which summarises organisational learning as a dimension of organisational culture, has a good mean of 4.0705, a standard deviation of 0.5942, with a coefficient of variation of 14.59% and a standard error of 0.0399. These results indicate a good level of organisational learning in the company under analysis; management handles learning and innovation within the company effectively, but there is room for improvement in this process.



- The *ED1* variable, which summarises the extent to which company management prioritises the development of employee potential, has a good mean of 4.0678 and a standard deviation of 0.8089, with a coefficient of variation of 19.88% and a standard error of 0.0544.
- The *ED2* variable, which summarises the extent to which employee development effectively meets the specific needs of the company, has a good mean of 4.0542 and a standard deviation of 0.8403, with a coefficient of variation of 20.72% and a standard error of 0.0565.
- The *ED3* variable, which summarises the extent to which company management is involved in the development and implementation of specific development and training programs, has a good mean of 4.0090 and a standard deviation of 0.8994, with a coefficient of variation of 22.43% and a standard error of 0.0605.
- The *ED4* variable, which summarises the extent to which specific training – in both soft and hard skills – is regularly dispensed in the company, has a good mean of 4.0588 and a standard deviation of 0.7453, with a coefficient of variation of 18.36% and a standard error of 0.0501.
- The *ED5* variable, which summarises the extent to which all company staff is included in the employee development process, has a good mean of 4.0090 and a standard deviation of 0.7686, with a coefficient of variation of 19.17% and a standard error of 0.0517.
- The aggregate variable *ED*, which summarises employee development, has a good mean of 4.0398 and a standard deviation of 0.6527, with a coefficient of variation of 16.15% and a standard error of 0.0439. These results indicate a good level of investment in employee development by the company; company management effectively provides affective support to all employees in the implementation of strategies, policies and best practices, in both the area of human resource management and other areas, but there is room for improvement in this process.

It can be concluded that the analysed variables indicate a positive perception of the items investigated on the part of the respondents. We therefore propose to determine whether there is any statistical relationship between them.

To this end, we used the correlation analysis presented in Table 2, which shows the existence of significant and strong correlation coefficients ( $\rho > 0.5$ ) between the great majority of the analysed variables; thus, it can be observed that the strongest correlation is that between the aggregate variables *OL* and *ED* ( $\rho = 0.7525$ ), meaning that if organisational learning improves, employee development will also improve.

Table no. 2 Correlation matrix

	OL1	OL2	OL3	OL4	OL5	OL	ED1	ED2	ED3	ED4	ED5	ED
<b>OL1</b>	1											
<b>OL2</b>	0.5266	1										
<b>OL3</b>	0.5622	0.5676	1									
<b>OL4</b>	0.496	0.5401	0.4167	1								
<b>OL5</b>	0.3901	0.4879	0.4384	0.4881	1							
<b>OL</b>	0.7711	0.8162	0.7749	0.7615	0.7267	1						
<b>ED1</b>	0.4713	0.3941	0.3971	0.5048	0.4492	0.5743	1					
<b>ED2</b>	0.5205	0.5269	0.5221	0.3587	0.3446	0.5912	0.6298	1				
<b>ED3</b>	0.5946	0.4371	0.5292	0.4666	0.4282	0.6366	0.5114	0.5947	1			
<b>ED4</b>	0.6336	0.5561	0.4537	0.4845	0.3708	0.6493	0.4155	0.5609	0.6026	1		
<b>ED5</b>	0.4554	0.4823	0.3875	0.46	0.408	0.5698	0.5107	0.5622	0.6179	0.5306	1	
<b>ED</b>	0.6667	0.5944	0.5736	0.5651	0.4989	0.7525	0.7661	0.838	0.8387	0.7669	0.7984	1

Source: (Own research)

Strong correlations can also be identified between the *OL* and *ED3* variables ( $\rho = 0.6366$ ), i.e. between organisational learning and the extent to which the company's managers engage in the development and implementation of specific development and training programs, which means that the more company management engages in the development and implementation of such programs, the more organisational learning improves.

Another strong correlation is to be found between the *OL* and *ED4* variables ( $\rho = 0.6493$ ), i.e. between organisational learning and the extent to which specific training – in both soft and hard skills – is regularly dispensed in the company, meaning that when more specific training is regularly carried out within the company, organisational learning improves.

A strong correlation can also be observed between the *ED* and *OLI* variables ( $\rho = 0.6667$ ), i.e. between employee development and the extent to which the analysed company encourages innovation and rewards rational and effective risk-taking, meaning that the more the company encourages innovation and rewards rational and effective risk-taking, the more employee development improves.

We can also mention the correlation between the *ED* and *OL2* variables ( $\rho = 0.5944$ ), i.e. between employee development and the extent to which the company treats problems as an opportunity for learning and improvement, meaning that when the company encourages its employees to see problems as an opportunity for learning and improvement, employee development improves.

Based on the results above, we can state that there is a strong and positive correlation between organisational learning and employee development, notably there is a strong influence between these two variables, but we do not know the extent of that influence. Therefore, we propose to determine below the degree of influence that organisational learning has on employee development.

To this end, we used regression analysis to determine the influence of the *OL* variable on the *ED* variable (table 3).

It can be observed that the *OL* variable has a statistically significant influence on the *ED* variable (Prob > F = 0.0000). The variation of the *OL* variable explains the variation of the *ED* variable to an extent of 56.63% ( $R^2 = 0.5663$ ).

The *OL* variable has a coefficient of 0.8265 and is estimated with a p-value = 0.000 ( $P > |t| < 0.05$ ). The coefficient is positive as expected, meaning that for each increase by one unit in organisational learning, employee development will increase by 0.8265 units.

*Table no. 3 Linear regression*

		Number of obs	=	221
		F(1, 219)	=	271.31
		Prob > F	=	0.0000
		R-squared	=	0.5663
		Root MSE	=	.43084

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ED	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
OL	.8265096	.0501781	16.47	0.000	.7276159	.9254033
_cons	.6754389	.2106593	3.21	0.002	.2602598	1.090618

*Source:* (Own research)

It is to be noted that the impact or influence of organisational learning on employee development in the company under analysis is very high.

Therefore, the company's decision-makers should continue to focus on strengthening organisational learning, as it significantly influences employee development.

## 5. Conclusions

One problem that companies find themselves faced with nowadays is that of the sometimes sudden and dramatic changes in their customers' behaviour, meaning that the focus is shifting from capital in the traditional sense (material resources) to people, notably human capital and talent management.

The characteristics of the current labour market and workforce, together with unprecedented technological changes governing companies' day-to-day operations, are making it difficult for organisations to find employees with suitable skill sets for open positions and causing uncertainty as to the best way to manage and capitalise on the talents of a workforce that is increasingly diverse in terms of age, race and national origin (Noe *et al*, 2014, p. 246).

The present study presents a series of results obtained through extensive research in the field of organisational culture, carried out in a multinational company in the IT industry and aimed at identifying and implementing good management practices in the company under analysis.

The study thus aims to present a model for analysing and evaluating the relationship between organisational learning (OL) and employee development (ED) in a multinational IT company.

It shows that the impact or influence of organisational learning on employee development in the company under analysis is very high.

Therefore, the company's decision-makers should continue to focus on strengthening organisational learning, as it significantly influences employee development.

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## Does Employee Empowerment Influence Employee Motivation? Findings of A Study on A Multinational Corporation Operating In the IT Industry

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### Abstract

*In the era of the digital economy, human resources has become the most relevant asset in generating added value that gives companies a significant competitive advantage. Therefore, ensuring that companies implement an appropriate, effective and efficient set of HR practices in the area of employee motivation is of particular importance.*

*Consequently, this study aims to present a model for analysing the relationship between the practices through which employee empowerment is achieved and the HR practices through which employee motivation is achieved in a multinational corporation operating in the IT industry.*

*Among the main results obtained, we may mention that there is a statistically significant relationship between the practices through which employee empowerment is achieved and the HR practices through which employee motivation is achieved in the analysed company. In other words, employee empowerment significantly influences the level of employee motivation.*

**Key words:** employee empowerment, employee motivation, organisational culture

**J.E.L. classification:** M10, M12, M15, M16

### 1. Introduction

Industrial and trade concepts are being reconfigured and reshaped according to the new global market requirements to serve the world's population, which is also undergoing a process of deep change, given that the global economy does not change or transform at the discretion of a single state or international body and that changes in the global economy are based not so much on contextual factors as on objective factors such as the rapid change in global human resource market trends, a phenomenon that forces the emergence of new perspectives on the approach to human resource practices within companies (Mohamed *et al*, 2019).

In such a context, highly motivated employees are a critical factor for the long-term success of an organisation (Khalili *et al*, 2015). Given this, company managers are becoming increasingly interested in how the elements of control systems affect employee motivation at all organisational levels. Employee empowerment has been advocated by researchers as a way to increase employee motivation (Drake *et al* 2007, p. 72; Nurimansjah *et al*, 2022).

Similarly, research has shown that employees who feel empowered have higher levels of motivation, which, in turn, has been linked to greater organisational effectiveness and performance. Therefore, it is presumed that there is a link between empowerment and motivation, and many studies in the literature have examined this relationship and the ways in which various aspects of a company affect employee empowerment, motivation, satisfaction and performance (Drake *et al* 2007, p. 72).

Certain studies in the literature, based on empirical research, have shown a positive relationship between employee empowerment and employee motivation and performance.

Some authors (Bose, 2018, p. 73) identified significant correlations between employee empowerment and employee performance. According to these studies, any impact of employee empowerment on employee performance is due to some of the behavioural consequences generated by empowerment, notably an improved sense of meaningfulness, as well as an improved sense of responsibility and control (Bose, 2018, p. 73).

Employee empowerment seen as a source of motivation relying on individual self-fulfilment in the form of work, enhancement of competence, self-improvement and influence on work is closely related to employee motivation and performance (Iis *et al*, 2022, p. 12803).

## **2. Literature review**

### **2.1. Employee empowerment**

There are different approaches to defining employee empowerment in the literature. Bose (2018, p. 72) mentions Conger and Kanungo 2008, who linked the concept of employee empowerment with the process of boosting feelings of self-efficacy and eliminating the factors triggering feelings of powerlessness in employees, while other authors emphasised the shift of power to employees as being fundamental to employee empowerment (Bose, 2018, p.72).

Other authors have defined the concept of employee empowerment using four dimensions, namely autonomy, impact, meaningfulness and group strength. As concerns the benefits of employee empowerment in general, studies highlighted aspects such as improved self-control, the feeling of self-fulfilment and the development of self-responsibilities (Bose, 2018, p. 73).

Andika & Darmanto (2020, p. 242) state that empowerment is the authority to make decisions in certain areas without having to get the approval of others. Employee empowerment can make employees fully responsible for what is done in the organisation, thus forcing leaders to learn how to relinquish control, while employees are forced to learn to be responsible for their work and to make the right decisions (Andika & Darmanto, 2020; Paillé & Francoeur, 2021).

Employees who become and feel empowered by their leadership will feel valued through their autonomy, which can lead to improved employee performance (Andika, & Darmanto, 2020; Nurimansjah *et al*, 2022).

Iis *et al* (2022, p. 12803) mention that empowerment is reflected in the efficiency and effectiveness of the organisation, through a comprehensive analysis of organisational competences and management. The same authors mention a number of studies in the literature indicating a relationship between the empowerment effect and employees' motivation to work.

Employee empowerment is essentially a process of managing the potential and optimising the use of each individual employee, in the context of career coaching and improvement of organisational performance (Mohamed *et al*, 2019; Khalili *et al*, 2015). Empowerment is well reflected by the concept of intrinsic motivation based on self-fulfilment, competence, self-determination and impact (Iis *et al*, 2022, p. 12804).

Empowerment can be structural or psychological. Structural empowerment is defined as workplace conditions that promote optimal job performance and provide employees with access to information, support and resources (Saleh *et al*, 2022, p. 1).

Psychological empowerment is defined as the individual's cognitive state characterised by a sense of perceived control, competence and goal internalisation. It has four dimensions: meaning, competence, self-determination and impact (Saleh *et al*, 2022, p. 2).

### **2.2. Employee motivation**

Motivation refers to the efforts a person dedicates to pursuing a goal. It is therefore closely related to employee satisfaction and job performance. Motivation is essential for managers because, by definition, managers must work with others and must therefore influence the behaviour of their subordinates. Managers must understand certain employees' behaviours so they can influence them to work according to the organisation's needs (Mohamed *et al*, 2019). Motivation can thus be defined as the skill of directing employees to want to work successfully in order to achieve organisational goals. Motivation is a force that causes individuals to behave or act in a certain way (Widarko & Brotosuharto, 2022, p. 124).

Motivation can be defined as the ability to transform the behaviour and performance of employees at work. It is considered the internal driving force behind an individual's activities. The psychological and motivational dimensions of human capital development policies should be anticipated to improve

overall organisational performance. In fact, motivation is what differentiates human resources from the other resources used by companies to carry out their activities (Mohamed *et al*, 2019).

In this respect, organisations need to establish effective motivational strategies taking into account their employees' determination and productivity. Statistics in the literature show that motivation has a significant effect on the level of employee performance, and employees with high motivation levels appear to perform better than other employees with lower motivation levels (Tumi *et al*, 2021, p. 3).

Many researchers and authors have defined motivation as the psychological drive that controls a person's level of effort and persistence in the face of obstacles in the workplace. Therefore, the main aspects that make up the definitions of the concept of employee motivation are: effort, direct and unmediated action on the part of the individual, and the different ways of manifesting appropriate behaviour and effort (Tumi *et al*, 2022, p. 12).

Other authors states that motivation is the process of stimulating and encouraging behaviour and performance. This means that motivation is a process of stimulating a person to perform a task, process through which the intensity, direction and disposition of the person's effort to achieve performance is determined (Mohamed *et al*, 2019). Moreover, employee motivation is an important factor affecting employee performance (Iis *et al*, 2022, p. 12806).

Intrinsic motivation is an impulse that arises from a desire to meet unsatisfied needs; it occurs when someone is involved in a task simply for the pleasure of succeeding in it, because that task is interesting and fun in itself, and for self-fulfilment, including for the acquired skills, experience, freedom and creativity it confers (Andika & Darmanto, 2020, p. 242).

Employees who are intrinsically motivated will enjoy jobs that enable them to use their creativity and innovation and to work with a high degree of autonomy, and they do not need to be closely monitored. Therefore, work motivation is expected to improve employee performance (Andika & Darmanto, 2020, p. 242).

Higher motivation leads to job satisfaction. An organisation cannot achieve the desired outcomes without motivated staff, and motivation plays an important role in retaining employees, increasing productivity and consequently improving organisational performance (Saleh *et al*, 2022, p. 2).

### 3. Research methodology

This study aims to present a model for analysing the relationship between the company practices for empowering employees and the HR practices for motivating employees in a multinational IT corporation.

More specifically, the goal is to present a model for analysing the relationship between employee empowerment (*EE*) and employee motivation (*EM*) in a multinational IT corporation.

The results of the study are based on quantitative methods of data analysis used to assess the respondents' perception of the company practices through which employee empowerment is achieved and of the HR practices through which employee motivation is achieved within the analysed company.

The questionnaire consisted of items aimed at assessing the respondents' perception of company practices for employee empowerment and HR practices for employee motivation. The analysed variables were rated on a Likert scale from 1 to 5 (1 - completely disagree; 5 - completely agree).

The research was based on a sample of 323 respondents, managers and employees from the company under study. The following variables were used to build the model for analysing and assessing the practices through which employee empowerment is achieved and the HR practices through which employee motivation is achieved:

- (1) *Employee Empowerment (EE)*  
(1.1. - 1.6.) *EE* 1 - 6
- (2) *Employee Motivation (EM)*  
(2.1. - 2.8.) *EM* 1 - 8

#### 4. Findings

The analysis of the company practices through which employee empowerment is achieved and of the HR practices through which employee motivation is achieved is based on a construct comprising a set of 6 and a set of 8 simple statistical variables (items) making up 2 aggregate statistical variables, *EE* and *EM* respectively (Table 1).

Table no. 1 Statistics of the variables under analysis

Variable	Index	Cronbach's alpha	Sign	item-test correlation	mean	sd	cv	se(mean)
		$\alpha$		$\alpha$				
Employee Empowerment	EE1	0.8771	+	0.6724	4.123839	.6939097	.1682679	.0386102
	EE2	0.8650	+	0.7480	4.074303	.7313238	.1794967	.0406919
	EE3	0.8741	+	0.6918	4.102167	.7991231	.1948051	.0444644
	EE4	0.8689	+	0.7242	4.108359	.7904858	.1924091	.0439838
	EE5	0.8619	+	0.7664	4.021672	.7155077	.177913	.0398119
	EE6	0.8673	+	0.7336	3.993808	.6640447	.1662686	.0369484
<i>EE</i>	-	0.8171	+	0.9996	4.070691	.5292425	.1300129	.0294478
Employee Motivation	EM1	0.9363	+	0.8182	4.124164	.5920231	.1435498	.032941
	EM2	0.9348	+	0.8401	4.056347	.6971425	.1718646	.03879
	EM3	0.9344	+	0.8453	4.049536	.7705919	.1902914	.0428769
	EM4	0.9355	+	0.8299	4.03096	.8445852	.2095246	.046994
	EM5	0.9367	+	0.8134	4.083591	.8610679	.2108605	.0479111
	EM6	0.9372	+	0.8053	4.130031	.7891711	.1910812	.0439107
	EM7	0.9423	+	0.7299	4.018576	.8301174	.20657	.046189
	EM8	0.9399	+	0.7655	3.965944	.7406254	.1867463	.0412095
<i>EM</i>	-	0.9229	+	0.9996	4.057394	.616648	.1519813	.0343112

Source: (Own research)

In the analysis of the main statistical indicators presented in Table 1, it is first to be noted that Cronbach's alpha coefficient registers very high values for all the variables analysed,  $\alpha > 0.8$ , indicating that all the variables analysed have a very good internal consistency, which means that they are constructed in a relevant way with regard to the measured phenomena, notably employee empowerment and motivation.

As for the other statistical indicators, the variables analysed have good values, as follows:

(1) *Employee Empowerment (EE)*:

(1.1.) The statistical variable *EE1*, which summarises the level of involvement of the company's employees in their activities, has a good mean of 4.1238 and a standard deviation of 0.6939, with a coefficient of variation (cv) of 16.82% and a standard error (se(mean)) of 0.0386.

(1.2.) The statistical variable *EE2*, which summarises the extent to which decisions made within the company are based on adequate authority and the availability of the most appropriate information, has a good mean of 4.0743 and a standard deviation of 0.7313, with a coefficient of variation of 17.94% and a standard error of 0.0406.

(1.3.) The statistical variable *EE3*, which summarises the extent to which information is widely shared within the company so that all employees can get the specific information they need at work, has a good mean of 4.1021 and a standard deviation of 0.7991, with a coefficient of variation of 19.48% and a standard error of 0.0444.

(1.4.) The statistical variable *EE4*, which summarises the extent to which business planning ensures the involvement of all employees in the company's processes, has a good mean of 4.1083 and a standard deviation of 0.7904, with a coefficient of variation of 19.24% and a standard error of 0.0439.

(1.5.) The statistical variable *EE5*, which summarises the extent to which company management effectively develops the process of empowering employees to act and

share their knowledge and experiences openly, has a good mean of 4.0216 and a standard deviation of 0.7155, with a coefficient of variation of 17.79% and a standard error of 0.0398.

(1.6.) The statistical variable *EE6*, which summarises the extent to which the organisational structure based on effective delegation of duties is flexible and promotes innovation in business processes, has a good mean of 3.9938 and a standard deviation of 0.6640, with a coefficient of variation of 16.62% and a standard error of 0.0369.

(1) With regard to the aggregate variable *EE*, which summarises the practices within the company through which employee empowerment is achieved, it has a good mean of 4.0706 and a standard deviation of 0.5292, with a coefficient of variation of 13.00% and a standard error of 0.0294. These results indicate that the company has effective and efficient practices regarding employee empowerment; however, there are opportunities for improvement to further strengthen the level of empowerment applied in the organisation.

(2) *Employee Motivation (EM)*:

(2.1.) The statistical variable *EMI*, which summarises the extent to which company management motivates and mobilises employees to use their full potential in order to achieve the organisation's general and individual specific objectives, has a good mean of 4.1241 and a standard deviation of 0.5920, with a coefficient of variation of 14.35% and a standard error of 0.0329.

(2.2.) The statistical variable *EM2*, which summarises the extent to which employees are adequately and effectively motivated to join and stay with the company, has a good mean of 4.0563 and a standard deviation of 0.6971 with a coefficient of variation of 17.18% and a standard error of 0.0387.

(2.3.) The statistical variable *EM3*, which summarises the extent to which the system of effective reward and recognition of results is appropriate and stimulates individual and team performance, has a good mean of 4.0495 and a standard deviation of 0.7705, with a coefficient of variation of 19.02% and a standard error of 0.0428.

(2.4.) The statistical variable *EM4*, which summarises the extent to which employees are adequately and effectively rewarded, taking into account their performance and degree of achievement of company objectives, has a good mean of 4.0309 and a standard deviation of 0.8445 with a coefficient of variation of 20.95% and a standard error of 0.0469.

(2.5.) The statistical variable *EM5*, which summarises the extent to which the company provides adequate, transparent and effective systems for assessing individual performance, has a good mean of 4.0835 and a standard deviation of 0.8610, with a coefficient of variation of 21.08% and a standard error of 0.0479.

(2.6.) The statistical variable *EM6*, which summarises the extent to which managers encourage employees to use their talent at work and reward them for doing so, has a good mean of 4.1300 and a standard deviation of 0.7891, with a coefficient of variation of 19.10% and a standard error of 0.0439.

(2.7.) The statistical variable *EM7*, which summarises the extent to which employees with high technical skills/competences are loyal to the company, has a good mean of 4.0185 and a standard deviation of 0.8301, with a coefficient of variation of 20.65% and a standard error of 0.0461.

(2.8.) The statistical variable *EM8*, which summarises the extent to which the company's managers provide employees with adequate competences to capture the most important aspects of job specificity, has a good mean of 3.9659 and a standard deviation of 0.7406, with a coefficient of variation of 18.67% and a standard error of 0.0412.



(2) With regard to the aggregate variable *EM*, which summarises the company's HR practices for motivating employees, it has a good mean of 4.0573 and a standard deviation of 0.6166, with a coefficient of variation of 15.19% and a standard error of 0.0343. These results show that the company has effective and efficient practices for employee motivation, i.e. there is a good level of motivation among the surveyed employees; however, there are opportunities for improvement to further strengthen the level of employee motivation.

It is to be noted that the analysed variables summarising the company practices related to employee empowerment and the HR practices related to employee motivation reflect a positive perception on the par of the respondents. Our aim is therefore to identify the existence of any link between the examined variables.

To this effect, we proceeded to the correlational analysis (Table 2) in which can be observed significant and strong correlation coefficients ( $\rho > 0.5$ ) between some of the analysed variables, as follows:

- There is a strong relationship between the *EE1* and *EMI* variables ( $\rho = 0.5061$ ), meaning that the level of involvement of the company's employees in their activities influences the extent to which the company's managers motivate and mobilise employees to use their full potential in order to achieve the organisation's general and individual specific objectives.

Table no. 2 Correlation table

	EE1	EE2	EE3	EE4	EE5	EE6	EE
EM1	0.5061*	0.4989	0.5327*	0.4817	0.4753	0.4791	0.6868*
EM2	0.4606	0.5339*	0.5488*	0.4403	0.4365	0.4683	0.6676*
EM3	0.4241	0.4729	0.4759	0.4398	0.4655	0.4376	0.6272*
EM4	0.3750	0.4186	0.5014*	0.3950	0.4306	0.4544	0.5949*
EM5	0.3465	0.5030*	0.5156*	0.4064	0.4255	0.3702	0.5958*
EM6	0.4355	0.3760	0.5206*	0.4901	0.4955	0.4401	0.6385*
EM7	0.4758	0.4684	0.4044	0.4134	0.4333	0.3608	0.5896*
EM8	0.3466	0.4003	0.4047	0.4148	0.3940	0.4163	0.5489*
EM	0.5185*	0.5677*	0.6038*	0.5375*	0.5508*	0.5281*	0.7643*

\*  $\rho > 0.5$

Source: (Own research)

- There is a strong relationship between the *EE1* and *EM* variables ( $\rho = 0.5185$ ), meaning that the level of involvement of the company's employees in their activities influences both the HR practices related to employee motivation and the level of employee motivation.
- There is a strong relationship between the *EE2* and *EM2* variables ( $\rho = 0.5339$ ), meaning that the extent to which decisions made within the company are based on appropriate authority and the availability of the most appropriate information influences the extent to which employees are adequately and effectively motivated to join and stay with the company.
- There is a strong relationship between the *EE2* and *EM5* variables ( $\rho = 0.5030$ ), which shows that the extent to which decisions made within the company are based on adequate authority and the availability of the most appropriate information influences the extent to which the company provides adequate, transparent and effective systems for assessing individual performance.

- There is a strong relationship between the *EE2* and *EM* variables ( $\rho = 0.5677$ ), meaning that the extent to which decisions made within the company are based on adequate authority and the availability of the most appropriate information influences both the HR practices related to employee motivation and the level of employee motivation.
- There are strong correlations between the variable *EE3* and the variables *EM1*, *EM2*, *EM4*, *EM5*, *EM6* and *EM* ( $\rho = 0.5327$ ;  $\rho = 0.5488$ ;  $\rho = 0.5014$ ;  $\rho = 0.5156$ ;  $\rho = 0.5206$ ;  $\rho = 0.6037$  respectively).
- There is a strong relationship between the *EE4* and *EM* variables ( $\rho = 0.5375$ ).
- There is a strong relationship between the *EE5* and *EM* variables ( $\rho = 0.5508$ ).
- There is a strong relationship between the *EE6* and *EM* variables ( $\rho = 0.5281$ ).
- There are strong relationships between the *EE* variable and all the other variables summarising the company's practices related to employee empowerment ( $\rho = 0.6868$ ;  $\rho = 0.6676$ ;  $\rho = 0.6272$ ;  $\rho = 0.5949$ ;  $\rho = 0.5958$ ;  $\rho = 0.6385$ ;  $\rho = 0.5896$ ;  $\rho = 0.5489$ ); therefore, the HR practices related to employee motivation and the level of employee motivation itself are influenced by, or depend on, the company's practices related to employee empowerment.
- The correlation table also shows that the highest correlation is that between the two aggregate variables *EE* and *EM* ( $\rho = 0.7643$ ), meaning that there is a clear link or dependency between employee empowerment practices and both HR practices related to employee motivation and the level of employee motivation itself.

The results obtained from the correlational analysis justify our further investigation into the relationship between employee empowerment practices on the one hand, and both HR practices related to employee motivation and the level of employee motivation on the other, or in other words, the relationship between employee empowerment and employee motivation.

To this effect, we used linear regression analysis to determine the influence of the *EE* variable summarising employee empowerment practices on the *EM* variable summarising HR practices related to employee motivation.

Table 3 presents a statistical analysis of the impact of the *EE* variable on the *EM* variable. The *EE* variable has a statistically significant impact on the *EM* variable (Prob > F = 0.0000). The change in the *EE* variable explains 58.42% ( $R^2 = 0.5842$ ) of the change in the *EM* variable.

The coefficient of the *EE* variable is equal to 0.8905 and is estimated with p-value = 0.000 ( $P > |t| < 0.05$ ); this means that for every increase by one unit in the *EE* variable, the *EM* variable will increase by 0.8905 units.

Table no. 3 Linear regression

Linear regression					Number of obs	=	323
					F(1, 321)	=	648.91
					Prob > F	=	0.0000
					R-squared	=	0.5842
					Root MSE	=	.39824
		Robust					
EM		Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
EE		.8905689	.0349602	25.47	0.000	.8217887	.959349
_cons		.4321625	.1492534	2.90	0.004	.1385241	.7258009

Source: (Own research)

Therefore, for a one unit increase or improvement in employee empowerment practices, the HR practices related to employee motivation and the level of employee motivation itself will increase by 0.8905 units. We can thus note that the impact or influence of employee empowerment on employee motivation in the company under study is very high.

Therefore, the analysed company's management should focus on improving and strengthening its practices related to employee empowerment, as these directly determine and influence the level of employee motivation.

## 5. Conclusions

Certain studies in the literature, based on empirical research, have shown a positive relationship between employee empowerment and employee motivation and performance. These have identified significant correlations between employee empowerment and employee performance. According to some authors, any impact of employee empowerment on employee performance is due to some of the behavioural consequences generated by empowerment, notably an improved sense of meaningfulness, as well as an improved sense of responsibility and control (Bose, 2018, p. 73).

Employee empowerment seen as a source of motivation relying on individual self-fulfilment in the form of work, enhancement of competence, self-improvement and influence on work is closely related to employee motivation and performance (Iis *et al*, 2022, p. 12803).

This study aims to present a model for analysing the relationship between the company practices for empowering employees and the HR practices for motivating employees in a multinational IT corporation.

More specifically, the goal is to present a model for analysing the relationship between employee empowerment (*EE*) and employee motivation (*EM*) in a multinational IT corporation.

Among the main results obtained, we may mention that impact or influence of employee empowerment on employee motivation in the company under study is very high, therefore, the analysed company's management should focus on improving and strengthening its practices related to employee empowerment, as these directly determine and influence the level of employee motivation.

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## Tourism Behaviour and the Transformative Power of the Pandemic – A Post-Pandemic Perspective

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### Abstract

*In the context of lifting the restrictions imposed by the Covid-19 pandemic, life seems to continue towards normality. More precisely, towards the new normality. Furthermore, in the tourism industry, we see the change not only in consumer behaviour but also in their expectations. There is a shift in emphasis from sufficient consumption to social responsibility and sustainability. In this challenging context, the present work aims to add value to the research of the post-pandemic perspective on the behaviour of the consumer of tourism services in Constanta and analyse the transformative power the pandemic has had on it.*

*The main research directions aim to deepen the post-pandemic situation regarding the emphasis on hygiene and disinfection of accommodation and dining spaces, the attention paid to respecting the rules of social distancing when visiting tourist attractions, consumer preferences towards tourist destinations where they have friends or relatives, the tendency for making reservations and only paying online for stays, their appetite for discounted package tours, and their preference for destinations they have become familiar with through virtual tours.*

**Key words:** Consumer behaviour, transformation, catalyst, tourism, sustainability, post-pandemic  
**J.E.L. classification:** M30, M31

### 1. Introduction

The crisis that arose from the Covid-19 pandemic significantly impacted travel and tourism. It also impacted other sectors in the field of tourism-related services, such as the artistic sector or events (Higgins-Desbiolles 2020, 554).

As pointed out by Becker (2020), as a result of the coronavirus pandemic, not many industries suffered such a notable and accelerated decline as that tourism (Becker, 2020, online). Even the technological revolution, whose direct effect was, prior to the pandemic, the ease and accessibility of travel and tourism, has shown its powerlessness in counteracting the effects of the virus (Becker, 2020).

If according to UNWTO (2022), in 2019, international tourist arrivals worldwide reached 1.5 billion per year, on the back of a decade of uninterrupted growth, tourism has become one of the world's major socio-economic sectors, an essential pillar of sustainable development, recognised for its unique ability to generate opportunities for all and help provide solutions to some of the biggest problems, the pandemic has brought down all tourism indicators (UNWTO, 2022a).

Despite the devastating effects, at first sight, a series of studies have discussed the role of the crisis generated by the Covid-19 pandemic as a "potential catalyst for transformation" (Ateljevic, 2020, Nepal, 2020, Higgins-Desbiolles, 2020a).

According to the latest "UNWTO World Tourism Barometer", there is a growth in international tourism by 182% year-on-year in January-March 2022, and worldwide destinations have received approximately 117 million international arrivals, compared to 41 million in the first quarter of 2021 (World Tourism Organization, 2022, p. 1).

Globally, destinations recorded approximately three times more international arrivals in the first quarter of 2022 than in the same period of 2021, with Europe leading the tourism recovery (World Tourism Organization, 2022, p. 1; UNWTO, 2022b, p. 1), so, post-pandemic, tourism continues to recover at a strong pace. Thus, according to UNCTAD Secretary-General Grynspan R., "tourism can undoubtedly be a vital part of the post-pandemic recovery" (UNWTO, 2022, p. 31).

The pandemic has brought the renewal of social bonds and capacities to the fore as governments have acted to prevent economic and social devastation (Higgins-Desbiolles 2020b, 617). This normality disruption has inspired many researchers to imagine radical transformations in tourism to address injustices and the unsustainability of this economic branch. Others, however, remain sceptical about the likelihood of the transformation (Higgins-Desbiolles et al. 2022, 208).

In this context, the present paper aims to discuss how the consumer of tourist services was affected by the transformative power of the pandemic. It also describes how the tourism consumers in Constanta, Romania, have made decisions regardless of their chosen destination.

## 2. Theoretical background

Regarding the influencing factors on the behaviour of the consumer of tourist services, the authors' Cohen et al. (2014) review a number of nine key concepts, along with three topical external influences. The key concepts are related to "decision-making, values, motivations, self-concept and personality, expectations, attitudes, perceptions, satisfaction and trust and loyalty". At the same time, external influences highlighted by the cited authors include "technology, Generation Y and ethical consumption" (Cohen et al. 2014, 875).

Regarding the Covid-19 pandemic, at the consumer level, the situations created were more of an impediment than a favourable situation in the context of an increase in their irresponsible behaviour, which attracted a deficient perception of the actual situation, with the induction of fear as a generalised feeling (Billore and Anisimova 2021, 778; Karaboğa Cici et al. 2021, 729).

As Leach J. pointed out, situations causing disruptions in social life or affecting the health of individuals produce strong behavioural changes (Leach 1994, 15).

One such example is the Covid-19 pandemic, which generated, on the one hand, an increase in the volume of impulse purchases and "panic buying" of consumer products to alleviate negative feelings, reaching to cause some consumers to behave compulsively. It has also generated an extreme shift towards shopping addiction and the aggravation of existing financial problems (Pantano and Willems 2022, 777). It generated an indefinite renunciation of the consumption of some services, such as tourist services, through the prism of the fear of exposure to crowded (Yu and Egger 2021, 231) places fear of contracting the virus (OECD 2020, 6).

Considering the consumer's purchasing behaviour as the sum of the decision-making processes determined by a series of internal and external factors, economic instability (attracted by the health crisis) constitutes one of the factors that exert a predominant influence on consumption behaviours (Karaboğa Cici et al. 2021, 728).

### a) Where is post-pandemic tourism headed?

There is an approach to post-pandemic tourism through the lens of transformative thinking by authors such as Higgins-Desbiolles and Ateljevic. They anticipate a break from the past and business as usual (Higgins-Desbiolles, 2020; Ateljevic, 2020).

Authors such as Everingham and Chassagne (2020) aimed to consider the paradigms of sustainable tourism in the way they are found in movements such as the example of "*Buen Vivir*" with abandoning approaches based on tourism growth (Chassagne and Everingham 2020; Everingham and Chassagne 2020a).

Cave and Dredge supported the regenerative tourism approach based on sound thinking from the regenerative economy (Cave and Dredge 2020, 503). In explaining the concept, Pollock highlighted that "regenerative tourism is the antidote to the fragmentation that affects the current tourism model" (Pollock A. 2019).

Higgins-Desbiolles proposed the concept of "socialising tourism", which means "... making tourism responsive and accountable to the society in which it takes place", supporting its necessity to ensure social and ecological justice (Higgins-Desbiolles 2020, 617).

The pandemic offered the opportunity to reimagine tourism beyond those exploitation models that do not consider people, places and the natural environment, shifting the focus to tourism that exerts a positive impact (Everingham and Chassagne 2020b). In shifting priorities from economic growth to alternatives characterised by greater social and environmental well-being and meaningful human connections, several "non-Western alternatives to neo-colonial and neoliberal capitalism" can prove to be of real use (Everingham and Chassagne, 2020b). The focus on Buen Vivir minimises unsustainable practices in development and tourism, providing an upward trend to other areas, such as social and environmental well-being and meaningful human connection. This approach is reorienting the tourism industry towards slow, localised tourism. Following its principles that call for the tourist activity should be of a small scale, directed to the local communities with benefits for both the host communities and the tourists, to increase the well-being of the entire community (Everingham and Chassagne, 2020b).

On the other hand, Benjamin *et al.* supported the practical emphasis on equity that the transformation of tourism must bring into the social framework. It calls for a post-pandemic redesign of the tourism landscape and industry to be more sustainable and equitable, arguing that this "reset" should refer to planning a tourism future grounded in ethics of "care, social and environmental justice and racial reconciliation" (Benjamin *et al.* 2020, 476). From this category, we mention the ideas supported by Hall *et al.* (2020), who stated that change could take place in specific locations by reconsidering the nature of the tourism industry, focusing on local, sustainable forms of tourism, "the giant that is international tourism will continue" (Hall *et al.* 2020, 591).

Some authors dispute the possibility of implementing such an approach, considered too optimistic, even utopian, on the tourism industry, arguing that such transformations are "improbable or even undesirable" (Higgins-Desbiolles *et al.* 2022, p. 212). One such proponent is Butcher, a promoter of industry recovery and a quick return to business "as usual" (Butcher, 2020).

Following a review of thirty-five papers that studied the tourism industry following the pandemic, Sharma *et al.* propose a resilience-based framework for revitalising the post-Covid-19 global tourism industry. The proposed framework highlights four important factors for building resilience in the industry: government response, technological innovation, local ownership and consumer and employee confidence, arguing that by harnessing such inclusive resilience the tourism industry can transform into a new global economic order, characterised by sustainable tourism, the well-being of society, climate action and the involvement of local communities (Sharma *et al.* 2021, 1-4).

The pandemic crisis has caused a change in tourism trends that affects the way hotels are managed (Robina-Ramírez *et al.*, 2022). According to the United Nations (2020), hotels must guarantee safe customer experiences by incorporating sustainability measures. Collaboration between health and tourism authorities and the tourism industry is essential. According to the hotels' estimates, implementing these measures would contribute to starting the recovery process of the hotel industry (Robina-Ramírez *et al.*, 2022).

The COVID-19 pandemic has illustrated the fragility of tourism capitalism, prompting insightful analysis among critical scholars. While grappling with the political and philosophical implications, the comments were mostly prescriptive and general: contemplating the collapse of tourism as we know it and bringing to the fore the opportunities to reconstitute more sustainable, resilient and inclusive forms of tourism (Gibson 2021, 84).

Sudden disruptions feature heavily in crisis theories. Key moments—disasters, disruption blockages—are positioned as singular events in which everything changes, precursors to necessary existential contemplations and, it is hoped, societal overhauls, a fact especially true for tourism (Rosselló *et al.* 2020).

Profound disruptions to the status quo are "awakenings" (Ateljevic 2020, 467) – moments of "ecological and social reset" (Everingham and Chassagne 2020, 555) that invite the contemplation of alternatives that previously seemed impossible. However, as social science research on disasters and climate change adaptation has shown, disruptions play out unevenly, socially, spatially and temporally.

### **b) Transformative post-pandemic influences over tourist consumption behaviour**

As stated by Higgins-Desbiolles *et al.*, in the sphere of tourist consumption, "the past, the present and the future are interconnected" (Higgins-Desbiolles *et al.* 2022, 208).

In this line of research, we have identified **opinions** as follows:

According to authors Corbisiero and Monaco "the pandemic has inevitably affected everyone's **tourism choices**, regardless of how much their specific area of residence has been affected "... and "will significantly influence travellers' experiences" (Corbisiero and Monaco 2021, 401).

According to Brouder (2020), "the most recent period of unfettered growth in international tourism has come to an abrupt end as the impact of Covid-19 has brought the sector to a standstill" (Brouder 2020, 484).

As stated by Corbisiero and Monaco, the Covid-19 pandemic has significantly affected consumers through two main elements that distinguish tourism: physical travel and social interactions (Corbisiero and Monaco 2021, 401).

According to Bodosca *et al.* (2008), "after each crisis, there is an increase in fear, tension and confusion because the tourist's behaviour is sensitive to crises" (Bodosca *et al.*, 2014, p. 81). According to the same source, the crisis "provides opportunities for clients to learn new coping skills while identifying, mobilising, and improving those they already possess (Bodosca *et al.* 2014, 79). "

Some authors support that the Coronavirus pandemic is a possible "game changer" in globalisation and world tourism. It is clear that most travel industry leaders focus on recovery and getting back to "business as usual" as soon as possible. In industry responses and press releases, there is a clear focus on getting back to normal quickly and maintaining consumer interest (Higgins-Desbiolles *et al.* 2022, 208).

As Becker (2020) pointed out, Roger Dow of the United States Travel Association argued that "in the long run, we will turn around and go back to business as usual. People have short-term memory, and there will be a pent-up desire to travel" (Becker, 2020).

## **3. Research methodology**

Resuming the objective of the paper, we recall that we proposed that, through the study undertaken, we would bring into discussion how the behaviour of the consumer of tourist services was affected by the transformative power of the pandemic, through the lens of the manner of adoption of tourism consumption decisions by tourism consumers from Romania, with an emphasis on the Constanta consumer.

For its fulfilment, we proceeded to analyse the results obtained from a sample of 384 people aged between 18 and 70 years.

### **Sampling techniques**

The decision of the sample size to guarantee representativeness was made using the formula of Daniel & Cross. I started from the information of the Constanța County Statistics Directorate, taking into account the number of adults of 263,001 people (in 2019), score  $z = 1.96$ , which corresponds to a 95% confidence level,  $e = 0.05$  margin of error and  $p = .5$  the probability of getting an affirmative answer to the question.

It was aimed to ensure representativeness by respecting the structure of the sample according to the age criterion - established according to the statistics published by the National Institute of Statistics (18-25 years - 8%; 26-35 years - 17%; 36-45 years - 17%; 36 -45 years). years - 20%; 46-65 years - 34%; over 66 years old - 21%). A sample of 384 people was thus obtained.

The application of the questionnaire took place between March and May 2022. 384 respondents out of the 408 who responded to the invitation and met the selection criteria (legal age mentioned in the questionnaire, Romanian citizenship and domicile in Constanța county) were selected according to the provisions of the "first come, first served" method (Moraru 2021, 131).

The main characteristics of the sample, apart from the age based on which it was constructed, are: 62.5% of respondents are female, 38.5% male; in terms of educational status, a percentage of 1.5% completed elementary education, 21.89% secondary education, 39.32% higher education and 37.24% postgraduate education; from the perspective of socio-professional status, 61.2% are



employed, 9.11% students, 5.47% entrepreneurs, 9.11% freelancers, 28.31% pensioners, and 3.39% housewives.

### Research tools

The study is based on a quantitative marketing research method, and the instrument we put into practice was the questionnaire. In addition to replicating the questionnaire applied by the authors Chebli & Ben Said (2020), we added test-retest type questions that identified the situation regarding the consumption behaviours of the respondent subjects before the pandemic and post-pandemic. The electronic format of this questionnaire, constructed using the "Forms" function belonging to the Google company, was distributed using electronic means - WhatsApp, email and social networks (Facebook) to potential respondents. Answers were rated using a 5-point Likert scale; each answer is assigned a score between 1 and 5 (where one corresponds to the "totally disagree" option and 5 to the "totally agree" option). Thus, individualised values were obtained that correspond to each of the statements included in the applied questionnaire.

We advanced a series of **hypotheses** as follows:

H<sub>1</sub>: It is assumed that there is a statistically significant difference in terms of the emphasis on hygiene and disinfection of accommodation spaces, meals, tourist agreement, pre- and post-pandemic.

H<sub>2</sub>: It is assumed that post-pandemic tourists still place significantly increased importance on observing social distancing rules while visiting attractions.

H<sub>3</sub>: It is assumed that there are significant differences in consumer preferences for tourist destinations where they have friends or relatives before and after the pandemic.

H<sub>4</sub>: It is assumed that there is a statistically significant difference in consumer preference for booking online-only stays between the pre-pandemic and post-pandemic situations.

H<sub>5</sub>: It is assumed that there is a statistically significant difference in consumer preference for online-only payment for stays between the pre-pandemic and post-pandemic situations.

H<sub>6</sub>: It is assumed that there is a statistically significant difference in consumer appetite for discounts and reductions provided by accommodation facilities and transportation companies in the post-pandemic period compared to the pre-pandemic period.

H<sub>7</sub>: It is assumed that there is a statistically significant pre- and post-pandemic difference in the preference of choosing tourist destinations among those that tourists have become familiar with through virtual tours.

## 4. Findings

In identifying the true value of the advanced hypotheses, we started from **H<sub>1</sub>**: It is assumed that there is a statistically significant difference in terms of the emphasis on hygiene and disinfection of accommodation spaces, meals, pre- and post-pandemic tourist agreement. Comparing the average value of the marks given to the answers by the participants results in a decrease in the post-pandemic average value compared to their value during the pandemic in terms of the emphasis on hygiene and disinfection of accommodation spaces, meals, and tourist agreement. In testing hypothesis **H<sub>1</sub>**, we used the non-parametric test -Wilcoxon - "Test of the sum of ranks". Given the Asymptotic value Sig. (2-tailed) equal to 0.00 (less than 0.05) shows that there is a significant difference in the emphasis on hygiene and disinfection of pre- and post-pandemic accommodation spaces (Mdn = 5 before the pandemic and Mdn = 4 after the pandemic, and Wilcoxon signed-rank test indicated that the difference between the two moments was statistically significant,  $T = 1788.50$ ,  $z = 11.009$ ,  $p < 0.01$ ). Specifically, a percentage of 70.8% of the respondents agree with the statement that before the pandemic, they attached greater importance to the hygiene and disinfection of accommodation spaces. The post-pandemic situation reveals that 69.3% of respondents pay more attention to hygiene and disinfection of accommodation spaces than before the Covid-19 pandemic, 69% to hygiene and disinfection of public catering spaces and 71.4% to hygiene and disinfection of tourist leisure units.

In testing **H<sub>2</sub>**: It is assumed that post-pandemic tourists still attach significantly increased importance to respecting the rules of social distancing while visiting attractions, as a result of applying the non-parametric statistical test -Wilcoxon - "Test of the sum of ranks" results, considering obtaining a value an Asymptotic Sig. (2-tailed) equal to 0.00, there is a statistically

significant difference between tourists' attitudes towards social distancing before and after lifting pandemic restrictions (Mdn = 4 before and Mdn = 4 after the pandemic,  $T = 9120.50$ ,  $z = 4.182$ ,  $p < 0.01$ ).

Also, 66.9% of the participants in the survey expressed their total or partial agreement concerning giving, post-pandemic, the increased importance of respecting the rules of social distancing while visiting the attractions.

When testing **H<sub>3</sub>**: It is assumed that there are significant differences in consumer preferences for tourist destinations where they have friends or relatives before and after the pandemic, according to the results of the same Wilcoxon test, the value of 0.029 of the sig. (2-tailed) coefficient shows the existence of a significant difference between the attitude of the respondents before and after the period of the Coronavirus pandemic (Mdn = 2 before the pandemic and Mdn = 2 after the pandemic, and Wilcoxon signed-rank test indicated that the difference between the two moments was statistically significant,  $T = 4073$ ,  $z = -2.177$ ,  $p = 0.029$ ). Therefore, the hypothesis of a significant difference between the pre-pandemic and post-pandemic situation of consumer preferences regarding tourist destinations where they have relatives or friends is confirmed, and the null hypothesis is rejected.

Analysing the obtained percentages, we can identify that preferences for destinations where respondents have relatives or friends have increased post-pandemic, with 31.2% expressing their partial or total agreement, compared to 25% in the situation before the pandemic.

In testing **H<sub>4</sub>**: It is assumed that there is a statistically significant difference in consumer preference for booking online-only stays, between the pre-pandemic and post-pandemic situation, given the Asymptotic value Sig. (2-tailed) equal to 0.54 (greater than 0.05) shows that there is no significant difference between the post-pandemic and pre-pandemic situation regarding the preferences of the surveyed consumers on online-only booking of stays (Mdn = 4 before the pandemic and Mdn = 4 after the pandemic, and Wilcoxon signed-rank test indicated that the difference between the two moments was not statistically significant,  $T = 8203.5$ ,  $z = -1.929$ ,  $p > 0.05$ ).

So, in this situation, **the null hypothesis is retained** - that there is no statistically significant difference regarding the pre- and post-pandemic situation in the preference of tourism service consumers to make reservations for stays only online.

The percentage analysis of the average marks given to the statements regarding pre- and post-pandemic preferences on reservations made only online shows very small differences in the sense that if pre-pandemic, the share of people who expressed total and/or partial agreement with the statement was 57.81%, in the pre-pandemic context this share varied in the sense of a slight increase to 61.20%.

In testing **H<sub>5</sub>**: It is assumed that there is a significant statistical difference in terms of consumers' preference for making payments for stays only online between the pre-pandemic and the post-pandemic situation, as a result of the application of the non-parametric statistical test -Wilcoxon - it results, having because of obtaining a value of Asymptotic Sig. (2-tailed) equal to 0.00 that there is a statistically significant difference between the pre-pandemic and post-pandemic situation of consumers' preference to pay for stays online only (Mdn = 4 before the pandemic and Mdn = 3 after the pandemic, and Wilcoxon signed-rank test indicated that the difference between the two moments was statistically significant,  $T = 4959$ ,  $z = -5.937$ ,  $p < 0.01$ ).

This difference is also found at the percentage level in the total share of people who opted for total and partial agreement with the statement regarding the preference for online stay payments in the period before the pandemic (57.8%) and those who had a similar option but in the post-pandemic period pandemic (54.65%).

Regarding **H<sub>6</sub>**: It is assumed that there is a statistically significant difference in consumer appetite for discounts and reductions provided by accommodation facilities and transport companies in the post-pandemic period compared to the pre-pandemic period, we referred to the testing of two sub-hypotheses – one based on the discounts on accommodation facilities and the second on those granted by the transport companies.

According to the same Wilcoxon test, both sub-hypotheses are validated with the statistically significant difference we assumed because of the Asymptotic value Sig in both situations. (2-tailed) is equal to 0.00, which signifies the rejection of the null hypothesis (a. Mdn = 4 before the pandemic

and  $Mdn = 4$  after the pandemic, and Wilcoxon signed-rank test indicated that the difference between the two moments was statistically significant,  $T = 3981.50$ ,  $z = -5.876$ ,  $p < 0,01$ ; b.  $Mdn = 4$  before the pandemic and  $Mdn = 4$  after the pandemic, and Wilcoxon signed-rank test indicated that the difference between the two moments was statistically significant,  $T = 3085.50$ ,  $z = -5.192$ ,  $p < 0,01$ ).

In support of what has been highlighted comes the percentage analysis of the weights occupied by the responses in total and partial agreement with the statement regarding the pre- and post-pandemic situation of consumer preferences for discounts on accommodation facilities - respectively 62.3% versus 59.4% for transportation companies in the pre-pandemic period, 56.5% of respondents agreed with their preference for discounts. In contrast, for pre-pandemic, 52.9% supported this. Although these differences do not seem large percentage-wise, they are, according to the statistical tests, some significant in both situations rejecting the null hypothesis.

In testing hypothesis **H<sub>7</sub>**: It is assumed that there is a statistically significant difference before and after the pandemic in terms of the preference for choosing tourist destinations among those that tourists have become familiar with through virtual tours, we proceeded to test with the Rank Sum Test, and considering the results obtained – Asymptotic Sig. (2-tailed) equal to 0.028, lower than the significance value of 0.05, from which it follows that this statistical difference is verified, the null hypothesis is rejected ( $Mdn = 3$  before the pandemic and  $Mdn = 3$  after the pandemic, and Wilcoxon signed-rank test indicated that the difference between the two moments was statistically significant,  $T = 7146.50$ ,  $z = -2.200$ ,  $p = 0.028$ ).

The statistical difference between the two moments is also highlighted by the percentage analysis - where 38% of respondents expressed partial and total agreement with the statement before the pandemic, while only 37.7% fully and/or partially agreed post-pandemic.

Table no. 1. Statistical hypothesis testing  $I_1 - I_7$  - Related-Samples Wilcoxon Signed Rank Test

Null hypothesis	Sig.	Decision
<i>Hypothesis 1 Test Summary</i>		
The median of differences between "I generally* give greater importance to the hygiene and disinfection of accommodation spaces" and "I currently pay more attention to the hygiene and disinfection of public food establishments than before the Covid-19 pandemic" equals 0.	.000	Reject the null hypothesis.
<i>Hypothesis 2 Test Summary</i>		
The median of differences between "I generally* attach greater importance to social distancing in selected tourist destinations" and "Currently I attach greater importance to respecting social distancing rules while visiting attractions" equals 0.	.000	Reject the null hypothesis.
<i>Hypothesis 3 Test Summary</i>		
The median of differences between "I generally* prefer to choose tourist destinations where I have friends or relatives" and "Currently I prefer to choose tourist destinations where I have friends or relatives" equals 0.	.029	Reject the null hypothesis.
<i>Hypothesis 4 Test Summary</i>		
The median of differences between "I currently prefer to book stays online only" and "In general* I prefer to book stays online" equals 0.	.054	Retain the null hypothesis.
<i>Hypothesis 5 Test Summary</i>		
The median of differences between "I generally prefer to pay for stays online" and "Currently I prefer to pay for stays only online" equals 0.	.000	Reject the null hypothesis.
<i>Hypothesis 6 Test Summary</i>		
a. The median of differences between "I generally prefer to choose accommodation facilities that offer special discounts" and "I currently prefer to choose accommodations that offer special discounts" equals 0.	.000	Reject the null hypothesis.
b. The median of differences between "I generally choose shipping companies that offer special discounts" and "I currently choose shipping companies that offer special discounts" equals 0.	.000	Reject the null hypothesis.
<i>Hypothesis 7 Test Summary</i>		
The median of differences between "I generally prefer to choose destinations/places that I have become familiar with through virtual tours" and "I currently prefer to choose destinations/places that I have become familiar with through virtual tours" equals 0.	.028	Reject the null hypothesis.
*Statements that include the phrase " <i>in general</i> " refer to the pre-pandemic period		

Source: own processing according to the results of the questionnaire

## 5. Discussions

Analysing the results obtained and the hypotheses validated in the present research, we can glimpse a series of transformative post-pandemic influences in tourist consumption behaviour.

As stated by Corbisiero and Monaco, the Covid-19 pandemic has significantly affected consumers through two main elements that distinguish tourism: physical travel and social interactions (Corbisiero and Monaco 2021, 401).

In support of hypotheses 1 and 2, we bring into discussion a study carried out by Rahman *et al.* (2021), which demonstrated that the Covid-19 pandemic greatly affected travel risk and perception management, these two being significantly associated with risk management, service delivery, transport patterns, distribution channels, avoiding overcrowded destinations and hygiene and safety (Rahman *et al.* 2021). According to Orîndaru *et al.*, one of the main consequences of the health crisis is "health care and awareness" (Orîndaru *et al.*, 2021). On the other hand, in support of hypothesis 3, we can mention the study by the authors Volgger *et al.* (2021), which shows that "recovery measures can influence tourists' risk acceptance..." (Volgger *et al.* 2021, 439). In support of the third hypothesis, we also find the study by the authors Assaf *et al.*, which concluded that intimacy in the relationship between hosts visited by friends and relatives and guests was perceived as a travel motivation for them (Assaf *et al.* 2022, 1), supports consumer preferences for tourist destinations where they have friends or relatives before and after the pandemic (Yousuf and Backer 2017, 445).

Regarding the fourth hypothesis, we identified studies that show the role of online bookings during the Covid-19 pandemic, not before or after it. Thus, according to Zhao *et al.*, "reservation systems have an impact on the tourist decision making and behavioural intention" (Zhao *et al.*, 2022) with input on destination marketing. According to Moor (2022), in support of the fifth hypothesis, the pandemic has made society dependent on technology, something shown in a report which reveals that 73% of people prefer a hotel with technology that allows them to- and manage the entire experience through mobile phones, minimising contact with the establishment's staff and the rest of the guests, and 49% also prefer contactless payments (Moor 2022).

Regarding the sixth hypothesis, a study by Yusnita *et al.* (2022) showed that the price discount offered by the hotel could attract public interest for a hotel stay, and its influence is not weakened by the perception of risks during the Covid-19 pandemic (Yusnita *et al.* 2021). On the other hand, Orden-Mejía *et al.* (2022) conducted a study whose results support the dimensional structure explaining a set of post-pandemic tourists' expectations, identifying five factors: "Smart Care, pricing strategy (including discounts), safety, comfort and social distance" (Orden-Mejía *et al.* 2022, 1).

Regarding the seventh hypothesis formulated, according to Chen (2020), "for years, airlines, travel agencies and tourist boards have used virtual reality technology to market destinations to potential customers". During the pandemic, virtual travel experiences have grown in popularity (Chen A, 2020). The dramatic tourism restriction by the pandemic context has made virtual tourism an option for travellers (Tsai 2022, 1).

## 6. Conclusions

As stated by Higgins-Desbiolles *et al.*, in the sphere of tourist consumption, "the past, the present and the future are interconnected" (Higgins-Desbiolles *et al.*, 2022, p. 208). A dramatic and even traumatic event like the pandemic, with the restriction of some fundamental freedoms, cannot go unnoticed at individual and collective consciousness levels.

Thus, post-pandemically, a behavioural change trend can be observed in tourists, which is modulated by the transformative effect of the pandemic. Besides the various theories that trend researchers in the field of tourism marketing research and beyond, the trends that manifest in this period when consumers adjust their priorities and social values are still influenced by the experiences lived during the pandemic.

Consumers of tourist services are thus trying to return to old travel habits, but with a baggage of expectations richer following the pandemic experiences: digitisation, the implementation of new technologies in the creation of customer experience, and sustainable tourism, are just some of the expectations and at the same time the new trends which manifest itself in the world tourism market.

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## Methods and Techniques Used in Evaluating the Quality and Profitability of a Company

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### Abstract

*The present study was set to validate and demonstrate the effectiveness and efficiency of quality methods and tools, the optimal correlation between objective and method, to find simple, cheap, fast and efficient tools for quality. The study shows us identifying simple ways for quality specialists, as well as increasing the share of real-time quality detection situations using quality techniques and methods correctly and in the necessary order.*

*Correlating these quality tools with the impact on the economy and profitability of the company, by decreasing the radius of scrap and rework and by decreasing the risks of complaints and increasing customer satisfaction.*

*The purpose of this paper is to present the means by which the company ensures that it fully satisfies the purchases made through its products. The quality control system is the main tool for achieving this goal.*

**Key words:** quality management, techniques, decision, continuous improvement, production

**J.E.L. classification:** M11

### 1. Introduction

At the base of the management system of the modern organization, competitive on national and international level, there is a complex of principles, rules, requirements that ensure its modeling, corresponding to the precepts of management sciences. (Mittonneau, 1998)

The decision-making system is a component of the management system. It is extremely complex, incorporating a wide variety of decisions and allowing a wide variety of approaches. The decision-making system includes the phases through which the managerial decision is prepared, adopted, applied and evaluated. As an integral part of the company's management, Quality Management has a special role in the decision-making system. This paper aims to demonstrate this through a case study in an SME in Arad.

### 2. Theoretical background

Quality management makes use of techniques that can be divided into two categories: "7 Basic tools" and "7 New tools". The basic tools were first grouped by Karou Ishikawa, and the new tools were collected by the Union of Japanese Scientists and Engineers (JUSE) in the mid-1970s. The tools used in quality assurance are more and more numerous. It is important to be able to distinguish which one should be used in a given situation, so to have a sufficiently clear image of how the new and traditional instruments are positioned in relation to each other.

If the traditional tools of quality circles serve to solve numerical problems, the tools of the second generation are adapted to the management approach.



### 3. Research methodology

To conduct this study, an SME enterprise was selected and the impact of Quality Management in managerial decision making was analyzed.

The study was conducted at a small company in Arad (SME), in the plastics industry for the following industries:

- Industrial products: electronic equipment, electrical equipment, agricultural vehicles
- Sports products: sports equipment components, footwear components, boot components
- Consumer products: household products, hood components.

The company also offers additional services:

- Ultrasonic welding;
- Pad printing (plastic, steel);
- Assembly - manual, automated;
- Packaging.

In order to justify the notion of "small enterprise", we took into consideration the definition given by prof. Univ. Dr. D. Tucu (2016): "enterprises with between 10 and 49 employees (inclusive) and at least one of the indicators: net annual turnover, respectively "total assets", is lower than the ceiling of 2 million euros (inclusive), equivalent in lei)". Thus, based on the information received from the company's Financial Department, it can be easily seen that it falls into the SME category.

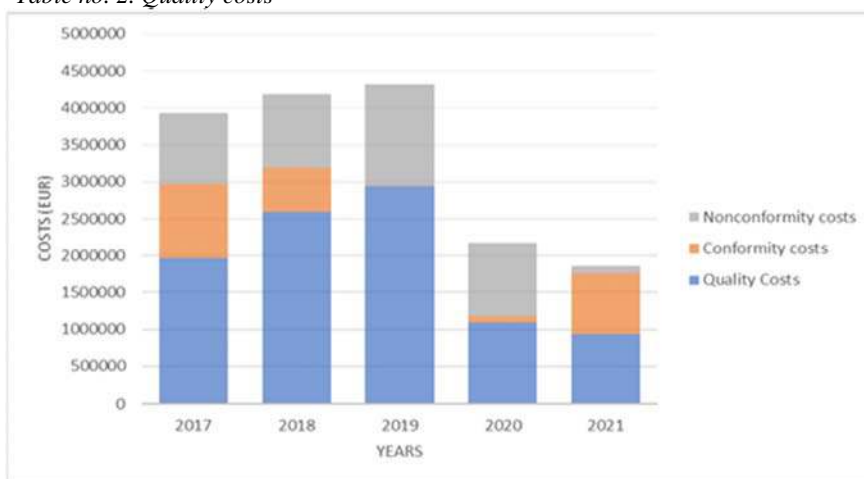
Table no. 1. Economical facts about SME

YEAR	TURNOVER (EUR)	NO. OF EMPLOYEES
2018	231.687	5
2019	476.799	8
2020	699.431	16
2021	1.062.393	26
2022	1.271.846	50

Source: Data taken from the balance sheets

The quality costs were also studied and we noted a fluctuant trend:

Table no. 2. Quality costs



Source: Data taken from the Quality Dept

In order to analyze the quality techniques system, we took as guide the Demming cycle and the steps proposed by C. Ionescu in his book "How to build and implement an Environmental Management System". (Ionescu, 2000)

Dr. Yury Klochkov (2017) noted that in order to avoid conflicts, these methods and techniques should be carefully chosen, every problem being solved by a certain method.

Figure no. 1. Demming cycle

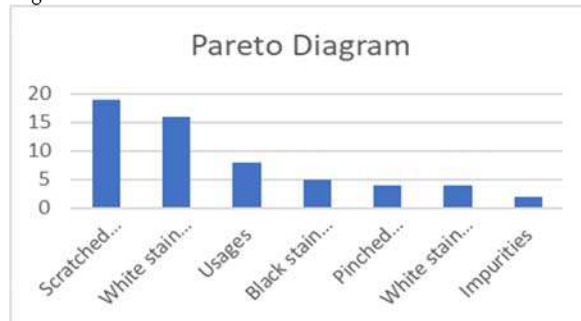


Source: (Ionescu, 2000)

#### 1. Plan

This project enjoyed the full support of the company, which made the decision to apply the new methods to a batch of products returned from the customer as unsatisfactory. The work team consisted of 10 colleagues (5 operators, 2 team leaders, 1 product engineer, 1 quality engineer and was led by the quality manager). The team came to the conclusion that the classical applied techniques needed an improvement due to a hidden error. The main causes of lot return were analyzed and the Pareto chart was generated.

Figure no. 2. Pareto chart



Source: Quality Management Dept of SME

At this moment, instead of following the classic path, modern methods are taken into consideration. This leads to the second step:

#### 2. Do

Performing the initial analysis

- inventory and examination of all new methods and techniques:
  - affinity diagram;
  - relationship diagram;
  - tree diagram;
  - matrix diagram
  - diagram of action decisions;
  - arrow diagram;
  - factor analysis of the data
- choosing the right method after analyzing its strengths and weaknesses

To avoid conflicts between quality management methods we took into consideration Dr. Yury Klochkov's (2017) approaches:

- Integration of methods.

Plotting a Pareto chart so that important problem causes took a special place or to combine an Ishikawa chart with the data about problem cause frequency. It is important to realize that most frequent causes not always result in the problems important for customers.

- Refusal of control procedures

Sometimes it is reasonable to entrust a task performer with method application rather than to control each result of method application.

A method is an instrument for a task performer, so it is better to create a situation when a performer is interested in a good instrument. In other words, a method provides a possibility to improve a product; therefore, a task performer should be interested in it. That allows him/her to adjust a specific method to real conditions.

- Personnel training.

In the process of personnel training, it is important to emphasize that quality management method is not universally applicable and can induce conflicts. When training future specialists you may want to simulate a role play where participants are trained to resolve conflicts of different method application, to interpret the results and to explain their decisions.

### 3. Study

Chosen techniques will be implemented, by creating an action plan and based on a strategy. The implementation of the methods is elaborated on the basis of two conditions:

- to contain at least three elements: commitment to continuous improvement, compliance with the rules, a framework for establishing and analyzing objectives.

The implementation decision must be:

- written, updated and communicated to the staff;
- adopted at the management level;
- available for the team.

### 4. Act

Protecting and improvement of the system:

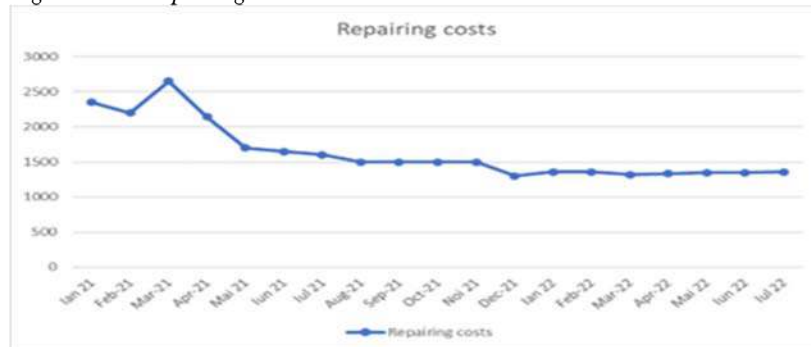
- Internal audit;
- Management analysis;
- Improvement plan;
- Feedback sent to next set of improvements.

## 4. Findings

Quality Management Techniques play a very important role in the decision-making process of SME Management. The results obtained after their application were remarkable, and we list a few:

### 4.1. Reduction of production costs, especially those with non-product quality:

Figure no. 3. Repairing costs trend



Source: Quality Management Dept of SME

The chart clearly shows an immediate logarithmic decrease trend, following the software implementing, so that starting with August 2021, the non-quality costs decreased trend.

Making reasonable efforts to prevent it is much more beneficial than spending at the same level to make up for previous mistakes.

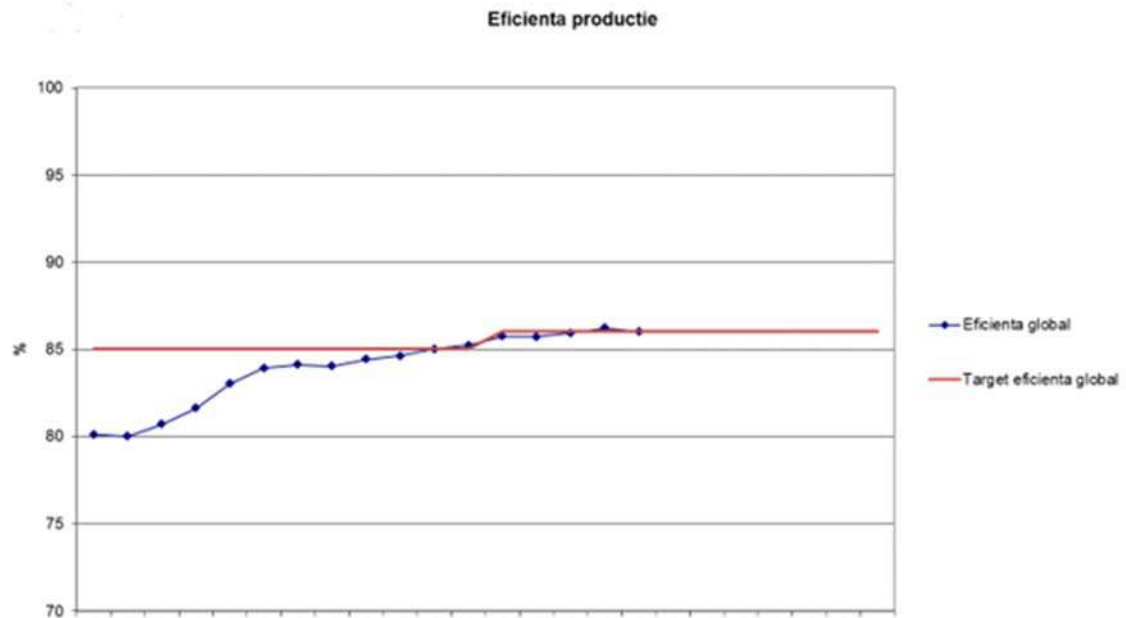
#### 4.2. Better organization of workspaces and storage:

This was achieved after implementing 5S technique, inspired from the Japanese quality management. In this sense, the Japanese have developed the 5S concept, the objective of which is to lay the foundations for continuous learning and improvement in the workplace. This concept is also applied in everyday life, with its help establishing the correct behavior and preventing anomalies on the spot. Factory management starts with 5S. To be effective, in areas where visual management is applied, processes must be clearly identified and controlled. First of all, there is a need for order, cleanliness and rules for maintaining cleanliness. The name comes from five Japanese words starting with the letter S, respectively Seiri, Seiton, Seiso, Seiketsu and Shitsuke. Jobs without seiri and seiton cannot produce good quality. Almost always, workplaces with low morale are disorganized and lack discipline. Full implementation of seiri and seiton is the first step in creating a good workplace. 5S is a structured program to systematically achieve: organization, cleanliness and standardization in the workplace, thus contributing to improving productivity and reducing quality and work safety issues.

The 5S process includes 5 stages:

1. Sorting (seiris)
  2. Setting in order (seiton)
  3. Cleanliness (seiso)
  4. Care (seiketsu)
  5. Discipline (shitsuke)
  6. last but not least, a new S: Security in work
- 4.3 An increase of the production efficiency

Figure no. 4. Production efficiency



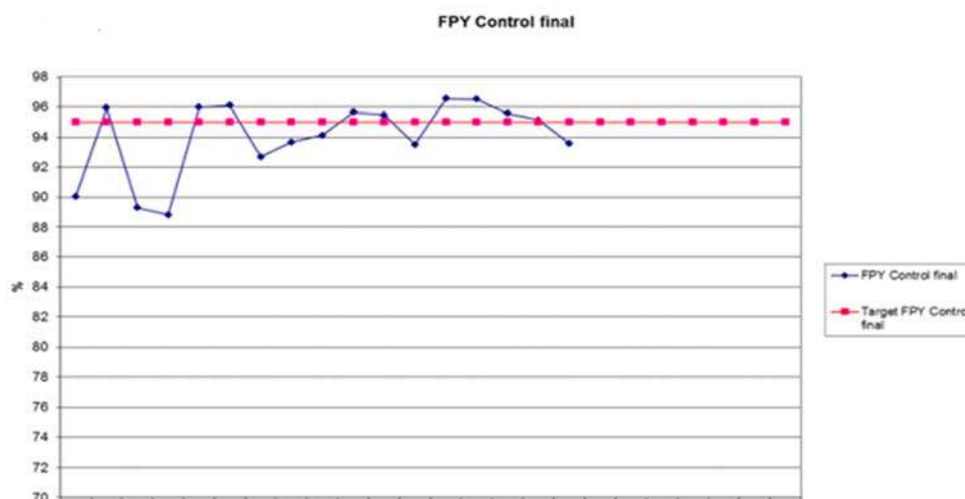
Source: Quality Management Dept of SME

The non-compliant products were blocked at source, no need for further sorting and stopping machines until sorting, known nonconformities being prevented, and the few affected products being immediately repaired.

Costs due to time lost with sorting nonconform goods after being manufactured, have been also reduced. Re-checking batches involves resources allocation for unproductive stuff; this generates non-quality costs by allocating human resources paid from own funds, by inactivity of machines and by waiting times until the products are sorted and the error is remedied. The time lost with sorting is reflected in the overall efficiency of production; a reverse proportionality with sorting time is noticed.

#### 4.4. Improvement of FPY parameter

Figure no. 5. FPY Parameter

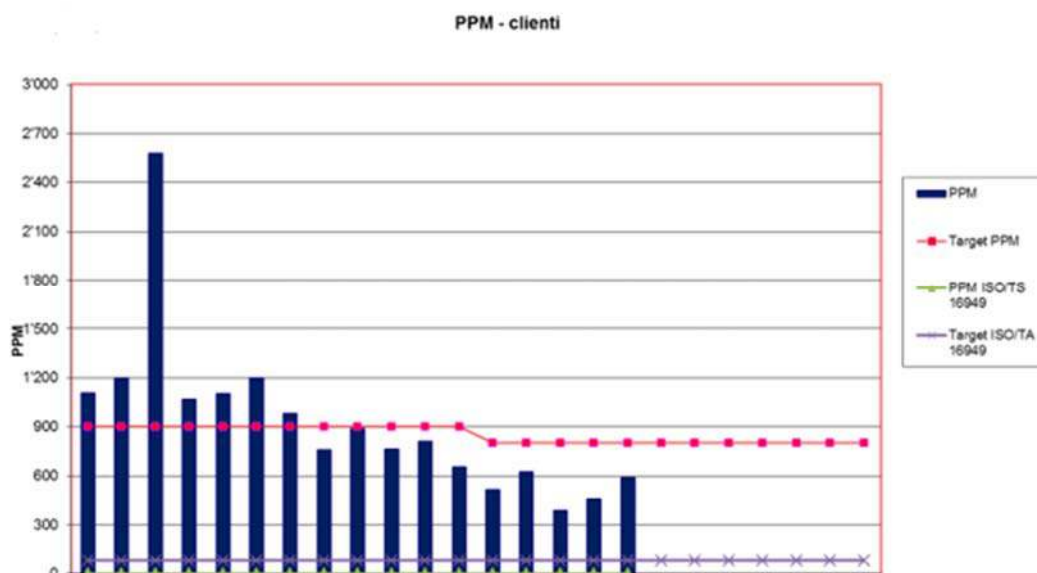


Source: Quality Management Dept of SME

The FPY parameter from final quality check has shown an improvement. Nonconformities identification as well as the immediate corrective action were improved based on records made during the intermediate quality check and statistics views.

#### 4.5. Improvement in PPM indicator

Figure no. 6. Evolution chart for PPM CUSTOMER



Source: Quality Management Dept of SME

The recording system allowed a fast provision of data which allowed the objective evaluation of the effectiveness of corrective and preventive actions taken following a complaint; therefore, additional / new improvement measures were taken as a result. The records showed that internally - as a result of the controls - the occurrence of the product with a certain nonconformity decreased significantly or was permanently eliminated. For example, after the actions were taken, a certain kind of nonconformity hasn't been detected anymore for one month. Also, 5 consecutive batches have passed the Final Quality Check. The first sign of improvement of the indicator was observed in August 2022, when the company managed to meet the target of having a PPM of less than 900. Nowadays, there have not been any cases in which the PPM target has not been met.

## 5. Conclusions

This project was possible thanks to a creative company, opened to new ideas, with a good management team. The type of management in the company is the democratic one, which proved to be superior, both from a socio-human point of view and in terms of productivity. He is sensitive to human relations, consults collaborators, is cooperative with the opinions of others, stimulates dialogue and exchange of ideas. Working time is used efficiently, regardless of the presence or absence of the manager. This type of management requires very good leaders, able to detect, mobilize and amplify the potential of the micro group of execution and leadership of which they are part. Also, the ability to lead a team involves close collaboration with subordinates and the widespread use of staff consultation, group decision-making, based on democratic procedures. The result of the qualities, knowledge and skills, talent and training of managers, regardless of hierarchical level, is the managerial ability or leadership. The type of management in the company is the democratic one, which proved to be superior, both from a socio-human point of view and in terms of productivity. He is sensitive to human relations, consults collaborators, is cooperative with the opinions of others, stimulates dialogue and exchange of ideas. Working time is used efficiently, regardless of the presence or absence of the manager. Leadership is defined as the ability of a person, group, or organization to influence or guide another person, group, or organization as a whole. John Maxwell said: "Leadership means influence. That's it. Neither more nor less. My favorite saying about leadership is, who thinks he is a leader and has no disciples to follow him is just walking." (Maxwell, 1990)

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## Dissolution, Liquidation, and Deregistration of Trade Companies in Romania

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### Abstract

*The reasons why a company can be dissolved and then liquidated can be diverse and refer either to the impossibility to make the payment of its debts/claims, or to the decision of the partners / shareholders to dissolve and liquidate the company, followed by the division of its assets.*

*In fact, dissolution - liquidation – deletion/deregistration are the 3 stages of the process of termination of a company's existence.*

*Each stage mentioned above involves drawing up documentation and taking certain steps, and the successful completion of the dissolution stage allows the entry into the liquidation stage and subsequently the deregistration of the company from the records of the Trade Register Office.*

**Key words:** dissolution, liquidation, deregistration, trade companies, Law no.31/1990

**J.E.L. classification:** L10, M20, M21

### 1. Introduction

Through this paper, we aim to analyze the situation regarding the dissolution, liquidation, and deregistration of trade companies in Romania. We aim to analyze statistically the figures recorded in the last five years in this direction through the information made public by the National Trade Register Office in Romania. In the framework of the last two pandemic years, we want to make a radiography of the Romanian business sector. In this direction we will analyze the suspensions, dissolution, and deregistration of the trade companies in Romania in the last two years in comparison with the numbers registered before the pandemic.

### 2. Theoretical background

#### 2.1. Dissolution of companies

The dissolution of companies is a stage in the process of termination of their legal personality, consisting of a set of operations that result in the liquidation of the assets of the respective companies and their deregistration from the Trade Register.

From a legal point of view, the dissolution of companies is regulated by Law no. 31/1990. The situations that lead to the initiation of the dissolution process are:

- the expiration of the time limit for the duration of the company's being operational.
- the impossibility of achieving the object of activity of the company or its completion.
- the declaration of the nullity of the company by a court.
- the decision of the general meeting.
- the decision of the court, at the request of any partner / shareholder, for a just cause/on certain grounds.
- the insolvency of the company.

**The expiration of the time limit for the duration of the company's operation.** This reason for dissolution arises when the partners, through the articles of association/incorporation, established a fixed duration of the company' being operational. After the expiry of the time limit, the *de jure* dissolution is installed, consequently going directly into the liquidation procedure of the company.

**The impossibility of achieving the object of activity of the company or its completion.** If the achievement of the objective set out at the establishment of the company cannot be achieved, for various reasons, the partners have two possibilities:

- either to change the object of activity,
- or to decide the dissolution of the company.

**The declaration of the nullity of the company by a court.** If a court ascertains the non-compliance with the form and substance conditions required by law regarding the formation of companies (for example, the conditions relating to the number of founders or the share capital), it may declare the nullity of the company.

**The decision of the general meeting.** The dissolution by decision of the general meeting is considered the most frequent and typical case of dissolution of the companies. Since a company is the result of the will of its partners, they can also decide to dissolve it. This dissolution procedure is called voluntary dissolution.

When the company no longer has statutory bodies (for example, General Meeting, Board of Directors) or they can no longer meet, it means that there is no will on the part of the members for the company to continue to be operational, in which case voluntary dissolution may be ordered.

The dissolution of a single-member LLC (Limited Liability Company) implies the transfer of the company's assets to the sole member without a liquidation process. The transfer of assets takes place, and the company ceases to exist if there are no third parties to oppose the dissolution (e.g., creditors of the company).

In the case of a voluntary dissolution in which all the partners agree on how to divide the assets, it is not necessary to appoint a liquidator in order to carry out the operations of liquidation and deregistration from the Trade Register.

**The decision of the court, at the request of any partner / shareholder, for a just cause, such as:**

- serious misunderstandings between partners / shareholders that impede the company from being operational.
- the disappearance of the company's partners / shareholders.
- the lack of a known office of the company.
- the company has not submitted, for 3 consecutive years, the balance sheet, or other documents which, according to the law, are to be submitted to the Trade Register Office.

Once the court's decision becomes final, the dissolved company will be automatically deleted/deregistered from the Trade Register.

**The insolvency of the company.** Insolvency is the insufficiency of money for the payment of overdue debts. Bankruptcy is a procedure that leads to the termination of the existence of a company which is unable to pay its business debts. The main criteria underlying the ascertainment of insolvency, and implicitly of bankruptcy, are the **lack of solvency and the degree of indebtedness of the company.**

From a legal point of view, an economic agent which cannot pay its debts, is obliged, according to law no. 85/2006 on insolvency, within 30 days from the appearance of the state of insolvency, to address a request to the court showing the intention to begin the procedure of restructuring its activity or the complete or partial liquidation of property, to settle the company's debts.

The dissolution of the companies must be registered in the trade register and published in the Official Gazette of Romania, Part IV, leading to the initiation of the liquidation procedure. Any interested person may appeal against the dissolution decision within 30 days of the publication in the Official Gazette.

Once the dissolution procedure has been initiated, the directors and administrators of the company can no longer carry out new operations, otherwise they are personally and jointly liable for the actions undertaken.



The company will retain its legal personality until the completion of the dissolution and liquidation operations.

Following the dissolution and liquidation, the deletion/deregistration of the company from the trade register will be obtained, and the deregistration certificate of the company will be issued.

## 2.2. The liquidation of companies with an appointed liquidator

The liquidation of companies is the responsibility of natural or legal persons called liquidators. The General Meeting appoints the liquidators. If the General Meeting cannot decide, the liquidators will be appointed by a court.

The liquidators have the same responsibility as the administrators. They are liable immediately after taking office to make an inventory, together with the company's administrators, and to conclude a balance sheet in which to ascertain the exact situation of the company's assets, capital, and debts.

Among the duties of the liquidators, we are mentioning:

- to preserve the company's assets,
- to keep the ledgers entrusted to them by the administrator and the company's documents,
- to keep a record of all liquidation operations in a chronological order,
- to sell at public auction the real estate and any movable property of the company,
- to liquidate and collect the receivables of the company.

The liquidators fulfill their obligations under the control of auditors. After the completion of the liquidation operations, the net assets are distributed among the partners, an activity that puts an end to the liquidation procedure.

The liquidation of the company must be completed within 3 years from the date of dissolution. For a just cause, the court may extend this period by a maximum of 2 years. Upon completion of the liquidation, the liquidators must request the deregistration of the company from the trade register. The company's ledgers and documents must be kept for 5 years from the time of deregistration.

## 3. Research methodology

As a research methodology we've started to extract several data from the National Trade Register of Romania regarding the temporary suspensions of activity, dissolutions and deregistration of companies registered in the last three years per total country and among two Regional Development Areas, namely the Southeast Region and the Center Region. We've conducted a statistical analysis with the extracted data. Also we've calculated the **pearson correlation coefficient between indicators**.

## 4. Findings

Table no.1 presents the situation regarding the suspensions of activity, dissolutions, and deregistration of Romanian companies between Jan 2018 and Nov. 2022. We have also calculated the dynamic from a period to another. The numbers are extracted from The National Trade Register Office Statistics.

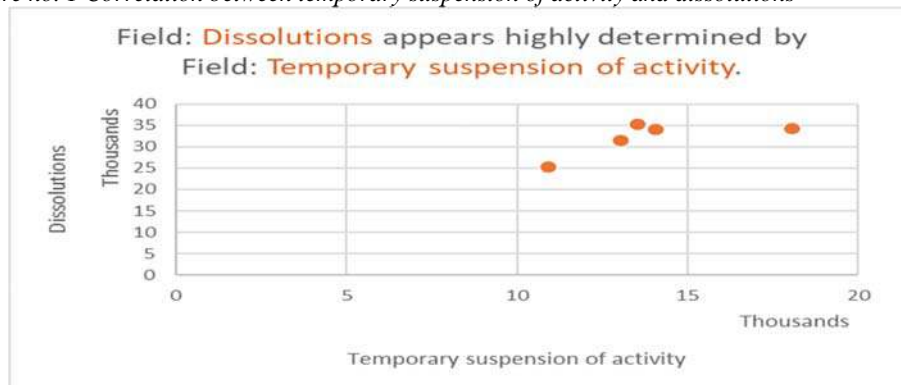
*Table no. 1 Suspensions of activity, dissolutions, and deregistration of Romanian companies between Jan. 2018 and Nov. 2022.*

Period	Temporary suspension of activity	Dynamics	Dissolutions	Dinamic	Deregistrations	Dynamics
01.01.2022-30.11.2022	13528	-	35368	-	65503	-
01.01.2021-31.12.2021	13020	3,90%	31655	11,72%	66897	-2,08%
01.01.2020-31.12.2020	10913	19,31%	25384	24,70%	51715	29,35%
01.01.2019-31.12.2019	14040	-22,27%	34080	-25,51%	101601	-49,09%
01.01.2018-31.12.2018	18038	-22,16%	34358	-0,80%	80181	26,71%

Source: Own processing from data extracted from the National Trade Register

When an entrepreneur wants to stop the activity temporary but is not sure if he wants to continue with his company, he has the option to put his activity in temporary suspension. The temporary suspension period is limited on three years. During this period, the entrepreneur is not allowed to carry out any activity in the name of the firm. Between the analysed period (Jan. 2018 and Nov. 2022) we can see that in Romania there were almost 70.000 suspensions registered by the National Trade Register Office. In 2018 were registered approximately 18.000 companies which stopped temporary its activity. In the pandemic year, 2020, we registered the lowest number of firms which solicited the entrance in temporary suspension of activity. Most of the companies were overwhelmed by the uncertainty of that period and hoped for a recovery.

Figure no. 1 Correlation between temporary suspension of activity and dissolutions



Source: Own processing

As we can see from the above chart, there is a strong correlation between dissolutions and temporary suspension of activity. The calculated **Pearson correlation coefficient is - 0.689184**. This means that most of the companies that were put in a temporary suspension of activity in the last 5 years, in the end were dissolved. As we mentioned before the temporary suspension of activity give time to the entrepreneur to decide if they want to dissolve the company or to continue after three years. We can conclude that temporary suspension of activity is the stage zero in the process of dissolving a company.

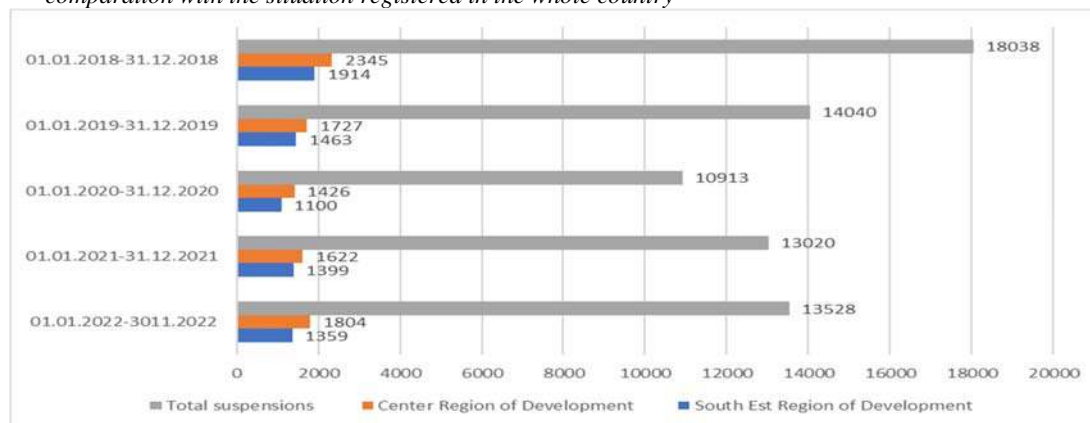
We have also calculated the **Pearson correlation** coefficient between:

**Temporary suspension and deregistration – 0,539544**

**Dissolutions and deregistration's – 0,639417**

We obtained values over 0.50 of the Pearson correlation coefficients. We can affirm that there also strong correlations between the indicated indicators.

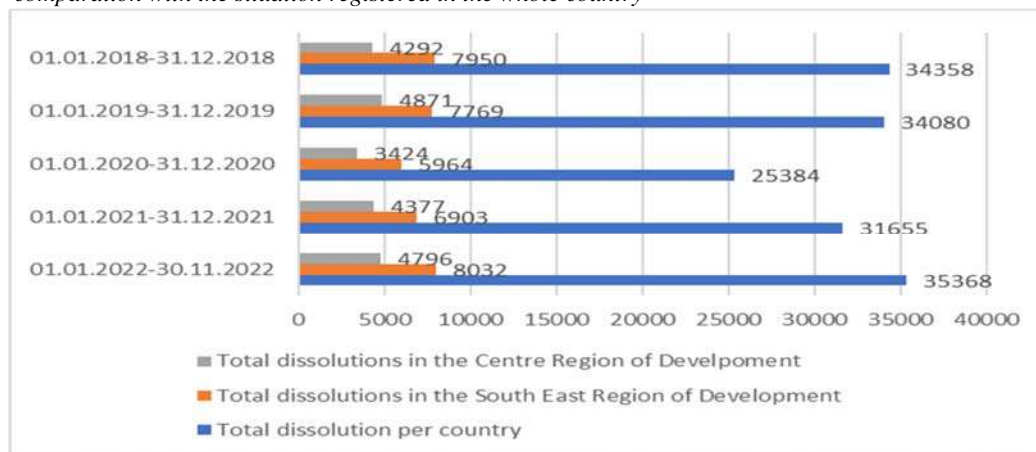
Figure no. 2 Suspension of companies in Southeast Region and Centre Region of Development in comparison with the situation registered in the whole country



Source: Own processing from data extracted from the National Trade Register

In the above figure, we have centralized the total numbers of temporary suspension of activity among Romanian companies, in the South-East Region and Centre Region of Development. In 2022, the southeast business environment registered 10% from total suspensions recorded in the whole country. Cities like Constanta, Tulcea, Braila, Galati, Buzau, Vrancea maintained almost the same numbers regarding the suspensions of activity between 2021 and 2022. In the last five years we can observe that the pre pandemic years registered the highest values regarding the suspension of activity. Bucharest and Ilfov County form together the Centre Region of Development of Romania. This region represents between 12% and 13% of total suspensions of activity among Romanian's companies in the analysed period.

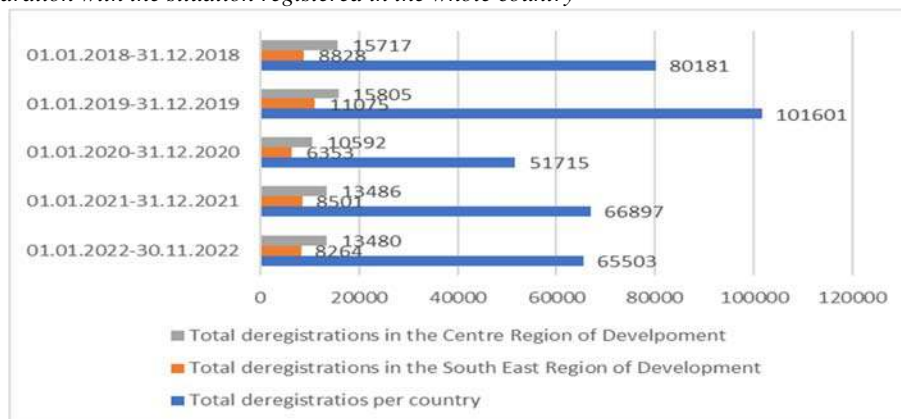
Figure no. 3 Dissolution of companies in Southeast Region and Centre Region of Development in comparison with the situation registered in the whole country



Source: Own processing from data extracted from the National Trade Register

From the above chart, we can observe that 2022 was the year with the highest number of dissolved companies. Over 35.000 companies stopped their activity in the last year. Maybe the long-term effects of the sanitary crisis started to decimate the Romanian business environment after two years of sanitary crisis. Also, the Southeast Region of Development registered the highest number of dissolved companies in 2022. Counties like Constanta, Tulcea, Braila, Galati, Buzau and Vrancea registered together over 8.000 of dissolved companies, gathering almost 23% of the total companies dissolved in the whole country.

Figure no. 4 Deregistration of companies in Southeast Region and Centre Region of Development in comparison with the situation registered in the whole country



Source: Own processing from data extracted from the National Trade Register

The deregistration process of the company is the last stage in ending a business activity. In the last five years, The National Trade Register Office of Romania registered almost 366.000 of deregistered companies. The Southeast Region and The Centre Region of Development gather 30% of the total number of deregistered companies from the Romanian Trade Register.

## 5. Conclusion

Through this paper we have analyzed the situation regarding suspensions, dissolution, and deregistration of the trade companies in Romania in the last five years. From the conducted research we can state:

- there is a strong correlation between dissolutions and temporary suspension of activity among Romanian trade companies. (the person correlation coefficient calculated between these two indicators is 0.689184);
- we found also strong correlation between temporary suspension and deregistration and also between dissolutions and deregistration's (we obtained values over 0.50 of the Pearson correlation coefficient);
- between Jan. 2018 and Nov. 2022 were almost 70.000 suspensions of activity among Romanian companies registered by the National Trade Register Office.
- 2022 was the year with the highest number of dissolved companies (over 35.000 companies stopped their activity in 2022).
- in the last five years, The National Trade Register Office of Romania registered almost 366.000 of deregistered companies.

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- <https://termene.ro/articole/totul-despre-intreprinderea-individuala>

# The Impact of Human Resource Management Practices On Organizational Change

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## Abstract

*In order to deal with changes, organizations must adapt, and for the change process to proceed normally, the involvement of human resources is needed to prevent any resistance to change. Therefore, implementing change in some organizations requires careful planning, consultation with all employees, and, ultimately, running the change implementation process.*

*The challenge this paper aims to answer will consist in building a methodological framework for researching the role of human resources management (HRM) in organizational change within some Romanian organizations based on the analysis of artificial neural networks. The role of human resources in the organizational change process as a change agent is crucial, and identifying ways in which human resources can support change is essential.*

**Key words:** human resources, human resources practices, labor relations, organizational change

**J.E.L. classification:** O15

## 1. Introduction

Implementing change in some organizations requires careful planning, consultation with all employees, and ultimately running the change implementation process. However, most organizations have undergone rapid change in recent years, and it is beneficial for the organization to check that the process of implementing the change has been effectively managed, all the objectives of the change have been achieved, and ultimately the fundamental objective of any organization whether public or private: improving organizational performance.

The general problem in the change management process is that, although the management communicates, to a certain extent, the implementation of the change, there is a visible lack of commitment from the employees that a more effective human resource management must combat. Therefore, the onus is on general and human resource management to raise the commitment levels of workers, thereby reducing the impact of change implementation on the organization by increasing transparency. In addition, improved communication would lead to improved trust, resulting in improved employee morale and reduced HR blend.

The work has five sections in structure. The first section introduces the research problem. The second section provides an overview of the theory associated with the research problem. The third section presents the methodology, and the fourth presents the results. In the last section, the conclusions of the research can be found.

## 2. Theoretical background

The literature on HRM practices is extensive, but the link to organizational change is less studied. Practices such as recruiting and selecting, developing, evaluating, and rewarding human resources, as well as ensuring effective working relationships, can significantly influence how organizational change is achieved and improve organizational performance.

Based on the literature review on theoretical approaches regarding HRM practices and organizational change (Bocean, 2015; Sitnikov and Bocean, 2010; Sitnikov and Bocean, 2012; Bocean and Sitnikov, 2015; Valentine et al., 2019; Dessler, 2019; Wilkinson, 2022), this research sought to build a model to test the impact of HRM practices on the organizational change process. Therefore, the two main components of the model are HRM practices and organizational change.

The HRM practices selected in this study were chosen because they intersect considerably with other research on the relationship between human resource management and organizational change (Noe et al., 2016; Vărzaru and Bocean, 2021; Puiu et al., 2022; Vărzaru et al., 2022). There are vast differences among different studies regarding the HRM practices that influence the implementation of organizational change. The practices selected based on the literature review (Bocean, 2007a, 2007b; Valentine et al., 2019; Dessler, 2019; Wilkinson, 2022) are the following: recruitment and selection of employees, professional training and personal development, employee evaluation, rewarding human resources, relations of work in terms of employee involvement.

*Starting from the literature study, we propose a research hypothesis:*

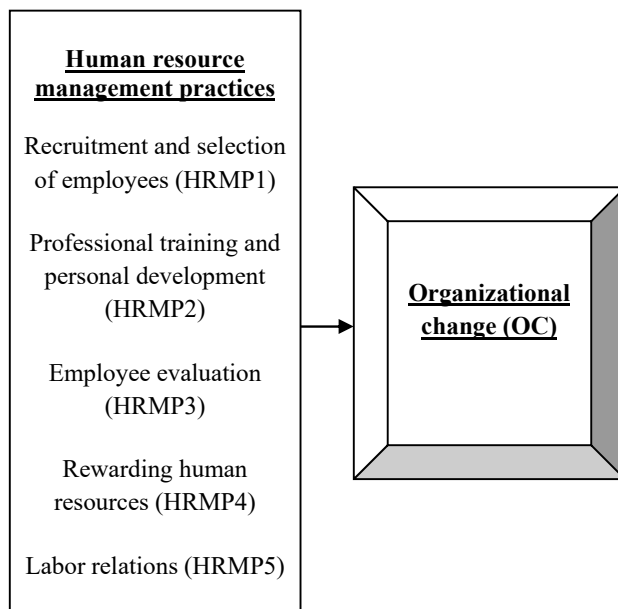
*H1. HRM practices significantly influence the perception of organizational change.*

*H2. Labor relations influence the perception of organizational change the most.*

## 3. Research methodology

The two main components, HRM practices, and organizational change, are grouped as illustrated in figure 1.

Figure no. 1. Theoretical model



Source: Authors' construction using SPSS v.20

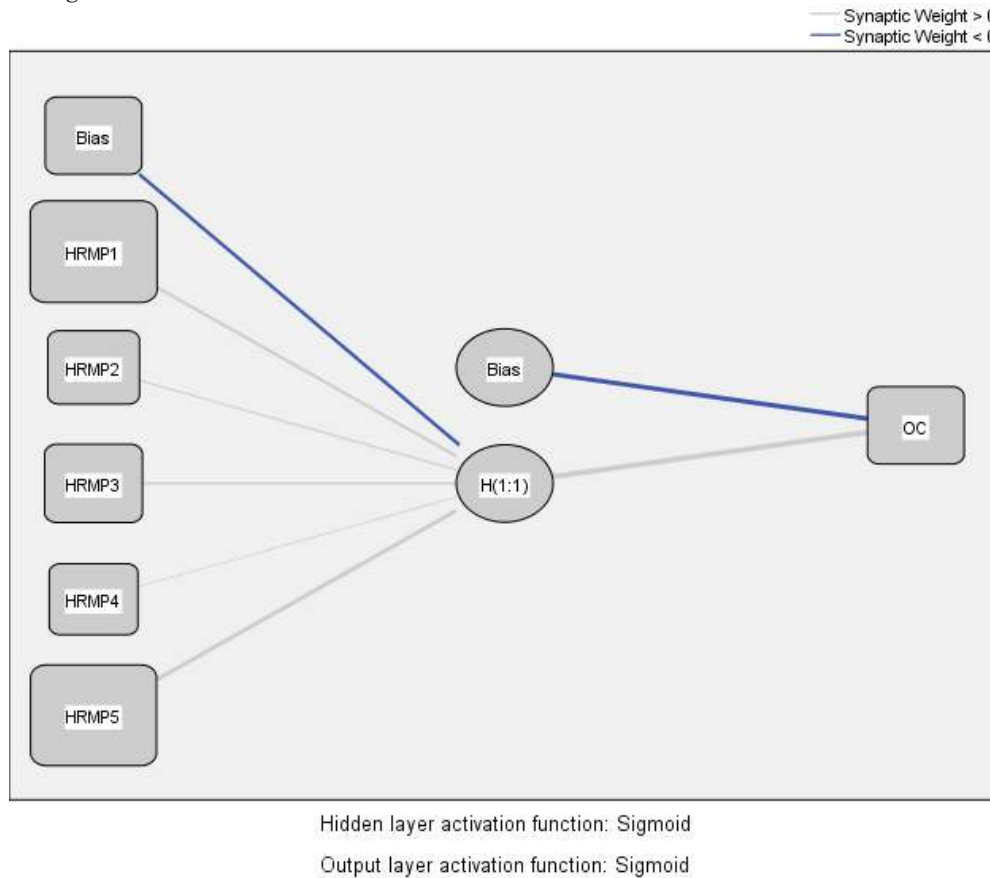
Theorizing the relationship between HRM practices and organizational change was conducted by reviewing previous literature to provide a deep understanding of how HRM practices facilitate organizational change. Mishra et al. (2021) noted that one of the first issues to be addressed to understand how HRM practices influence organizational change is to theorize how this relationship occurs, essentially specifying the intervening variables between HRM practices and organizational change.

We used a multilayer perceptron model from artificial neural network analysis to evaluate the relationships between human resource management practices and organizational change. This statistical method involves placing the independent variables in an input layer and the dependent variables in an output layer. The data were collected in a questionnaire applied to several 267 employees of SMEs in Romania in a study carried out in September 2022.

#### 4. Findings

Within the proposed model, human resources management practices are the independent variables, and organizational change represents the dependent variable. Figure no. 2 shows the model.

Figure no. 2. MLP model



Source: Authors' construction using SPSS v.20

Table no. 1 presents the statistics of the multilayer perceptron model and the biases that influence the model from the outside.

Analyzing table no. 1 and figure no. 2, we can say that the hypotheses are confirmed as valid. HRM practices significantly influence the perception of organizational change. Labor relations most influence the perception of organizational change, followed by recruitment and selection, professional training, and personal development.



Table no. 1 MLP model predictors

Predictor		Predicted values	
		Hidden Layer 1	Output Layer
		H(1:1)	OC
Input Layer	(Bias)	-.494	
	HRMP1	.451	
	HRMP2	.218	
	HRMP3	.221	
	HRMP4	.147	
	HRMP5	.496	
Hidden Layer 1	(Bias)		-1.696
	H(1:1)		4.990

Source: Authors' construction using SPSS v.20

## 5. Conclusions

Despite previous attempts to study this relationship between HRM practices and organizational change, no integrated model describes tests in detail and uses a systematic quantitative approach to explore these relationships. By examining employee attitudes and behaviors and the underlying value-creation process linking HRM practices to organizational change, this study extends previous research and contributes to developing such a model. The model proposed indicates the influences of HRM practices. The mediating variables (organizational culture and commitment) interpose between HRM practices and organizational change, leading to its facilitation. Testing for direct and indirect relationships will measure the influences between these variables.

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## Ethical Communication in Medical Crisis

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### Abstract

*The major crises produced over the years have produced major changes in the way people communicate globally. The slippages that caused major economic consequences in the economies of states worldwide, were often due to the provision of false or erroneous information, malicious or not. The evolution of crises, including the COVID-19 pandemic, has often been hampered by the spread of false information in the mass media. For a correct management of crises, it is necessary to establish ethics at the global level in the communication of medical personnel and in the communication of specialists from other fields with communication skills. The purpose of the article is to highlight the importance of ethical medical communication in times of crisis to eliminate false information and to eliminate the harm caused by communication in society and the economy worldwide.*

**Key words:** medical crises, ethical communication, media

**J.E.L. classification:** M14, I14, I18

### 1. Introduction

The problem of communication is an essential problem facing modern society. This affects directly/indirectly, immediately, for an indefinite period the lives of individuals. It affects the life of communities as well as society. Communication, a specifically human characteristic, constitutes a binder of individuals in a collective. This offers the possibility of knowing their opinions. It offers the possibility of psychosocial homogenization. Communication ensures the normal functioning of a collective regardless of its size and nature.

The great crises over the years, whether of an economic, social, political or medical nature, cause the transformation in a very short time of the way we are taught to live. The COVID-19 pandemic, declared in February 2020, constituted an unprecedented collective challenge to the right to life and health of people worldwide. The global health crisis at the beginning of 2020 caused deaths all over the world. This locked us in our houses. It limited our rights and forced us to live differently. Thus one of the biggest challenges of national specialists and coordinators during the pandemic was related to how they had to communicate. The pandemic broke out in the middle of the information age where the mass media have an extraordinary power to influence the population in one way or another. That is why fair and ethical communication is absolutely necessary. This is all the more so since even representatives of the World Health Organization have stated that one of the most dangerous aspects of the COVID-19 pandemic is the "infodemic" of fake news (World Health Organization, 2020).

At the beginning of 2020, the COVID-19 virus was ignored by many, being considered to be a simple flu. Despite the first warnings of the decision-makers, people continued their normal course of life. The serious alarm signals appeared when the number of deaths in Italy became very high and quarantine was instituted (European Union, 2020).

The presentation of deaths caused by COVID-19 is an important part of ethical communication during the pandemic. It is ethical the way in which this aspect was presented, compared to that used in the case of other conditions that produce as many or maybe even more deaths annually: cancer, hepatitis, etc.

The mass media in Romania focused on the communication of topics related to the COVID-19 pandemic. Thus, numerous articles and radio and TV shows were made in which the virulence of the COVID-19 virus was debated as well as the actual incidence of cases. As can be seen from the press materials, public opinion was divided into two categories: those who believed and still believe in the existence of COVID-19 and its consequences, and those who denied and still deny the fact that it is a virus pandemic capable of causing mass deaths.

The mass media also covered the topic of anti-COVID19 vaccination. Vaccination is a controversial subject, especially in Romania, where in the last 10 years the vaccination rate among children has dropped a lot. The reaction of the population to vaccination was different according to the category in which each individual integrated. Those who became aware of the danger of the virus got vaccinated and respected the rules imposed by the authorities. Those who denied the existence of the virus did not get vaccinated. What's more, they also carried out disinformation campaigns and influencing individuals in the community.

The experience of the last two years has demonstrated the importance of ethical communication. Demonstrated the importance of ethical medical communication during medical crises. A correct management of communication leads to a correct management of the crisis which leads to favorable results in the society and the economies of the countries worldwide.

The purpose of the article is to highlight the importance of ethical medical communication in times of crisis to eliminate false information and to eliminate the harm caused by communication in society and the economy worldwide.

## **2. Theoretical background**

Communication is a complex phenomenon. The definitions given to human communication all have some common elements. They have common elements regardless of the schools of thought to which they belong. They have common elements regardless of the orientations in which they are enrolled. Communication can be considered as a process of transmitting information, transmitting ideas, transmitting opinions. This transmission has the meanings given by an individual or by a group. Today, communication is an integral part of the activities of the individual/group (from the daily ones considered trivial to the complex activities).

Communication has also become essential for companies in the medical sector. Advances in the medical sector have increased medical knowledge regarding the management of diseases and problems that can often be life-threatening. Advances in the medical sector have led to better health management. Today we are witnessing changes in the demographic and epidemiological characteristics of society, globally.

Today's healthcare systems are making an inevitable migration from centralized to decentralized care practices. Advances in medical knowledge have introduced more specialty and subspecialty areas into medical practice. Today we are witnessing healthcare services established around areas of medical practice (World Health Organisation,2020).

Healthcare professionals are increasingly focusing on their area of expertise. They communicate with each other using terms specific to their medical field. It is often difficult for professionals from different medical fields to understand each other. This can lead to the deterioration of teamwork. It can lead to a difficulty in providing integrated patient care. It can lead to fragmentation in healthcare. In order to avoid them, an essential role is played by ethical and pertinent communication.

In recent years, several approaches and methods have been used to integrate the fragmented elements of patient care practices. The core component of any solution to meeting the challenge of fragmentation is an effective system of communication between stakeholders in patient care. In order to provide effective and quality care, effective and ethical communication is necessary. Ethical communication is urgently needed especially for those healthcare organizations and providers working on the same disease/patient group.

Currently, most of the time, medical organizations have a series of communication deficiencies. Failure to communicate accurate, complete and up-to-date information across healthcare interfaces is a major risk. The identified risk must be avoided for patient safety. In times of crisis it is vital that this risk is avoided or minimized. Recent studies have shown that

communication errors in healthcare organizations lead to a high rate of mortality and morbidity (World Health Organisation,2020).

Poor communication causes enormous failures in health systems. Significant time and resources are wasted due to ineffective communication within and between healthcare organizations according to the latest recent studies.

### **3. Research methodology**

The purpose of the research was to analyze ethical medical communication in the pandemic to eliminate false information and to eliminate the harm brought by communication in society and economy worldwide.

The analysis of ethical communication in the pandemic was carried out by studying publications and specialist books in the field of ethics, communication, emphasizing the ethics of communication in the medical field. The COVID-19 (SARS-COV-2) pandemic, through the restrictions imposed by the regulations and legislation in force, influences communication and medical ethics for the entire medical staff in Romanian hospitals.

### **4. Findings**

On March 5, 2020, the World Health Organization in the report issued announced that the COVID-19 pandemic was also followed by an "*infodemic*" of misinformation (World Health Organization, 2020).

On 26 March 2020, the members of the European Council agreed to issue a joint declaration of commitment to firmly combat disinformation through transparent, timely communication. The communication must be factual in relation to the actions taken. Communication must strengthen the resilience of societies in the European space (European Council, 2020a).

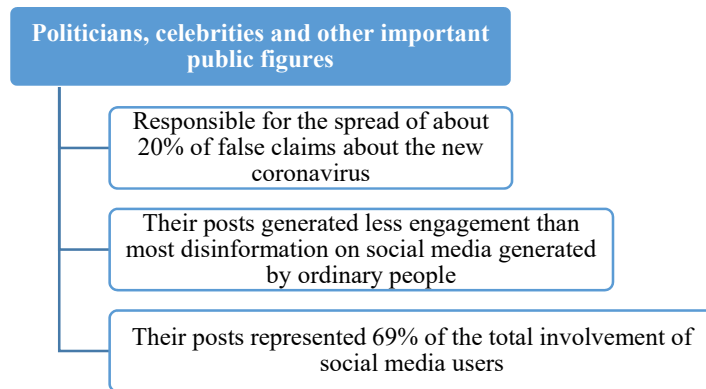
On 3 April 2020, EU foreign ministers expressed their concern about the issue of disinformation and misinformation. They believed that efforts were needed to counteract the negative impact on societies, on people's lives and on public health. They emphasized the need to intensify joint efforts to combat disinformation. They emphasized the need for close cooperation between EU institutions, between member states as well as between communication platforms (European Council, 2020b).

Upon the declaration of the COVID-19 pandemic, social distancing measures were imposed in all states of the world affected by the pandemic. These social distancing measures have been considered the only effective ones in the absence of a vaccine and/or treatment already in use for the COVID-19 virus. Reality has demonstrated that the distancing imposed by the authorities through legal regulations was only physical. The means of communication, mass media and social networks that have been extremely accessible have led to a massive connectedness of the population.

The influence power of these channels has proven to be extraordinarily high. With their help, information spread on a large scale. Actual and pertinent information for the pandemic has been disseminated. Unfortunately, more or more verified information and news were also spread as being correct or true. This has led to increased threats to comply with legal restrictions imposed by governments, even worldwide.

Opinion leaders played a decisive role in communication during the pandemic. Opinion leaders in various fields are people with great potential to influence their audience. Studies and research have been conducted in this regard. Some of these were carried out by the Reuters Institute for the Study of Journalism at Oxford University.

Figure no. 1. The principal results of studies conducted by Reuters Institute for the Study of Journalism



Source: Own processing (Simon et al, 2020)

At the level of the European Union, a series of measures have been taken to limit the spread of fake news and disinformation to the population. The role of the European Union was and is to prevent and intervene to limit the spread of false information/news. The European Union has put in place a Common Communication strategy with five concrete actions to combat discrimination and false information.

In Romania, the ethical slippages of the Romanian media regarding the subjects related to the COVID-19 pandemic were unfortunately frequent. Violations of the ethical norms of communication were produced by the exaggerations used, by the use of expletives intended to alarm the population, as well as by the serious tone adopted by some presenters of the news bulletins/shows. The main role of the mass media to correctly inform the population was thus distorted in order to avoid the damage caused to society by alarming and misinforming the population.

Another type of ethical slippage that was recorded by the national press came from the desire for audience and traffic on as many online platforms as possible. Unfortunately, there have also been false headlines that distort the truth. An eloquent example was the closure of the first site in Romania. The spread of false information about the coronavirus pandemic led to the closure of a website in Romania. The Minister of Foreign Affairs requested the closing of the stiridemoment.ro website. Materials with expressions that can generate panic have been published on the site several times. The site used completely fake titles. The decision to close was taken by the Strategic Communication Group (PRO TV, 2020).

The media around the world played a primary role in the unfolding of the coronavirus pandemic. The World Health Organization (WHO) through the Center for Disease Control and Prevention (CDC) with the help of the media have disseminated and continue to disseminate information regarding the pandemic across the globe. The data updated in real time. New alarms were sent in real time. New measures have been announced. At the national level, the information was transmitted on the website of the Romanian Public Health Institute (Institute of Public Health in Romania, 2022).

The information transmitted in the mass media has determined the emergence of a tendency among the population to respect hygiene rules as often as possible. Hand washing, disinfection and the use of a protective mask especially in closed spaces have been adopted by people from all corners of the world.

In the last two years, the messages distributed by the mass media on all channels, through information campaigns and broadcasts, have had a great positive impact in all communities globally.

New trends have also emerged. The rules of isolation and social distancing have led people to be more open to telemedicine services. Patients get a lot of information about their diseases, their symptoms and the treatments they should undergo from media sites and/or health shows. Thus, the role of the media in the area of health has become a major one with enormous responsibility

towards public health. Media tools have proven extremely useful for spreading information about COVID-19, as well as other medical conditions.

Social networks are a current means of communication. In addition to the classic media (TV, print media, radio) a lot of information related to the coronavirus pandemic was presented on social networks. Influencers played a major role in what it meant to get the word out. Facebook, Instagram, Twitter, You Tube, etc. are means to which everyone has access and where everyone, regardless of training and preparation, can express their opinion. Both professionals from the medical system, the pharmaceutical market, who disseminate and create content based on scientific knowledge, but also people without training in this regard, can have an account on these networks. Social networks have an extraordinarily large informative role regarding the topics of health, nutrition, cosmetics, pharmaceuticals.

## 5. Conclusions

Communication in times of crisis, but especially in health crises, is vital for the evolution of crises. The spread of fake news as proven in the last pandemic increases the risk of negative health outcomes in health crises. The health crisis caused by the COVID-19 pandemic has also brought a communication crisis, often causing chaos among the population. From one day to the next, new data was discovered. Some of these were erroneous. Others were uncertain. What is certain is that everyone has run into the unknown.

Always soliciting and presenting expert opinions and information is the most ethical course a media professional can take. Not to make assumptions related to a certain species, not to create panic among the population through alarmist stories, are simple rules related to deontology and media ethics.

In times of health crisis, there is a need for ethical communication of all responsible factors in crisis management. Medical communication must be ethical. Uncertainties caused by the lack of relevant information must be removed. A collaboration between all the responsible factors in the management of the health crisis based only on ethical communication must be imposed. Ethical medical communication is one of the basic pillars of the favorable evolution of society in times of crisis, at the global level.

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## Marketing of Health Services In Pandemic Context. Case Study Romania

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### Abstract

*The main purpose of this work is to identify the interest given to health services in the pandemic context. The promotion segment of all the information related to both the situation in which the entire health system was and the degree of information of the current and potential consumers of these services is a rather controversial topic in the period traversed by the population of the entire globe. The multitude of works addressed in all aspects – from the issue of the costs of information and health services to the emotional impact on the population, precedes our study.*

**Key words:** marketing, health services, online platforms

**J.E.L. classification:** M31, I19

### 1. Introduction

At EU level, European Health Services is in a full process of reform. Under the latest economic and social transformations, European Union is seeking the reform of all health systems of the Member States to ensure the highest quality services.

At national level, Romanian health system is a difficult sector of the national economy. Insufficient funds, poor health of the population, the situation of medical doctors working simultaneously in the public and private sectors, the worrying for the costs of drugs, fight against corruption intra-system, and not the latest, quality of care are the main problems of this system.

The purpose of the research is to review the specialized literature during the pandemic caused by the infection with the SARS-COV19 virus. A series of specialists, researchers as well as practitioners from different adjacent fields but also directly looking at this subject, have looked for solutions that they have disseminated internationally. Their objective was mainly to look for solutions for this crisis in the health system as well as to identify levers to mitigate the impact of this pandemic on any person.

In period that we tried to analyse we observe the increasing demand for health services, because pandemic context was somehow understand in a lot of ways: from consolidation of knowledge, attitudes and behaviour to denying myths and misconceptions. Consumers of health services were influenced by a lot of information. So, we try to present in what way information has been received and when is the main reason for a change of behaviour, change that is measured by attitude and action for both side – consumers and hospitals/other institutes that offers health services.

### 2. Theoretical background

Marketing in healthcare involves the creation, communication and provision of information and health interventions, using patient-centred and science-based strategies for the protection and promotion of the health of various groups of populations.

Most of the papers related to marketing in health services have many objectives but main of them has like purpose to:

- ✓ promotes the use of marketing research for educating, motivating and informing the public about the messages of health;

- ✓ an integration of the traditional field of marketing with research, theory and practice on public health;
- ✓ a complex framework that provides guidance for the design of interventions health, campaigns and research projects;
- ✓ a wide range of strategies and techniques that can be used to create synergies between public health research, and communication messages health behaviours.

The purpose of marketing communication is to increase knowledge and awareness of a health problem or solution, to influence perceptions, beliefs, attitudes and social norms, but also to demonstrate or illustrate skills. Many authors consider that is very important to offer a way to display the benefit of behaviour change (Muntean and Puțan, 2015).

In health services, for most consumers who are sick and looking online information, virtual communities play a significant role; they provide to patients both the chance to get practical information of encouragement such as "virtual" secondary opinions as well as support, because the internet is perceived as an environment where individuals can share emotions in a safe environment and alleviate their loneliness through the relationships established within community whose members consider them "real, practical and civic".

The role of emotions in services has attracted attention in understanding consumer experiences and behaviours. Emotions are ubiquitous and generally, in marketing, they influence information processing, measures the consequences of stimuli used in marketing, mediates behavioural intentions and measures consumer welfare.

Negative emotions that are specific to health services in Romania, terror, worry, embarrassment and shame while the emotions most rarely felt were fear, disappointment, anger and rage.

The COVID-19 ("coronavirus") pandemic was accompanied by an unprecedented "infodemia". An avalanche of information about the virus, often false or inaccurate and spreading rapidly on social media platforms, can - according to the World Health Organization (WHO) - create confusion and mistrust and undermine an effective response.

Due to isolation measures, millions of people have been forced to remain in their homes, which has led to increased use of social media platforms, including as a means of accessing information, in the context of online platforms, fact-checkers and users. Social media platforms report millions of fake or misleading posts. Given the novelty of the virus, the lack of knowledge about it has proven to be a breeding ground for spreading false or misleading claims.

Cooperation with social media platforms is a key element both in developing a comprehensive assessment of the challenge of "infodemia" and in responding effectively to it.

They promoted accurate and well-documented information on COVID-19 issued by World Health Organization, national health authorities and professional media channels. Online platforms have downgraded content that has been found to be fake or misleading after verification and has limited advertisements that promote fake products and services. In line with the standards of their user community, online platforms have removed content that could harm citizens' health or public safety.

### **3. Research methodology**

The purpose of our research is to present the general framework offered by the specialized literature regarding the promotion of medical services among consumers and direct participants in the marketing communication process.

The research method used is qualitative analyse and the preparation of a map around some basic notions and terms that have as their core the way of popularizing information on everything that this emerging virus means, as well as concepts related to costs, patients and the policy of solving the situation- the issue (Donthu, 2021)

The query of the Web of Science database, during October 2022, with the key terms "marketing in health services-pandemic-Romania" as the search engine, allowed the identification of a series of writings that concentrate an important mass of information around the concept of information - promotion-obtaining feed-back from consumers/patients. The period of analysis was the last 5 years, 2019-2022.



As we mentioned, this study allows us to establish a starting point for the extensive research of which it is a part, so that we can analyse a current situation regarding the information campaigns carried out in the online environment as well as physically built around this topic.

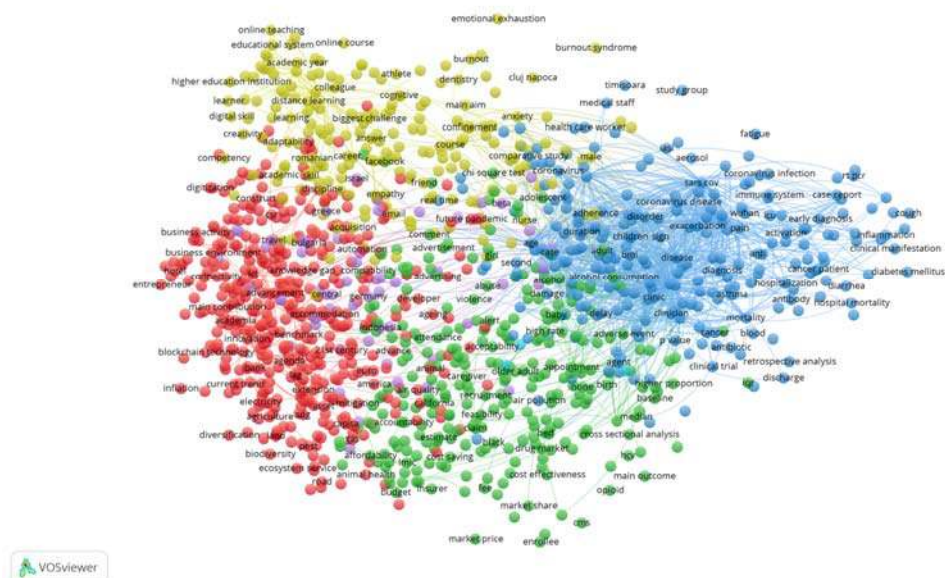
The analysis of the database configured around the search engines within the Web of Science Platform allowed the grouping of the extracted information around some key terms, forming clusters (Ellegaard and Wallin, 2015).

Cluster analysis, also known as segmentation or taxonomy analysis, aims to identify a set of homogeneous groups by grouping elements in such a way as to minimize variation within the group and maximize variation between groups. Cluster analysis is therefore a multivariate analysis technique that includes several algorithms for classifying objects (elements or individuals) into homogeneous groups. The variables or cases are sorted into groups (clusters) so that between the members of the same cluster there are as many similarities as possible, and between the members of different clusters there are as few similarities as possible. For this, first, the choice of the distance between the elements is taken into account, then the choice of the grouping algorithm and finally the level is decided (Anderberg, 1973).

## 4. Findings

The results obtained allowed us to identify 4,634 published articles, scientific works, but also chapters in specialized books, proceedings of some conferences, etc. These were extracted using the VOSviewer program and processed, thus obtaining the map below (Van Eck, Waltman, 2014).

*Figure no. 1 Processing the database with the help of VOSviewer – Marketing in pandemic context. Health services in Romania*



*Source:* Own processing

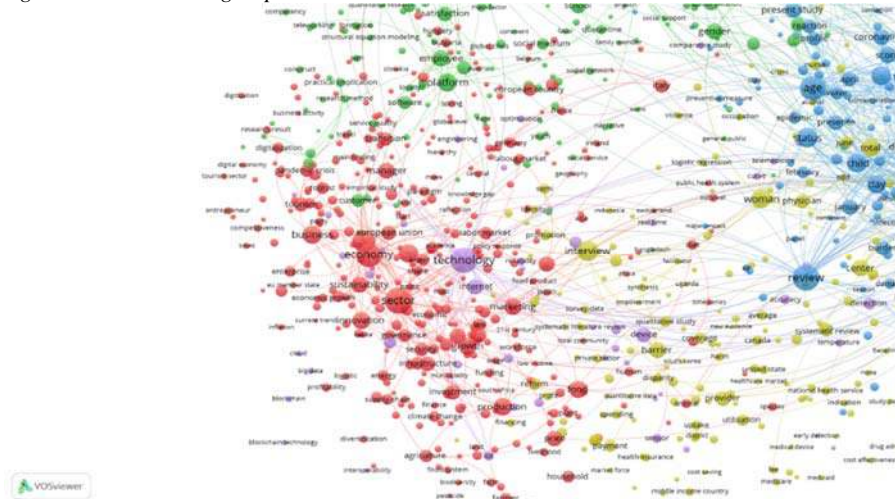
As can be seen in figure 6, the processing of the information extracted from the Web of Science platform concentrates a series of information around key words that highlight the main themes addressed in the analysed period.

According to the Software Manual, each node in the map generated by the application represents a keyword. We mention some specific elements related to the size of the node shows how many times the keyword appears; the connection between the nodes indicates the co-occurrence of the keywords - appearing together in several situations in different studies; link width indicates co-occurrence between keywords or they appear together; the larger the node, the higher the occurrence of the keyword, and the thicker the connection between nodes, the higher the occurrence of concurrency

between nodes. Each area represents a cluster, where the nodes and links in that cluster can be used to explain their coverage, the topics - nodes and the relationships/links between topics) that appear under that theme. (Moisă, Ivan, 2021).

*Cluster no.1* – we call him *Analysis by sector* presents a series of information related to the sectors affected by the pandemic. The entire economic life, from the analysis by sectors - economy, tourism, export, infrastructure, investments, finance, production - to concepts such as economic growth has been strongly affected by the spread of this virus. Moreover, the effects were quite pressing on all sectors. As also appreciated in the EU reports, the COVID-19 pandemic has produced a major shock to the economies of the European Union and the whole world, having serious socioeconomic consequences. Despite the swift and comprehensive political response at both Union and national level, it was soon noticed that in 2020 the EU economy was going to face a recession of historic proportions (European Commission, 2020)

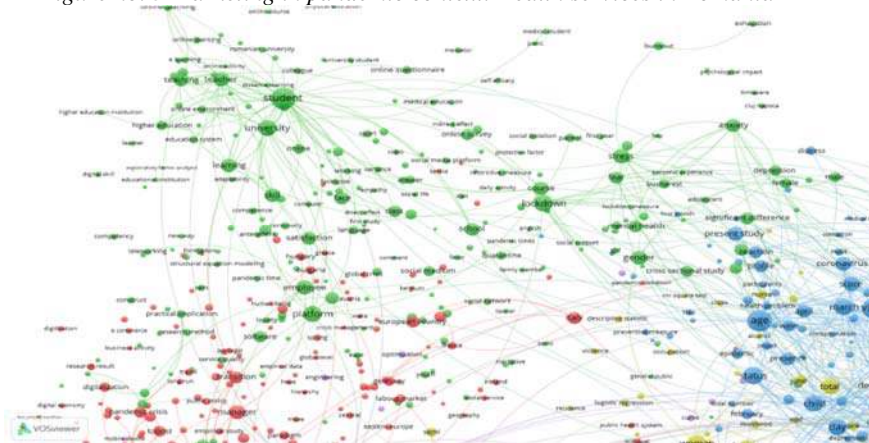
Figure no. 2 Marketing in pandemic context. Health services in Romania



Source: Own processing

*Cluster number 2* – *Consumers of health services* is centered around terms related to emotional involvement, as well as the perception of all the participants from the academic environment of those who are trying to find solutions to the crisis. Terms such as university, research, student, online study platforms, as well as other means of information promotion are observed. The psychological impact felt in the academic environment also brings with it a series of consequences.

Figure no. 3 Marketing in pandemic context. Health services in Romania



Source: Own processing

As could be seen in cluster no. 1, where an increased attention was registered for all sectors of economic activity, within this cluster, attention is directed towards the academic environment with all that is directly derived: social research, digital research, social media platform, e-learning but also terms such as stress, fear, anxiety.

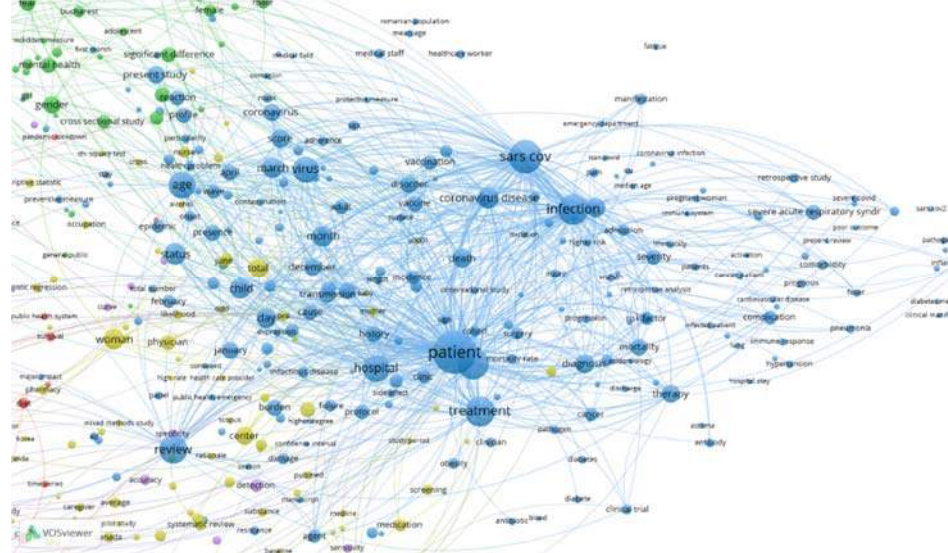
Patient satisfaction regarding the services received in hospitals and at home is an inexhaustible topic in specialized literature, even more so since the human resource - doctors and personnel directly involved in the activity in the health sector is directly affected by the sudden crisis in the system.

*Cluster number 3 – The health sector* revolves around concepts such as SARS COV 19, infection, patient, hospital, diagnosis, key terms from the health sector. As can be seen in figure 4, the subject of an important share of the total selected sample belongs to the health sector affected by bad conditions.

At the level of the European Commission, a series of measures have been adopted to strengthen the public health sectors and to reduce the socioeconomic impact of the pandemic. The European Union mobilized all the means at its disposal to help Member States coordinate their responses at national level and provided objective information on the spread of COVID-19 and effective efforts to limit its spread. Thus, the RescEU pool was created of medical materials, the first common European stock emergency medical equipment, including protective masks and ventilators, to help member states that were facing a shortage of equipment.

Actions in the health sector were numerous and supported by both the authorities and the private sector. All this was surprised by research that tried to find solutions to reduce the damage at society level.

Figure no. 4 Marketing in pandemic context. Health services in Romania

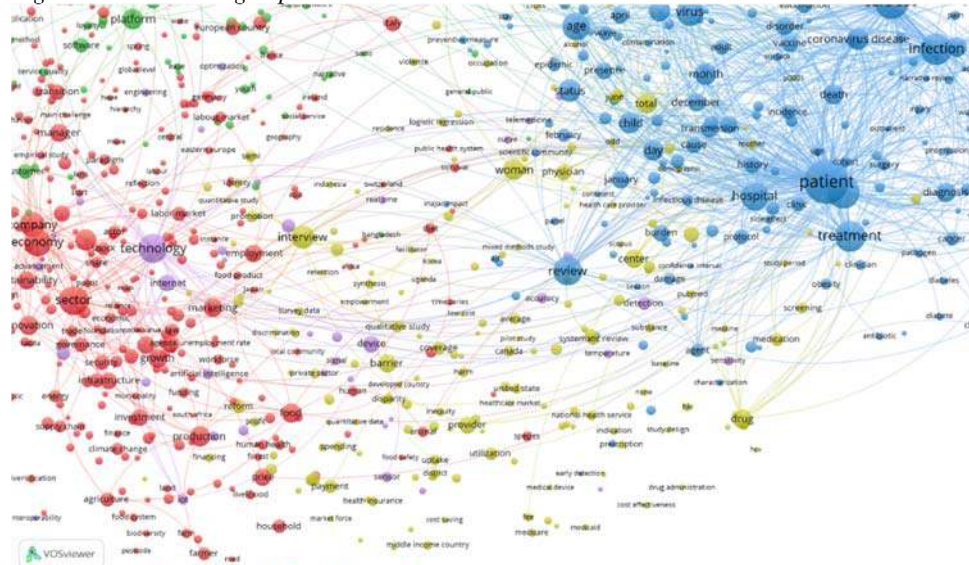


Source: Own processing

Specialized studies that focus on the qualitative nature of the information are gathered in *cluster no. 4 – Sensitive issues in health*; key terms are equity-inequity, discrimination, women, supply. These subjects, as can be seen in figure 5, represent the sensitive side of the provision of medical services in a situation as difficult as possible for the entire world map.



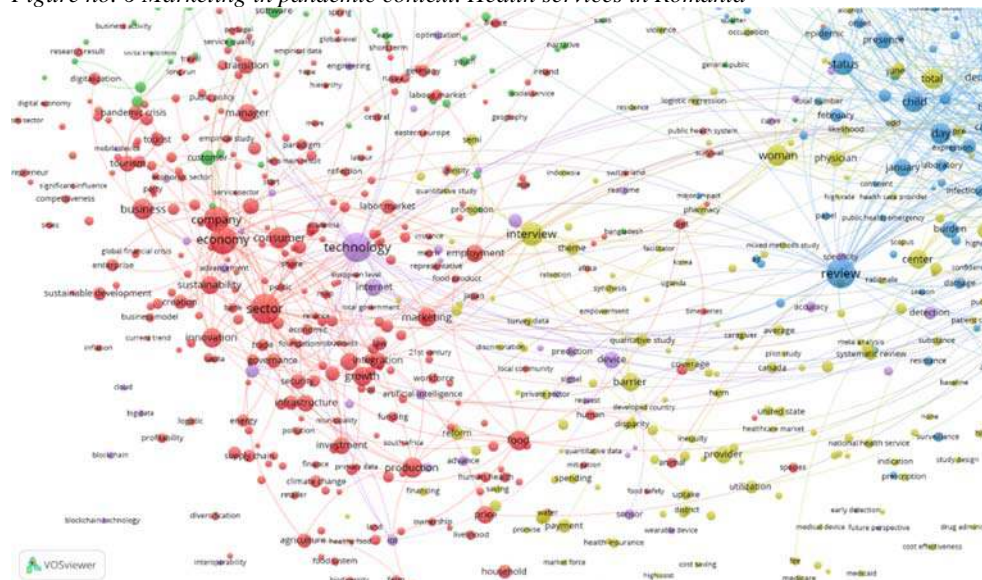
Figure no. 5 Marketing in pandemic context. Health services in Romania



*Source:* Own processing

*Cluster number 5 – The digital component of the research* is the smallest group, with a low weight in the total database extracted from the Web of Science Platform. The keywords are technology, device, internet. In the context of the large-scale infection with the SARS COV 19 virus, the entire economic activity has relocated to the online environment. From the effective implementation of the business objects of economic agents to the promotion of information and socialization, online platforms have become the framework location for all important aspects of the life of the individual, the population.

Figure no. 6 Marketing in pandemic context. Health services in Romania



*Source:* Own processing

## 5. Conclusions

This study is part of a much larger research that aims to identify the perception of "consumers" of health services on the wide range of information received voluntarily or involuntarily through all communication channels.

The analysis of the extracted information – 4634 publications, articles, specialized journals, with the help of the Vos Viewer application allowed obtaining the 5 clusters. Cluster number 3 brought together almost 40% of the database; the predominant topics were directly related to everything that the medical sector means, from patient status - including aspects related to the identification of the particularities of each situation of providing medical services, to aspects related to diagnosis, treatment and context in which they were registered special situations in hospital units.

The crisis caused by the COVID-19 pandemic has demonstrated the crucial role of the free and independent media as an essential service that provides citizens with reliable, factually verified information, thus contributing to saving lives.

However, the crisis has also exacerbated the already difficult economic situation in this sector, due to the dramatic decline in advertising revenues, despite the growing audience. The situation is particularly difficult for smaller and vulnerable actors and for local and regional media channels.

The Commission's package of remedial and remedial measures would help address immediate liquidity needs through solvency support and cohesion funding, while strengthening digital investment and sector resilience through InvestEU, Creative Europe and Horizon Europe.

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## The Importance of Motivation and Performance Management at the Organizational Level

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### Abstract

*Both theoretically and practically, organizations are constantly searching for answers to the question: "how can we motivate employees to perform?". And the answers, the alternatives, the options do not take long to appear. But it is precisely this continuous search for motivational tools to ensure performance that justified the necessity of this work. The ways to motivate human resources can indeed be extremely diverse, but we believe that achieving performance itself can be a motivation generator, even much more powerful than other motivation tools. Therefore, performance should not only be an end, towards which motivation is a tool, but can be a tool in itself to achieve a much stronger and sustainable motivation (in the sense of maintaining future performance). The purpose of the research is to offer a concrete tool to organizations, based on which they can develop business strategies that capitalize on the dynamic force between motivation and performance.*

**Key words:** management, performance, motivation, human resources

**J.E.L. classification:** M11

### 1. Introduction

The present research approach consists in creating and validating a model that captures a bidirectional relationship between motivation and performance, at the organizational level. As a result of the literature review, the most important concepts regarding motivation and individual performance are captured, and the correlations between them finally allow the schematization of a dual causal relationship between motivation and performance.

Throughout the 20<sup>th</sup> century, the role of human resources followed a positive evolution, as the importance of the human factor began to be recognized more and more. This evolution has progressively substantiated the recognition of human resources as unique resources for organizations, the true competitiveness of organizations consisting in the original character of the qualities, skills and approaches that the people who make up the organization bring with them. As the importance of human resources increases, of course organizations have started to pay more care and attention to their employees, to create all the comfort for them and give them all the premises to bring that much-desired unique added value. It is therefore desired to obtain performance from employees, and to reach this desired end result, organizations often resort to a number of motivational techniques and tools. This context has favored the development of the field of Human Resource Management, diversifying approaches on how employees can be motivated, to be determined to be involved in their work, to give their best and to perform in the from behind.

Human resources constitute those resources of the firm that meet the necessary criteria to be considered the main source of ensuring competitiveness, because human resources are valuable, rare, difficult to imitate and relatively irreplaceable. This definition emphasizes the major importance of the human factor within an organizational context, and as it will be presented further, the human

resource has the potential to provide organizations with a substantial competitive advantage (Costa and Martina, 2013). But, for this to be achievable, it would first be necessary to analyze the evolution over time of the concept of Human Resource Management.

In terms of motivation and how it is addressed at the organizational level, it is often identified with satisfaction. The specialized literature also presents numerous approaches regarding the interdependence relationship between the two, but in the present work we will start from the most common understanding, namely that according to which the fulfilled motivation determines the appearance of satisfaction (satisfaction being oriented towards the past, and motivation being future-oriented).

In addition to defining motivation from a psychological perspective, it is important to remember the importance of motivation in the professional context, motivation having the potential to be that force that manages to keep the employee close to the organization in which he works. This dynamic is very complex and certainly deserves to be approached from multiple perspectives, which is why it is also a recurring theme in the specialized literature.

Industrial engineers, on the other hand, believe that individuals are motivated by economic reasons, and people's needs must be satisfied through certain incentives. Therefore, the aim of the Human Resources department in an organization should focus on designing an appropriate incentive system and establishing working conditions for the most efficient use of the *human machinery*.

## 2. Literature review

The existence of companies and their ability to maintain themselves in the market is deeply owed to their employees. Therefore, an increasingly important role in the strategic definition of organizations is represented by the Human Resources Management function. Human resources have undergone a complex evolution over time, with numerous definitions, characteristics, functions and roles associated with them.

Motivation can be defined as a totality of dynamic factors that determine the behavior of the individual, having the role of general activator and performing the role of a force capable of training the entire psychic development. The attitude that the individual manifests towards previously known objects and phenomena is manifested, on the other hand, by affectivity, while the ability to optimally concentrate consciousness on a single object represents the process of attention. Complementary to these processes, the will is the one that regulates actions and conduct in order to achieve a certain goal. Behind motivation is always a motive of the individual, which once activated directs the individual towards satisfying a certain need (Asher, 1996).

Performance management represents the sum of strategic interventions that influence the organization's activity in the long term, leading to the improvement of economic results. We are actually talking about a set of actions specially designed to improve the results of employees, departments and the entire company. Performance evaluation, a component of this management system, is a periodic retrospective review of the outcomes attained as a result of the application of the suggested methods. Performance management, in addition to evaluation, entails (in a brevity scheme): defining the roles of each department/individual; establishing performance indices (what precisely defines performance); of performance standards (which is the best level indicating performance); communicating roles, indices, and standards; and, last but not least, ensuring an environment that fosters success. (Drucker, 2018). The difficulties that hover over these approaches reside in the very difficulty of defining the concept of performance. Is performance a behavior that leads to good results or are the results actually the effects of these behaviors? The answer is dual, an effective performance management based on both behavioral indices and the expected, assumed and achieved results. Regarding the benefits, although it seems like a pleonasm, the main benefit brought by an effective performance management system is represented by the performances themselves (McKenzie, 2011).

In general, it is considered that the lack of performance of a company is due exclusively to its employees. However, there are a number of internal and external factors that can disrupt the achievements of an organization, such as: the organizational environment (there are relaxed companies and paranoid companies, whose environment blocks individual initiative and, implicitly, success), the management style practiced (the dictatorial one generates more few achievements than

the democratic one), the social-economic environment in which the company operates (when the economic context is favorable, obviously it is easier to perform well), the direct and indirect competition (how numerous, how aggressive, what is its positioning) . That is why performance management must be a permanent concern of the entire management team and not just of the human resources department and must always take into account the general context, not just specific elements (Costa and Martina, 2013).

Performance management is not an approach oriented to the past, to analysis, but one directed to the future, to development. Performance management is not an ascertaining process, but a transforming one. It is not enough to state that you did not perform in the past in order to achieve better results in the future. Managerial interventions, changes are needed to be able to achieve this. Performance management is not a form of coercion or control. Its purpose is to optimize results, not to penalize individuals or departments. Performance management is not a tool to increase salaries or benefit packages. Its purpose is to improve the employees' activity in the long term, not to motivate them in the short term. Performance management is not a way to get rid of unproductive employees. Although it is possible for them to become victims if their performances constantly remain below the desirable level, performance management does not aim to clean up the organization, but to increase its productivity (Abrudan, 2014).

The causal relationship between the intensity of motivation and the level of performance has different characteristics depending on the complexity or difficulty of the task. In the case of simple, repetitive, routine tasks, the level of performance increases with the intensification of motivation. On the other hand, in the case of complex tasks, rich in solution alternatives, increasing the intensity of motivation causes up to a certain point an increase in performance, after which performance begins to decrease.

### **3. Research methodology**

The research is thus based on an empirical model, as it aims at the direct observation of some phenomena encountered in practice, the conclusions, the resulting observations will then contribute to the development and enrichment of theories regarding motivation, performance and the relationship between the two at work.

The research was developed starting first from a series of qualitative observations regarding the potential of the two variables (motivation and performance) to self-determine and influence each other.

But in order for the validation to be as relevant and strong as possible, it was considered that the greatest added value that the study can bring is through the lens of its quantitative approach, which allows the validation of the hypotheses by a representative segment of subjects. The data collection is carried out by means of a questionnaire, allowing the interpretation of the data to demonstrate the theoretical models and possibly to complement and improve them in this way.

In creating the questionnaire, the type of information needed to be collected in order to validate the dynamic model of the motivation-performance cycle is first identified:

- ✓ Validation of the determining elements of motivation generating performance;
- ✓ Validation of the conditions in which individual performance is manifested;
- ✓ Validation of the determining elements of motivation-generating performance;
- ✓ Validation of the relationship between the initial motivation and the motivation generated by performance;
- ✓ Validation of the relationship between the initial performance and the performance generated by motivations of previous performances.

Depending on the answers to the last two types of information previously exposed, it is anticipated that the motivation 0 performance dynamic may take the form of a spiral, not just a cycle, if it turns out that the initial Motivation (M0) and Performance (P0), differs from the later Motivations (M1, 2, ... n) and Performances (P1, 2, ... n).

These data will also be accompanied by identification questions, so that the research also allows a classification of the types of response according to the categories of respondents. In order to simplify the completion of the questionnaire as much as possible and to shorten the time for completing it, the questions will offer predefined answer options and will follow a pattern designed



to facilitate the subsequent quantification of the weights expressed by the subjects as easily as possible, as is presented below.

As can be seen, the answer choices offered in the questionnaire are thus designed to avoid average, neutral answers, offering four answer choices, each expressing a clear preference in a certain direction, making clear distinctions to facilitate the interpretation of the subjects' perceptions. From the perspective of its application, the questionnaire is sent to several companies in the following fields: IT and services. The area in which the institutions operate is at the local, regional, national and even international level.

As the questionnaires are sent in public spaces, it is not possible to identify the response rate, as it is difficult to define the total number of companies/institutions to which the questionnaire was sent.

The areas considered are of particular relevance for the subject addressed, considering that the specifics of each industry will allow a contextual interpretation of the results:

- The IT field is the field that records the best salary packages and benefits at the national level. In this context, it is necessary to investigate the extent to which material motivation can influence the performance of IT employees, respectively the extent to which performance itself can generate motivation strong enough to guarantee similar future performance. Often, IT companies, especially large ones, have complex internal procedures for motivating and evaluating employee performance. For this reason, we believe that in addition to the companies' industry, the size of the companies will also be relevant, in order to correlate the perceived perception among employees with the environment in which they operate.
- The field of services is a field characterized by direct contact with the market, with intermediate or final customers, an argument for which it is considered relevant to investigate the specifics of companies providing services.

Regarding the role of the people to whom the questionnaire was addressed, it was equally applied to the executive staff (employees) and the management staff. This allows the differentiated analysis of the perceptions of the two categories, as their motivations can differ significantly.

#### 4. Findings

A correlated interpretation of the responses in terms of Perception of Motivation will support the validation approach of the Motivation  $\diamond$  Performance Model Dynamics, as presented in Table 1 below.

*Table no. 1. Matrix of factors and sub-factors influencing motivation at work*

Factor	Sub-factors	Inferior influence	Medium influence	Superior influence
Organization & Management	Organizational culture	52%	57%	48%
	The benefits package	34%	48%	66%
	Managerial practices	38%	45%	62%
	The relationship with the direct manager	33%	31%	67%
	Management as a source of inspiration	53%	41%	47%
Working environment	Physical workspace	38%	53%	62%
	Location of headquarters	48%	53%	52%
	The atmosphere at the workplace	28%	52%	72%
Personal characteristics	The predisposition to learning	43%	50%	57%
	Determination to advance in career	36%	43%	64%
	Previous success achieved	38%	48%	62%

Source: developed by authors based on collected data

Table 1 therefore describes the factors identified in the Dynamics of the Motivation  $\diamond$  Performance model as having an influence on the motivation of individuals at work: Organization & its management, Work environment and Personal characteristics. These three factors encompassed a number of sub-factors, also presented in the table as the questions included in the Questionnaire referred to them. Respondents rated the extent to which each sub-factor has an influence on motivation at work. The answers allowed a quantitative assessment of this influence, classifying it

in weights of: 75%. Correlation of responses was then performed on the following influence ranges: lower influence (75%).

Analyzing at the factor level, the results presented in Table 1 reveal the following weights presented in Table 2:

*Table no. 2. The share of influencing factors of workplace motivation*

Factor	Inferior influence	Medium influence	Superior influence
Organization & Management	20%	20%	60%
Working environment		33%	67%
Personal characteristics			100%

*Source:* developed by authors based on collected data

Table 2 demonstrates that, based on the proven influence of each sub-factor, a weight of influence can be established at the level of the three factors of the Dynamics model Motivation  $\diamond$  Performance. Thus, personal characteristics have a 100% superior influence on motivation, making it the strongest influencer of the three. This is based on the fact that all three sub-factors of the "Personal characteristics" item were ranked by the respondents in the upper range of responses.

On the other hand, of the three sub-factors of the "Work environment" element, two were classified as having a higher influence (meaning 67% of the factor), respectively one sub-factor of the three (33%) was classified as having medium influence.

Thirdly, the element "Organization & management" has a superior influence of only 60% (three out of five sub-factors being classified in the upper response range), an average influence of 20% (a sub-factor out of five), respectively a 20% lower influence (due to the sub-factor rated by the respondents as having a lower influence).

A correlated interpretation of the responses in terms of Perception of Performance will support the validation approach of the Motivation  $\diamond$  Performance Model Dynamics as presented in Table 3 below.

*Table no. 3. Matrix of factors and sub-factors influencing performance at work*

Factor	Sub-factors	Inferior influence	Medium influence	Superior influence
Carrying out the task	One's own level of motivation towards the workplace and the activity performed	33%	60%	67%
	Enthusiasm for work	26%	31%	74%
	Dynamic, competitive nature and continuous challenge in the workplace	38%	55%	62%
The obtained result	Own satisfaction with the results of the work	38%	47%	62%
	The desire to demonstrate one's own talent, seniority, professional maturity	48%	57%	52%
The benefit obtained	Non-material incentives	47%	47%	53%
	Material incentives	36%	45%	64%

*Source:* developed by authors based on collected data

Table 3 therefore describes the factors identified in the Dynamics of the Motivation  $\diamond$  Performance model as having an influence on the performance of individuals at work: Task Accomplishment, Result Obtained, Benefit Obtained. These three factors encompassed a number of sub-factors, also presented in the table as the questions included in the Questionnaire referred to them. Respondents rated the extent to which each sub-factor has an influence on achieving job performance. The answers allowed a quantitative assessment of this influence, classifying it in weights of: 75%. Correlation of responses was then performed on the following influence ranges: lower influence (75%).

Analyzing at the level of factors, the results presented in Table 3 reveal the following weights presented in Table 4:

*Table no. 4. The share of factors influencing workplace performance*

Factor	Inferior influence	Medium influence	Superior influence
Carrying out the task			100%
The obtained result		50%	50%
The benefit obtained			100%

*Source:* developed by authors based on collected data

Table 4 demonstrates that, based on the proven influence of each sub-factor, a weight of influence can be established at the level of the three factors of the Motivation  $\diamond$  Performance model Dynamics. Thus, the determination generated by one's own motivation for the work performed, the achievement of a task that arouses interest and enthusiasm through its innovative and dynamic character, has a 100% superior influence on performance. The determination based on the promised benefits (material & non-material) has the same relevance and influence on performance, as it also exerts a 100% superior influence on performance. Thus, "Task achievement" and "Benefit obtained" represent the two strongest factors within the proposed model, having exclusively positive influence on performance. On the other hand, of the two sub-factors of the "Result achieved" element, one ("Own satisfaction with work results") was classified as having a higher influence (meaning 50% of the factor), while a another sub-factor ("The desire to demonstrate one's own talent, seniority, professional maturity") was classified as having medium influence (50% of the factor).

## 5. Conclusions

Since the research undertaken validated the model of bidirectional causality between motivation and performance, we believe that it has been demonstrated that the motivation felt by individuals at work is an important element that can determine the achievement of performance at work. Equally, achieving performance itself becomes an element of motivation for individuals, motivation that confirms the previous mention, will also support future performance.

This research study can demonstrate that *the motivation of individuals towards their workplace is mainly based on the following conditions:*

- ✓ Individuals feel that they are part of an organization that offers them an environment that encourages correct managerial practices, benefits that can stimulate the degree of comfort and well-being of employees, respectively they benefit from a positive relationship with the direct manager ("Organization & Management" factor ")
- ✓ The motivation does not primarily come from the organizational culture, perhaps due to the fact that the values promoted by the organization through its culture, respectively the policies to encourage the development of employees, are most often perceived at the level of the direct manager or the closest management staff, becoming a kind of ambassadors of the organization ("Organization & Management" factor)
- ✓ Management staff, on the other hand, have a superior influence on motivation through the practices they apply, the values they promote (sub-factor "Managerial practices"), respectively through the type of relationship they develop with employees and the way it supports and causes them to develop professionally and even personally (sub-factor "Relationship with direct manager", factor "Organization & Management")
- ✓ It has been proven, however, that the so-called "Management's ability to inspire" employees (the "Organization & Management" factor) has a rather low influence on motivation, perhaps due to the fact that individuals have the ability to self-motivate ( the factor "Personal characteristics"), not necessarily needing a source of inspiration in the person of the manager - The individual's ability to self-motivate is manifested by his predisposition and interest to use any opportunity to learn something new, his determination to promote in career, to grow professionally, i.e. he is self-motivated by his previous performances which will maintain his motivation for future performances ("Personal characteristics" factor)

- ✓ Likewise, another important source of motivation for employees seems to be the work environment, and more precisely: the social relationships they manage to create and maintain in the work group, respectively the physical work space in which they carry out their activity. A medium influence also seems to be the actual positioning of the company headquarters from which the employees work, this being rather an element of comfort that contributes to the general motivation regarding the workplace ("Work environment" factor).

*The desire of individuals to perform is mainly based on the following conditions:*

- ✓ Individuals want and can perform when the activity performed is perceived positively, excites and challenges them ("Task Accomplishment" factor)
- ✓ individuals want to be satisfied with the result they will achieve (own satisfaction), not necessarily being determined to achieve a positive result just to demonstrate their potential in the external environment (the "Result achieved" factor)
- ✓ Based on the results obtained, we believe that the desire itself to demonstrate one's own professional potential can be a performance-generating element if it will benefit from a material or non-material consequence, which would belong to the "Benefit obtained" factor. In the absence of a benefit, the determination of individuals to perform is therefore mainly based on the pleasure of performing the task or satisfaction with their own results obtained (all of which are oriented towards the individual's personal characteristics, the construct of his personality)
- ✓ individuals want and can perform, also when they know that they will be rewarded with various non-material (growth opportunities, development) and material (recognition, bonuses, salary increases, promotion) benefits (the "Benefit Obtained" factor).

It therefore turns out that the dynamics of the relationship between Motivation and Performance can indeed take the form of a spiral, since once both conditions are met (an individual records increased levels of motivation and performance), subsequent cycles will tend to increase over time, to the extent that the conditions of maintenance of motivation and performance will be applied.

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## Defining the Importance of Organizational Culture and Its Evolution in Romania

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### Abstract

*Defining the importance of organizational culture is linked with either its visible part (surface, immediately accessible perception and observation including products artificial actors, heroes and related perspectives members of the organization) or its invisible part (which holds the most important role in its establishment, promotion change of real culture – is given by the rules and the values promoted de facto within the organization). The current article aims to identify the different determinants of organizational culture and to see how these determinants have affected the evolution of organizational culture within the Romanian organizations. We have to understand that the Romanian society has mainly 4 historical timeframes in which organizational culture has evolved.*

**Key words:** organizational culture, determinants, evolution

**J.E.L. classification:** D23, M10, M14, O15

### 1. Introduction

In a company, organizational culture talks about the distinctions that occur in the life of an organization when it comes to the things its members identify with. With this concept, rules, procedures or anything that is related to the life of the organization is interpreted and creates consequences. Moreover, besides the formal elements that attempt to establish an attitude and behavior in a centralized way for the members of the organization, the organizational culture itself enlarges certain behavioral patterns that may be in accordance (or not) with what the organization promotes.

Corina Ionescu believes that *"the organizational culture resides in the totality of values, beliefs, aspirations, expectations and behaviors outlined over time in each organization, which predominate in its framework and which directly and indirectly condition its functionality and performance"*. (Ionescu, 2014)

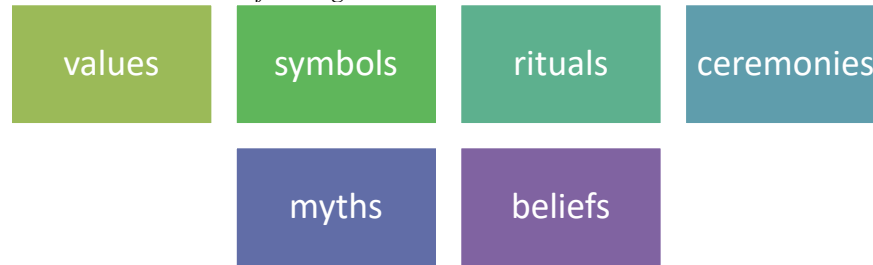
### 2. Literature review

Edgar Schein sees organizational culture as *"a model of basic assumptions learned, discovered, or developed by a particular group, a particular community, in learning how to successfully solve their problems of external adaptation and internal integration. Organizational culture has worked well enough for a certain period to be validated and is to be passed on to new members as the proper way of perceiving, thinking and feeling about those issues."* (Björkman & John, 2011)

One of the leading representatives of national and international culture research, Geert Hofstede, defines culture as *"a collective mental programming that differentiates members of a group or a particular social category from members of other groups or social categories."* (Nickerson, 2022)

Analyzing these definition we can conclude that organizational culture has certain common elements that are underlined by all of these definitions:

Figure no. 1. Common values of the organizational culture



Source: self-processing

### 3. Research methodology

Despite so many definitions, it is noted that there are a number of common features:

- all definitions refer to a set of meanings and values belonging to the individuals in the organization.
- the elements of organizational culture take a relatively long time to form;
- the meanings and values that form the basis of organizational culture are a synthesis of the individual and the national ones, appearing at the intersection of the two main categories of elements;
- values, beliefs are reflected in symbols, attitudes, behaviors and various structures, formal or informal.
- organizational culture is a reference framework for the members of the organization;
- the forms of manifestation of organizational culture significantly influence the evolution and performance of the organization

This Article aims to identify how these common features have manifested and evolved in relation to Romanian organizations.

### 4. Findings

#### 4.1. The determinants of organizational culture

*a. Influence of the founder or of a dominant leader* – a dominant leader/founder has the advantage of being able to project his/hers beliefs over the life of the organization and is able to influence the values the organization accepts and promotes.

*b. History and tradition of the company* – it is natural that people would want to leave their mark over the life of the organization, and project their beliefs and the way they function and think within the organization they work. Thus the history and tradition of a company is made by the way people manage to compromise and function together within large periods of time in an organization.

*c. The expectations of the company's staff* – the expectations of the company's staff have a major influence on the way employees behave. Expectations, both from owners, managers of the company and other employees, are born and made known by the psychological contract that is established between the company and the employee.

*d. Characteristics of labor force* - characteristics of labor force considering the differentiation of labor force in certain categories, according to a number of criteria, such as: age, gender, race, physical capacities, etc.

*e. Evaluation and motivation system* - companies assess what is important to them, what they consider to bring them value and make them attractive (example: Sales, profits, profit/share, etc.). Many companies present the figures of their achievements in a time frame and compare them with the expected level or with the achievements of previous periods. This ensures permanent feedback for managers and other employees, who can relate from the point of view of performances of the proposed expectations.

*f. Information technology* - the content of work has changed, due to technological changes, for many positions, including more and more information and increasing the degree of work intellectualization. This factor makes people more rigid towards changing their beliefs, because they are more convinced about the things they believe in. Its also the factor behind their political radicalization or religious radicalization.

*g. Technology and products / services of the company* - is a factor that puts its considerable mark on the organizational culture. Depending on the technology used, the machines and equipment available, the workforce is dispersed into different organizational components, certain interactions are established, etc. the characteristics of the technologies, their degree of danger, determine the specific outline of some elements both at the level of organizational culture and subcultures.

*h. Company resources* - for a company plays an important role in creating a specific type of organizational climate. Where resources are limited, a competitive attitude develops within the firm, with each sector trying to show that it has better performance and prospects in order to attract more. Sometimes, however, the situation can get out of control, harsh reactions occur and manifest between the company's components, which can generate destructive conflicts for it.

*i. Legislation* - the legislation is reflected both in the way the company is organized and in the nature of the activities carried out. In most countries, the law provides for participatory management bodies with well-defined roles for their functionality. Also, the existence of organizational documents, work procedures (e.g. for labor protection), etc. are mandatory

*j. Customers* – these are taken into account more by firms whose sales are largely dependent on a small number of customers. The attention given to customers varies greatly depending on their bargaining power. When customers are numerous and dissipated, it is easier for the firm to impose its point of view.

*k. Economic environment* - the economic environment is an important factor in the construction and evolution of an organization's culture. Favorable conditions offered, reflected in the number of existing and potential customers, access to economic resources on favorable terms supports the process of developing a healthy, competitive organizational culture. Given the abolition of important barriers between different states (customs controls, phyto-sanitary controls, customs duties, etc.), the economic environment is likely to provide a greater range of opportunities for companies and threats, which generates a certain attitude from managers, other employees, with direct repercussions in the way the company culture manifests.

*l. Social conditions* - we are currently witnessing a rapid growth of the global population, which places new conditions on the way of organizing activities, the way of employment. One aspect that is not recommended to be overlooked is the phenomenon of the aging of the labor force, which causes the working-age population to bear an increasing number of inactive people.

*m. National culture* – studies conducted in recent years by renowned specialists (Hofstede, Trompenaars) have highlighted the fact that there are certain cultural "models" that characterize the different nations. The way of thinking, decision and action takes various forms that reflect the history and recent developments of the members of this community. These models are made up of a true cultural heritage that organizations hold, but which take specific forms that also reflect the particular conditions of the respective field of activity. National culture is one of the most powerful determinants of an organization's culture.

*n. Globalization* – Is usually an ever-increasing phenomenon that forces companies to consider a larger complex of factors in an international vision. Whether actively or passively, the activities of an organization are influenced by the various trade agreements concluded with different countries, by the appearance of directly competing products or by substitution, delivered by foreign companies, etc. (Goldbach, 2015)



Figure no. 2. Determinants of Organizational Cultures



Source: self-processing

#### 4.2. The evolution of organizational culture values in Romania and their particularities

A summary analysis of the present organizational culture in Romania suggests the possibility of an important field of work at the level of cultural artifacts. They present an important gap to current standards, even in the case of foreign companies represented in Romania and those created in recent years, supposed to be designed with the adoption of cultural elements. The number of companies where a modern and integrated treatment of cultural elements can be observed is still low, but these can be guiding elements for the rest of the organizational population. A massive process of modernization of these cultural elements is expected for most of the organizations that aim to develop Romania's image in the European Union within the next decade.

Romanian companies, which before 1990 were state owned, are divided into two main categories by reference to the historical moment of the communist nationalization in June 1948.

A) *Organizations developed on the back of a company existing in 1948*: the organizational culture associated with the old company was eliminated in almost all cases and replaced with a product "adapted to the communist political conditions". It started with replacing the original name of the organization with one that had a revolutionary communist symbolism and eliminating the old managers and leaders, then it continued with the elimination of all significant artifacts, including the removal of the people who served as their support. Today, cultural artifacts existing in 1948 can be partially recovered and used for differentiation. The ones that appeared between '48 and '89 portrait a sad image of what the old regime deemed to be necessary to make them compatible with the new type of communist economy. (Dănciulescu, 2017)

B) *Organizations created after 1948 and until 1989*. The organizational culture of this category of companies shows the strongest communist influences of that period of time. A number of elements can be easily transformed – name, slogan, emblem – but most intangible elements – histories, heroes, values, etc. – have been used most of the time in a context from which economic rationality was excluded, and firms were political rather than economic instruments. More complicated is the situation of some components, such as, for example, the brand, that cannot be changed, although they are no longer suitable for the moment.



The situation of the organizational culture is much more complex at a deeper level, and the logic of the current situation shows the need for an intervention at the level of the collective mindset and the public mentalities. Those who know the phenomenon of organizational culture consider that there is a discrepancy between the type of mentality, essentially anti-competitive, cultivated by the communists and the new economic system promoted after the '90s.

*C) Organizations created after 1990 and before the integration within the EU starting 1<sup>st</sup> of January 2007.* The year 1990 marked a new differentiation with negative effects at the level of organizational culture: commercial companies and autonomous kings. The difference is given by the feeling of vulnerability, existing in the employees of the first category and absent in those of the second category (Allaire and Firsirotu, 1998), with effect on the adaptation to achieve performance. There were many companies created after the collapse of the communist regime, that had a different competitive advantage, in such of manner that made them immune to any outside influences. The other ones, the commercial ones, understood this difference, that there are two sets of distinct values belonging to different historical ranges - before and after the fall of communism.

In Romania the vast majority of companies are in the initial stage of a redefinition of organizational culture. Because the time required to articulate a coherent cultural system is relatively long - in the order of years or decades -, those companies that manage to get rid faster of the ballast represented by the values associated with the period 48-89, and that put in place elements that are in consonance with both the current socio-political and economic environment, as well as with the chosen strategy, will be advantaged. The transition can be accelerated if the process is directed and materialized in specific actions. (Cercel, 2013)]

It is noted that some investors prefer to create new organizations and build everything from scratch – including the physical environment – in order to mitigate the risks associated with preserving some elements of organizational culture specific to the communist system.

The reality shows that cultural inertia is more important than originally thought in the 90's.

If during the communist period cultural remodeling at the organizational level was fixed in a large process of remodeling the state by using an all-encompassing supported by external forces and supported by huge resources, the current reverse transformation occurs with a minor involvement of the state. The consequence is the increase of the period of this transformation, as well as the maintenance of cultural elements specific to the old context, despite the costs it generates.

*D) Organizations build after 2007.* After the integration in the European Union, organizations from Romania managed to better understand that there are some major advantages related to the possibility of selecting and using the staff with the values most associated with the chosen strategy or with the model conceived by the entrepreneur. Even in the case of tangible elements there is an advantage given by the possibility of taking the best examples or models articulated in a modern and coherent system of symbols designed in accordance with the main product or business - slogan, name (brand), logo, etc. the use of cultural artifacts in an offensive manner, especially with a product promotion role, it seems to be a condition of overeating and differentiation. (Cercel, 2013)

Applying a strategic approach to the design of a new business allows a company from the first moment to correlate its subsystems to achieve the set objectives, being part of a large strategy and making the corrections on actions that involve waste of time and money. Borrowing from the experience of other organizations from a modern European society allow eliminates to correct the errors associated with their day-to-day operations. The disadvantage of these companies is generated by the scarcity of resources, as well as the cultural skills of entrepreneurs or managers. Often, however, intuition or a robust value system of the leader can play the role of a cultural locomotive, which increases the chances of overeating the business. However, the Romanian society is being modernized every day, and adopting the newest processes to manage daily operations and employee interactions. Many of the Romanian cities, Bucharest, cluj-Napoca, Timișoara, Iași, Oradea, Sibiu, Brașov and many others are hubs connecting international companies and the whole of eastern Europe, especially in the last 15 years since the intrance into the EU.

## 5. Conclusions

Although it is a seemingly abstract element, organizational culture is an extremely broad concept that defines a company or institution through the visions, values, norms, symbols, beliefs or habits assumed, as well as the language used in internal communication or the behavior model adopted by employees. Organizational culture includes a set of things that dictate the course of things in certain situations that the entity may encounter in the course of its operation.

After all, organizational culture should exist in any type of organization, be it traditional educational units, NGOs or government institutions, and not just in companies, companies or corporations. The concept became popular in the business environment in the years 80 – 90, so it is easily understood why it would reach the Romanian market way later than that. It was only after Romania's admission within the EU that triggered a chain of events that would bring international companies/organizations into this country. Thus, Romanian enterprises found themselves in an competitive environment that involved understanding the concept of organizational culture.

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## Organizational Culture: Functions, Dimensions and Influence Over Products And Services

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### Abstract

*A role that is important in the formation and change of organizational culture has been held by the leaders of the organization who accept certain values. Each organization is a structural and technological, but mostly a mini-cultural universe. It expresses itself in a different way. The present article aims to understand the internal-external factors of the life of the organization, the functions of organizational culture, the influence on the market price of products and services. The role of innovation in the added value of products and services can only be achieved through understanding the dimensions of organizational culture.*

**Key words:** organizational culture, functions, dimensions

**J.E.L. classification:** D23, M10, M14, O15

### 1. Introduction

In the early 1970s, explorations began in the field of organizational culture: the climate, belief system, values, and myths and legends of the organization.

For the manager, the idea of organizational culture can be a particularly powerful tool. By successfully socializing people in the desired culture, managers can achieve two important objectives:

- a) they can establish the basis of widely shared attitudes, beliefs and values throughout the organization, thus a sense of unity, common purpose and mutual commitment;
- b) they can establish and cultivate a sense of a common destiny, shared equally by manager and worker, according to which what is good for all is good for everyone. In a world where tradition was bringing mostly adversity between manager and worker, an idea that promises a new approach and greater unity and cooperation deserves full attention.

The stronger and more distinctive the culture, the easier it is to see its characteristics. This is confirmed in both organizational and national cultures. The culture of an organization includes (Cercel, 2013):

- its philosophy and its dominant values;
- its the rules applied for the performance and continuation of the activity;
- the general climate and company style (for example, "open" offices and informal atmosphere, clothing, etc.)

### 2. Literature review

Valerica Anghelache defines organizational culture as "*a modus vivendi, a way of being of the school, reflecting its organizational temperament.*" What makes the difference between the temperament of the organization and the human temperament (taken individually) is precisely the possibility of modelling, of rebuilding the first one. Organizational culture is not a given, but is more like a dynamic dimension, one that is nurtured by its leaders. It reflects and is reflected in the performance of the organization, in its capacity to relate to social culture. (Dănciulescu, 2017)

Alois Gherguț believes that *“organizational culture refers to a gathering of collective standards of thought, attitudes, values, beliefs, norms and habits that exist in an organization and that constitute its ethos”*, and that a strong organizational culture is *“one in which there is a strong attachment to the values and principles of the organization from the members who compose it (...), yet people don't need extra incentives, they unconditionally accept the rules of the game.”* (Ionescu, 2014)

Georgeta Pânișoara highlights the following characteristics of organizational culture (Stoica, 2013):

- it defines organizational boundaries;
- it makes the organization distinct from other organizations;
- it gives a sense of identity and solidarity among employees;
- it brings people together to cooperate, generates organizational involvement;
- it increases the stability of employees in their positions by appropriating the values of the organization;
- it helps to direct the individual within the organization;
- it resolves contradictions that may arise in its absence;
- it structures behaviours, attitudes within the organization, developing the system of norms and ensuring their applicability.

Understanding all of the opinions above, we can note the following limits of organizational culture:

- predisposing to conformism and obedience from individuals to be accepted at the organization level;
- cancels/diminishes the personality of the individual in favour of the personality of the organization;
- if, between the visible, displayed aspects of the organization's culture and its invisible aspects, the discrepancies are large, then we can speak of a low degree of “maturity” of the organization

### 3. Research methodology

The present article aims to understand the internal-external factors of the life of the organization, the functions of organizational culture, the influence on the market price of products and services. The role of innovation in the added value of products and services can only be achieved through understanding the dimension of organizational culture. In order to do that, we must first learn to ask the most important questions that identify the dimensions of the organization. Thus, the main research point of the article is to gather the theoretical base needed to identify the dimensions of organizational culture in the present times we find ourselves in.

Organizational culture is not formed artificially or accidentally, but is the result of practical activity, interaction between the members of the organization and as a response to problems arising in the internal and external environment. An important role in the formation and change of organizational culture is played by the leaders of the organization, who accept certain values promote them collectively. Each organization represents both a structural and technological universe and a cultural universe. Each organization has its elements and expresses its components differently.

### 4. Findings

#### 4.1. Defining organizational culture and its factors

Analyzing the most significant *definitions* of organizational culture, we concluded the following:

- culture is actively created through the actions of the people in the organization and is not “given”;
- culture is implicit in the mind of the members of the organization and exists as a socially accepted perception or definition.
- culture is shared, it refers to agreed and accepted standards of behavior, values and beliefs, it is the -social glue that holds the organization together;
- culture is an atmosphere and refers to “what it's like to work in this organization”; [Goldbach, 2017]

- culture is a pattern of behavior that refers to how things are done within the organization.  
One organization is distinguished from another by the organizational culture, the appearance and development of which is influenced by the following factors:

**a) external factors are generated by the social context:**

- national culture includes the way of thinking, education, religion;
- technologies require deeper employee specialization;
- legal factors generate values or non-values related to fairness;
- the environment receives the organization according to its type.

**b) internal factors are generated by the internal life of the organization:**

- the history and tradition of the organization influence the existence of the organization through the values and concepts that have been promoted over time;
- the larger the size of the organization, the more conflicts arise between existing subcultures;
- the ways of integrating and recruiting staff ensure an efficient integration of the newly hired staff;
- the members of the organization being different develop different behaviors.

The nominated factors influence in a unitary way the organizational culture, so we cannot highlight the importance of one over the other.

## 4.2. Functions of organizational culture

Valerica Anghelache identifies 3 functions of organizational culture:

**1) The normative function** - regulating behaviors and attitudes, being in a possible grid for assessing them and resolving conflicts;

**2) Motivational function** - supporting cooperation and interpersonal relations;

**3) Psycho-social function** - whereby individuals and organizations build their own identity in relation to others or the environment

In another opinion (Taylor, 2022), the functions of organizational culture are:

**a) Organizational culture performs several functions within the organization, how they are performed depends in a significant way on the organization's functionality and performance.** Organizational culture contributes to the development of the company's relationships with its stakeholders. Elements of organizational culture convey significant messages both formal and informal about what is important to the organization.

**b) Organizational culture is the interface between national and individual culture.** The members of the organization adapt the elements of national culture to the specific activities carried out, the organizational culture thus appearing at the interface between the individual cultural elements and those prevailing at the national level. The result of this interpenetration offers the company the opportunity to develop its own cultural model, but at the same time to develop a cultural network, based on cultural elements common to those of other stakeholders.

**c) Organizational culture shapes individual and group identity.** Through the values displayed, through the actions carried out, the organizational culture places great pressure on a newcomer within it, causing changes of some depth in its perception, thinking and action. In order to be accepted, the individual will "redesign" certain personality traits so as to integrate as best as possible into the group in which he wants to carry out his activity. Organizational culture in turn undergoes transformations under the influence of internal or external factors.

**d) Organizational culture is a major determinant of the behavior of members of an organization.** In organizations with a high developed organizational culture, their members understand what is expected from them and what are the ways of acting that are accepted. As a result, they will have a fast way of decision making, focusing their actions on achieving the objectives set.

**e) Organizational culture provides a sense of belonging to a specific community.** The employees of the company shape and are shaped by the organizational culture. As time passes, they develop a multitude of connections, professional and personal, with the environment in which they operate. Gradually, they arrive and consider the organization as a second home. The mutual cultural influences have been acquired to such an extent that they are no longer perceived.

**f) Organizational culture protects its components.** Organizational culture provides a sense of stability and security for its members. Its role is all the more important as the speed of change is higher and the business environment is experiencing changing dynamics. Consequently, it is the organizational culture that has the power to provide "psychological safety" to its components, providing them with a familiar framework in which to manifest their personality.

**g) cultural and organizational changes.** There is a strong connection between organizational change and the development of an organization. Organizational development is a planned process of change in the culture of the organization through the use of behavioral theories and practices.

The change of organizational culture in the context of modern organizational approaches is achieved by the internationalization of economic activities which is one of the strongest trends in the contemporary economy, with a rapid expansion and re-engineering which is another managerial organizational approach that is particularly emphasized lately. In essence, re-engineering means of the fundamental rethinking and radically new redesign of the organization's activities in order to achieve major improvements in cost, quality, service and speed of response. This reengineering focuses on relevant activities within the organization and not on specific components. Thus, priorities are reintegrated into positions, the work processes in compartments reshaping the employees' knowledge.

#### **4.3. The influence of organizational culture on the market price of products and services and the role of innovation**

*The influence of organizational culture on the market price of products and services.* In order to be able to appreciate the influence of organizational culture, and its evolution over time, but especially its effects over the prices of a company's products, it is necessary to make a brief presentation of the notions of physical product and cultural product. *The physical product* is a material reality and its value decreases from being used. For example, a car decreases its value the more it is used. The cultural product is a non-material reality whose value increases the more it is used. For example, the value of a book, as a conceptual entity, not as a physical specimen, and it is all the greater the more it is read by many. Organizational culture also provides a company with a cultural content that is added to all the material values that such a structure implies. To the price of all the products of a company is added a cultural component whose value increases over time and thus compensates for the decrease of its physical value. The history, the tradition of a company is a cultural product. If we go back to the example with the car, its physical value decreases after 5-10 years of use, but if we preserve it, after 50 years (or even more) its value increases again, only through its cultural component. This is the reason why cars produced by well-known companies better preserve their market value and make better use of second-hand, third-hand resale (over time), etc. (Dănciulescu, 2017)

*The role of innovation in the added value of products and services.* The added value of products and services is that part that adds to the standard and is accepted by the market, by increasing the selling price, due to additional options. From the point of view of the type of activities, the following categories are distinguished:

- production;
- functional services within the organization;
- research, development and innovation services;
- commercial services;
- financial services.

The higher this scale, the higher the added value will be. When we talk about innovation as an activity, it is present in all these types of activities (mentioned above) and in each of them it allows for a higher market price and therefore a higher profit margin. Within this profit margin is included a share related to the organizational culture, the organization's training, the novelty content of the product or service. Innovation contributes to increasing market prices by increasing added value.

#### 4.4. Identifying the dimensions of organizational culture

Identifying the dimensions of organizational culture is a process that understands the ways in which different characteristics of organizational culture may affect the concept from within. In essence, each dimension of organizational culture has its own questions regarding the concerns one might experience when researching them.

*Table no. 1. The dimensions of organizational culture*

<b>Dimensions of organizational culture</b>	<b>Important questions to ask</b>
1. The ties of the organization with the environment in which it operates.	<i>How an organization acts to be dominant, in harmony, how do we find the way to escape/impose the domination of the organization?</i>
2. The nature of human activity	<i>It is right for people to act to be dominant/proactive, harmonizing or passive/fatalistic?</i>
3. The nature of reality/ truth	<i>How to define what is true and what is not true; and how does truth determine, ultimately, the psychical and social world?</i>
4. The nature of time	<i>What is our orientation in analysing the past, the present and the future, what kind of time units are relevant to lead the everyday life?</i>
5. The human nature	<i>What is the basis of man's existence: kindness, neutrality or evil? Is human nature perfectible?</i>
6. The nature of human relationships	<i>Which is the right way for people to get along with each other, to share their strengths and affection? Is life a competition or cooperation? Is it good for us to organize our lives on principle of individualism or on group cooperation? The best authority is the autocratic/paternal system or the collegial/ participatory one?</i>
7. Homogeneity vs diversity	<i>It is good for the group to be composed of various or homogeneous elements? can an individual be the encouraged one within the group in order for him to be creative?</i>

*Source:* self-processing

#### 5. Conclusions

Organizational culture is not artificially formed or accidentally, but is the result of practical work, interaction between members of the organization and as a response to problems that arise in the internal and external environment. A role that is important in the formation and change of organizational culture has been held by the leaders of the organization who accept certain values. Each organization is a structural and technological mini-universe, and mostly a mini-cultural universe. Each organization has its elements and expresses itself in a different way.

Organizational culture is about dimensions and this translates into profound aspects of the "personality" of an organization, conditioned by long-term vision and policy of each organization, aspects that can offer stability over time. By opposition, the term organizational climate refers to the contextual aspects, the dimensions associated with it depending on "ad hoc" ("here and now") assessments by employees. These elements are specific to each collectivity, and it quickly changes over time around some core values. These core values are sensitive to minor changes in communication, relationships, or organizational procedures.

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## The Importance of Police Management in Romania

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### Abstract

*The history of the Romanian principalities finally leads to the Union (one by one) of three principalities. However, the first two principalities that United at the end of the 19 century, namely Moldavia and Wallachia, had a troubled history, strongly influenced by the Ottoman Empire. Public order was almost non-existent, most of the national archives presenting a bleak landscape of Romanian public life. However, the first efforts to organize an institution that aims public order in Romania should be appreciated. Until the law of 1903 that guaranteed its existence, the Romanian Police had certain institutional precursors, which must be identified, and the purpose of this article is to do exactly that..*

**Key words:** Romanian principalities, public order, police management

**J.E.L. classification:** J28, K32, K14, N90

### 1. Introduction

Discussions about public order are immediately arousing images and references to our recent experiences, in the proximity of the street or from relevant media reports. But also measures of public order are considered ad hoc actions taken by the authorities, at any time, for the recovery of communities after the effect of great calamities, be they: Waves of locusts, epidemics, or fires. The calamities are, above all, public disorder.

Mainly, the aspects related to the appearance and evolution of the Romanian Police, as the main institution for ensuring public order and guaranteeing the safety of citizens, along with the other institutional components within the Ministry of Internal Affairs. But, in order to ensure balance, there must not be neglected the issues similar to those allocated to the police and other structures of the ministry whose evolution, in terms of regulations and activities, correlated with that of the police. The safety of the country's borders from the perspective of trafficking in persons and goods (attribute of the border guards of the past and of the border guards of today), the strong action capacity for counteracting criminal activities that exceed the technical-human possibilities of the police (Gendarmerie), interventions in calamities, floods or fires (Firefighters, as the main component of the I.S.U.) and, last but not least, the Archives area, which provides the documentation base for all the others, will find their deserved place in the work.

### 2. Literature review

Based on a complete documentation, without exceeding the general framework of the proposed theme, the article will also address elements related to archival aspects, which fall within the structure and concerns of the Ministry of Internal Affairs. In this respect, there will be presented not only aspects related to supporting the evolution of the main operative component, but also the legislative framework and the evolution of the National Archives itself, an institution that, through its activity, as its founding fathers thought, provides the material evidence of the perennial of a people. Moreover, through the National Archives, the most explicit opening to culture, historical culture, first of all, of an institutional structure whose main task remains the safety of life and the protection of the material goods of citizens, the enforcement of order and law in the rule of law.

### 3. Research methodology

This article aims to identify the history of public safety and the evolution of the police institution, before and after the Union of the Romanian principalities. This will be done in the light of the following research assumptions:

*Hypothesis no. 1 – the concept of public order was translated by preventing and sanctioning acts that could disturb the public peace, which was the task of the Romanian Gendarmerie, after 1866. But it also involved the investigation of crimes committed by a structure (the body of Detectives) organized according to the British model*

*Hypothesis no. 2 - there are precursors of the police officers, having the role of ensuring the guard and protection of the nobility in the Romanian principalities, regardless of their origins, they being by profession: mercenaries (centuries 18-19)*

Finally, the results will be compressed into an analysis of the negative scenario Romania is in. Normally a scenario analysis also involves identifying a positive scenario, but due to the history that the Romanian principalist has, this positive scenario could not be presented, it did not exist.

### 4. Findings

#### 4.1. History of public safety in Romania

From 1620 in the Romanian principalities this function (of responsible for public order) was officially institutionalized as the Chief of Police (Agie) and will continue to function thus until the middle of the 19th century when it will be replaced with the current one during the revolution of 1848.

The exception was the Romanian territories that, following the wars between Austria and the Porte, 1716-1718, came under the rule of the Habsburg Empire. Thus, in Banat and Oltenia, the Austrian administration was established, assuming, at the police level, the existence of some vornici (in counties) and stewards (at the four "flat" components of a county). In the villages, the assisted responders functioned for the settlement of local disputes by the village elders

In the rest of the territory of the Romanian countries, there is a continuous attempt to introduce regulations on safety measures. It should be mentioned here the first nizam (regulation) by which the ruler Mihai Șuțu, in 1791, introduces the guard service in the Capital, establishes the conditions for granting the rights to wear a weapon and establishes identity tickets instead of the old ravens.

Shortly before Alexandru Ipsilanti had approved the establishment of the Court at Vel AGA (1775) establishing the judicial status of Agia, status strengthened by Nicolae Mavrogheni during his reign (1790-1876).

The first Russian occupation (1806-1812) and the organic regulation that will follow Tudor Vladimirescu's revolutionary movement in 1821 will lead to new transformations of the way of organizing the public safety system, having as main consequence the transition from "agie" (the old name of public safety forces) to the so called "polis" (police forces)

We are not only dealing with a name change, but also with substantive changes, which have gradually come as the "aga" attributions have increased in consistency and authority.

In this regard, he fixed the prices of food and watched over its observance, established the hours of operation of various restaurants and shops, followed the manner in which the cleanliness of the city was preserved, and, first of all, was responsible for maintaining order in and around the cities. The powers in this field will be increased during the short period when the administration of Wallachia went to the rebellious locals (called "panduri") led by Tudor Vladimirescu. He, himself a wafer between 1806 and 1820, had a sufficiently modern vision of ensuring internal order and protecting the wealth of the inhabitants, so that in the program of his revolution, declared on 23 January 1821, the Through the "requests of the Romanian people" to provide for the creation of a structure composed of 4000 "panduri" and 200 "arnăuți", charged with the security of order throughout the territory controlled by the revolutionaries, including in Bucharest, the capital of the country. It was the task of this army to ensure good administration and to severely suppress any

abuses and robberies, even if, or especially if their perpetrators were among the rebels.

During the night, the guard of the capital was provided by 40 dorobants who were affected by other 12,000 guards provided by the owners of various negotees and establishments in the city, for rounds of 400 per night. The passing of the years and the succession of the various earthly rulers also bring changes in the way of organizing and conducting public order activities. Thus, under Gheorghe Bibescu vodă we are witnessing the passing of the name from "agă" to that of head of the Capital Police, while introducing a police indict for arrests, in order to improve the evidence and reduce the possibility of abuses in the detention of suspected offenders / offenders. It increases the number of slum guards to 340, their remuneration being ensured on the police payroll, and those charged with firefighting – not a few at that time – firefighters, are constituted in a separate body, leaving the institutional structure of the police. The reign of Barbu Dimitrie Știrbei, in 1852, brought the formation of a squadron of 100 Dorobanti, with a chief and three helpers. Four years later, in 1856, the ruler Barbu Știrbei, orders the creation of a body with 480 guards led by a captain, five lieutenants and 20 unterofficers. Guarda was divided into wheels (companies) one for each coloured Commission.

#### **4.2. The evolution of police management in Romania before and after the unification of the Romanian principalities**

The Church was the only institution of stability and hope in those troubled times, with unstable reigns, frequent wars, and frequent epidemics. And then the churches behaved as they fell: The priests tried to bring hope and consolation, praying for the health of the suffering and encouraging the lonely. From the churches were taken up scraps with relics and carried on the streets, services were held to banish the plague. It was 1800, and even 1831, when cholera or plague arrived, so it happens every time. But things are part of an age where there is not much medical information, and life and death come from God.

The authorities were already aware of the epidemic and were trying to limit meetings and the movement of people. City dwellers were advised to buy their desired drinks, but to consume them at home. For example, in 1813, in the midst of a plague epidemic, when vodă Caragea does not know much what should be forbidden to prevent the spread of the disease, the taverns, the inns, the cafes are among the temporarily closed places. It is forbidden to "gather" at the taverns, but wine can be bought and drunk at home.

The third Russian occupation, 1820-1834, will result in spectacular police developments, introduced as a result of the organic Regulation. Thus, the chief of the Bucharest Police (called "aga") is created a function of help (pomejnic) with attributions especially in the operative plane. The city is divided into five paints, later colors, the precursor of today's sectors: Red, blue, yellow, green and black. A painting formed a Commission, headed by a commissioner, and consisted of three divisions led by a sub-commissioner.

Upon taking over the reign, as ruler of the United Principalities, Alexandru Ioan Cuza increases the number of commissioners to 20, but reduces that of the guardors to 300.

The development of Bucharest at a much faster pace, given its situation as the future capital of the United Principalities, brings with it a substantial increase in road traffic, the increasing number of offices, carts, brasoveni, burden chariots, requires the establishment of a traffic service that is affected, for the first time, by the development of the city. in 1861, five commissioners. At the same time, the head of the Capital Police becomes the prefect of the Capital Police, his duties being substantially increased.

The palace coup of February 11, 1866, which leads to the dethronement of Prince Alexandru Ioan Cuza, does not remain without consequences in the plan that interests this work. The royal lieutenant established for the administration of the country until the installation of a new ruler has a series of measures, the first being the introduction of the title of municipal police subordinated to an inspector. At the same time, by Decree-Law no. 151 of March 17, 1866 the city guard is established, which will operate until 1881, the year of the proclamation of the Kingdom of Romania. The composition of the city guard was ensured from all the inhabitants of the city, men between 20 and 40 years old who had not come out for the permanent army or for the troops of dorobants. The number of the civic

guard on December 31, 1868 was 4997 guards, 526 corporals, 578 sergeants, 272 officers, 27 musicians, 44 drummers and 44 gornists distributed in five legions

The increasing need for staff to ensure good activity in an accelerated city leads to a substantial increase in the number of staff, at 1876, while establishing a photographic service, precursor of the future service for the identification of offenders and thus of the technical-scientific police.

In this way, at its beginnings, the Romanian Police – through the Capital Police – was included on the list of the most efficient European police in terms of using modern methods of identifying and detaining criminals. It was an important step, continued in the following years with the introduction of the Bertillon system for identifying people based on their anthropometric measurement data, followed by the papillary fingerprinting method, etc.

It should be noted that in the same year, 1876, the law for the establishment of the Judicial Police was drafted, followed in 1879 by the creation of the position of police inspector, with clearly defined attributions that established his place and role within the national police body.

The next step, before one could proceed to the systematic organization of the police system throughout the country was in 1887 when, through the communal Law, the administrative police were granted the rights to exercise the communal police duties in the rural area, at the request of the local authorities, primary or their helpers.

The Romanian police gradually aligned themselves, at the beginning of the new 20th century, to the standards already present at the advanced police of the world. And this moment comes, on April 1, 1903, with the promulgation of the law for the organization of the General Police of the State, designed, supported and put into operation by Interior Minister Vasile Lascar.

After the Union of the Romanian Principalities, the first normative act regarding the police powers of the various institutions is the Law of communal organization of 1864. According to it, each rural or urban commune was administered by the mayor of the commune, defined in accordance with Article 88, as a “magistrate charged with police supervision, maintenance of public order, taking all measures regarding the well-being and tranquility of the inhabitants of the commune”. However, Article 91 stipulates that, in the case of cities with a population of more than 3000 inhabitants, the Lord has the right to entrust the supervision and maintenance of public order to a police officer, who in Bucharest is called the Prefect of Police, And in other cities of Capu’ or the police commissioner. In exceptional cases, the mayor may make police regulations and ordinances (but not in cities where there are prefects, heads and/or police commissioners), provided that he immediately communicates them to the municipal Council and immediately sends a copy to the prefects together with the reasons for not having recourse to the Council (article 97). These provisions have raised enough confusion and conflicts of competence between the mayor and the prefect, who interpreted the law differently in its letter, insisting on one article or another, without always taking into account its spirit.

On April 17, 1877, the first law for the organization of city police was drawn up, which actually reproduces the above provisions of the law on communal organization. According to Article 1, outside the cities of Bucharest, Iasi, Craiova, Braila, Galați, Ismail and Severin, the public safety service (police) remained in the task and dependence of the communal authority, that is, the mayor. However, here is the law as it was sanctioned by all those who participated in the legislative process and as it will be published in the Official Gazette no. 133 of June 17, 1878.

*Art. 1. All urban communes are authorized to have a municipal police.*

*Art. 2. The mayors of the urban communes, their adjutors, the commissars and the municipal inspectors shall have the right, like the other agents of the judicial police, to find, in accordance with the criminal procedure, the contraventions to the regulations and ordinances that the communal counselors are entitled by law to make and send the infringers before the justice competent to receive their penalty.*

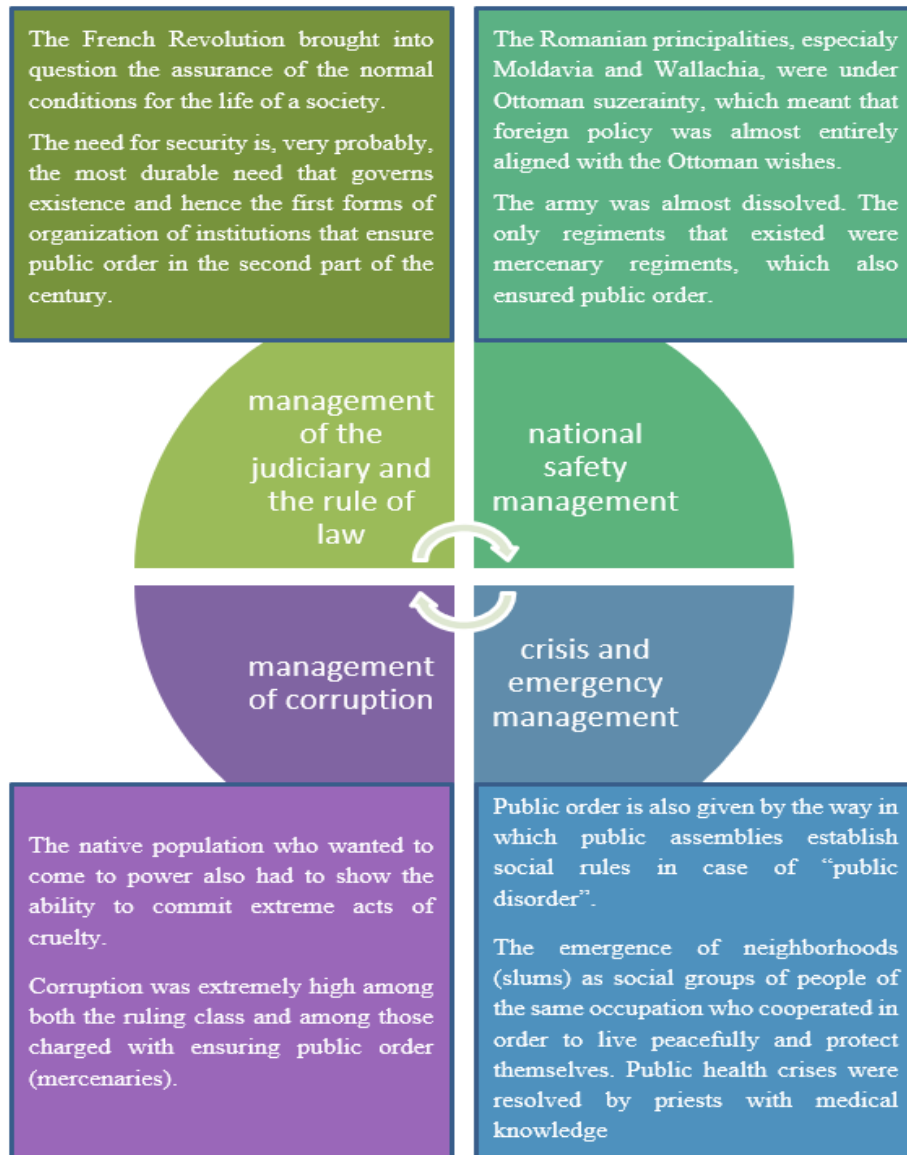
We can see how, from a project requiring the establishment of a municipal police force only for the city of Bucharest, it comes to the vote of a law that provides for the establishment of municipal police for all urban communes in the country.

On February 17, 1887 Vasile Lascar had spoken in Parliament about the communal police. In the country, “public safety leaves much to be desired.” In rural communes “there are neither police officers nor police commissar, and the mayor also makes the police of the commune and the police of the state. [...] in the cities – Lascar asked – is it good for the city hall to have the police, with

commissars, with sergeants and with its agents", and the state to have the police with the same composition? He proposed uniting them.

On May 21, 1902, Vasile Lascar restarted the leadership of the Ministry of Interior, after having twice refused, holding firm until he was told that "to refuse in the present circumstances would be to defer from the fulfillment of a great duty I have toward the country". And, on April 1, 1903, after many debates, the normative act was adopted with the name "Law for the organization of the General Police of the State", which specified "the powers and competences of the police personnel", establishing "the principle of stability of police bodies and their removal from political battles". This law also required the establishment of a special police school, the first of its kind in Romania, for the training of police personnel.

#### 4.3. Scenario analysis regarding the public safety management between the 19<sup>th</sup> and 20<sup>th</sup> century in Romania



Source: self-processing

## 5. Conclusions

The first official signs of the organization of a police force in the Romanian principalities were given by the formation of the Romanian Gendarmerie in the middle of the 19 century. Later the Detective Corps appeared, and only later did the police appear, under the initial denim of "polis".

The police service was carried out by both officers and police officers, as well as by some state officials – the subprefect and his helpers, mayors, station chiefs, postal officials. The assignment required a level of training appropriate to the position (doctor or at least law degree for the police prefect or police commissioner).

The duties were clearly defined without ambiguity:

to ensure the maintenance of the internal order and security of the state;

to defend freedom, property and personal security;

to prevent offenses from laws and regulations in compliance with laws guaranteeing individual liberty;

- to establish, in accordance with the rules of criminal procedure, any crime and to send the perpetrators before justice;

To execute the measures provided for by special laws and regulations as well as those of the communal police according to the Law of 19 December 1902.

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## The History and Evolution of Managing Public Safety in Romania

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### Abstract

*The concept of public safety management emerged from the desire to provide people with the management of an institution that would ensure public safety in an organized way. We can only imagine what medieval or post-medieval societies looked like from a public safety perspective. The chances of survival and life expectancy were extremely low due to the way communities functioned. But they were even smaller in the Romanian principalities, especially in Moldavia and Wallachia, provinces always at a crossroads, being under the influence of the great powers of the time and especially the Ottoman Empire. The purpose of this article is to identify the precursors of the police institution, in a society strongly influenced by the Phanariot community.*

**Key words:** Romanian principalities, public order, Phanariot community

**J.E.L. classification:** J28, K32, K14, N90

### 1. Introduction

Greek merchants and clergy of Byzantine aristocratic origin, who had gained great economic and political prosperity and were later known as Phanariots, settled in the northwestern quarter of Constantinople, which became the center of Greek power after the establishment of the Patriarchate's seat here in 1461. Over time, their role grew, across the outskirts of the neighborhood, to become a very important political factor in the empire and in the positions of diplomatic agents. Under the official cover of the missions they received, they secretly played their own interests in the affairs of the Kingdom of Great Britain, France or the Russian Empire that were conducted with the Turks. While performing their official functions, they launched into private business, discreetly gaining control over the trade of utmost importance on the Black Sea and the Danube.

Under these circumstances, this community gained the trust of the Ottoman sultans and managed to take possession of the two Romanian provinces (Moldavia and Wallachia). The old Romanian ruling elite represented by the boyar families was irretrievably affected, witnessing the defiance of its main ethical-traditional values, authentic Romanian, which were based on the Law of the Earth and the customary peasant law. Because of the same fanariots, since that time, the image of Romanians has been compromised in the eyes of European countries.

### 2. Literature review

This article considers the presentation on the one hand of the ruling class of the Romanian principalities that influenced this public life.

On the one hand, the Phanariots were responsible for ensuring public order, since the Phanariot rulers were the ones who secured the succession to the throne of the Romanian principalities and were the ones who made up much of the local nobility. This is found in numerous historical documents attesting the order in which they succeeded to the leadership of the Romanian principalities.

On the other hand, the fanariots were responsible for much of the chaos created in society, because their way of life was extremely harmful to ordinary people. More specifically, the fanariots subjugated the local population, impoverished it by huge taxes, and committed acts of cruelty difficult to understand or explain. In addition, their disregard for investing in the protection of the population made the dangers

huge, and the safety of the population depended on the few hundred mercenaries hired to maintain public order. Most of the time, however, they protected only the members of the Phanariot community (who were part of the local nobility). This is avoided in the numerous books dedicated to presenting the Phanariot community and the horrors and atrocities it has committed.

### 3. Research methodology

The purpose of this article is to identify what public security meant after the Middle Ages in the Romanian provinces and which was the main ruling class that ensured public order until the Union of the first after the Romanian principalities on January 24, 1859.

First of all, the local social landscape of Moldavia and Wallachia must be identified in the period of the centuries 17-19. Secondly, it must be seen to what extent the ruling class of this period influenced both public order and security, but above all its insurance.

The hypotheses that will be confirmed or not during the work are:

A) the "import" of the ruling class from the Ottoman Empire brought with it the "import" of the first forms of management in the field of public order, starting with those of the Phanariot period;

B) the concept of public order meant in those times the prevention and sanctioning of acts that seriously disturbed public peace.

### 4. Findings

#### 4.1. History of public safety in Romania

##### *A) the medical perspective of the concept of public safety in the Romanian provinces*

Medicine is gradually emerging at the end of the 18<sup>th</sup> century, as a result of the violent manifestations of the plague and other tuberculosis epidemics. The health system does not exist yet. The gentlemen always had personal doctors who took care of themselves and their family. They also accompanied them on these pilgrim travels from Istanbul to Iasi or Bucharest, and always again to Istanbul. It was not until the 19<sup>th</sup> century that a public health system began to be created that included doctors and hospitals, paid from the country's treasury. The doctors were mostly foreigners: Italians, French, German, Jews, Greeks trained in Italian, German or French universities. The Romanian countries were a formidable place of affirmation for many of them, a territory to explore and experience.

The plague was the main disease that was a peril in the late 18<sup>th</sup> and early 19<sup>th</sup> centuries. On July 28, 1792, the public Health Commission was created, and in August 1792, the surgeon Sadmüller and the district surgeon Gutter were in support of the sick. The measures taken in 1792 were diverse: From closing cafés and taverns or keeping disciples overnight in the shops to bringing the head of the Greek Saint Visarion from the church of Dusca in Macedonia, hoping to banish the plague by the saint. During the plague epidemic of 1795, an announcement on the importance of the disease had been made for each slum and to give news for each case.

The most drastic measures were taken during the "plague of Caragea" in 1813-1814, when "the disease was transmitted from one man to another and from one house to another". And when it had a form of spreading as original as possible. According to Ion Ghica.

The doctors were obliged to visit the home of the sick with a delegate of the House of Lazarets. However, rudimentary means were used to combat diseases: Fumigations or vinegar. The handymen raise vaults near the monasteries to receive those in distress. This is how rooms specially built next to churches and monasteries where those in distress were treated.

The great hospitals appeared only in the 19<sup>th</sup> century also on the initiative of some boyars with hands-on, but their operation is related to the will of the founders. This is also the moment when foreign doctors appeared in Bucharest: Gustav Orreus, Cristian Vitsi, Cednobaev from Russia, German Friedrich Reinhold Grohmann.

By order of the rulers to combat the plague, all roads were closed and traffic was forbidden. After the city's barriers were closed, all nomads and beggars were removed from the city. Trade was stopped and trade was suspended. 12-14-day quarantine was instituted for the goods and people who were



transporting them, and the access roads in the capital were supervised. In times of plague and cholera (diseases that have haunted Bucharest for almost two centuries), the city was emptied. When rumors of illness spread through the streets of slums, the slums loaded their things and the wagons left the city, some hid in the country houses, because at that time all the "Bucharest people" were still peasants. The population left the large cities that represented outbreaks of infection.

***(b) the safety of the population in relation to the objectives of the phanariot invasion***

The invasion of the Phanariots in the Romanian Principalities had three distinct objectives:

**The first objective** was an explicit economic one: Enrichment. His touch, however, had to follow, in order, a few steps: To procure money for his purchase investment. Then, to recover the amount invested and, the final step, to have a gain that gives confidence in the future. But there were two obstacles in their way. One was the Ottoman administration which had its own financial interests and, in addition, the power to change their reigns and the destiny of their lives. The second obstacle was the specific profile of the Greeks. Undoubtedly, they knew how to trade, but their grace was only persuasive.

There is no preliminary standard, a fixed price because there is a need for maneuver. They are skilled at establishing this way of dialog, and the most clever old people have a special art with business partners and can turn the situation in a unique way, toward Europeans. In their struggle with sweet words the Greeks do not put their pride forward when it comes to money and making money. I don't want to put it in the open with my clients. But this is the specific oriental style, hard to follow by Europeans. In Constantinople, in the taglines with the Turks, the Greeks tried everything, but they did not always win what they wanted. They were happy to get out of the business that started.

Indeed, in the Ottoman world the Greeks were not at all at ease. The Greek wants to be a patron, master of his own business and, as much as possible, of others; for the Greeks generally do not like to work for others. They like to have their business and grow it and keep growing it. Let the kids grow up and let them grow up. It is their philosophy.

But in the religious philosophy of Islam, Christians were considered "rayah," that is, a conquered people made up of unbelievers. They had no real rights, not even citizenship. Even Muhammad II, a man of high political and cultural level, often abused this class of subjects, although he had once given them a number of advantages. In the Ottoman world, the Greeks were not allowed to wear arms, to ride; women were not allowed more than the general Muslim dress. But not even there, with obvious elegance accessories. It was a pressure they could not avoid.

**The second objective of the Phanariots** arriving in the principalities was a playful one. The arrival in the principalities of every ruler, and especially of the suite that followed him, was felt as a liberation. After crossing the Danube, the procession no longer felt touched by the strictness of Muslim morals in general, which foreigners, whether locals or even visitors, had to respect; then a distance from the norms that restricted the ludic mentality specific to the life philosophy of the Greeks.

**The third objective** was to restore the power of ancient Greece, for which they had a passionate nostalgia. Beyond taxes, luxury expenses and other occasional expenses, they discreetly and consistently supported, as evergetes, the actions of the "brothers" who were active against the Ottoman Empire. This militancy was extremely dangerous, from two perspectives. The secret operations of the community were known and gossip about by all its members, so no one could escape the obligations of honor to the homeland and nation. Until then, in the Romanian principalities a real clash between civilizations was initiated, the consequences of which are in power even today. The impact of this misplaced alterity has seriously disturbed the economic situation and public order in both principalities.

**4.2. The evolution of the ruler class of Romania who was managing public safety between the 17<sup>th</sup> and 19<sup>th</sup>**

Beginning in the 17th century, the Ottomans, having military problems, began to encounter problems in directing their foreign relations. They have been ditched by the great military invasions, especially in Western Europe, where craftsmen and finance had put into operation a network of military production, focused on modern firearms. Having managed to impose military interests on its neighbors, the Gate was placed, for the first time, in a position to not be able to impose the forms of peace it would

have wanted. The Ottomans are forced to engage in diplomatic negotiations with the states and, worse, with European alliances.

With the experienced governors of the Turkish administration, the sultans realized disappointed that their own Turkish citizens knew nothing but to wage wars.

As if that was not enough, compact lines of businessmen, careerists, profiteers and adventurers from all over the Ottoman Empire began to migrate to the crowded buildings of the metropolis. Their influence became so great that at the height they even allowed themselves to make the law in the administration of the Patriarchate, the only place of spiritual continuity for the descendants of the conquered in 1453. Greek historians believe that even the national being of Greece was struck by the Phanariotes, because they had become overnight the elite of a people who lived in turn under the cruel Turkish oppression. At that time, the Greeks, who remained in the ancient Greek territory, rightly accuse the Phanariot class of subordination and dilution of national identity in favor of securing personal material interests.

The old Romanian ruling elite represented by the boyar families was irretrievably affected. Because of the same fanariots, since that time, the image of Romanians has been compromised in the eyes of European countries. The fanariots' attention toward the Roman countries was fueled from the very beginning by greed. Pure greed could be said because, in the medieval period, the Romanian voivodeships were particularly rich and prosperous. Historically speaking, the Phanariot era lasted over a century. It was only in 1821 that the earthly reigns returned to the rule of the two sister countries.

The Phanariot regime was established in Moldavia in 1711, after the forced withdrawal of Dimitrie Cantemir in Russia and in 1716 in Wallachia; after the mazilation of Stephen Cantacuzino, the last earthly ruler and his sending to Constantinople for death. In both Romanian countries, the Phanariot era began with the same gentleman: Nicolae Mavrocordat. The reasons for the replacement were clear and legitimate in both cases.

Great families of the Phanar among which the most famous were: Caragea, Cantacuzino, Moruzi, Mavrocordat, Ipsilanti, Rosetti, Șuțu, but also other newly appeared competitors, were rousing day and night in plots and plots aimed at the butchering of the current gentleman, also a fanariot, in order to make up another family. In the face of such danger the rulers, already on the throne, all desperate for power and the maintenance of the throne, were irrational in forcing exploitation and increasing the number of taxes. As the clergy and the great local boyar families were exempt from taxes, the disaster and the robbery fell on the Romanian peasants and animal breeders, the economic base of the principalities. And, for more security of the money gathered, the Phanariot rulers entrusted the collection of the giving only to their own relatives.

No one forgives for anything, the fanariots of every rank showed cruelty and unmerciousness difficult to equate. At their order, the bands of Arnăuți, who initially dealt only with public order and the prince's guard, were sent to rob the villages of the Romanians. Generations of peasants and craftsmen have fallen victim to beatings and tortures for the purpose of squeezing the taxes by any method. Incredible taxes and dues have been invented, which defy both ridicule and the sense of reality. However, for the money received, the perceiver and his companions did not give any confirmation documents.

Many of the Phanariot rulers had a tragic end, because they betrayed the Ottoman Empire, or because they were accused of intending to do so. The end of their lives was terrible. Before the execution, they were usually tortured long enough to confess where they hid their wealth. In the reality in the minds of the Ottoman officials everything was focused on fortunes: The Greeks of Phanar had money and bought the reigns, sometimes bidding them. The only understandable purpose of these acquisitions was the intensive exploitation of the local resources. First, to recover the money you invested and then to achieve the highest possible gain. The Ottoman spies reported, however, how much the rulers spent, at fasting, with some achievements (churches, hospitals, schools) and with the good, full or luxurious living of voda. By all these estimates, they were making another one: About how much money would be hidden from sight. The real win, I mean. That sum, supposed, became the reason for the torture of the prince who had been mazilite and brought to Constantinople.

The Phanariots were forced to pay very high taxes, but the hardest obligation to bear was the "children's tribute". The Ottomans demanded that every fifth son of a family be taken from his family and enlisted in the Janissaries' Corps, where he would be prepared to become an elite infantry in the

Sultan's army.

There were a number of oppressive laws, and occasionally the Muslim leadership was punitive unleashing massacres on the Christian civilian population. The Greeks could not sue a Muslim Turk, no matter what kind of cause, at most they could complain, to local authorities or, by rank, to the high officials in the capital. There, in order to solve many problems of bureaucracy, the Greeks had to always give bribes. This permanent way of living, century after century, has become, for them, an element of social culture.

Wallachia is throughout the 18th century a perfect realm of social, political, military, diplomatic experiments, experiments in general of all kinds, a realm of all possibilities, haunted by the lack of security for all categories of society, of all the endless abuses that often touched spheres of the unimaginable. A dragging of flagrant contradictions, often insolvent and seemingly inexplicable.

## 5. Conclusions

The Phanariot leadership of the Romanian countries between the 18-19 centuries had the following consequences:

- the prince was appointed directly by the Sultan, only from among the Greeks of Phanar, the candidacy of local boyars to the rule of the Romanian countries being impeded by the great Greek families;
- the amounts for the purchase of the reign become fabulous, always increasing, depending on the needs of the Empire or the sultan's own expenses;
- the leadership of the romanian principalities being bought, although it was for an agreed duration, whenever a new request, a more profitable offer, could change the ruler, before the deadline;
- the fanariots in charge of the romanian principalities, due to the increase in the tribute, invented new taxes, which foreign mercenaries collected; increased the obligations paid in labor, cattle, cereals, without having a database, documents of record;
- phanariot rulers were increasingly aggressive toward the local population, and their willingness to hire foreign mercenaries to ensure public order was reduced. Employed foreign mercenaries were largely concerned with protecting themselves and their families.
- the foreign policy of the romanian states is abolished, because they no longer had sovereignty

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## Romanian Educational Management from The Perspective of Generation Z

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### Abstract

*In the coming period, the academic and organizational environment will face a significant influx of students (graduates) members of Generation Z, developed, trained and educated under a strong influence of the democratic Western paradigm, which requires communication systems and techniques specific to the generation digital within the processes of educational management and organizational management. The main purpose of the article is to analyze students who are members of Generation Z from the perspective of the value orientations that characterize them, both in the form of a transversal approach and a longitudinal comparative perspective, to formulate some general guidelines regarding optimal educational management. The objective of the research is to observe the perceptions, beliefs and opinions of students who are members of Generation Z and to formulate some general guidelines regarding optimal educational management, respectively optimal organizational management, from their perspective.*

**Key words:** educational management, Generation Z, post-materialism dimension, materialism dimension, mixed dimension

**J.E.L. classification:** M11

### 1. Introduction

The present research aims to identify the dynamics/trends of the manifestation of value orientations (from the perspective of the values of raising children and the orientation on the materialism - postmaterialism axis) at the level of the population in Romania, respectively of the generations in its composition, without aiming to highlight the relationship of cause-effect type or control of confounding variables.

Starting from the premise that the current research approach represents an opportunity and an opportunity to raise awareness and enrich knowledge about the phenomenon under investigation both for the researcher and for the research subjects, after the completion of the study the distribution of the research reports will be ensured, in order directly, to all the subjects of this research.

In this way, we aim to give a direct utility to the research approach, for the students who are members of Generation Z, it is useful for them to be aware of their own specificity, respectively the natural need to assume and manage the inherent generational differences.

The unprecedented dynamism that characterizes the social environment in which we operate requires organizations, and implicitly the people who occupy management positions, to have a high capacity to manage a complex of situations in continuous growth and diversification. The new socio-economic reality brings leaders to the situation of having to adapt their personal and group reaction capacity to situations that are often difficult to anticipate, respectively to show a flexible and adaptable approach to the avalanche of unexpected changes (Fayol, 2018).

The extent of the changes that characterize the current socio-economic context is determined both by the frequency of their manifestation, which is constantly increasing, and by the speed of diffusion of those changes at the societal level.

In this socio-economic context characterized by an accentuated volatility, the manager, whether treated from an individual perspective or through the prism of the collective one, is so involved in the achievement of social, economic and educational objectives that he has become a central figure, dedicating himself to his activity -numerous studies, compendiums, conferences or international congresses. Industrial, educational (school and university), sports, political and administrative organizations make, or should make, considerable efforts both for the identification and operationalization of the best forms of organization, and especially for the permanent improvement and perfection of the act of leadership and, implicitly, of the persons mandated to fulfill that role.

In conclusion, it can be stated that the design of the present research is a sequential, non-experimental one, in which we combine a transversal component, which involves research and analysis from the point of view of the value system of students who are members of Generation Z at the time current, and a longitudinal component, embodied in the comparative analysis of the value systems of different generations/of the Romanian population based on data obtained over a long period of time through repeated studies/waves, from the past to the present.

## **2. Literature review**

The processes of individual evolution and social change are interconnected and influence the nature of society as a whole. Social continuity and social changes are related to the process of generational succession (Bocoş, 2013). Intergenerational value changes are characterized by the slowness of the process, the significant impact being noticeable in the long term. Different attitudinal perspectives between generations, determined mainly by experiencing different social and political circumstances, can lead to social changes through the process of natural replacement of generations, the study of the succession between them being used to understand the phenomenon of social change (Gavreliuc, 2019).

From an etymological perspective, the concept of management has its roots in the French language, the term *manage* having the meaning to manage, or from the Italian language, the term *maneggio* having the meaning of handling. In the English language we find the terms *to manage*, having the meaning of managing, leading, succeeding or succeeding, *management*, representing the activity of leading or administering existing resources in order to carry out processes that contribute to the achievement of established objectives, respectively *manager*, referring to the person who exercises the act of leadership, resource management and organization, coordination and verification of specific activities (Mintzberg, 2019).

From the perspective of management evolution, the manifestation of avant-garde trends, which have been maintained until now, such as planning, coordination, organization, control, the importance of interpersonal relationships, the importance of managers' skills, trends and practices that have been confirmed by managerial practice (Basanez, 2016). On the other hand, ideas and principles were promoted that, over time, proved their limits, being refuted by managerial theory and practice, relevant in this sense being the opinions related to the superiority of men or the exacerbated importance attributed to centralization and hierarchy. It should be noted that the art and science poses of the act of leadership are not mutually exclusive, being rather complementary (Muste, 2020).

Educational management as a field of study and practice emerged from the general theories of organizational management, being in the first stage a subfield of it applied to the educational sphere, later becoming an independent field based on the development of its own theories, models and principles (Albulescu, 2014).

Educational management represents a transdiscipline, a dynamic multidimensional concept, which incorporates specific characteristics of several disciplinary branches. The systemic approach to education cannot be limited only to the institutionalized education system, without taking into account the multitude of participants in the education process from related fields, such as the economic, cultural or political, respectively the existing interdependencies between these participants (Albulescu, 2014). In turn, a system in general, namely the education system in this particular case, represents a subsystem of the environment to which it belongs.

In essence, the education system in Romania cannot be observed independently of the analysis and observation of the interdependencies it has developed with the Romanian society as a whole (Basanez, 2016).

In order to attract, maintain and value members of different generations, organizational and academic environments are forced to understand the uniqueness of each generation, to create bridges between them and to transform the specificities of each generation into opportunities (Inglehart and Norris, 2011). Knowing what defines them, what expectations they have, how they think and act, what motivates them and what demotivates them, is a real advantage for economic and educational organizations.

The present study is an analysis in comparative progression on the importance that the Romanian population, respectively the generations in its composition, attribute to the Dimensions of Materialism and Postmaterialism.

### 3. Research methodology

The purpose of this research endeavor is to observe and analyze students who are members of Generation Z from the perspective of the value orientations that characterize them, both in the form of a transversal approach and a longitudinal comparative perspective, to formulate some general guidelines regarding optimal educational management, respectively to optimal organizational management from their perspective, as well as shaping the profile of the current/future student - member of Generation Z, respectively the profile of the current/future employee - member of Generation Z, which, in the end, we expect to contribute to awareness of the need, assuming and approaching organizational and educational management in accordance with the value specificity of the new generation.

*Objective 1:* to study/identify the dynamics of child-rearing values and the dynamics of orientation on the materialism-post-materialism axis at the level of Romanian society, respectively of the generations in its composition (under 29 years, 30-49 years and over 50 years).

*Objective 2:* study/identify the value orientations that characterize the students who are members of Generation Z, including from the point of view of biological gender differences, from the perspective of the values of raising children and the orientation on the axis materialism - postmaterialism.

*Objective 3:* observing and analyzing the students who are members of Generation Z compared to the Romanian society from the point of view of the values of raising children and the orientation on the axis materialism - postmaterialism. *Objective 4.* Studying the perceptions, beliefs and opinions of students who are members of Generation Z and formulating some general guidelines regarding optimal educational management, respectively optimal organizational management, from their perspective.

*General hypothesis:* there are significant differences between students who are members of Generation Z and people with higher education in Romanian society from the point of view of the values of raising children and the orientation on the axis materialism - postmaterialism.

In order to have a multi-faceted perspective on the axiological evolution of Romanian society, it was necessary:

- ✓ a longitudinal comparative investigation of the dynamics of the values of raising children and the dynamics of orientation along the materialism-post-materialism axis that characterizes Romanian society as a whole on the one hand and on the other the generations in its composition (under 29 years, 30-49 years and over 50 years);
- ✓ a transversal analysis of the values of raising children and the orientation on the materialism-post-materialism axis that characterizes students who are members of Generation Z.

In non-experimental studies, having a longitudinal design, the observation and analysis of a cause-effect relationship can be taken into account to the extent that changes in the cause variable (the value system of students who are members of Generation Z) precede changes in the effect variable (the value system of the national population), a phenomenon known as the temporal antecedence of the cause variable compared to the effect variable

Complementary to the quantitative data obtained within the current research approach by applying the questionnaire to the targeted population, the World Values Survey studies provide the data base necessary for the application of the quantitative methodology.

We cannot say the same with regard to the studies or researches that had as their object the students who are members of Generation Z in Romania, a fact that justifies the combined application of quantitative and qualitative methodology in the process of obtaining data on them.

The use of a combined qualitative and quantitative methodology confers a number of benefits regarding:

- ensuring the complementarity of the research act by complementing and mutually supporting the qualitative methodology with the quantitative one;
- the staged development of research, in the sense in which the qualitative methodology complements and completes the quantitative one;
- verification and certification of the results obtained after analyzing the quantitative and qualitative data

Related to the intrinsic characteristics of the research within this research approach, the method will be used - in the form of the techniques and procedures used in the data collection process necessary for the research - the survey based on a questionnaire, containing:

- closed/standardized questions that ensure mathematical rigor, the possibility of establishing firm samples, respectively the validity and generalization of the results at the level of the entire population of students who are members of Generation Z, from which the sample was drawn;;
- open questions, a qualitative approach through the lens of the type of data collected and their analysis and interpretation, which provides an in-depth analysis of the characteristics of the population sample extracted from the population of students who are members of Generation Z, the research data being valid, but not providing the possibility of being generalized to the entire population from which the sample was drawn;

The sample represents the part of the population that is actually the object of the research and is selected from the entire population of interest. From the perspective of the volume, the sample must be sufficiently numerically reduced to ensure the reduction of the financial and time costs necessary to be allocated, but at the same time sufficiently extensive to ensure the representativeness of the research. In the present research, the specificity of the population is represented by the existence of a high number of members, having a heterogeneous composition and a national territorial dispersion.

The sampling process took into account the method of data acquisition. The questionnaire-based investigation involves the application of the questionnaire to a certain part of the entire target population (in this case, students who are members of Generation Z), a group of people known as the sample.

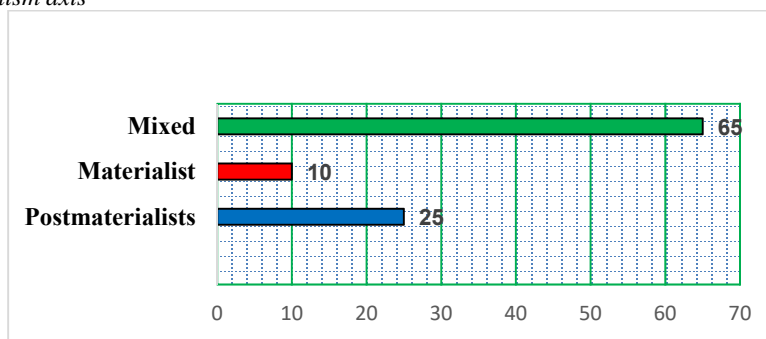
Analyzing the manifestation of the Dimensions of Materialism and Postmaterialism at the level of the population of students who are members of Generation Z that were the subject of this research presupposed the delimitation and grouping of the answers to the questions: There is a lot of discussion about the things that must be given priority in our country in the next 10 years. If you had to choose, which of the following things do you think is more important? and What would be the second most important thing? as follows:

- 1) *the post-materialism dimension* – the answers that mentioned as priorities for the next 10 years the items: People have a harder word to say about the important decisions of the government and Protecting freedom of speech;
- 2) *the materialism dimension* – the answers that mentioned as priorities for the next 10 years the following items: Maintaining order in the country and the fight against price increases;
- 3) *the mixed dimension* – the answers that mentioned as priorities for the next 10 years an item associated with the materialism dimension and one with the postmaterialism dimension.

#### 4. Findings

From the total of 604 valid responses, 150 were associated with the postmaterialism dimension, representing a percentage of 24.83%, 63 were associated with the materialism dimension, representing a percentage of 10.43%, and the difference of 391 were associated with the mixed dimension, representing a percentage of 64.74%. (Figure 1).

Figure no. 1. Orientation of students who are members of Generation Z on the materialism – postmaterialism axis



Source: developed by the authors based on the collected data

The breakdown by gender reveals that (Table 1):

- 1) *Postmaterialism dimension* – of the 150 associated answers, 119 come from female subjects, representing 24.24% of the total of 491 female students, the difference of 31 coming from male subjects, representing 27.43% , from the total of 113 male students participating in the research;
- 2) *Materialism dimension* – of the 63 associated answers, 56 come from female subjects, representing 11.41% of the total of 491 female students, the difference of 7 answers coming from male subjects, representing 6.19 % of the total of 113 male students participating in the research;
- 3) *The mixed dimension* - of the 391 associated responses, a number of 316 come from female subjects, representing 64.36% of the total of 491 female students, the difference of 75 coming from male subjects, representing 66.37% of the total of 113 male students participating in the research.

Table no. 1. Postmaterialism, materialism and mixed dimensions

Categories	Dimension Postmaterialism	Dimension Materialism	Mixed size
Female (F)	24.24%	11.41%	64.36%
N (Sample F)	491	491	491
Male (M)	27.43%	6.19%	66.37%
N (Sample M)	113	113	113
Difference M <sup>15</sup> -F	3.19	5.22	2.01
Significance threshold (p)	p=0.4795	p=0.1020	p=0.6870

Source: developed by the authors based on the collected data

The comparative analysis according to gender reveals that:

- ✓ related to the post-materialism dimension, the male students of Generation Z mentioned to a higher extent the associated answer options compared to the female ones, the difference in absolute terms being 3.19 percentage points, the confidence interval associated with the difference (95%) including the value 0 (-5.19 to 12.75), the associated significance threshold being p=0.4795;
- ✓ related to the materialism dimension, female students of Generation Z mentioned to a higher extent the associated response options compared to male students, the difference in absolute terms being 5.22 percentage points, the confidence interval associated with the difference (95%) including the value 0 (-1.32 to 9.65), the associated significance threshold being p=0.1020;
- ✓ related to the Mixed Dimension, the male students of Generation Z mentioned to a higher extent the associated answer options compared to the female ones, the difference in absolute terms being 2.01 percentage points, the confidence interval associated with the difference (95%) including the value 0 (-7.99 to 11.14), the associated significance threshold being p=0.6870.

From the perspective of gender differences, related to the Postmaterialism and Mixed Dimensions male Generation Z students mention to a higher extent the associated response options compared to female students, while related to the Materialism Dimension male Generation Z students female mention to a higher extent the associated answer options compared to male students (all three differences are statistically insignificant).



## 5. Conclusions

In the framework of this research, the observation and comparative analysis of the materialism-postmaterialism orientation was used for reasons related to the relevance of the understanding and awareness of the manifestation of the two dimensions (materialism and postmaterialism) within the processes of communication and management of related intergenerational relationships educational management and organizational management, respectively for reasons related to the facilitation of intragenerational and intergenerational longitudinal analyses.

The present research approach assumed the use of quantitative and qualitative research in a complementary manner, in the form of methodological pluralism, an approach that ensured more flexibility regarding the type of data collected and a balanced reporting at the initial level of knowledge of the researched subject, namely students who are members of Generation Z.

The weighted results of the present research are positioned in the upward trend of manifestation at the level of the entire society of the Postmaterialism Dimension, respectively in the global decreasing trend of the Materialism Dimension.

Generation Z students consider themselves more open and tolerant, characterized by superior technological skills and a higher level of independence and initiative compared to previous generations. At the same time, they expect the older generations to be more open to the new and to what is different, that is, to be non-judgmental and more tolerant of future generations. It is worth noting that the aspects that they consider to differentiate them from previous generations are those that they expect their members to accept and understand.

As a general conclusion, it can be stated that the nature and quality of educational and organizational management will depend on the extent to which teachers, respectively the current class of managers, will be aware of and take into account the specificity and characteristics of students who are members of Generation Z, respectively the needs and their expectations.

If universities or economic agents are interested in establishing solid relations with this generation, it is necessary to develop two-way relations of acceptance and sharing of perceptions and experiences, to learn from each other, so as to ensure a gradual leveling of the gaps between generations, respectively a complementary valorization of them. The main coordinates concern the central role played by technology in the lives of the members of this new generation, who claim flexibility and freedom of action to be able to innovate, expect direct, face-to-face dialogue with teachers and leaders of organizations, to identify concrete ways in which they can - establish and forecast their educational and professional path, under conditions of less hierarchy and more autonomy. If we do not seek to educate them and manage them by constantly referring to their needs and values, they will emigrate or consciously disengage from the educational field or the work field, which will lead to the existence of a human resource with a precarious level of training and/or to the aggravation of the lack of active labor force.

Limitations of the research - the numerical expansion of the student sample was not high enough to ensure national representativeness. Moreover, the representativeness of students who are members of Generation Z on development centers in this research is different from the representativeness according to the data of the National Institute of Statistics in Romania.

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## The Role of The Leader Teacher In The Educational System In Romania

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### Abstract

*The quality of the teacher-student relationship is crucial if teachers are to be effective in teaching anything – any subject, any content, any skill, any value or belief. A good quality of the teacher-student relationship requires involvement, responsibility and passion on the part of the teacher. New leadership is needed from him. Leadership is influencing the actions of others to achieve desired results. Leaders are those people who materialize the goals, motivation and actions of other people. Transactional teacher leaders strive to identify the roles and tasks necessary for students to accomplish their tasks and achieve desired outcomes. The main goal is the analysis of the influence of the teacher's leadership on the teacher-student relationship in pre-university education in Romania. The objective of the research was to identify the main aspects related to the existing relationships between the teacher's leadership and the teacher-student relationship in pre-university education*

**Key words:** leadership, professor, education, management

**J.E.L. classification:** M11

### 1. Introduction

Educational management is a field of research and activity concerned with how school organizations operate and are managed. In the last decade of the 20th century, it became much clearer what attributes a high-performing school must have. Along with things like a clear curriculum and a safe and orderly environment, the factor that has proven to be the most important component of a high-performing school is each individual teacher who teaches at that school. Even if it cannot be held solely responsible for what happens to the generations of students managed by the school, the teaching staff is the central factor in this whole endeavor. He must teach the student how to build tools to deal with or change the world in which he lives. In order to have students prepared for an unknown future, there is a need for teachers who are responsible and involved in the educational activity. To be so, teachers need to fulfill several roles at the same time and ensure that they use them all in a balanced way.

The teacher is therefore at the center of the educational development effort. Sometimes he is the springboard that propels the child beyond his apparent limits, or at other times it can be an obstacle to his development. The teacher is not only the leader of the student's personality development, but he is responsible for the coordination activities in the classroom. Classroom leadership can be defined as the ability to influence students in order to achieve class goals; it is the activity of the leading teachers who determine and direct the activity of the students by following the achievement of the action in the best conditions, by being aware of and assuming responsibility for successes and failures. It is about teachers seeing learning through the eyes of their students and students seeing teaching as a key factor in the educational process.

Leadership is the science of management that remains the same regardless of time and space. Times are changing. Technology advances. Cultures are different. But the principles of the science of management are the same everywhere - in the ancient Greeks, in the armies of the last two hundred years, in the leaders of modern Europe or in the businessmen who dominate the world economy. The leading teacher is the one who knows the principles of the science of leadership and will apply them in the relationship with the students, taking into account the three basic psychological needs.

Educational leadership is the action of mobilizing and influencing others in order to achieve the goals shared by the school. The activity of leadership can be carried out by people who fulfill different roles within the school. Formal leaders – those people who occupy formal positions of authority – are leaders to the extent that they perform these functions. The functions of leadership can be carried out in many ways, depending on the leader, the context and the objectives to be achieved.

## **2. Literature review**

In the specialized literature, concepts in use, specific elements, aspects and recent analysis perspectives, models and directions that fit the cultural context, as well as the experiences and transformations that our education system has gone through until now, were retained. All these elements were organized and supplemented with new elements to obtain an original model of analysis. The analysis model consists of several basic concepts: educational leadership and management, teacher leadership and the teacher-student relationship.

Educational management is a field of study and activity that looks at how school organizations are run and run. The terminology that has been used to describe the organization of educational constructs, activities carried out by principals and teaching staff has developed from administration to management and then to leadership (Goleman, 2008).

Leadership means influence, values and vision, and management involves implementing them. The leading teacher has a vision of the values that should influence the students, but he must also have the ability to implement this vision.

The teacher was appreciated and valued in close connection with the educational effort made throughout the historical eras, since the beginning of human civilization. Ever since his appearance, man has believed that it is important and necessary to pass on the accumulated experience to his descendants, thus ensuring the rapid adaptation to a hostile environment, the perpetuation, but also the progress of the community. The teacher, with his specific psychomoral, attitudinal-behavioral characteristics, represents one of the important elements of the education process without which it could not take place. The special activity that he carries out and, consequently, the knowledge, skills, qualities that he possesses or must possess have caused and still maintain many controversies. As in any other field, in that of education it is necessary to create a professional profile aiming at certain standards specific to this profession (Maxwell, 2017).

The term "leadership" is a frequently used one recently, both in specialized literature and in the mass media (Best and Kahn, 2006). The focus on this term is a current international phenomenon, especially as a major investment is being made in leadership and management development by organizations. But not only the business field uses this concept, other sectors have also realized the importance of its promotion and application. The problem of management and the leader is legitimate because always and everywhere where people are gathered in common activities, structures and leadership relationships are developed called to ensure the organization of efforts and their direction towards the proposed goals (Joita, 2000).

The teacher's personality is one of the most complex psychological structures, because through interaction with others he develops a set of internal traits, personal values, motives, representations. Teacher leaders influence students outside the classroom as well and are autonomous in their work. However, they do not engage in managerial or supervisory duties. Teacher leaders have the ability to encourage other teachers and colleagues to change and start thinking about things that are insignificant to them. Teacher leadership is an idea that emphasizes that teachers occupy an important and central position within schools. Whether teacher leaders hold official titles and positions or simply obtain them when needed, teacher leadership in today's schools is essential (Berger, 2000).

In order to understand even better the exercise of the teacher's leadership role in the relationship with students, a closeness to the classroom is needed. The leading teacher is the one who influences his students in order to achieve the common goals to achieve the desired performance. In order to achieve these desired, the transformational leader teacher through his activity, will focus on identifying the needs of the students and on their development towards higher levels (Csorba, 2012). The transformational leader teacher will motivate their students to do more than they originally thought possible. The students' initial performance expectations are obviously related to an initial level of confidence in their own strengths or an initial perception of their own effectiveness or their own skills and abilities. That is why students' perceptions of self-efficacy, their self-confidence, as well as the perception of their own development potential are improved through the process of transformational leadership. Through transformational leadership, ultimately, consciously or sometimes unconsciously, humanistic goals and objectives are established, which lead to the development of others, transforming them into leaders in time or laying the foundations of collective leadership groups, as the case may be classes of students. This is how we go from a pure transaction in management to a transformation of the students, a positive transformation that tends towards their development. The process of transforming students does not consist only of behaviors related to the delegation of responsibilities or even authority, but rather develops their ability to choose the course of action themselves, if they lack this ability (Gherguț, 2007).

### 3. Research methodology

This research aims to study the influence of the teacher's leadership on the teacher-student relationship in pre-university education in Romania, depending on gender, age, seniority, taught subject, teaching degree, level of education and the curricular area in which the teacher teaches. Based on this goal, the following objectives were formulated:

1. Identifying the main aspects related to the existing relationships between teacher leadership and the teacher-student relationship in pre-university education.
2. Discovering the opinion of the students regarding the qualities of the leading teacher in pre-university education.
3. Studying the way in which gender, age, seniority, taught subject, teaching degree, level of education and the curricular area in which the teacher teaches are correlated with the teacher's leadership.
4. Compiling a collection of useful networking moments for the teacher in the classroom.

For the present research, the following general hypothesis was formulated: *Teacher leadership influences the teacher-student relationship in pre-university education.*

*The main hypothesis* is based on the assumption that there is a relationship between teacher gender and teacher leadership.

Researching the influence of teacher leadership on the teacher-student relationship in pre-university education encompasses a multitude of facets that require a complex approach and the examination of phenomena from as diverse perspectives as possible. Thus, the research tries to build a measurement context for the main actors of the educational process: the teacher and the student.

The target population of this research is represented by teachers and students in pre-university education. From this population, 100 teachers who teach in institutions with very good results at the baccalaureate and the national assessment in Romania were chosen as a sample.

The sample of teachers consisted of 100 subjects of which 74 were women and 26 were men. According to age, there were 8 teachers in the 20-30 age group, 31 teachers in the 31-40 year-old group, 34 teachers in the 41-50-year-old group, 15 teachers in the 51-60-year-old group and 12 teachers in the 61- 70 years.

According to seniority in education, there were 22 teachers in the 1-10 years group, 32 teachers in the 11-20 years group, 24 teachers in the 21-30 years group and 22 teachers in the 31-40 years group.

Depending on the didactic degree, there were 7 novice teachers, 11 teachers with a final certificate, 14 teachers with the 2nd degree and 68 teachers with the 1st degree. Depending on the taught subject, there were 6 teachers of theological disciplines, 3 teachers of biology, 7 teachers of language Romanian, 11 English teachers, 6 French teachers, 12 mathematics teachers, 3 physics

teachers, 3 chemistry teachers, 2 history teachers, 2 geography teachers, 6 socio-human subjects teachers, 1 visual education, 2 music education teachers, 1 physical education teacher, 3 computer science teachers, 11 psychology teachers, 5 preschool education teachers, 2 German language teachers, 2 technology education teachers and 12 primary education teachers.

Depending on the level of education at which they teach, there were 30 teachers who teach at the primary level (preschool and primary school) and 70 teachers who teach at the secondary level (secondary and high school). In the function of the curriculum area, there were 25 teachers in the language and communication curriculum area, 28 teachers in mathematics and sciences, 27 teachers in man and society, 3 teachers in the arts, 12 male teachers and 5 female educators.

The methodological system was made according to the specifics of the research, using both quantitative and qualitative methods, the core of the research being made up of the quantitative elements, represented by the statistical analysis of the data obtained on the basis of questionnaires and group interviews.

Thus, the 2 stages of the research are:

1. *Questionnaire-based survey*: the questionnaire provides the opportunity for the answers to the questions to be obtained in writing. It is used to obtain concrete information. Surveys can have closed questions, where the answers are in the form of "yes" or "no", choosing one answer from several suggested ones, or ranking them. Open questions require you to formulate an answer in your own words. Each type of questionnaire has its advantages and limitations, and the researcher must decide which one is most suitable for the information he is seeking.

2. *The Focus-Group method*: represents the second stage in researching the influence of the teacher's leadership on the teacher-student relationship. This has the role of verifying the information received through the quantitative research and providing an additional foundation for the conclusions that will be formulated for the end.

#### 4. Findings

Nominal, ordinal and interval variables were used in this research:

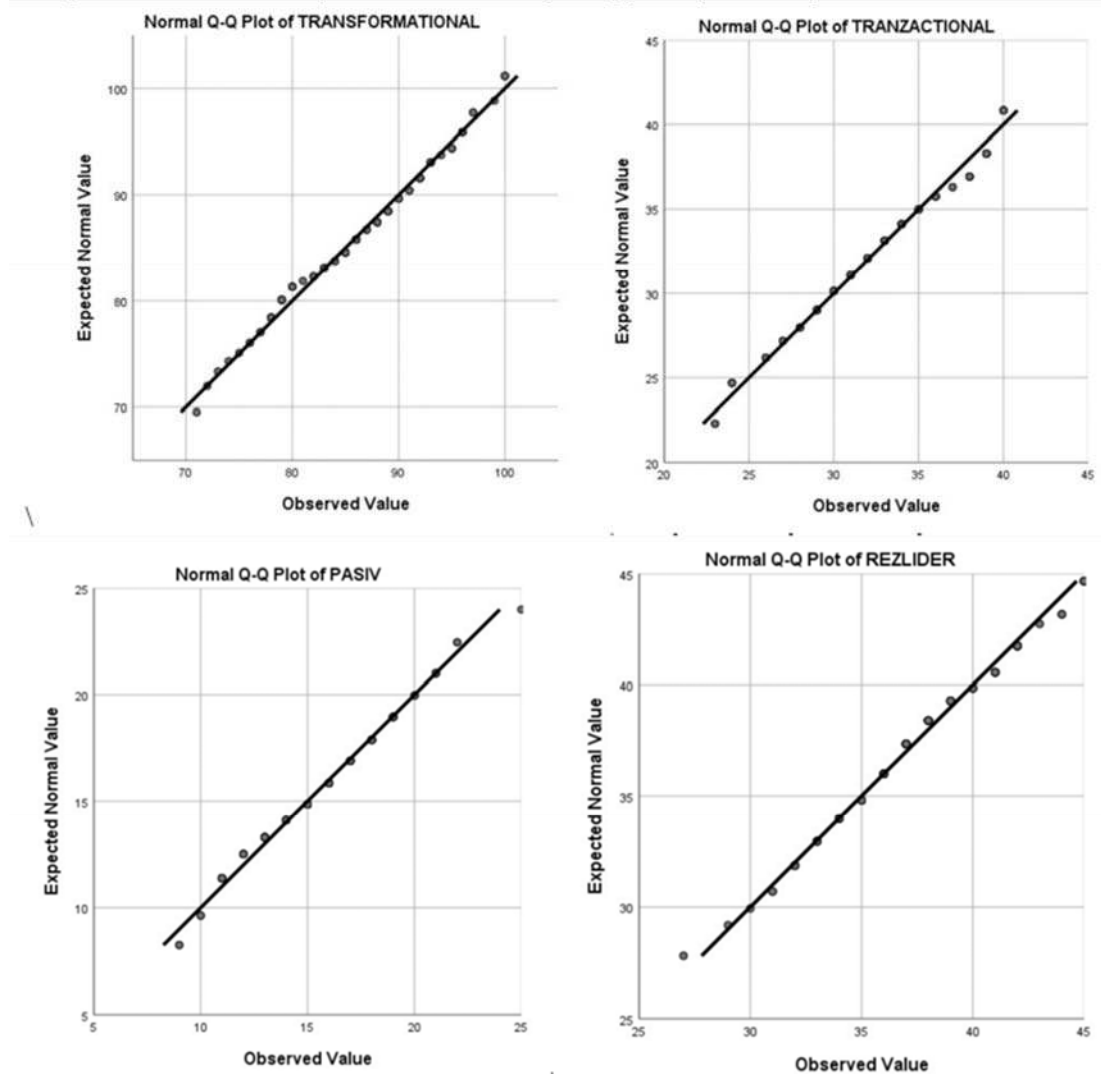
1. Gender of teachers;
2. Age of teachers;
3. Seniority in education of teachers;
4. The didactic degree of the teachers;
5. Level of education;
6. Transformational leadership:
  - ✓ Idealized attributes;
  - ✓ Idealized behaviors;
  - ✓ Inspirational motivation;
  - ✓ Intellectual stimulation;
  - ✓ Individual appreciation
7. Transactional leadership:
  - ✓ Situational reward;
  - ✓ Management by active exception;
8. Passive/avoidant leadership:
  - ✓ Management by passive exception;
  - ✓ Permissive management;
9. Results of leadership:
  - ✓ Additional effort;
  - ✓ Efficiency;
  - ✓ Satisfaction related to leadership.

The statistical data were subjected to a two-level analysis: first, descriptive statistical analysis where the frequency of responses was measured for each variable, and then, for hypothesis testing, the following variables were correlated: curriculum area, level of education, teaching degree, seniority in education, age and gender of teachers, transformational leadership, transactional leadership, passive leadership, and teacher leadership outcomes.

The data regarding the curricular area, the level of education, the teaching degree, the taught subject, seniority in education, the age and the gender of the teachers were presented in the previous chapter.

In the following, the leadership variables will be analyzed and the normality of the distribution of each variable will be verified using the Q-Q Plot which compares the actual values of the analyzed variable with those expected in the case of a normal distribution (Figure 1).

Figure no. 1. Distribution of teachers' answers regarding forms of leadership



Source: results generated by the SPSS statistics program

When the series of points is very close to the drawn line the variable tends to follow a normal distribution. This means that the leadership variables have a normal distribution.

In the research hypothesis we assumed that there is a relationship between teacher gender and teacher leadership. To verify this relationship, the Pearson correlation coefficient was calculated between the following variables:

- transformational leadership;
- transactional leadership;
- passive leadership;
- leadership results;
- gender of the teacher.

Following this correlation, the results showed no relationship between the mentioned variables. The Pearson correlation coefficient was calculated between the gender of the teacher and the dimensions of each type of leadership (Table 1 and Table 2).

Table no. 1. Correlation between teachers' gender and intellectual stimulation

		The gender of the teachers	Intellectual stimulation
The gender of the teachers	Pearson Correlation	1	.228*
	Sig. (2-tailed)		.023
	N	100	100
Intellectual stimulation	Pearson Correlation	.228*	1
	Sig. (2-tailed)	.023	
	N	100	100

Source: results generated by the SPSS statistics program

Table no. 2. Correlation between teacher gender and leadership satisfaction

		The gender of the teachers	Satisfaction related to leadership
The gender of the teachers	Pearson Correlation	1	.243*
	Sig. (2-tailed)		.015
	N	100	100
Satisfaction related to leadership	Pearson Correlation	.243*	1
	Sig. (2-tailed)	.015	
	N	100	100

Source: results generated by the SPSS statistics program

The results obtained confirm that there is a significant positive correlation between teacher gender and intellectual stimulation and satisfaction related to leadership:  $r(100)=0.228$ ,  $p<0.05$  and  $r(100)=0.243$ ,  $p<0.05$ . These results show us that women in the group of teachers have a higher level of leadership than men in terms of intellectual stimulation and satisfaction related to leadership.

## 5. Conclusions

Teachers who work well in professional learning communities to influence student learning, support school improvement, encourage excellence in practice, and engage stakeholders in educational improvement become leaders.

Teacher leadership makes it easier for the principal to encourage achievement across the board. Teacher leaders improve the quality of life and social mission of the community while transforming teaching and learning, bringing together the community and the school. A set of abilities exhibited by instructors known as teacher leadership can have an impact on pupils both within and beyond the classroom. The commitment and knowledge domains are connected and comprise teacher leadership. As a result, there is a dedication to moral purpose, ongoing learning, and awareness of learning processes, as well as understanding of the educational framework and change-related processes.

Teacher leaders lead both inside and outside the classroom. The lead teacher is both a member and a contributor to the student teacher community. They influence the continuous improvement of educational practice.

The obtained results show that women in the group of teachers have a higher level of leadership than men in terms of intellectual stimulation and satisfaction related to leadership. These individuals stimulate and nurture innovation and creativity in students. I usually do this by motivating students to question certain ideas, to rethink and reformulate emerging problems, to deal with old situations from new angles, to look at every situation from all perspectives. These people avoid directly blaming others for students' mistakes, thus encouraging them to try new things. These teachers are always asking their students to find new and creative ways to solve common problems. The results show us that women are receptive, true, honest people who can arouse feelings of contentment and satisfaction



in students.

The purpose of this research was to discover how the teacher's leadership influences the teacher-student relationship. The sample included teachers and students from schools and high schools with very good results in the national assessment and the baccalaureate. A first limitation could be the lack of teachers and students from schools and high schools with poor results in national assessments. A comparison could be made between teachers teaching in high-performing schools and teachers teaching in low-performing schools, thus making a comparison of their leadership. Another limitation of the research is how the teachers rated their leadership when they completed the questionnaire. The answers of the four teachers who received the most appreciations did not quite match the students' descriptions. The following ideas result from this:

- Teachers do not always have a correct opinion of themselves and results can be affected.
- Students may overestimate certain teachers at the expense of others.

The number of teachers who completed the questionnaire and students who participated in the focus group is another limitation. There were more women than men in the sample of teachers.

## 6. Acknowledgment

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## Causes and Strategies for Plate Waste Management in the HoReCa Sector

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### Abstract

*Food waste in the HoReCa sector is a global phenomenon and has a negative worldwide impact. Despite that HoReCa units (restaurants, bars, cafeterias, pubs, canteens, etc) are large generators of food waste, they were given less theoretical consideration than other food waste generators. The objective of this article is to analyze the plate waste causes in HoReCa units and measures of how to reduce it. The work was carried out using an exploratory research method, being analyzed a number of WoS and Scopus publications to clarify the main causes of plate waste in the HoReCa units. At the same time, this paper summarizes the strategies to reduce of plate waste in the HoReCa areas. The advantages of knowing the causes of plate waste may be a target for interventions to reduce it.*

**Key words:** HoReCa units, plate food waste, causes, management

**J.E.L. classification:** E30, J43, L66, M11, N50, O13, O15, Q13, Q17

### 1. Introduction

Due to its serious detrimental socio-economic (roughly a billion people around the world experiencing hunger and malnutrition and accounting for a global economic value of nearly 1000 billion dollars annually) and environmental (being responsible for 92% of the world's water footprint and for 20% of the world's greenhouse gas emissions) effects, the issue of food waste is becoming more widely recognized (Dolnicar *et al*, 2020, p.1; Parfitt *et al*, 2010, p. 3065; Seberini, 2020, p.5). Approximately 1.3 billion tons of the food produced for human use worldwide each year is lost or squandered, making it even harder the task of feeding the world's growing population, by 2050 being predicted that there will be nearly 10 billion people on the planet (Godfray *et al*, 2010, p.1; Papargyropoulou *et al*, 2019, p.1; Stoica *et al*, 2022, p.2). The use of food intended for human consumption and for non-human consumption (rerouting of food for animal consumption), or the disposal of edible food are all considered forms of food waste (FAO, 2014). While some scholars made a distinction between food loss (FL) and food waste (FW), by stating that the first one takes place at the beginning of the food supply chain (farm-level) and the second one occurs during final consumption (households and HoReCa sector), others are using both of them to describe the same phenomenon (Dhir *et al*, 2020, p.1). Throughout the many phases of the food supply chain (production, storage, processing, consumption) FW is produced. In about a third of cases, FW is created during consumption stage. The HoReCa industry has been recognized as one with a high potential for FW. This sector produces a significant quantity of waste, with FW accounting for approximately half of it. It is estimated that from 78% to 92% of FW is thought to be avoidable. Additionally, academics contend that there are three major categories of FW depending on the cultural setting, such as: (i) avoidable waste (meaning the edibility of food at a certain point which

turned into inedibility before the food gets disposed of), (ii) unavoidable waste (describing certain non-edible byproducts, e.g. eggshells), and (iii) waste that can be potentially avoidable (relating to specific wastes ingested occasionally, but not always, e.g. potato peels) (Betz *et al*, 2015, p.224; Bilska *et al*, 2022, p.1; Dhir *et al*, 2020, p.1; Dolnicar *et al*, 2020, p.2; Papargyropoulou *et al*, 2019, p.2).

Generally speaking, at the end of the 1990s, businesses in the hospitality industry gave less weight to sustainable FW management (Radwan *et al*, 2012, p.533; Radwan *et al*, 2012, p.534). Nowadays, it was found an increase in environmental consciousness owing to the explosion in the usage of ecolabels as a way of certification for a lot of units, a great part of them opting to become certified. On one hand, a large number of hotels and restaurants are implementing different FW reduction techniques. On the other hand, the current circumstance, however, is totally different, being also emphasized by the fact that in the following years, the HoReCa sector is anticipated to grow at considerable rates in various parts of the world with a big influence on FW levels (Pirani and Arafat, 2014, p.320). Typically, producing more waste results in a bigger environmental impact and more harm to the ecosystem. For instance, the average hotel guest is thought to produce up to 1 kilogram of FW daily, which equates to millions of tons of food wasted globally each year (Bohdanowicz, 2006). After farms and households, HoReCa generates the third-largest amount of FW in the EU-28 (Filimonau *et al*, 2020, p.4). For instance, FW accounts for 76% of the total Horeca Sector sector in EU-28 (9.3 million tonnes) in six important countries (Netherlands, Italy, Spain, Germany, United Kingdom, France) (Kretschmer *et al*, 2013). Around 75% of this waste is classified as avoidable, making this industry a top priority for reducing FW (Filimonau *et al*, 2020, p.4). Because efficient FW management necessitates a greater understanding of the volume and origin of the waste, it is crucial to understand the causes of waste and, as a result, researchers generally talked in-depth about how much food is wasted during phases like preparation, serving, and food consumption (Ai and Zheng, 2019, p.40; Dhir *et al*, 2020, p.2). In the consumption phase, plate food waste (PFW) is a category of FW produced in the HoReCa sector and refers to food that is served but not finished off on a plate. Taking into consideration that 12% of food provided is not consumed, PFW makes up nearly one-third of all FW in this sector (Dolnicar *et al*, 2020, p.1).

## 2. Theoretical background

According to recent estimates, one-third of food worldwide never makes it to a human stomach. Since the last ten years, policymakers, practitioners, and academics from a variety of academic fields have begun to view FW as a global problem. A recent analysis of FW globally reveals a divide between wealthy and underdeveloped nations. Therefore, in underdeveloped countries FL takes place mainly at the farm-level stage (FAO, 2011; Freedman and Brochado, 2010, p.1865), and, by contrast, final consumption stage makes the highest single contribution to FW in wealthy or developed countries (Stenmarck *et al*, 2016). FW in the hospitality sector is quickly becoming a major concern. In recent years, this sector's share of all FW has reached close to 12% (Tostivint *et al*, 2016). Additionally, hospitality waste has emerged as a significant problem for both developed and developing countries, owing to the rise in popularity of eating out, which is being fueled by rising wages and tourism (Wang *et al*, 2017, p.2).

The hospitality sector covers any establishments like hotels, bars, and restaurants that offer customers food, drink, or a place to sleep. Also, it features various significant sub-domains, like educational institutions, healthcare, staff catering (Pirani and Arafat, 2014, p.321; WRAP, 2013). In a wide sense, while hotels include lodging establishments and can be divided into luxury ones (five-star hotels), cheap hotels, bed & breakfasts, and also hostels, restaurants include units that serve various cuisines (e.g. Chinese, French, Italian cuisines) and also quick-service places that provide eat-in, as well as take-away food and leisure. Preschools, as well as elementary and secondary schools, facilities that offer tertiary education and universities are all part of educational institutions. The Healthcare System consists of hospitals and care facilities. Canteens and cafeterias for employees to eat in are examples of staff catering. Further, the hospitality industry can be split into two main divisions: commercial divisions (for-profit) and divisions based on social aspects (not-for-profit) (Dhir *et al*, 2020, p.2; WRAP, 2013). In the same way, Marthinsen *et al*. (2012) emphasized that hospitality consists of two sectors: one sector based on profits and the other sector based on

expenses. The profits sector establishments covered by the term "hospitality sector" include hotels, restaurants, cafeterias (which stand for HoReCa), as well as the catering industry (e.g. supermarkets) and canteens. On the other side, the expenses sector consists of units like hospitals, universities, schools, etc. where profit coming from hospitality services is not the primary goal. Moreover, medical and institutional facilities are categorized as institutional FW sources (Ai and Zheng, 2019, p.40; Ai and Zheng, 2019, p.41). Some believe that FW generation is the hospitality industry's most obvious environmental impact (Bohdanowicz, 2005, p.192). The majority of current research focuses on calculating the amount of FW produced by the HoReCa industry. For instance, in the US, one-third of FW is produced by restaurants (BSR, 2012) and about 50% of all waste generated by hotels is food-related (Dolnicar *et al*, 2020, p.2). Moving to the EU, the catering industry's contribution to FW is 14%. While numerous studies have explored aspects related to consumer behavior and FW in households (Vizzoto *et al*, 2021, p.1), unfortunately, consumers eating in out-of-home units have not received as much attention (Silvennoinen *et al*, 2015, p.140).

PFW (the food that individuals leave on their plates but don't consume) is the main source of waste in the HoReCa sector, being especially met within restaurants. Generally speaking, casual dining units produce more plate waste volume than fine dining ones (Dolnicar *et al*, 2020, p.2; McAdams *et al*, 2019, p.451; Vizzoto *et al*, 2021, p.2). Similarly, high-end restaurants produced the most waste per customer, followed by medium and low-end eateries (Aamir *et al*, 2018, p.600). Regarding restaurant size, parties and corporate banquets generated more PFW in large and medium-sized units, compared to working people that served meals in smaller units (Dhir *et al*, 2020, p.7). Despite this fact, few studies have looked at the drivers that make people more likely to throw away food when eating out and determined the grams of PFW produced by visitors to hotels and restaurants. Some investigations found that China customers produced 93 g of PFW per person for each dinner on average. In addition, the average daily FW per person was: 15.2 g at a breakfast buffet in a four-star hotel by the sea in Slovenia (Juvan *et al*, 2018, p.237; Juvan *et al*, 2021, p.2; Vizzoto *et al*, 2021, p.2) and 300 g, 100 g, and 400 g of food, respectively, at the breakfast, lunch, and dinner buffets at a five-star hotel in Malaysia (Papargyropoulou *et al*, 2016, p.332). No research has attempted to capture consumers' impressions regarding suggested measures to reduce PFW. By adopting measures, like reducing serving sizes and providing doggy bags for leftovers, unit managers have no way to guarantee that applying them won't anger customers (Vizzoto *et al*, 2021, p.2).

### 3. Research methodology

The approach adopted involved an exploratory study that was carried out by looking at the available literature. Literature review provides a foundation for the growth of knowledge, for which reason a large number of publications was analyzed (WoS, Scopus publications and specialized platforms or webpages like FAO, BSR, etc). The analysis of literature contributed to clarify the causes of PFW, as well as to identify scientifically proven measures of how to reduce it.

### 4. Findings

Researchers generally went into great depth about the food that is wasted during preparation, serving, and eating stages in the HoReCa industry. To identify associated reasons, overproduction, serving difficulties and PFW were taken into account (Sebbane and Costa, 2018, p.89). The main causes were the type of food offered, the method used in production, dinnerware size, employees' skill levels, the preference for pre-prepared over whole food products, the management capabilities regarding inventory and culture (Dhir *et al*, 2020, p. 5; Dhir *et al*, 2020, p. 6). Moving specifically towards restaurants, FW can occur due to the nature of the served dishes, ingredients used and opening hours (Principato *et al*, 2018, p.134). While an incorrect estimate of customers, a weak coordination between different functional areas (e.g. purchasing and preparation areas) and a strict rule against serving leftover food at the following meal are the main reasons for FW for buffet operations units (Pirani and Arafat, 2016, p.131; Silvennoinen *et al*, 2019, p.101), others reported wastes as a result of food deterioration and overproduction. In office canteens, PFW was primarily caused by taste perception (Dhir *et al*, 2020, p. 6). As PFW accounts for about one-third of the food

wasted in hospitality and tourism, this paper will focus on plate waste causes and measures of how to reduce it (Sustainable Restaurant Association, 2010).

#### 4.1. Causes of PFW

Food left on the plate costs the hotel money and damages the environment. It does not make the meal more enjoyable. A small number of studies have pinpointed potential PFW causes or elements that are strongly linked to increased levels of plate waste (Dolnicar *et al*, 2020, p.1). Age, gender, income level, attitudinal, as well as geographic and cultural factors were discovered to have a potential effect or to be connected to the PFW causes. (Dhir *et al*, 2020, p. 7; Vizzoto *et al*, 2021, p.2). According to Hamerman *et al*. (2018), gender differences were not significant when it came to people's intention to leave leftovers. But the majority of research on how gender and age affect the amount of food wasted on plates reveals that women and younger customers are more predisposed than men and older customers to leave their dishes unfinished when dining out (Dhir *et al*, 2020, p. 7; Vizzoto *et al*, 2021, p.2). In contrast, some authors found that men have a greater tendency to generate PFW (Barr, 2007, p.465). This gender discrepancy regarding PFW levels is most likely explained by the fact that portions are bigger than the average woman's needs because the majority of foodservice units use portion sizes based on the average male's intake (Vizzoto *et al*, 2021, p.2). Regarding household income level and FW, it doesn't seem to be a direct connection between them (Koivupuro *et al*, 2012, p.189). However, while some authors stated that increased incomes result in more waste (Soma, 2019, p.384; Szabó-Bódi *et al*, 2018, p.633), others found that, on one side, people from lower social groups waste more food (Cox and Downing, 2007) and, on the other side, lower incomes people squander less because they cannot afford to throw away food (Ilakovac *et al*, 2020, p.237).

PFW is determined by the regularity with which certain people eat out. In this context, the same foodservice units are frequented by people who dine out, making it less likely that they will be startled by taste, unpredicted ingredients or dinnerware size. This leads to lower plate waste levels when people eat out more frequently. Moreover, PFW can occur because of the feeling of guilt and responsibility transfer. People frequently feel guilty about something they believe is their fault or they are responsible for, a lot of them considering themselves guilty when they waste food. The idea of responsibility transfer comes from consumers who eat out and blame that certain unit for their PFW claiming things like awful taste, excessive portions, etc (Vizzoto *et al*, 2021, p.2).

It was noted that country-specific variations in the factors driving FW, such as the number of people in a city, the size of a restaurant or various buffet elements and guest mix considerations suggested the likely influence of geographical and cultural distinctions (Dhir *et al*, 2020, p.7; Dolnicar *et al*, 2020, p.1). In the case of China, less populous locations were associated with higher PFW levels within larger restaurants or at business and social meetings, opposite to situations of private dining. Also, this study showed that foreigners were more likely than locals to leave meals in restaurants, wasting more food (Wang *et al*, 2017, p.6). When China and Western countries were compared for restaurant waste, it was discovered that it was almost identical to the Nordic average waste (Dhir *et al*, 2020, p.7). A study carried out on a Slovenian breakfast buffet revealed that, on one side, tourists from Austria produced substantially less PFW than those from Russia who generated the highest amount of wasted food on the plate per person. On the other side, opening additional areas where people can eat is possible to lead to an increase in PFW levels. The hotel typically offers two areas where customers can eat by themselves, but when their number increases, a third self-service section needs to be opened due to the peak season's increased occupancy of the dining room. This fact leads to a significant increase in PFW, possibly due to considering food abundance which can create a sense that the food is not a valuable commodity (Juvan *et al*, 2018, p.237). Regarding event catering, a study from the United Arab Emirates showed that standard buffet settings and a la carte lunches generated less plate waste than buffets with culinary demonstrations in real time and buffet-style lunches. Also, it was found that the overall portion of the dish that went uneaten in this trial ranged from 4 to 12 percent (Pirani and Arafat, 2016, p.137). According to Dolnicar and Juvan (2019), in a single setting (dining at the same hotel) were discovered to be 12 different causes that lead to PFW (Figure 1).

Figure no. 1. The causes of PFW



Source: (Dolnicar and Juvan, 2019)

Causes influencing PFW can be grouped in 5 categories. The first one refers to food quality and consists of foods displayed at the buffet that don't stay fresh, using low-cost ingredients and using of pre-prepared food products instead of meals cooked by the chef in the kitchen. Lack of ideas in combining some foods (bad food combinations), true difficulty in eating all edible parts of the food and using improper plates belong to the second category associated with paucity of knowledge regarding food. When speaking about less known foods and preparation methods, these 2 PFW causes mean familiarity absence. The last 2 categories consist of psychological factors, like overserving without awareness (because of fear of dread of not having enough to eat and going hungry and taking excessive food) and an attitude based on laziness (tough to eat/grueling foods and setting up of mini-buffets at the table. This diversity of PFW causes a challenge in obtaining accurate figures because all of these have a significant impact on FW during serving. However, one important advantage consists of the fact that each one of these causes may be a target for interventions meant to cut down on PFW (Dolnicar and Juvan, 2019, p.2; Dolnicar *et al*, 2020, p.1).

#### 4.2. Strategies for PFW management

A recent area of research has focused on creating and testing experimental strategies to reduce HoReCa's sector negative environmental impact (Juvan *et al*, 2021, p.2). Accounting for a large percentage (34%) of the total food wastage in restaurants and having daily quantitative values per guest of 15g within breakfast buffets and 233g spread out over the day's meals in hotels, PFW management requires a set of reduction strategies (Dolnicar, 2020a, p.1; Filimonau *et al*, 2020, p.10). Some potential strategies designed to curb PFW can be classified into four categories: modifying choice architecture, strengthening social norms, shifting beliefs and enhancing enjoyment (Dolnicar, 2020b, p.3; Dolnicar, 2020b, p.4).

Reducing plate sizes and placing a table sign encouraging visitors to return to the buffet as frequently as they like are effective strategies to change choice architecture, as well as to leverage social norms (Juvan *et al*, 2021, p.2). Taking into consideration that beliefs are seen as being crucial for behavior change and the idea that people are influenced by those around them, these two strategies, when combined, prevent PFW by 20% in the case of the first, respectively 21% in the case of the second one, within hotel breakfast buffets (Dolnicar, 2020b, p.4; Dolnicar, 2020b, p.5; Kallbekken and Sælen, 2013, p.325). Both of them worked very well and while the reduction of plate sizes consisted of a 3 cm reduction and provided the advantage of lowering meal expenses for hotels while maintaining high levels of customer satisfaction, the use of a table sign stimulating guests to attend the buffet as often as they like, highlighted by explaining them that this is far preferable to consuming a large amount of food at once, contributed to a PFW cut from 48 kg to 34 kg per hotel, as well as per day (Juvan *et al*, 2021, p.2; Kallbekken and Sælen, 2013, p.326). On one side, the table sign strategy (based on social norms) demanded cognitive processing from visitors. On the other

side, the plate size reduction strategy (based on changes in choice architecture) was an infrastructure modification and didn't need any cognitive processing. Even if visitors were free to visit the buffet as frequently as they liked and they could generate as much FW on plates as they wanted, these strategies have been successful in the hotel setting (Dolnicar *et al*, 2020, p.2). In addition, strategies based on awareness programs by offering social cues have received a lot of attention from researchers in order to reduce PFW. When the proper message is conveyed to the groups who leave more food on their plates, for example, awareness efforts (e.g. provided by posters) are more likely to be effective. There are numerous examples documented in the literature when this strategy was successful, despite the fact that it is still unable to form a firm judgment about its efficacy (Dhir *et al*, 2020, p.7; Vizzoto *et al*, 2021, p.2). For various establishments, these strategies had varying degrees of effectiveness. In the case of restaurants, smaller plates were more successful than awareness programs provided by posters, as well as in the context of all-you-can-eat buffet units, leading to a decrease in plate waste by 30% (Dhir *et al*, 2020, p.7; Ravandi and Jovanovic, 2019, p.556). Within an university dining facility and a canteen, PFW was reduced by 15% as a result of using print messages that are functionally persuasive like: "Don't Waste Food", "Ask for the proper amount of food!" or "All Taste No Waste" (Cozzio *et al*, 2021, p.3211). Moreover, there was a shift in students' beliefs around FW done by written prompts using messages that highlight the social norm in behavioral contexts, such as: "Dining works hard to reduce waste. You can too" (Ellison *et al*, 2019, p.280). It could be the first step toward changing behavior and making the transition to sustainable consumer behavior. By using functional appeals (which put the emphasis on a logical information process), consumers become sensitives, leading to a change in their behavior regarding both favorable effects of desirable behavior (e.g. saving leftovers) and negative effects of undesirable behavior (e.g. PFW) (Cozzio *et al*, 2021, p.3210; Cozzio *et al*, 2021, p.3211).

In an experiment aimed primarily at families, increasing enjoyment was employed as a strategy for PFW reduction. By introducing stamps and gifts, FW produced by families at a dinner buffet was decreased by 34% (Juvan *et al*, 2020, p.2). Every time there was no plate waste in a day, the waiter stamped the booklet for each family, for that day. A certificate and a gift (e.g. a ball, a phone case) were given to the family at check-out if they were successful in obtaining one stamp for every day they stayed in that unit (Dolnicar *et al*, 2020, p.3). Additionally, the game boosted kids' holiday happiness while promoting a typical parental message among travelers from central Europe: food shouldn't be wasted (Juvan *et al*, 2021, p.2). Stamp collection booklet and the prizes families received for the entire booklet completion, have increased their enjoyment of their trip. This fact is a strong argument in favor of the great utility of this strategy in order to manage PFW (Dolnicar *et al*, 2020, p.3). Similarly, giving out complimentary chocolate at the end of the meal to staff members who did not leave plate waste behind was successful in minimizing PFW by 60% within a staff canteen (Windrum, 2014).

Industry organizations and experts give a variety of suggestions in addition to these scientifically validated strategies (Juvan *et al*, 2021, p.2). Focusing on the internal operations of hospitality companies can be found a reduction of portion sizes or a menu designed for kids, as well as providing take-home and doggy containers (Cozzio *et al*, 2021, p.3210; Vizzoto *et al*, 2021, p.3). According to Freedman and Brochado (2010), a decrease from 88 g to 44 g in the portion sizes of French fry in a university cafeteria resulted in a reduction in PFW by 86%. In order to manage edible waste, leftovers could be put in containers for takeout at home or to be donated. Especially when dining out, it is rarely an easy choice. The overall effect of many benefits and constraints that influence the associated consumer behavior is to take leftovers home in doggy bags (Miroso *et al*, 2018, p.565). The challenges associated with doggy bags comes from customers' embarrassment (social stigma) when they request or accept these type of bags. To prevent a bad customer experience, managers didn't ask their table employees to provide this option (Vizzoto *et al*, 2021, p.3). On one hand, customers in situational circumstances, like dining with someone they wish to impress, can deny taking leftovers because doing this could be seen as going against social norms. On the other hand, social norms such as environmental concerns or the idea that food is suitable for consumption could encourage them to use take-home containers (Hamerman *et al*, 2018, p.95). Vizzoto *et al* (2021) found that most customers agree to take home unconsumed plate food and only 27% of them avoid asking for a doggy bag, in a study conducted in Italy. In addition to being consumed by the guests, leftovers fit for consumption may also be redistributed among the employees or donated to a charitable organization,

and leftovers that inappropriate for human eating can be composted for feeding animals (Dhir *et al*, 2020, p.8; Okumus, 2020, p.295).

Typically, due to enhanced consumers' anonymity and their perception of food abundance, all-you-can-eat buffet-style establishments encourage an increase in food waste (Cozzio *et al*, 2021, p.3209). Interventions like providing a la carte meals, creating menus that feature popular foods, educating customers on how to consume novel foods, serving tasting plates, reducing the excessive variety of meals, lowering the sense of plenty of food, as well as educating customers about the harm that PFW causes to the environment can be useful in PFW reduction (Juvan *et al*, 2021, p.2; PATA, 2018). For instance, educating diners at a university canteen resulted in a 25% reduction in plate waste (Dolnicar *et al*, 2020, p.2). Moreover, because it is difficult to balance the food supply and demand, the staff typically overcooks, which usually results in leftovers. An excellent way to avoid wasting these leftovers consists of utilizing digital platforms called Last-Minute Markets. The foodservice establishment can benefit from them by providing a deal on surpluses after working time. This results in a FW cut and a rise in profits. Nowadays, most businesses employ several delivery apps (Vizzoto *et al*, 2021, p.3).

## 5. Conclusions

Although HoReCa sector generates a significant amount of food waste, it received less attention than other food waste generators (farms and households). The plate food waste is an important source of food waste, accounting for one-third of the total food waste in this industry. Attitudinal, geographical and cultural factors, as well as factors regarding age, gender and level of income can have a possible impact or can be related to the causes of plate food waste. On one hand, there are causes coming from foodservice unit management, like low food quality, lack of experience in preparing and combining some foods or using too large plates and, on the other hand, there are causes related to consumers' behaviors, including overserving by taking too much food (possibly due to the fear of going hungry) and laziness attitudes such as leaving tough to eat foods on the plate or setting up of mini-buffets at the table. In order to reduce the plate food waste, some strategies were specially developed, like reducing plate size, encouraging guests to visit the buffet as often as they like, using persuasive messages to enhance customer awareness, introducing stamps and gifts, providing take-home and doggy containers, reducing the excessive variety of meals and the sense of plenty of food or serving tasting plates. These methods were scientifically proven to lower plate food waste.

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## Google Business Profile or How to Create Your Identity on Google. Steps and Requirements

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### Abstract

*Google, the largest tool for online search, but also for promotion for any type of service, physical or digital product, comes with a new formula of what we collectively call the Google Business Profile. In this paper, we will try to present the steps to create the Google Business profile of our company, the advantages of this profile, as well as the tools available for free and for a fee, which we can use as a promotional arsenal.*

*We will also present nine important steps for a good Google Business Profile function, steps that a future successful user must follow.*

**Key words:** e-commerce, marketing strategies, online business, google profile

**J.E.L. classification:** M31

### 1. Introduction

The great giant Google has nowadays become ubiquitous in everyday life; it is more than an arsenal of online tools, we consider it a real friend-consultant, which helps us in any problem encountered; we can find out any information with just one click, we can check prices for different purchases, or as a trading company, we can promote our products and services, segment customers, or why not, build their loyalty. What is very important in relation to the use of Google services is the fact that many of them are free, they cost us absolutely nothing, and on the other hand, they are indispensable to our digital footprint, both as an individual and as company.

### 2. Theoretical background

Google, in full Google LLC formerly Google Inc. (1998–2017), American [search engine](#) company, founded in 1998 by [Sergey Brin](#) and [Larry Page](#), that is a subsidiary of the [holding company](#) Alphabet Inc. Hall, M. and Hosch, William L., "Google." Encyclopedia Britannica, November 3, 2022. <https://www.britannica.com/topic/Google-Inc>. As of 1998, since it was founded, Google has constantly diversified its work tools, reaching a diverse range of services.

The products that Google recommends are:

Google Ads, Android, Chrome, Google Cloud, Google for Education, Gmail, Google Maps, Google Photos, Google Play, Google Shopping, Google Search, Google for Small Business, Google Store, Google Workspace, YouTube, etc.

Within Google for Small Business, three secondary categories emerged:

- a) Google Business Profile
- b) Google Domains
- c) Google Workspace

Google Business Profile has been available for use as of 2017, starting with small content editing operations and reaching at the moment a multitude of actions of an unprecedented scale, Google encouraging small traders to make full use of the entire arsenal of functions available, most of them free of charge. ([How to manage and edit your Google Business Profile from Google Search \(searchengineland.com\)](#))

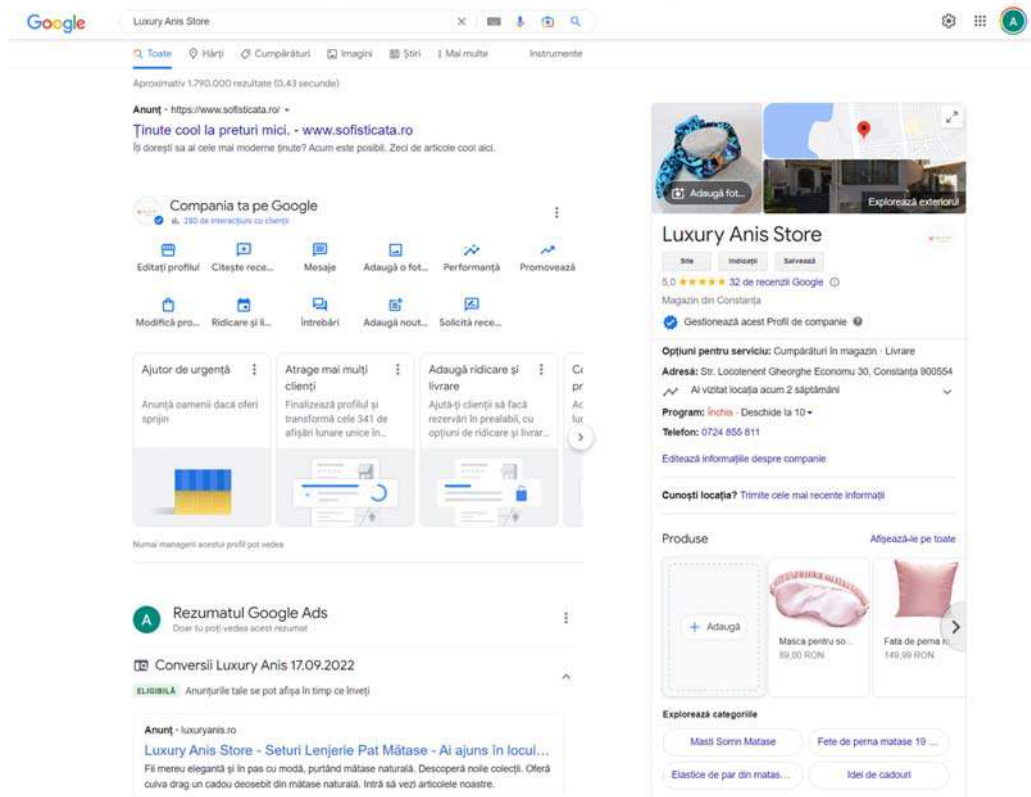
Google Business Profile, besides being free, allows you to influence the way you appear in Google Search, Google Maps and Google Shopping. It is extraordinarily good in terms of analysing local business information; there are many searches of this kind, especially if we refer to the services market. In special situations, where demand is higher than supply, GBP proves its effectiveness. An example would be the Neversea Festival in the city of Constanța, Romania, organized at the beginning of July every year, which generates a major interest in terms of the demand for accommodation, in the city on the shores of the Black Sea, causing an explosion in hotel rates and not only, being an opportunity for private accommodation units, but also for the entire HoReCa industry as a whole. It is estimated that approximately 80% of searches on Google Search are for local information, which obliges you as an information emitter in the business area to convey that element of uniqueness that differentiates you from the competition, in order to transform this profile visitor in real customer. ([Manage your business listing without leaving Google Search \(blog.google\)](#))

If until recently the management of the online profile was done from the Business Profile page, now Google invites us to do this directly from Google Search or Maps.

We can perform the following actions through Google Search, targeting our company profile:

- a) add or edit and correct information about our company.
- b) post different images or announcements aimed at offers or news regarding the product or service that we want potential customers and existing customers to see for loyalty building and reminder advertising.
- c) modify general company information, such as updating the work schedule, changing the company headquarters, etc.
- d) create a mini-website in a few minutes, based on the information inserted in the profile.
- e) track the moments when visitors upload photos to the company profile.
- f) create a rating by receiving reviews from the company's customers.
- g) for businesses in the e-commerce area, more recently there is the possibility to insert the whole range of products in a carousel, which will be displayed on the profile page.

Figure no. 1. Search in Google Search - Possibility to edit the profile



Source: [Luxury Anis Store - Google Search](#)

### 3. Research methodology

This paper focuses on a marketing research conducted by combining office research with the observation method.

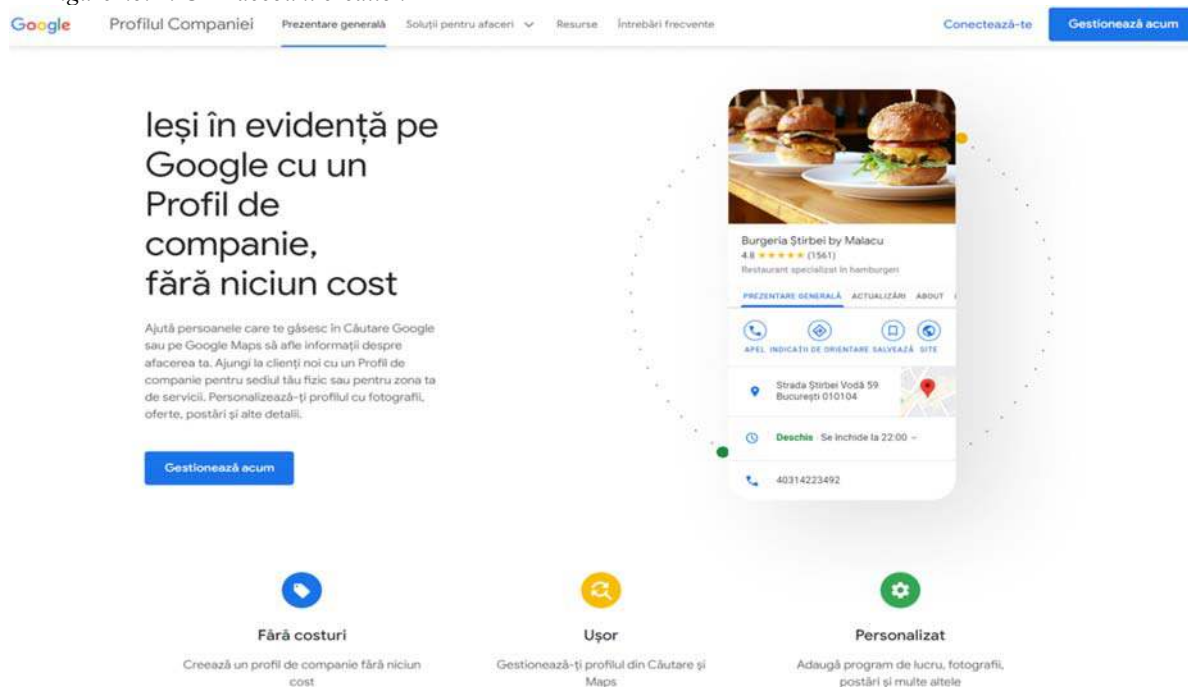
The information collected and used in this research belongs to the type of secondary information. We used various sources, divided into two categories, classic sources (books, articles, etc.) and online sources. The vast majority of sources used are online.

### 4. Findings

Nine important steps in order to achieve a good functioning of the Google Business Profile:

1. GBP account creation. Verifying a new name or claiming an existing one. If the name already exists and you have a connection with it, you only have to use the Claim command. If it doesn't exist, you will build everything from scratch. It is a relatively simple process; you only have to follow the fields to fill in that Google greets you with.

Figure no. 2. GBP account creation



Source: [Google Business Profile – List your business on Google](#)

2. The second step is the actual verification, here Google intervenes and will take all steps to ensure that you are the true owner of the company and implicitly of the name you want to use in your business. Verification usually requires Google to send you a verification code by post, which you can use to complete the registration process. This verification process can take between 2-3 weeks, so arm yourself with patience, bearing in mind that you will receive the verification code by post and not by a courier company. Most of the time, a more detailed check is carried out when you reclaim an already existing account.

3. The choice of Categories for your business is an extremely important step, the accuracy of your choice impacts on the future action taken by your potential customers. You can choose a maximum of one main category and several secondary categories. The chosen main category must describe exactly the activity performed by you; basically it must correlate perfectly with what you do. ([How to choose a category for your Business Profile - Google Business Profile Help](#)) After choosing the main category, we move on to the secondary ones. Choosing, for example, 2 secondary categories, causes Google to divide your business into 2 channels, which implies a better segmentation of your

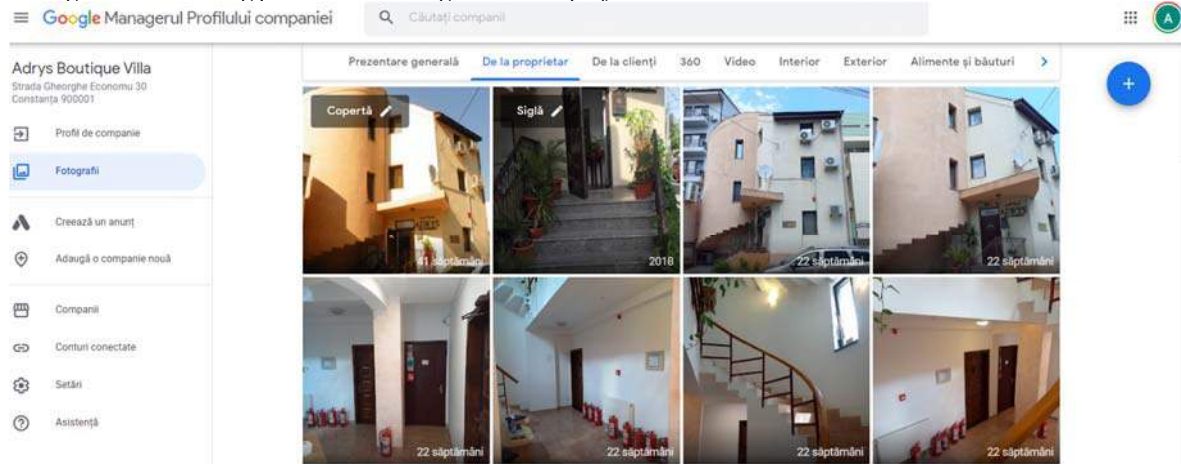


niche of future customers. Expanding to more categories is more risky, because the number of potential customers will be divided proportionally with the number of channels used.

#### 4. Adding images to the Google Business Profile

The images must be of very good quality and must be related to what you do, especially in the situation where you carry out your activity in a niche. The images uploaded by you must make the visitor of your profile enter the atmosphere of your business, understand exactly what you do and, more than that, present through the images the element of uniqueness that differentiates you from your competition.

Figure no. 3. Adding photos to the Google Business profile



Source: [Adrys Boutique Villa – Photos \(google.com\)](https://www.google.com/maps/@44.1833333,28.9166667,15z/data=!3m1!1e3!3m2!1sAdrys+Boutique+Villa+Constanta+900001!8m2!3sStrada+Gheorghe+Economu+30!3sConstanta+900001)

5. Adding public contact information: address, phone number, email, website (if any). If you have existing profiles on social networks (Facebook, Instagram, Tik-Tok, Twitter), the phone number must be the same, in order for Google to properly index and optimize the information related to your profile in the search engines. You must also add the description of the company; you can use up to 750 words, so you have a lot of freedom of expression.

#### 6. Receiving and managing reviews from your customers

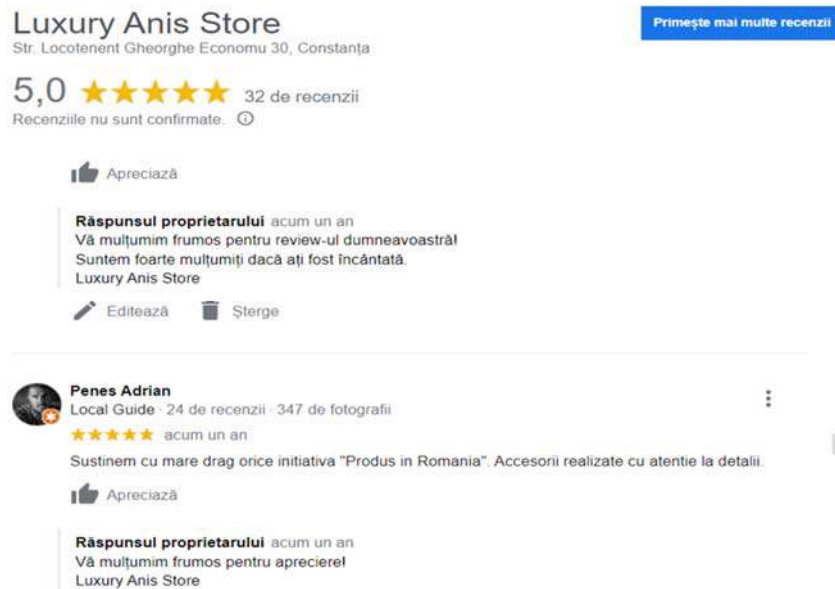
A very important aspect, which is also important in terms of SEO and the indexing of your information in Google, is paying special attention to the reviews received. It is essential to respond to all reviews with polite messages, regardless of the score obtained. We mention that on Google Business the reviews are given by stars, from 1 to 5 stars. The higher the average of the reviews, the better you are indexed, but also searched for and accessed by your customers.

7. Adding offers, news posts, etc. When it is possible and you have a certain interest in promotion, it is advisable to create posts with certain offers of products and/or services that you sell. If you have an online store, you can upload your entire range of products, with the related features.

It is advisable to post periodically, in order to keep the interest of your clients as high as possible, it is not for nothing that it is said that until you get noticed, you do not exist.

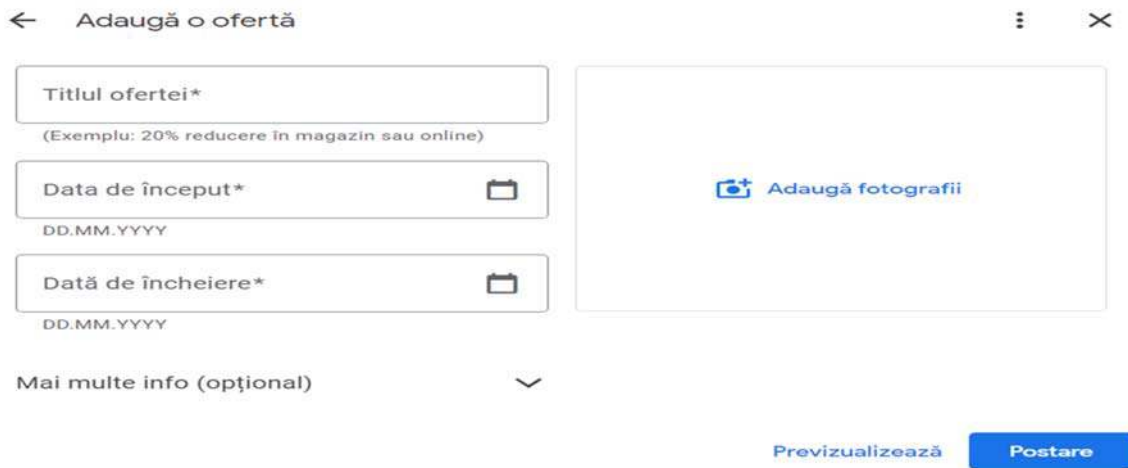
At this stage we can also set the CTA, or Call to Action, either by inserting a link to the targeted page on the website (product page, home page, category), in this situation we want the action to end with a sales conversion, or inserting a phone number to be contacted.

Figure no. 4. Profile reviews [www.luxuryanis.ro](http://www.luxuryanis.ro)



Source: [Luxury Anis Store - Google Search](http://www.luxuryanis.ro)

Figure no. 5. Adding the Google Business Profile offer



Source: [Luxury Anis Store - Google Search](http://www.luxuryanis.ro)

8. Messaging setting to communicate directly and quickly with your customers.

The stages are as follow. You set up and activate the chat in the Google Maps application to offer customers the very important alternative of sending messages to your company and then they can also request offers through a button in the company profile. In the application, access the Updates section, then tap Messages.

9. Creating customised Google Ads advertisements.

From your Google Business profile, you can create Ads by transferring them to your Google Ads account. These ads are not free, they require certain technical knowledge, but they can be an added value for your business, especially if you are operating in the online trade sector.



## 5. Conclusions

Google Business Profile constantly proves its effectiveness, being a catalyst between the business environment and online visitors or potential customers. Nowadays, any business, no matter how large or small, is connected to the online environment, a growing phenomenon, with any action we take on Google or Maps, we are put in contact with the information we are looking for in a few seconds. Personally, we think that this tool is indispensable for the business environment; it is our online business card, a digital footprint in the online environment, which brings us extremely many benefits.

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## The Importance of Entrepreneurial Communication in Organizational Culture

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### Abstract

*The purpose of this research was to create a model of entrepreneurial communication in organizational culture.*

*To fulfill the purpose of the research, we applied a questionnaire to 120 employees in which we analyzed the importance of entrepreneurial communication in the organizational culture.*

*Talented employees can leave a conflict-ridden workplace, which can lead to complaints and even legal action. Organizational communication plays a key role in conflict management, bringing all parties together to discuss their disagreements in a safe and regulated setting. Even though the discussions may be informal, the final decisions are usually communicated formally in this type of communication, which usually involves all three axes of communication.*

**Key words:** communication, entrepreneurship, culture, organizational culture

**J.E.L. classification:** D28, L26, M14, M21

### 1. Introduction

The business environment has become more and more complex, so it is also necessary to have careful communication (Shepherd et al., 2010).

How an entrepreneurial organization interacts with its workforce, disseminates information, initiates conversations and promotes employee voice is all about communication.

In addition, communication determines how staff members interact with each other, as well as how supervisors interact with their teams (Alleyne et al., 2005).

In organizational culture, the communication that takes place at all levels and in different communication departments, including: internal and external, corporate and business communication, crisis management, leadership, changes, feedback (Zeb et al., 2021).

As entrepreneurs must create and deliver a complex message that incorporates both for-profit and not-for-profit themes to a variety of external stakeholder groups such as customers, investors, employees, volunteers, media and beneficiaries, communication is a significant challenge for them (Mason et al., 2007).

So employee satisfaction is a benefit for companies with open, honest and transparent communication cultures (Woo and Kang, 2021).

Also, internal communication is essential for effective organizational management (Invernizzi et al., 2012).

In addition, the achievement of performance indicators within a business is related to the way communication takes place in the workplace (Slalmi et al., 2020).

In companies where there is an organizational culture directed towards communication it holds a significant competitive advantage and are more effective in promoting business continuity and resilience (LaGree et al., 2021).

Also, when there is clear and transparent communication in the organization, the involvement and productivity of employees increases significantly because people feel motivated when they are informed of news from within the company (Power and Rienstra, 1999). On the other hand, when there is not enough good communication in the organization, employee retention decreases. So by improving workplace communication, organizations enjoy lower turnover rates (Sadia et al., 2016).

## 2. Research methodology

The purpose of this research was to create a model of entrepreneurial communication in organizational culture.

To fulfill the purpose of the research, we applied a questionnaire to 120 employees in which we analyzed the importance of entrepreneurial communication in the organizational culture.

The questionnaire was applied online between September 1-15, 2022 on LinkedIn and Facebook groups.

The questionnaire was created in Google Forms, and the data analysis was done in the Excel program.

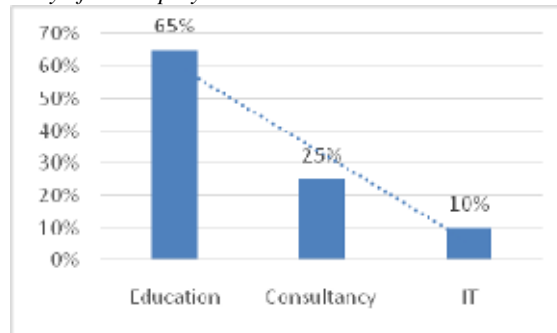
The questions in the questionnaire referred to 7 themes such as: communication directions, leadership, streamlining, problem solving, conflict management, achieving compliance and change.

## 3. Results

To participate in this research all respondents had to be employed in an organization.

65% employees from the fields of education, 25% employees from consultancy and 10% employees from IT participated in this research.

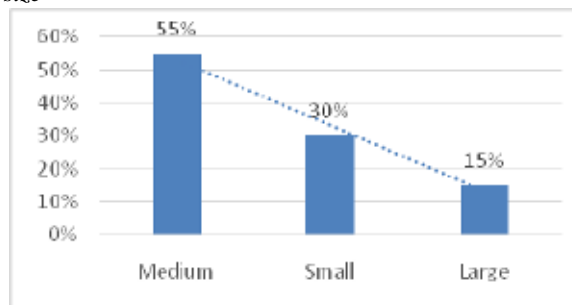
Figure no. 1. Fields of activity of the employees



Source: author.

Also, 55% of employees work in a medium-sized firm, 30% of employees work in a small firm, while 15% of employees work in a large firm.

Figure no. 2. Company size

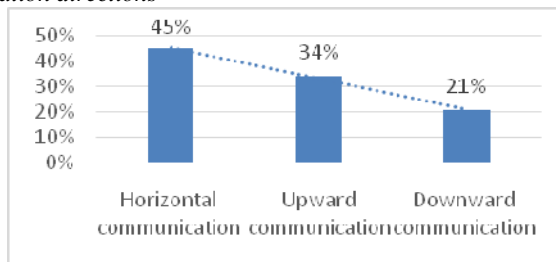


Source: author.

To question no. 1, how does communication work in the organization you work in, 45% of employees mentioned horizontal communication occurs when colleagues meet to discuss issues of common interest, solve problems and share information, 34% of employees mentioned downward communication flows from managerial and executive levels to staff through formal channels such as policy manuals, rules and regulations, and organizational charts, while 21% of employees

reported upward communication is initiated by staff and directed to executives; it often takes the form of a complaint or request.

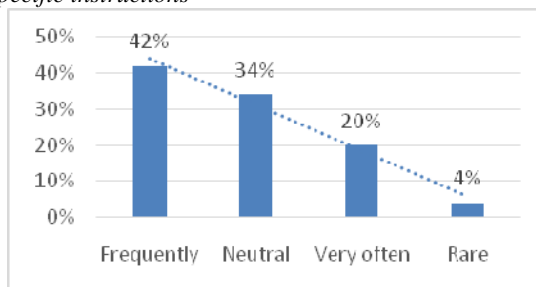
Figure no. 3. Communication directions



Source: author.

Regarding question no. 2, consider that clear and specific instructions are issued within the organization where you work, so that employees can follow them without difficulty, 42% of employees mentioned that this happens often, 34% of employees were neutral in a- and express their opinion, 20% of employees mentioned very often, and 4% of employees mentioned rarely.

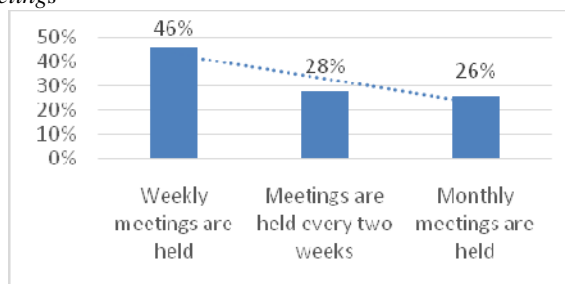
Figure no. 4. Clear and specific instructions



Source: author.

To question no. 3, when group meetings take place in your organization, 46% of employees mentioned that they hold weekly meetings, 28% of employees stated that they hold meetings every two weeks, while 26% of employees mentioned that they hold meetings monthly.

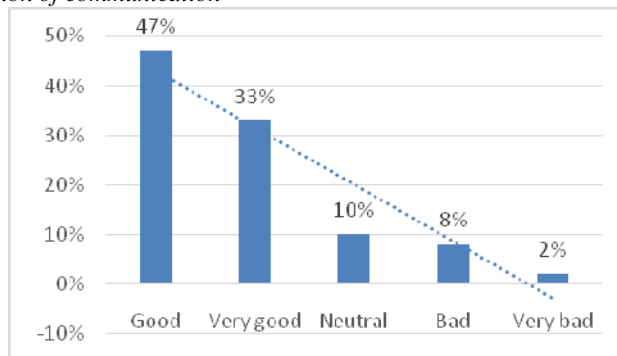
Figure no. 5. Group meetings



Source: author.

Regarding question no. 4, how do you evaluate the communication within these meetings, 47% of employees specified that they evaluated the communication within these meetings as good, 33% of the employees evaluated the communication within these meetings as very good, 10% of the employees were neutral in expressing their opinion, 8% of employees rated the communication in these meetings as bad, and 2% of employees rated the communication in these meetings as very bad.

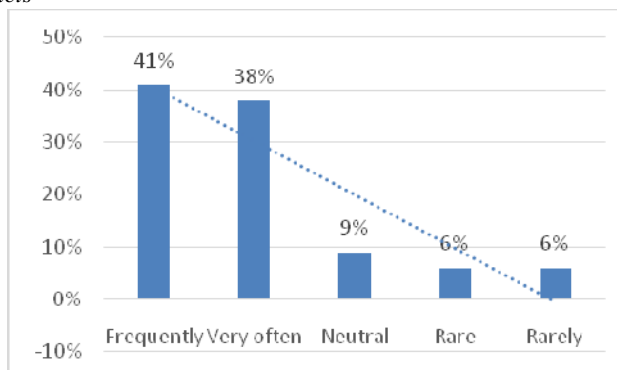
Figure no. 6. Evaluation of communication



Source: author.

For question no. 5, how often conflicts occur at work, 41% of employees mentioned often, 38% of employees mentioned often, 9% of employees were neutral in expressing their opinion, 6% of employees said that conflicts at work rarely occur, and 6% of employees said that conflicts at work occur very rarely.

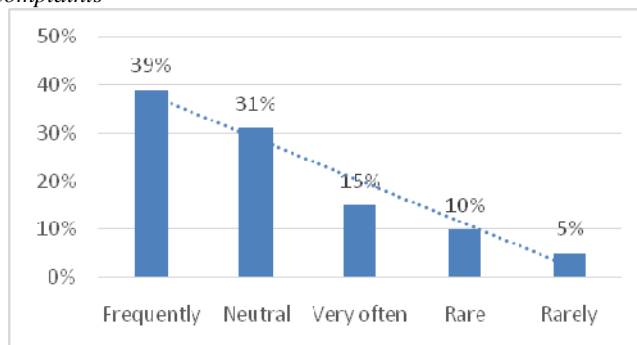
Figure no. 7. Work conflicts



Source: author.

To question no. 6, how often there are complaints at work, 39% of employees said that there are often complaints at work, 31% of employees were neutral in expressing their opinion, 15% of employees mentioned very often, 10% of employees mentioned rarely and 5% of employees mentioned very rarely.

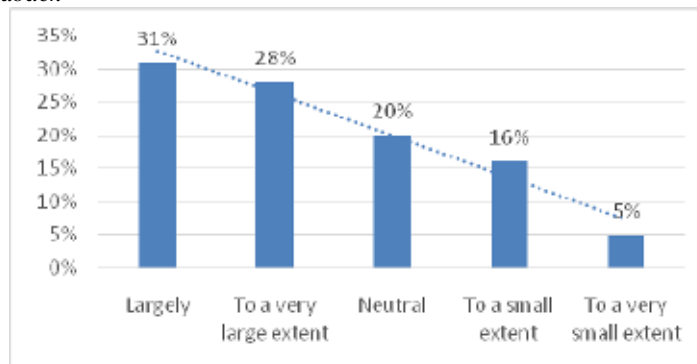
Figure no. 8. Work complaints



Source: author.

Regarding question no. 7, to what extent management members listen to your feedback, 31% of employees said to a great extent, 28% of employees mentioned to a very great extent, 20% of employees were neutral in expressing their opinion, 16% of employees mentioned to a small extent, while 5% of employees mentioned to a very small extent.

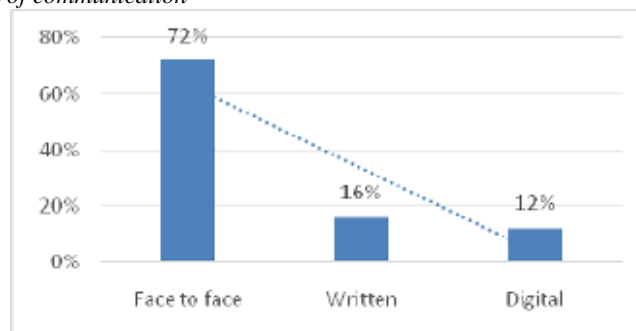
Figure no. 9. Feedback



Source: author.

To question no. 8, which is the most common form of communication at your workplace, 72% of employees mentioned face-to-face, 16% of employees mentioned in writing, and 12% of employees mentioned digital.

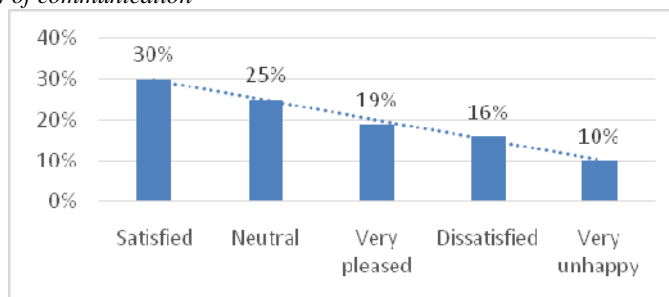
Figure no. 10. Form of communication



Source: author.

For question no. 9, how satisfied are you with the way communication proceeds in the organization where you work, 30% of employees mentioned that they were satisfied, 25% of employees were neutral in expressing their opinion, 19% of employees were very satisfied, 16% of employees were dissatisfied, and 10% of employees were very dissatisfied.

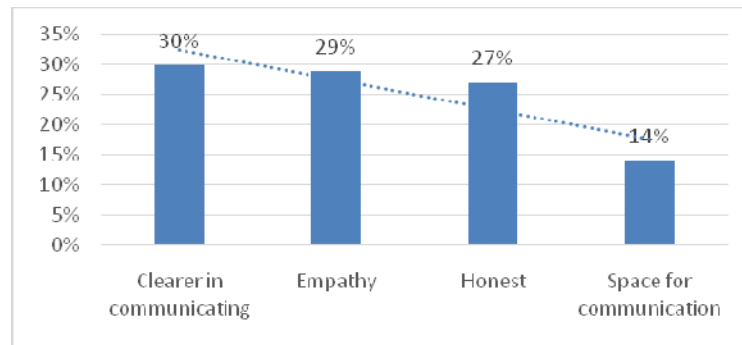
Figure no. 11. Way of communication



Source: author.

To question no. 10, what changes would you make within the organization regarding the way in which communication is done between members of management and employees, 30% of employees mentioned that members of management should be clearer in conveying expectations, 29% of employees mentioned that members of management should be more empathetic with employees, 27% of employees mentioned that management members should be more honest with employees, and 14% of employees mentioned that management members should provide space for communication and for employees to express their opinions and feedback.

Figure no. 12. Way of communication



Source: author.

#### 4. Conclusions

The purpose of this research was to create a model of entrepreneurial communication in organizational culture.

To fulfill the purpose of the research, we applied a questionnaire to 120 employees in which we analyzed the importance of entrepreneurial communication in the organizational culture.

Therefore, following the questionnaire, employees from the fields of IT, consulting and education participated.

They work in small, medium and large companies.

In terms of communication, horizontal communication predominates, followed by downward communication.

On the side of clear and specific instructions, employees mentioned that this happens often.

Regarding meetings, employees mentioned that there are weekly meetings within the company and they evaluate the communication during these meetings as good.

Regarding conflicts, employees mentioned that they happen often. Also, complaints at work occur quite often.

On the feedback side, employees said that management listens to their feedback to a great extent.

The way they communicate most often at their place of work is face to face.

The employees declared themselves satisfied with the way communication takes place in the organization where they work.

Regarding the part of changes on the side of communication between management members and employees, among the top mentions, employees referred to the fact that management members should be clearer in conveying expectations.

Organizational communication occurs upward, downward, and horizontally.

Downward communication occurs starting from managerial and executive levels to staff through formal channels such as policy manuals, rules and regulations, and organizational charts. Upward communication is carried out by staff and directed to executives; it often takes the form of a complaint or request. Horizontal communication occurs when colleagues meet to discuss issues of common interest, solve problems, and share information.

The leadership function is crucial to enable management to provide clear instructions that are easily understood by employees. This is usually a downward communication.

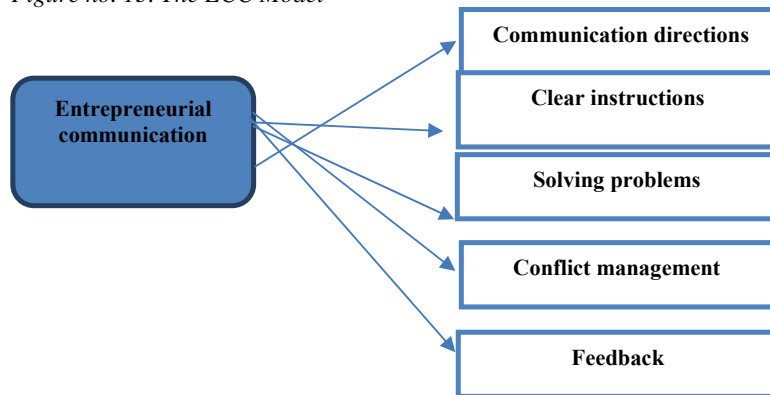
When it comes to problem solving, most companies hold frequent meetings to review things like production cycles, delivery times, price margins, and other areas where odd scenarios might occur and affect a business's performance. Problem formulation, prospective solution generation, and solution formulation depend heavily on organizational communication in these sessions. In this way, a business makes the most of the skills of the people participating in the communication, which takes place horizontally and often informally.

Talented employees can leave a conflict-ridden workplace, which can lead to complaints and even legal action. Organizational communication plays a key role in conflict management, bringing all parties together to discuss their disagreements in a safe and regulated setting. Even though the discussions may be informal, the final decisions are usually communicated formally in this type of communication, which usually involves all three axes of communication.

Employee compliance with the instructions must be achieved for them to be fully complied with. To achieve this, management must pay attention to and consider employee feedback. In order to inspire employees and get the highest possible performance from them, it is essential for a company to have open lines of communication. Feedback or two-way communication can be both upward and downward or horizontal and can be formal or informal.

Starting from these considerations, we created the ECC (Entrepreneurial Communication Culture) model.

Figure no. 13. The ECC Model



Source: author.

This model aims to improve the way of entrepreneurial communication in the organizational culture.

This model can be applied by practitioners in the field: managers, entrepreneurs, leaders interested in how to communicate effectively in the workplace.

We propose that within organizations the focus should be on relevant and personalized communication for each individual employee.

There also needs to be a balance between formal and informal voice from superiors.

The limits of this research consist in the fact that we applied the questionnaire to only 120 employees.

We propose that this study be extended to a larger number of employees and from a wider range of fields of activity, in order to be able to make a comparative analysis between them.

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## Entrepreneurial Communication Skills

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### Abstract

*The purpose of this research is to create a portrait of entrepreneurs in terms of communication skills.*

*To fulfill the purpose of the research, we applied a questionnaire to 100 entrepreneurs in which we identified entrepreneurial communication skills.*

*In most cases, when entrepreneurs have a conversation with employees, most of the entrepreneurs mentioned that they impose themselves and don't really let the employee talk.*

*Entrepreneurs mentioned that they feel surprised when they find that people did not understand what they had to say.*

*They mentioned that they often speak their mind without worrying about how the other person perceives them. Assuming they can fix this later.*

*Building trust with employees through regular, polite dialogue can help entrepreneurs identify problems before they become problematic.*

**Key words:** communication, entrepreneurship, body language, negotiation, listening

**J.E.L. classification:** D28, L26, M14, M21

### 1. Introduction

The business environment has become more and more complex, so it is also necessary to have careful communication. The most important life skill is probably the ability to communicate effectively. It is what makes it possible for us to communicate with others and understand what those around us are saying (Atef and Al-Balushi, 2015).

At its most basic level, communication is the act of passing information from one location to another. Communication can be verbal, written (using written or digital materials such as emails, etc.), graphic (using logos, charts or graphs) or non-verbal (using body language, gestures and tone of voice). So it is often a combination of these elements (Buck and VanLear, 2002).

Entrepreneurs can develop their businesses to desired levels of excellence using effective communication as a key tool (Darling and Beebe, 2007).

A good ability of entrepreneurs to communicate effectively can help them create better relationships with employees, suppliers, customers and investors (Jackson, 2015).

Conversely, poor communication contributes to the destruction of professional and personal relationships. So entrepreneurs need to adapt their tone of voice, language and what they convey (content) (Clarke et al., 2018).

Also, entrepreneurs need to improve their communication skills, by improving self-esteem, as well as by developing confidence (Bonaccio et al., 2016).

To be able to do this, entrepreneurs must adopt a positive attitude, as entrepreneurs who feel angry and nervous will not communicate effectively and therefore will not achieve the desired results (Zhang et al., 2021).

So, we still aim to make the portrait of entrepreneurs on the side of communication skills.

## 2. Research methodology

The purpose of this research is to create a portrait of entrepreneurs in terms of communication skills.

To fulfill the purpose of the research, we applied a questionnaire to 100 entrepreneurs in which we identified entrepreneurial communication skills.

The questionnaire was created in Google Forms and was applied online between September 20-30, 2022 on LinkedIn and Facebook groups.

The questionnaire included 17 questions, including the identification data of the subjects.

The questions in the questionnaire referred to topics such as: conversation, body language, writing, presentation, negotiation, mediation and listening.

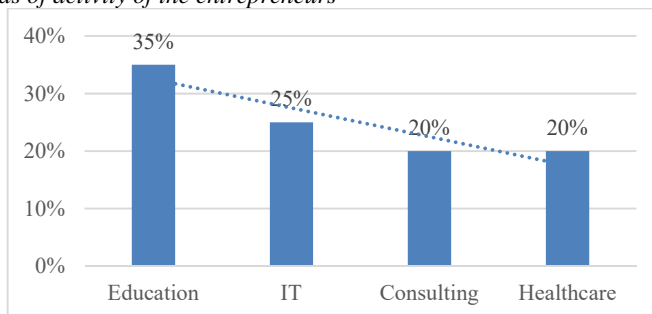
The data analysis was carried out in the Excel program.

## 3. Results

Only entrepreneurs responded to this questionnaire. This was also a mandatory requirement.

In terms of industry, 35% of entrepreneurs work in education, 25% of entrepreneurs work in IT, 20% of entrepreneurs work in consulting, and 20% of entrepreneurs work in healthcare.

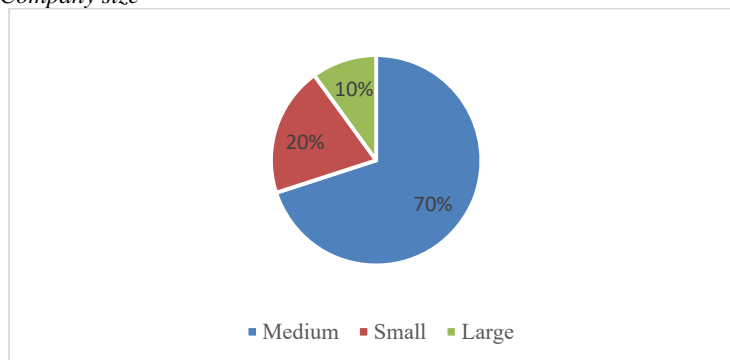
Figure no. 1. Fields of activity of the entrepreneurs



Source: author.

Regarding the size of the organization in which the entrepreneurs operate, 70% of the entrepreneurs are part of medium organizations, 20% of the entrepreneurs are part of small organizations and 10% of the entrepreneurs are part of large organizations.

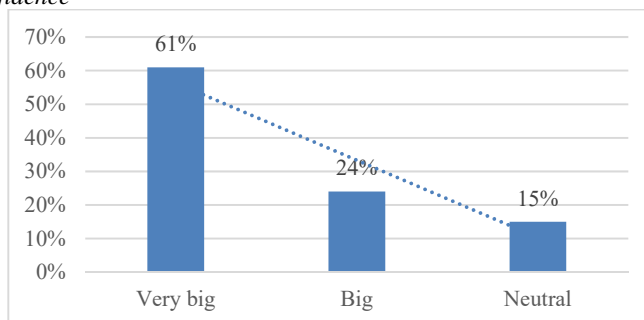
Figure no. 2. Company size



Source: author.

To question no. 1, how much confidence do you have when you have a conversation with your own employees, 61% of entrepreneurs said they have very high confidence, 24% of entrepreneurs said they have high confidence and 15% of entrepreneurs were neutral in expressing their opinion.

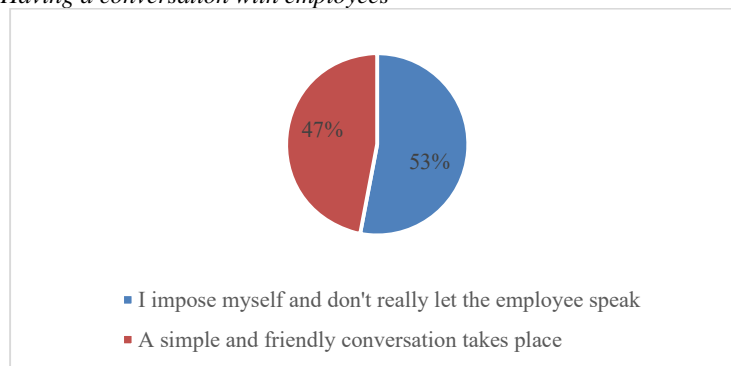
Figure no. 3. Confidence



Source: author.

Regarding question no. 2, in most cases, when having a conversation with employees, 53% of entrepreneurs mentioned that I impose myself and don't really let the employee speak, and 47% of entrepreneurs mentioned that a simple and friendly conversation takes place.

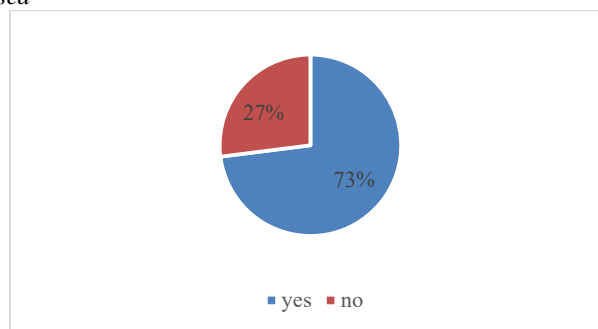
Figure no. 4. Having a conversation with employees



Source: author.

Regarding question no. 3, you are surprised when you find that people did not understand what you said, 73% of entrepreneurs mentioned yes they are surprised, while 27% of entrepreneurs mentioned they are not surprised.

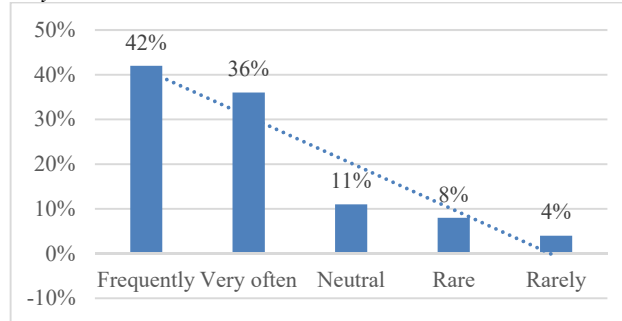
Figure no. 5. Surprised



Source: author.

To question no. 4, speak your mind without worrying about how the other person perceives it. Assuming you can fix it later, 42% of entrepreneurs mentioned often, 11% of entrepreneurs were neutral in expressing their opinion, 8% of entrepreneurs rarely mentioned, and 4% of entrepreneurs mentioned very rarely.

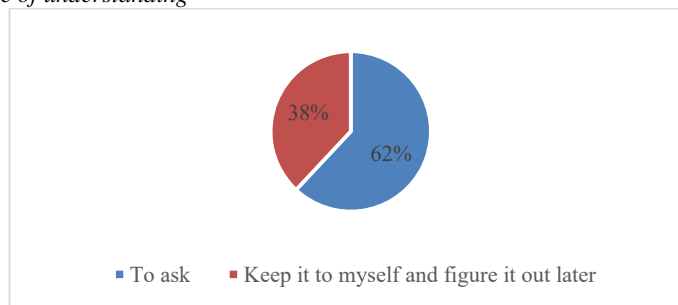
Figure no. 6. Say what you think



Source: author.

For question no. 5, when you don't understand something, you prefer 62% of entrepreneurs said they prefer to keep what they don't understand to themselves and figure it out later, while 38% of entrepreneurs said they prefer to ask.

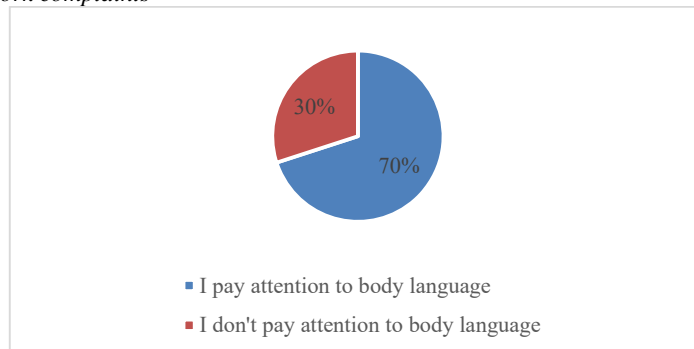
Figure no. 7. Degree of understanding



Source: author.

To question no. 6, when having a conversation with employees, 70% of entrepreneurs said that they pay attention to body language, and 30% of entrepreneurs said that they do not pay attention to body language.

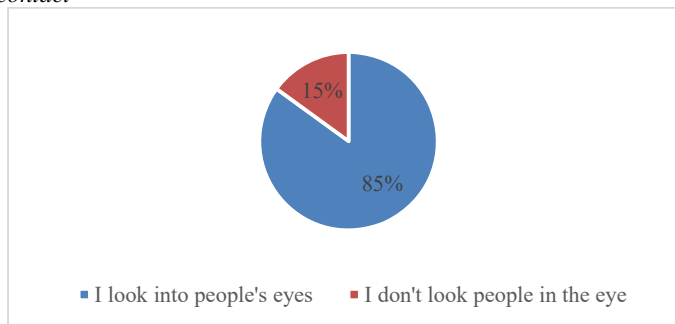
Figure no. 8. Work complaints



Source: author.

Regarding question no. 7, in most cases, when having a conversation with employees, 85% of entrepreneurs said that they look people in the eye, while 15% of entrepreneurs do not look people in the eye.

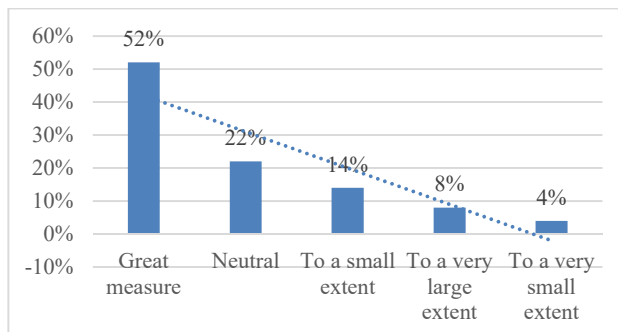
Figure no. 9. Eye contact



Source: author.

To question no. 8, when you feel stressed, to what extent you can calm down, 52% of entrepreneurs mentioned to a great extent, 22% of entrepreneurs were neutral in expressing their opinion, 14% of entrepreneurs mentioned to a small extent, 8% of entrepreneurs mentioned to a very high extent, and 4% of entrepreneurs mentioned to a very low extent.

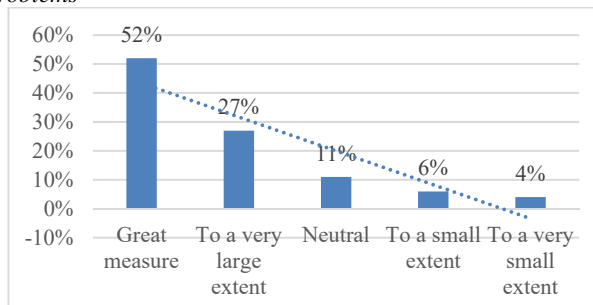
Figure no. 10. Stress



Source: author.

Regarding question no. 9, to what extent you are able to solve problems without losing control of your emotions, 52% of entrepreneurs said to a great extent, 27% of entrepreneurs said to a very great extent, 11% of entrepreneurs were neutral in expressing their opinion, 52% of entrepreneurs said to a great extent, 6% of entrepreneurs said to a small extent, and 4% of entrepreneurs said to a very small extent.

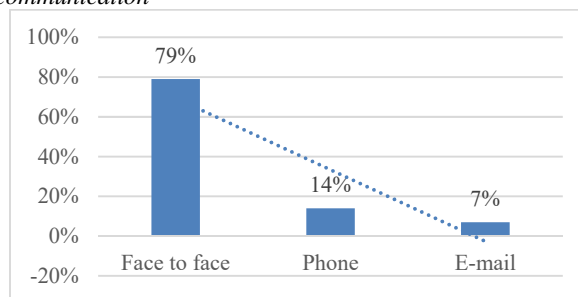
Figure no. 11. Solve problems



Source: author.

To question no. 10, which is the way to communicate complex problems in the organization with your business partners (employees, suppliers, stakeholders), 79% of entrepreneurs mentioned face to face, 14% of entrepreneurs mentioned by phone, and 7% of entrepreneurs have mentioned by email.

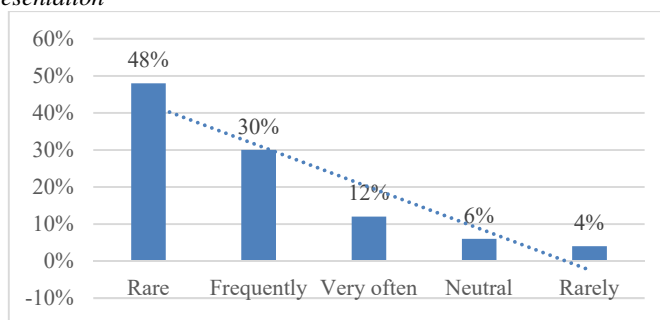
Figure no. 12. Way of communication



Source: author.

Regarding question no. 11, how often do you use charts and graphs to express your ideas, 48% of entrepreneurs said rarely, 30% of entrepreneurs mentioned often, 12% of entrepreneurs mentioned very often, 6% of entrepreneurs were neutral about - express their opinion, 4% of entrepreneurs mentioned very rarely.

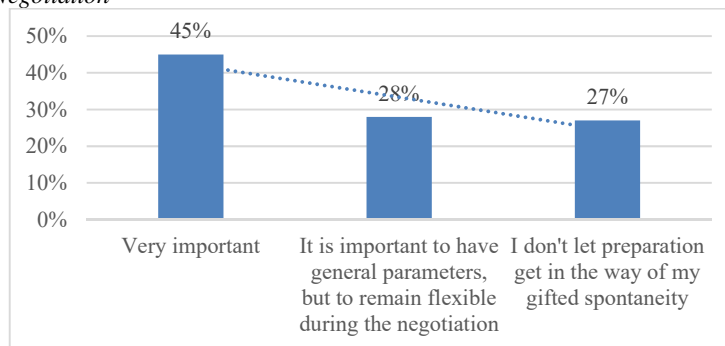
Figure no. 13. Presentation



Source: author.

To question no. 12, how important do you think it is to prepare a detailed strategy for a negotiation session, 45% of entrepreneurs mentioned very important, 28% of entrepreneurs mentioned it is important to have general parameters but remain flexible during the negotiation, 27% of entrepreneurs mentioned I don't let preparation get in the way of my gifted spontaneity.

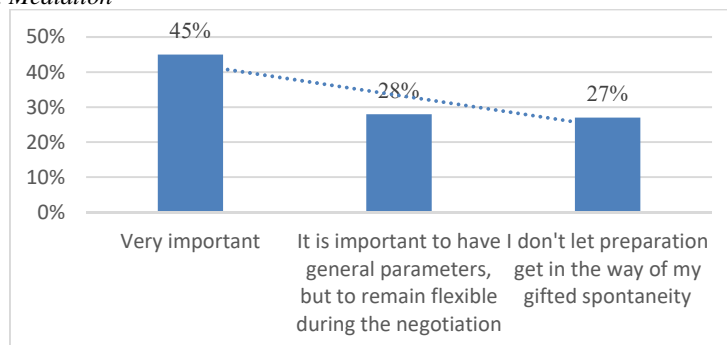
Figure no. 13. Negotiation



Source: author.

Regarding question no. 13, in an argument, you can see things from the other's point of view, 35% of entrepreneurs mentioned very often, 25% of entrepreneurs mentioned often, 20% of entrepreneurs were neutral in expressing their opinion, 14% of entrepreneurs mentioned rarely, and 6% of entrepreneurs mentioned very rarely.

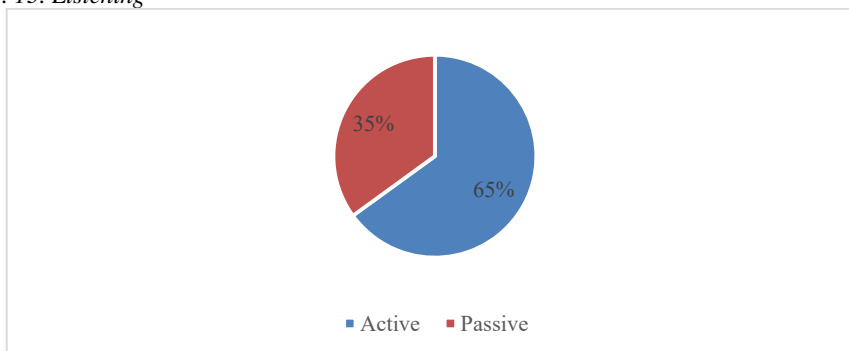
Figure no. 13. Mediation



Source: author.

To question no. 14, during a discussion, what kind of listener are you, 65% of entrepreneurs mentioned that they are active listeners, meaning they listen to what the other party is saying and repeat it back to make sure I understand. While 35% of entrepreneurs mentioned that they are passive listeners, meaning they listen quietly.

Figure no. 13. Listening



Source: author.

#### 4. Conclusions

The purpose of this research is to create a portrait of entrepreneurs in terms of communication skills.

To fulfill the purpose of the research, we applied a questionnaire to 100 entrepreneurs in which we identified entrepreneurial communication skills.

After applying the online questionnaire, I obtained the following results:

Only entrepreneurs responded to this questionnaire. This was also the mandatory requirement to participate in the study.

Regarding the field in which they operate, we were answered by entrepreneurs working in the field of education, IT, consulting and health.

Regarding the size of the organization in which the entrepreneurs work, we were answered by entrepreneurs working in medium, small and large organizations.



Entrepreneurs mentioned that they have a lot of confidence in themselves when having a conversation with their own employees.

In most cases, when entrepreneurs have a conversation with employees, most of the entrepreneurs mentioned that they impose themselves and don't really let the employee talk.

Entrepreneurs mentioned that they feel surprised when they find that people did not understand what they had to say.

They mentioned that they often speak their mind without worrying about how the other person perceives them. Assuming they can fix this later.

When you don't understand something, entrepreneurs said they prefer to keep what they don't understand to themselves and figure it out later.

When having a conversation with employees, most entrepreneurs said they pay attention to body language. They also said that they look into the eyes of the people they are conversing with.

When entrepreneurs feel stressed, entrepreneurs said they can calm down to a great extent.

At the same time, the entrepreneurs stated that they have a good control over their emotions.

Entrepreneurs mentioned that they prefer to discuss complex issues face to face.

Regarding the presentation part, they rarely make presentations in the form of graphs and charts.

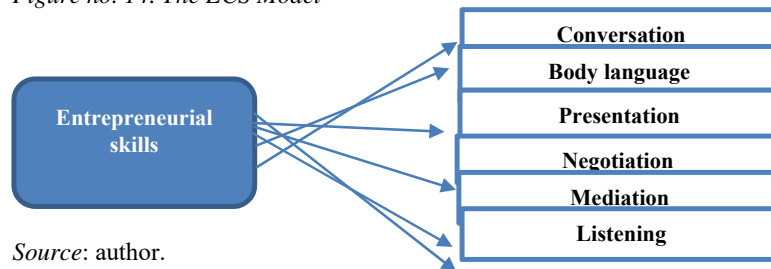
On the negotiation side, entrepreneurs mentioned that preparing a detailed strategy for a negotiation session is very important.

When asked, in an argument, you can see things from the other's point of view, 35% of entrepreneurs mentioned very often.

And on the listening side, the entrepreneurs mentioned that they are active listeners, meaning they listen to what the other party is saying and repeat it back to make sure we understand.

Thus we created the ECS model (Entrepreneurial communication skills model).

Figure no. 14. The ECS Model



Source: author.

The ECS model takes into account the following considerations:

**Conversation** - conversation should not be underestimated, even if it is one of the most fundamental means of communication. Building trust with employees through regular, polite dialogue can help entrepreneurs identify problems before they become problematic.

**Body language** - since non-verbal communication makes up the majority of communication, developing body language communication skills is crucial. Posture is important in all circumstances. Entrepreneurs should stand up straight, shoulders back and head up. Additionally, they need to make eye contact with the people they are talking to to convey confidence and safety.

**Presentation** - depending on the circumstance, an entrepreneur needs to present his company in a variety of ways. Top employees or investors could be shown the financial side of the company. Or they could introduce a potential client to the company's services. Clarity, brevity, confidence and balance are required in each of these circumstances.

**Negotiation** - effective negotiation involves more than choosing the right words; it also involves choosing the right moment to speak, acknowledging certain truths, and maintaining confidence throughout the discussion.

**Mediation** - even though the contractor's job as a mediator will be less frequent, he will occasionally have to resolve a dispute. This dispute may arise between two employees who have opposing views or between two rival suppliers. The contractor must be familiar with both parties to help them resolve their issues under any circumstances.

*Listening* - the most important communication skill is listening because it is used in so many different contexts. Entrepreneurs who actively listen will be more receptive and empathetic in discussions, negotiations and mediations.

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## The Roles and Functions of Destination Management Organizations (DMOs) in the Success and Performance of Tourism Destinations

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### Abstract

*The Destination Management Organizations (DMOs) lead and coordinate the management activities in many tourism destinations and play the role of strategic leaders in their development. They are responsible for coordinating and integrating the elements of the destination mix. An effective leadership and coordination through the DMO, within a coherent strategy, ensures the performance, competitiveness, sustainability and success of a tourism destination. The DMOs ensure the success of a tourism destination when they perform a range of roles in the marketing and development of the destination, develop and manage partnerships between the tourism industry and public departments and agencies, and carry out leadership, planning, organization and performance management functions of tourism activities in a destination. As far as the Romanian tourism is concerned, an integrated planning, along with a practical application of the destination management concept and a real collaboration of central and regional public authorities with the private sector organizations represent the priority actions that can ensure a sustainable growth and an improvement of competitiveness on the international tourism market.*

**Key words:** tourism destination, Destination Management Organizations (DMOs), tourism performance, Romanian tourism

**J.E.L. classification:** Z30, Z32, L83

### 1. Introduction

The Destination Management Organizations (DMOs) are the main structures responsible for leading, coordinating, stimulating and monitoring tourism development and marketing in a particular tourist destination.

At present, the Destination Management Organizations (DMOs) play the role of strategic leaders in many tourist destinations, leading and coordinating the management activities according to a coherent strategy (UNWTO, 2007). First, the promotional activities attract tourists to a destination, but the appropriate environment and quality will meet their expectations, so that they will return and recommend the respective destination to others.

The Destination Management Organizations are complex structures, bringing together numerous public and private stakeholders (UNWTO, 2007):

- national, regional or local public or governmental authorities;
- agencies designated for economic development;
- management organizations of a locality;
- management of national parks;
- transport service providers;
- tourist attractions, events and cultural organizations;
- hospitality service providers (accommodation, restaurant, leisure, retail);
- agencies representing the destination;
- intermediaries: tour operators, travel agencies, event organizers, cultural organizations, etc.;
- media;
- local or regional tourism consortia and partnerships;

- agencies that encourage and support business development;
- organizations dealing with professional development.

The Destination Management Organizations can operate at any of the following levels (UNWTO, 2007):

- at national level, in the form of National Tourism Authorities (NTAs) or National Tourism Organizations (NTOs - National Tourism Organizations), having responsibilities in the field of tourism management and marketing at national level; such structures can also develop at a transnational level (for example, the European Travel Commission, a non-profit organization that cooperates with 32 European NTAs, in order to develop and promote European tourist destinations, through Visit Europe website - <http://visiteurope.com/en/about>);
- at regional level (state, province, county), DMOs or RTOs (Regional Tourism Organizations) deal with the management and marketing of tourism in a certain area which can be, but is not necessarily an administrative region of the type of county, land, province or state;
- at local level, there are local or municipal tourism organizations that contribute to the development and promotion of tourism in limited areas (such as a tourist town); these can be tourism organizations from mountain, seaside or other type of resorts ("resort organizations");
- product based organizations are dedicated to a specific tourism product, such as adventure tourism or bird watching.

Therefore, the Destination Management Organizations should develop a high level of qualification in developing and managing partnerships, since they are responsible for coordinating and integrating the *elements of the destination mix* (UNWTO, 2007):

- tangible tourist products: tourist attractions, tourist facilities, transport and general infrastructure;
- people: tourists and the local community;
- tourist packages organized by tour operators, travel agencies and others;
- programs: events, festivals, activities, etc.;
- destination marketing, an important part of the destination management process.

## 2. Theoretical background

Although the first theoretical works on Destination Management Organizations appeared two decades ago, Morrison (2013) explains that the Destination Management Organizations have existed for more than a century, all over the world, in various forms (government departments or quasi-departmental structures of tourism).

The Encyclopedia of Tourism (2000) defines the term Destination Management Organization (DMO) as "either a national, regional or local tourism office or bureau, or a national tourism organization or administration. These organizations are entities intended to deal with the destination management process."

Pike (2008) explains the need for DMOs in destination promotion through a better connection between tourism supply and demand and by maximizing the use of destination resources. Copper and Hall (2008) refer to DMOs that, although operating autonomously, are connected and involved in the common policy of tourism destinations, in the funding and associated benefits, because they:

- are often partially or fully financed by the state;
- may belong to official government structures, such as the state agencies;
- have a key role in attracting, in order to work towards the development or marketing of tourist destinations, other public agencies, providers of tourist services and products, local communities;
- do not have tourism products that they develop, promote or sell.

Although the Destination Management Organizations are responsible for many marketing activities, their role is broader, that of becoming leaders in destination development (UNWTO, 2007). Minguzzi (2006) confirms the fundamental role of DMO in developing tourism in different types of tourist destinations and at all levels: "without the effective leadership and coordination of a DMO, a tourist destination is poorly equipped to be competitive and sustainable."

### 3. Research methodology

To achieve the general purpose of this study and the proposed objectives, the structural logic was adopted, and the research methodology consisted in the use of several methods of investigation, such as: analysis, observation, deduction, synthesis, classification, comparison, description, the study of representative works in the field and the research of empirical facts. To substantiate the theoretical content, a series of bibliographic sources in the field were studied (works of renowned specialists, normative and legislative acts in the field). Other coherent and information was taken from the web pages of some renowned scientific organizations in the field of tourism (UNWTO, the Ministry of Tourism) and processed into relevant conclusions.

### 4. Findings

#### 4.1. The roles and functions of Destination Management Organizations

Destination management requires a coalition of many organizations and interests working towards a common goal. Although DMOs typically carry out marketing activities, their interest is now expanding to a strategic leadership role in destination development (UNWTO, 2007). The role of the Destination Management Organization should be to lead and coordinate the activities within a coherent strategy. The DMOs do not control the activities of their partners, but bring together resources and expertise and a degree of independence and objectivity to point the way forward.

Depending on the level they operate at, the DMOs perform a series of *roles*:

- assistance and consultancy for tourism and hospitality businesses;
- tourism product development activities;
- provide services related to the development of tourist resources (for example, the signage of tourist information centers);
- development and professional training of human resources in tourism;
- classification and/or granting of licenses for tourism businesses.

Enright and Newton (2004), cited by Țigu (2012), distinguish *three roles* performed by the Destination Management Organizations:

- *the first role* consists in creating an appropriate environment for tourism development: policies, legislation, regulations and taxation (for example for planning and infrastructure, development of human resources, tourism product, technology and systems, for related industries and suppliers);
- *the second role* includes marketing, aiming at persuading tourists to visit a certain tourist destination (e.g. promoting the destination – including branding and its image; business management campaigns, especially for micro-enterprises and small and medium-sized enterprises; coherent and correct information services; booking management and facilitation, including online bookings; customer relationship management);
- *the third role* involves aspects regarding the quality of tourist services and products or the travel experience from a certain destination, respecting exceeding the expectations of tourists (for example, the coordination and management of the destination focused on the quality of the tourist experience; the launch of tourist products; the development and management of events and of tourist attractions; training of tourism personnel; business consulting; strategies, research and development).

Sheehan, Presenza and Minguzzi (2007) dispute over the shift in DMO direction towards management and marketing, attempting to delineate these *roles* into three categories, each with specific activities:

a) *The external marketing role of the destination* refers to the fact that the DMO manages the sale of the destination and its tourism products, performing activities such as:

- web-marketing;
- classic or new media advertising;
- knowledge (familiarization) tours of the destination;
- flash sales;
- direct sales;

- direct mail;
- cooperation programs;
- events, festivals, conferences, fairs, etc.

b) *The role of internal development of the destination* refers to other activities undertaken by the DMOs to maintain the destination on the market and develop it, except for marketing:

- tourist services, including tourist management;
- quantifying and evaluating tourists' satisfaction;
- information and market research to help the stakeholders understanding better aspects regarding: demand, suppliers of the tourism industry and existing discrepancies between demand and supply;
- ensuring the provision of quality services by tourism human resources;
- managing resources for the sustainable management and development of the destination;
- contributions to attracting and increasing the financial resources, including entrepreneurs' capital.

c) *The role of total management of the destination* refers to:

- stakeholders' coordination;
- crisis management.

The DMOs ensure the success of a tourism destination when they perform the following *roles* (Presenza, Sheehan & Ritchie, 2005):

- coordinate a series of tourism actors;
- act as leaders of tourism development in local communities;
- provide advisory services for tourists and assistance for tourist service providers.

Considering all the above, we can summarize the *roles* of Destination Management Organizations as follows:

- a vital and critical role in meeting stakeholders' expectations (both internal and external) as much as possible (Minguzzi, 2006);
- the role of a DMO is not limited to developing and supporting new initiatives in tourism, but it also involves the management of resources (human and internal) in all stages of destination development (Negruşa & Coroş, 2016);
- they get involved in establishing relationships within the regional infrastructures and the existing market (Negruşa & Coroş, 2016);
- they use the legislative and managerial tools in destination planning and management, to ensure that the tourism benefits of the stakeholders are correctly shared between them, based on sustainable practices and ensuring the regeneration of the resources involved in the production of tourism and hospitality services (Minguzzi, 2006; Buhalis, 2000);
- as part of the national, regional or local administrative structures, the Destination Management Organizations have political and legislative power, respectively the financial means necessary to impose a rational management of natural and human resources; in addition, the DMOs can provide long-term and lasting benefits to all stakeholders (Negruşa & Coroş, 2016);
- they capitalize on long-term strategies and collect their results in cooperation with other national, regional or local organizations (Negruşa & Coroş, 2016);
- they are the representatives of local or regional interests at the regional or national level (Negruşa & Coroş, 2016);
- they maximize the profitability of local, regional or national enterprises and the multiplier effects of tourism (Negruşa & Coroş, 2016);
- they contribute to the development of the destination brand and its homogeneous and coherent image (Negruşa & Coroş, 2016);
- the DMOs optimize the impact of tourism and the hospitality industry by ensuring a sustainable balance between economic, socio-cultural and environmental benefits (Minguzzi, 2006);
- they ensure the tourism management within the tourism destination (Tigu, 2012; Bornhorst, Ritchie & Sheenan, 2010);
- they ensure the well-being of the local population;
- they ensure that tourists benefit from the most memorable and satisfying travel experiences;

- the DMOs manage the tourist destination effectively (Bornhorst, Ritchie & Sheenan, 2010);
- they get involved in tourist attraction preservation and management.

Ritchie and Crouch (2000, 2003) outline a new perspective of DMO, presenting it as a management organization, including marketing as a key function and leading the destination towards tourism development. The same idea is also expressed by the specialists of the World Tourism Organization, Carter and Fabricius (2006), who emphasize the characteristics of the DMO as a strategic leader in the marketing and development of the destination, facilitating partnerships between the tourism industry and public departments and agencies towards a collective vision of the destination. According to them, the *functions* of the Destination Management Organization are:

- management (strategic direction and high-level expertise);
- planning (policies and strategies in order to obtain competitive advantage, development and marketing plans, business plans);
- organization (estimating/coordinating the fulfillment of the business plan objectives, organizing appropriate organizational structures and processes, facilitating partnerships, creating opportunities for entrepreneurs);
- performance management (measuring and rewarding performance, monitoring governance, identifying gaps and providing appropriate solutions).

#### **4.2. The contribution of Destination Management Organizations (DMOs) in the success of tourism destinations**

The economic success, quantified through various indicators (the number of tourists, their expenses, the number of tourism employees, the number of tourism businesses in a certain destination), is a common and visible attribute in the evaluation of a tourist destination. To quantify the success of a tourist destination, many studies consider only one of the following aspects: the effectiveness of marketing activities (Buhalis, 2000), the product offering (Faulkner, Oppermann & Fredline, 1999; Rhodes, 1996), the price (Gunn, 1994) and quality (Go & Govers, 2000).

In the process of evaluating the success and performance of a tourism destination, the tourists' perception is considered the most important factor (Ritchie & Crouch, 2000). Successful tourist destinations are those that inspire a special and strong feeling in visitors, highlight a certain uniqueness and manage to outline an individual identity, clearly outlined, based on intrinsic characteristics and advantages, difficult or impossible to copy by other destinations. Godfrey and Clarke (2000) believe that destinations should not focus on similarities, but on differences, which guide them to success.

From the holistic perspective of the success of a tourism destination, Ritchie and Crouch (2000) argue that some output variables (production, yield, capacity, productivity) must be added to measure the success also from the perspective of the stakeholders involved in the tourism system. Therefore, these authors consider that the destination competitiveness is connected to its ability to create added value and, consequently, to increase the local well-being and the destination attractiveness in a sustainable manner. The study indicates five factors determining the competitiveness of a tourism destination:

- destination policy,
- planning and development,
- destination management,
- essential resources and
- supporting factors.

While the efforts to explore the success criteria for a tourism destination's competitiveness have gained considerable attention, few studies investigate the effect of DMOs on the overall success of a tourism destination. These studies pay particular attention to the performance indicators and models of an DMO (Ritchie & Crouch, 2003; Dwyer & Kim, 2003; Spyriadis, 2014). Bornhorst, Ritchie and Sheehan (2010) present indicators associated with both DMOs and tourism destination, Spyriadis, Fletcher and Fyall (2013) conceptually examine the application of BSC to DMOs, and Spyriadis (2014) provides a systematic and robust assessment of DMO performance, combining internal and external perspectives of DMO effectiveness.

Dwyer and Kim (2003) emphasize the importance of the internal managerial function for the destination competitiveness. Borhorst, Ritchie and Sheehan (2010) demonstrate that the managers of a DMO must be aware that success will be ensured by how well these organizations are run. The quality of the management processes attracts and retains good employees who are professional, reliable and respected by other tourism stakeholders in a destination. In this way, it also increases the ability of the DMO to attract more funds, partners and resources.

The performance of the management activity of a DMO influences the success of a destination and from this perspective, it is important to improve its efficiency and effectiveness. Morrison (2013) states that for the DMOs, efficiency refers to achieving goals at the lowest cost, while effectiveness measures the degree of success in achieving goals and objectives. Ensuring efficiency can be achieved through the day-to-day management of a DMO and the internal control system. The effectiveness of a DMO reflects the degree to which actual or planned output (productivity) matches both the official (strategic) and operational (operational) goals. This coincidence can influence the accountability and legitimacy of a DMO within the tourism destination and among stakeholders.

Spyriadis (2014) suggests that for a successful business planning of a DMO, the appropriate tangible and intangible resources must be obtained and used efficiently and effectively, and the business objectives and priorities of a DMO must correspond to its *raison d'être* and strategic non-profit, through strategic management and collaborative governance for tourism development. A holistic approach to assessing the DMO's performance requires a focus on two key interrelated perspectives, the external and the internal one.

#### **4.3. The integrated management as a success solution for Romania destination**

In the case of Romania, the inconsistent organization of tourism promotion at the governmental, regional and local level, the centralization at the decision-making level, but also the political implications in tourism management have led to the reduced performance and competitiveness of the tourism destination Romania (Negrușă & Coroș, 2016).

Therefore, a new approach to the management of the tourism destination was necessary, and in 2016, the former National Tourism Authority presented a new vision for the development of tourism in Romania, through the Destination Management Organizations (DMOs). "The development of a destination means more than the involvement of tourism economic agents and local public authorities. It means the involvement of all economic agents in the area. It is the only viable model for managing a destination", declared the former president of the National Tourism Authority, Anca Pavel-Nedea.

In practice, these DMOs were supposed to function by associating the public authority in the field of tourism with the representatives of the local public authorities (county council, town halls) within a destination, but also with the representatives of the private sector (owners of guesthouses, hotels), of tourism promotion associations and, as appropriate, with the representatives of other relevant entities (educational institutions, etc.) to achieve a sustainable management. To associate the local public authorities in these DMOs, it was necessary to establish a Tourism Directorate for each County Council and Tourism Offices within the Town Halls.

A year later, the concept of Destination Management Organization (DMO) was implemented by the Government Order no. 15/2017 and supplemented by the Law no. 275/2018. The purpose of the Destination Management Organizations is to contribute to the exploitation of the tourist potential, respectively to the increase of tourist demand and tourism receipts both locally and nationally.

The Ministry of Economy, Energy and Business Environment - General Directorate of Tourism launched at the beginning of 2020 the report on the operationalization of a network of Destination Management Organizations (DMOs) in Romania and the Operation Manual of Destination Management Organizations. The report is the result of a project carried out in collaboration with the Organization for Economic Cooperation and Development (OECD) and financed by the European Commission, through the General Reform Directorate, to support the establishment and operation of the DMOs in Romania.



Also, in order to improve the tourist competitiveness of the area and the image of the destination, the network of tourist information and promotion centers is being created at national level, which will include both the National Tourist Information and Promotion Centers and the Local Tourist Information and Promotion Centers. This measure implies a good collaboration between the different local public administrations and tourist entities, a responsibility of the local authorities by regulating the specific attributions of the centers, but also the involvement of the private sector in the tourism field.

An integrated planning of Romanian tourism, the practical application of the destination management concept, the collaboration of the central and regional public authorities with the private sector entities would be other actions aimed at ensuring a sustainable growth of Romanian tourism and its competitiveness on the international tourism market.

## 5. Conclusions

The Destination Management Organization is a public utility association that performs the destination development policy, including the destination marketing policy and the coordinated management of the destination components. The Destination Management Organization is established by the association of the local public authority of the destination with special tax payers for tourism promotion, respectively: employer confederations/federations with activities in the field of tourism, employer organizations, employers in the respective destination. As an associate member, with a consultative role, other relevant entities can also join the DMO, such as: promotion associations, professional associations, administrators of protected areas, representatives from academia and professional training in tourism, chambers of commerce and industry and other such entities that operate according to the law on the territory of the tourism destination.

Successful tourism destinations are the result of a successful and sustainable management which obviously depends on the success of the DMO. Wray et al. (2010), cited by Klimek (2013) believe that an effective DMO should have:

- a long-term vision of the destination's development;
- the ability to clearly designate the responsibilities of the shareholders and to develop appropriate operational structures;
- a transparent and responsible decision-making process involving all stakeholders.

The low performance and competitiveness of the tourism destination Romania required a new approach to the management of tourism destination, through the establishment of Destination Management Organizations, a concept implemented legislatively in the period 2017-2018 and considered a viable model to manage a destination by capitalizing on the tourist potential, coordinated managing the components of the destination, increasing tourist demand and tourism receipts, involving public authorities, economic agents with activities in the field of tourism, the local population and other stakeholders.

The transformation of the Romanian tourism industry into a truly competitive one, with a strong positive impact on the national economy, will only be possible by implementing an efficient and effective tourism destination management system. Beyond local conflicts and interests, the Destination Management Organizations must be developed and managed professionally, so that they gradually succeed in offering more competitive, sustainable and responsible tourism products, better responding to the needs and desires of potential customers and promoting them as such, taking advantage of the diversity of available tourism assets (Romanian natural, cultural and social resources) to attract as many segments of international tourists as possible.

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## The Necessity of a Strategic Approach to Romanian Tourism

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### Abstract

*This paper presents a SWOT analysis of the tourism destination Romania, to take advantage of opportunities and transform strengths into competitive advantages, eliminate or improve weaknesses, reduce threats, and establish a defensive plan to eliminate weaknesses and overcome threats. Although it has invaluable tourism resources, Romania lags far behind its European competitors in terms of attracting foreign tourists. The poor infrastructure and the lack of a clear tourism strategy make it more difficult for Romania to compete with more attractive destinations. Romania's tourism policy requires effective strategic management, a long-term integration of research and the intensification of real collaboration between the tourism industry and the Government, in order to maximize the economic potential of the tourism industry. It is about creating a political framework, an efficient infrastructure, attractive facilities for investors, consumer protection, etc., supporting tourism development with tools capable of ensuring its competitiveness in the global economy.*

**Key words:** Romania, tourism, strategy, SWOT analysis

**J.E.L. classification:** Z30, Z32, L83.

### 1. Introduction

It is well known that, despite the valuable tourism resources it has, Romania is far behind its European competitors in terms of its ability to attract foreign tourists. The deficient infrastructure and the lack of a clear tourism strategy are the main causes affecting Romania's ability to compete with similar destinations. From 2014 to 2018, tourism's share in GDP increased by one percent, from 1.9% to 2.9%; it is a small figure compared to Croatia (20%) or Greece, countries that rely on tourism. The desire of the tourism authorities is to reach a percentage of 6-7% of the GDP in the coming years, and a series of measures in this sense have already been started, among which we mention the Ecotourism Strategy adopted on May 30, 2019 (aiming at capitalizing the protected areas through quality and sustainable tourism).

Romania's competitive advantages, differentiating it from other tourist destinations in the world, include: unique landscapes and natural parks, regions and cities with historical, architectural and religious vestiges, ethno-cultural heritage and friendly and hospitable people. However, the recipe for a successful and sustainable tourism requires more. Improving the quality of tourism products and services, tourism infrastructure, the professional development of tourism workers are elements that will support and maximize the economic value of the advantages of Romania's tourism resources as a tourism destination.

### 2. Theoretical background

Tourism must be integrated into the unitary functional system of the economy. In a macroeconomic sense, organizing tourism activity supposes the existence of an adequate framework, a sequence and relation of the components of this field of activity, ensuring the optimal functioning of the system. The peculiarities and heterogeneous content, the dynamism and dependence on other sectors of the economy, the large number of participants in making and marketing holidays, imprint specific features to the organization of tourism (organizational

structures, forms of integration, the role of the state, the distribution chain of tourism products). The organization of tourism activities currently tends towards decentralization, the stakeholders are increasingly involved in tourism policy and tourism development, and concerns regarding competitiveness have become major objectives for the national tourism agencies and strategic objectives for the regional ones (Toma, Mihai & Gross, 2022).

The analysis of the current state of Romanian tourism and the study of its weak points indicate the main actions needed to revive the tourism industry and support it in achieving its objectives and clarifying the vision (Țigu, 2012). These actions could be summarized as follows (Țigu, Andreeva & Nica, 2010):

- the public sector institutions with trained staff and sufficient resources must work in partnership with the private sector entities;
- market research, market segmentation and communication channels;
- an integrated tourism planning will lead to the modernization, development and better promotion of tourism products to meet tourists' expectations and requirements;
- staff education and training in the tourism industry;
- targeted marketing to establish Romania as a preferred tourism destination.

These actions must be applied in all fields of Romanian tourism – products, destinations, services, etc. and include: seaside tourism, city-breaks, circuits and geo-tourism, health tourism, active tourism and youth tourism, business tourism, rural tourism and ecotourism, education and training, animation, transport, tourist information, destination marketing, control quality, planning, environmental protection, legislative framework, investment promotion and consulting services.

The development of the tourism destination Romania requires a marketing approach at the macro-economic, but also the micro-economic level. A marketing plan is able to direct all marketing activities for a tourism destination, including market research, brand development, advertising and promotion, sales opportunities, distribution and cooperation. A marketing plan contains: tourism analysis, definition of goals and objectives, strategies, tactics and actions and the way to implement them (Țigu, 2012).

The lack of implementation of the concept of destination management is visible in the field of tourism management, both at national and local levels. Setting independent and apolitical national authorities operating as Destination Management Organizations (DMOs) was intended to provide expertise in all projects regarding the country brand. Since there was no coherent communication and collaboration between ministries and public and private organizations involved in promoting the image of our country, such authorities (DMOs) could be the solution for collaboration between these institutions and can ensure the tourism development plans (Țigu, 2012).

### **3. Research methodology**

To achieve the general purpose of this study and the proposed objectives, the structural logic was adopted, and the research methodology consisted in the use of several methods of investigation, such as: analysis, observation, deduction, synthesis, classification, comparison, description, the study of representative works in the field and the research of empirical facts. To substantiate the theoretical content, a series of bibliographic sources in the field were studied (works of renowned specialists, normative and legislative acts in the field). Other coherent and information was taken from the web pages of some renowned scientific organizations in the field of tourism and processed into relevant conclusions.

### **4. Findings**

A SWOT analysis of the current situation of tourism in Romania is necessary, viewed as a unitary international tourism destination, which has both weak points and strong points and which operates on a dynamic market, benefiting from opportunities, but also facing the inherent threats of an imperfect market (Nistoreanu, 2005). The SWOT analysis of Romanian tourism is a necessary tool in defining strategies to promote and develop the tourism destination Romania (Țigu, 2012).

The SWOT analysis of the tourism destination Romania provides a clear picture of Romanian tourism. The goal is to take advantage of opportunities and transform strengths into competitive advantages, eliminate or improve weaknesses, reduce threats, and establish a defensive plan to eliminate weaknesses and overcome threats (Table 1).

*Table no. 1. The SWOT analysis of Romanian tourism*

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• favorable geostrategic position;</li> <li>• natural tourist resources: the diversity of landscapes (proportionality of relief steps: 35% mountains and Subcarpathians, 35% hills and plateaus, 30% plains and meadows), the Carpathian Mountains (virgin forests, flora and fauna, mountain trails, national parks), the coast of the Black Sea, the Danube Delta (natural reserves), favorable climate for various tourist activities, hydrological and spa resources (35% of mineral water reserves in Europe, therapeutic mud), great biodiversity and protected areas;</li> <li>• human resources: historical monuments and archaeological remains (monasteries, Dacian fortresses, fortified churches), folklore traditions, art institutions, folklore, architecture, as well as cultural-artistic events, cultural heritage and UNESCO sites;</li> <li>• Romanian hospitality, authenticity;</li> <li>• accessibility and transport (17 airports with international access, naval port, railway network – the fourth longest in Europe and road network);</li> <li>• increasing investments in the rural environment;</li> <li>• diversification of accommodation capacity and implementation of best practice models in ecotourism;</li> <li>• legal framework: to manage protected areas and environmental protection, harmonized with the European one, the existence of the Master Plan for the Development of National Tourism 2007-2026;</li> <li>• the safety that Romania offers to tourists in the current geopolitical context;</li> <li>• qualified staff with language skills and qualifications above average;</li> <li>• mobile and landline operators with national coverage;</li> <li>• the highest speed of Internet traffic in Europe;</li> <li>• travel agencies and tour operators with expertise in providing tourist services;</li> <li>• participation in national and international circuits, fairs and tourism exhibitions;</li> <li>• diversified promotional packages according to the needs and requirements of tourists and an appropriate distribution of tourist products in the territory;</li> <li>• traditional gastronomy and regional specialties;</li> </ul>	<ul style="list-style-type: none"> <li>• the limited capacity and the low quality standard of the tourist and leisure infrastructure;</li> <li>• small number of hotels with a high degree of comfort and the high prices charged by them;</li> <li>• the state of degradation of some anthropogenic tourist objectives;</li> <li>• the state of advanced degradation of some accommodation units and leisure structures in some resorts;</li> <li>• poor quality and diversification of tourist services and their uncompetitive price/quality ratio;</li> <li>• still limited access for people with disabilities to some tourist attractions;</li> <li>• lack of a European-level tourist infrastructure;</li> <li>• forced urbanization of the rural population, with direct implications in the loss of the existing immaterial/material cultural heritage;</li> <li>• difficulties related to the tourism exploitation of traditional handicrafts;</li> <li>• gap between the training offered by the school and the requirements of the labor market in the field of tourism;</li> <li>• illegal work;</li> <li>• insufficient capitalization of historical monuments through specific architectural arrangements;</li> <li>• non-respect of traditional architecture in the case of new constructions, located in the bordering area of national parks and in tourist villages;</li> <li>• insufficient tourist information (tourist information points, visitor centers, sign boards);</li> <li>• low implementation of the quality management system in the tourism sector;</li> <li>• lack of environmental education of many locals;</li> <li>• poor promotion of cultural objectives and events;</li> <li>• high degree of beach erosion;</li> <li>• inadequate remuneration of tourism staff;</li> <li>• the reduced offer of qualification and training courses in tourism;</li> <li>• insufficient road transport infrastructure;</li> <li>• the crowding of some tourist areas and the poor utilization of others;</li> <li>• weak involvement of the mass media in promoting tourism domestically and abroad;</li> </ul>

<ul style="list-style-type: none"> <li>• application of the regulations regarding the reduced rate of VAT in tourism.</li> </ul>	<ul style="list-style-type: none"> <li>• the non-existence of an appropriate legislative package to support the development of investments in tourism and the facilities granted in this regard;</li> <li>• lack of regional institutional structures for the tourism development;</li> <li>• lack of an integrated offer for various forms of tourism and an integrated development of tourism in tourism destinations;</li> <li>• low awareness of the importance of tourism in the economy;</li> <li>• reduced tourist season for the seaside and mountain resorts, seasonal fluctuations motivated by the lack of promotion of the fact that Romania is a tourist destination 365 days;</li> <li>• insufficient incentives and support mechanisms for investors;</li> <li>• the lack of a strong and positive image of Romania as a tourism destination abroad (the lack of involvement of the Ministry of Tourism in promoting Romania on some important European markets and the closure of Romania's tourism promotion offices abroad, in 2017);</li> <li>• a weak collaboration between the public and private sectors in the issue of tourism marketing;</li> <li>• giving up the promotion of Romanian tourist offers by some German tour operators (TUI, Neckerman, Dertour, in 2018).</li> </ul>
<p><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"> <li>• relaunching the international tourism demand after the Covid 19 pandemic, which significantly affected the entire tourism industry;</li> <li>• exchange of expertise (know-how) and experience with partners from abroad;</li> <li>• the adoption of a new national strategy for the development of tourism, starting in 2010;</li> <li>• the possibility of accessing non-reimbursable European funds for the development of tourism infrastructure;</li> <li>• changes in international tourist demand and the decline of traditional destinations;</li> <li>• the appointment of Romania as vice-president of the UNWTO in 2011 and 2017, a fact that contributed to improving the image of our country;</li> <li>• coordinating the Working Group for Tourism in the period 2020-2022, Romania holding the mandate of acting president of the Black Sea Economic Cooperation Organization (OCEMN);</li> <li>• the evolution of online communication channels;</li> <li>• growing interest in business tourism;</li> <li>• favorable geopolitical position on the continent;</li> </ul>	<p><b>THREATS</b></p> <ul style="list-style-type: none"> <li>• geographical proximity to the war in Ukraine and the military conflicts in the area;</li> <li>• the still reserved attitude shown by an appreciable part of the tourist market, in the context of the still felt impact of the Covid 19 pandemic that began in 2020, significantly affecting, negatively, tourist demand and the state of the entire tourism industry;</li> <li>• strong international competition, including unfair competition practices;</li> <li>• strong competition from Central-Eastern European countries;</li> <li>• poor inter-institutional communication;</li> <li>• the migration process of qualified tourism employees;</li> <li>• maintaining the non-unitary character of the approaches at the level of this industry;</li> <li>• the gradual dilution of Romanian traditions and customs;</li> <li>• low awareness of the advantages of the country's tourist potential;</li> <li>• excluding tourism from the national priorities;</li> <li>• the degradation of the rural architectural heritage through the depopulation of localities and rural communities;</li> <li>• massive youth migration due to the lack of jobs;</li> </ul>



<ul style="list-style-type: none"> <li>• the capitalization of funding sources for the development of human resources in the field, at high school, university level and at the level of continuing professional training of adults;</li> <li>• upward trends regarding the evolution of the quality of the tourist offer;</li> <li>• the increase in the number of airlines operating in Romania, resulting in interconnecting of cities in our country with more and more destinations in Europe;</li> <li>• capitalizing on cross-border tourism potential (Bulgaria, Serbia), especially in the context of the Danube Strategy;</li> <li>• the increasing attractiveness of rural tourism;</li> <li>• the desire of all actors in the field to develop a tourism law harmonized with international legislation;</li> <li>• increasing demand for spa and climatic resorts;</li> <li>• the positive evolution of the offers of tourism operators;</li> <li>• growing tourist demand for niche forms of tourism, which Romania may provide;</li> <li>• organizing large-scale events in Romania (Untold festival, etc.).</li> </ul>	<ul style="list-style-type: none"> <li>• insufficiently well-developed organizational culture of executive and management personnel in the hospitality industry;</li> <li>• failure to adapt to the evolution of the sharing economy concept;</li> <li>• destruction and degradation of the natural environment through continuous pollution;</li> <li>• insufficient tourism promotion budget allocated to the Ministry of Tourism;</li> <li>• frequent changes in tourism development strategies, lack of continuity in fiscal legislation, public administration and environmental regulations;</li> <li>• lack of a unified tourism law.</li> </ul>
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*Source:* processed after Nistoreanu (2005); Mureşan, Chiripuci & Nistoreanu (2017); Țigu (2012) and own contributions

As the SWOT analysis shows, the legislative framework necessary to manage the protected areas and the protection of the human environment is identified as a strong point, an aspect harmonized with the European regulations and included in the Master Plan for the Development of National Tourism 2007-2026. A significant weakness is represented by the lack of the existence of an appropriate legislative package to support the development of investments in tourism and the facilities granted to investors. Among the opportunities is the stakeholders' desire to develop a tourism law harmonized with the international legislation, since its lack is currently a serious threat to Romanian tourism development.

The legislative, organizational and administrative measures represent the institutional support necessary for the development of tourist activities. The organizations or structures involved in tourism belong to the public or private sector, being commercial companies or professional associations with international, national or regional (local) activity. The tourism organization system is made up of three hierarchical levels: the central body (coordinator), regional (local) bodies and sectoral organizations.

The tourism activities in Romania are coordinated by the delegated ministry for tourism, currently called the Ministry of Entrepreneurship and Tourism, through the General Directorate of Tourism, with the following responsibilities: preparing the tourism development strategy, promoting domestic and international tourism, initiating and applying normative acts and specific regulations, representing Romania within international bodies.

The legislation regarding tourist activities in Romania is based on a series of normative and legislative acts aimed at: tourist infrastructure, control and authorization for tourism (classification certificates, tourism licenses and patents, tourist authorization for beaches, tourist guides), tourism promotion, tourism development. Since there are no resources to apply of the legislation, it is not properly implemented. Another major shortcoming is the lack of a unified and comprehensive tourism law in force. Since 2010, the Tourism Law Project continues to be amended and debated.

Other shortcomings are due to: the frequent changes within the delegated ministry for tourism, a fact that did not favor the continuity and coherence of measures, strategies and planning for the development of Romanian tourism; the repeated establishment and dissolution of bodies or institutions such as the National Tourism Authority or the Tourism Authorization and Control Office, the Tourism Promotion Office; a poor collaboration with domestic and foreign specialists in the field in preparing legislative acts regarding tourist resorts, their classification and attestation.

In the last 10 years, the National Tourism Authority and, after its abolition, the Ministry of Tourism have developed new strategies to meet the requirements of the National Tourism Development Master Plan 2007-2026 (made with the support of UNWTO consultants). Thus, in 2010, Romania's national tourism brand was created and promoted at Shanghai World Expo 2010, under the slogan "Romania – Explore the Carpathian Garden" (Ministry of Regional Development and Tourism, 2011). The promise of the brand is deep satisfaction and high level of recognition as an explorer of an intact and new destination, which is not found on the classic routes of Europe. The logo depicts a leaf and a river, symbols of the defining elements of Romanian tourism:

- intact nature and unaltered landscapes: national and natural parks, rare and isolated landscapes, rare flora and fauna elements, valuable ecosystems (Carpathian Mountains, Transylvania, Danube Delta);
- authenticity: traditions, simple rural life, organic food produced by locals, traditional architecture (Transylvania, Maramureş, Bucovina, Dobrogea);
- unique cultural heritage: castles, monasteries, Latino-Byzantine cultural heritage, German cultural heritage, the frescoed monasteries of Bucovina, the old center of Sibiu, the wooden churches of Maramureş.

After successfully creating this tourism brand, the Romanian Government needed an operational marketing plan to promote the new brand and to position its tourism offer on the global market. The Operational Marketing Plan for Romanian Tourism 2011-2015 (made by Hoewath HTL) included a communication strategy and 6 key tourism products and strategies for markets and market segments, aiming at developing all marketing activities on domestic and foreign markets. Then other strategies for the development of health tourism, ecotourism, rural tourism, seaside tourism were implemented. The development of tourism has been done strategically in recent years, implementing coherent action plans of tourism coordination (The Strategic and Operational Plan for Tourist Marketing of Romania 2011-2015, The Strategic and Operational Plan for Tourist Marketing for Bucharest 2011-2015, The Strategy for Creating and Promoting the National Tourism Brand, The National Ecotourism Development Strategy, The National Spa Tourism Development Strategy).

*The National Strategy of Romania for Tourism Development for the period 2020-2030*, with its two volumes (Report on the Rapid Assessment of the Tourism Sector and Strategy and Action Plan) offers elaborated analyzes and advanced solutions for Romania by a world-renowned body in the field tourism and hospitality. The strategy could become the main working instrument in favor of Romanian tourism's growth and consolidation, therefore it is necessary to expedite the procedures for its approval through a Governmental Decision. This document was created with the input of many professionals and specialists in the field, an ethnic working group of the central authority for tourism, inter-ministerial commissions, experts from the World Bank, opinions and results of consultations of associations and employers' and professional organizations, entrepreneurs, owners and managers.

This ten-year multi-year program for Romanian tourism involves the collaboration of all stakeholders (government structures, employers' and professional associations in the field, locals, tourists, the environment with its defenders, etc.), following a rational, consistent and visionary strategic direction, so that Romania becomes a favorite European tourism destination. The measures that address the issue of Romanian tourism are concrete and have multiple perspectives:

- prioritizing and supporting the tourism sector within the national economy;
- developing sustainable tourism;
- encouraging public and private investments in tourism;
- highlighting Romania's competitive advantages through intelligent promotion;
- digitalizing and supporting new technologies in tourism;
- reducing tax evasion in tourism;



- administrative efficiency.

Romania has been a full member of the World Tourism Organization (UNWTO) even since 1975. UNWTO is the United Nations agency that coordinates the international promotion of responsible, sustainable and accessible tourism. Currently, UNWTO has 159 full member states, 6 associate members and over 500 affiliated members from the private sector, educational institutions, tourism associations and local tourism authorities. In 2017, Romania was elected a full member of the UNWTO governing body, and the position of a member of the UNWTO Executive Council represents an international recognition of the efforts made in the field of tourism and an opportunity to increase the visibility of our country abroad, both as a tourism destination and as an active partner in the field of international tourism. Romania held this quality until 2021.

Also, in the period 2020-2022, Romania coordinates the Working Group for Tourism, holding the mandate of acting president of the Black Sea Economic Cooperation Organization (OCEMN) - Press Release, May 21, 2020.

## 5. Conclusions

The performance of Romanian tourism should be of prime importance within the national development policies and strategies. The Ministry of Tourism should have an experienced leadership, oriented towards the tourism industry and the priority tourism markets. Its actions include collaboration between national and regional tourism organizations and those from the private sector, with the objective of increasing the number of tourists, their expenses and the number of jobs in tourism. The leadership of the ministry should work closely with the stakeholders and the local public administration authorities to develop the tourism industry, promoting quality standards in tourism and representing the Romanian tourism brand internationally. It is necessary to unify the efforts of the state and investors to create optimal conditions for development.

The national tourism development strategy should be considered a milestone in Romania's tourism policy, a long-term integration of research and collaboration at an unprecedented level between the tourism industry and the Government, in order to maximize the economic potential of the tourism industry. It is about creating a political framework (policies, strategies, regulations), efficient infrastructure (easy accessibility to highways, airports, ports, direct routes to destinations), facilities for investors and, last but not least, consumer protection, to support the development of the tourism industry, with instruments able to ensure its competitiveness in the global economy, especially regarding the opportunities on the European market. This requires consistency, continuity and coherence, in other words, a strategic and effective management.

In recent years, important steps have been taken in developing Romanian tourism: the implementation of the Tourism Investments Masterplan, the inventory and assessment of unfinished investments from European and governmental funds and the provision of funds for the completion of investments for the development of tourism; the adoption of Law no. 277/2017 for the guarantee of tourist service packages, with effect on consumer protection and the encouragement of initiatives in tourism; a new approach to tourist destination management by finalizing the legislative framework for the operation of Destination Management Organizations in tourist resorts and localities; the establishment of the Inter-ministerial Committee for Tourism in order to promote an adequate institutional framework to coordinate public policies and actions with an impact on tourism at the national level, monitoring sectoral developments and formulating strategic directions accompanied by a medium/long-term action plan to improve tourism potential; supporting sustainable tourism through the 2019 Ecotourism Strategy; granting holiday vouchers to employees in the budget sector, to buy holidays in Romania.

Since the tourism resources are practically inexhaustible, tourism represents one of the economic sectors with real prospects for long-term development. The capitalization and complex exploitation of tourist resources, together with an effective promotion strategy on the international market, can constitute significant sources of income in foreign currency for Romania, thus contributing to balancing the external debt (Țigu, 2012).

Tourism must earn its rightful place in Romania's national economy, overcome the moment of crisis caused by the COVID pandemic with as few sequelae as possible. The perception of the state in relation to this industry has improved in recent years, as well as that of the general public, revealing the scope and the major economic, social and image implications that this sector can generate in favor of everyone, both in the short term and, above all, for future generations.

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## Factors That Influence Performing Remote Work. Challenges And Solutions

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### Abstract

*Working from home has its shortcomings, and many employees choose for the hybrid way of working, if possible. The present research analyzes 405 anonymous answers from students, and focuses on the factors that influence performing the remote, online work. In particular, respondents were asked which factors they think are most influencing performing the work in the remote, online environment. Giving scores from 1 (minimum) to 5 (maximum) to 10 factors identified in the literature review, students are of the opinion that technology, flexibility, technical skills and commitment have a major influence on performing remote work. Also, according to our results, there are several challenges related to this type of work environment, which can be managed.*

**Key words:** employees; remote work; factors; challenges; solutions.

**J.E.L. classification:** F66; J24; O15.

### 1. Introduction

There are situations when the remote work is more than necessary, almost impossible to refuse (the case of the COVID-19 pandemic), but the post-pandemic situation proves that future employees can still choose to work from the office or from home. Most of them choose a hybrid formula that represents a middle way between the requirements of employers, who want to minimize their costs in the galloping inflationary conditions, respectively the psychological comfort of the employees, who want to communicate with their colleagues, to socialize, and to learn things in other ways than in the remote environment.

This is the reason why we designed the main purpose of this paper, which is to analyze the factors that influence students to choose the remote, online work offers. Additionally, we comment what challenges occur in this kind of work environment, which is useful for applying a proper management strategy in the future.

### 2. Theoretical background

The majority of the rules for work are the same for the remote workers and the others, and there is no difference in what concern the requested performance standards (International Labour Organization, 2020). Work from home it is considered to increase in the future – as an alternative to temporary substitution, especially for the higher-educated employees (Bick *et al.*, 2021). Teleworking involves also measures for health and safety of the employees (International Labour Organization, 2020).

According to a qualitative study made on 53 employees from Swedish public organizations, the main advantages of the remote work were autonomy, work-life balance, individual performance and increased flexibility, while the challenges discovered were comradery lost and isolation (Babapour Chafi *et al.*, 2022). To counteract these disadvantages, trust and communication becomes fundamental, and can be gained right from the start of the employment contract negotiations (Clipa *et al.*, 2019). A study made on Microsoft employees in 2020 showed that firm-wide remote work

caused the employees network to convert into more static and siloed activities, with fewer bridges between disparate parts, with less synchronous communication and more asynchronous communication (Yang *et al.*, 2021). In this sense, it is more hard to employees to gain and spread new information among the network (Yang *et al.*, 2021).

A factor that counteracts long hours working from home is represented by the presence of children in the house (Bick *et al.*, 2021). In a study made in Bangladesh was found that human resources departaments, online tools and remote work are key factors that ensure the employee betterment and organizational productivity at the same time (Shahriar *et al.*, 2022). Another study, based on 129 qualitative interviews, revealed as advantages of the remote work cost-reduction and flexibility to promote work-life balance, and the following negative aspects of this way of working: communication and technical problems, management, with the comment that positive conditions are more visible than the negative ones (Ferreira *et al.*, 2021). Another study approves the following positive effects of the remote work: reduction in commuting time, greater working time autonomy, better overall work-life balance, and higher productivity, while contrasting with the following problems: issues of trust, control and power over employees by the employer (Shakti *et al.*, 2021). The same study approves that employees are productive in any environment if they have proper resources (Shakti *et al.*, 2021). A study made on 5452 Finnish employees demonstrates that trust in peers and supervisors does not support adjustment to remote work (van Zoonen *et al.*, 2021), while in another study has been demonnstrated that trust and management style can be key influences on e-worker effectiveness (Grant *et al.*, 2013).

### 3. Research methodology

Data was collected between 12.2021-05.2022 through an online questionnaire, designed in Google Forms. 405 students were involved in our study, 147 of them being undergraduate students, and 258 of them being master students. Their age is between 18-55 years.

The current research was designed to analyze in a holistic way what fresh workforce need in terms of rewards and work conditions to accept a remote, online work offer. In particular, in this paper, are presented factors that influence such type of work and challenges that occur in the online work environment, in order to timely manage them.

### 4. Findings

Respondents were asked to give a score from 1 to 5 (1-min, 5-max) for each category of factors found in the specialized literature, which have proven over time to influence the acceptance of a remote, online job offer. The results are presented in Table no. 1.

Table no. 1 Which factors influences the most performing remote work online? (N=405) (sort in descending order)

No.crt.	Factors	Mean
1.	Technology	4,32
2.	The desire for flexibility	4,26
3.	Technical skills and commitment	4,08
4.	Cost benefits	4,00
5.	Time management of interrelated business	3,92
6.	Organizational strategy	3,90
7.	Increased added value (turnover, profit, etc.)	3,66
8.	Improving collaboration among employees	3,58
9.	Cultural and social influences	3,46
10.	The support of the authorities	3,23

Source: Data processings. Scores were given from 1 (minimum) to 5 (maximum).

With an average close to the maximum score limit, technology proved to be the most important factor for choosing a remote, online job offer (Mean = 4,32 out of 5). This factor refers to the abilities of the employees to use technology and to work with it. On the second place flexibility of the work schedule/ location proved to be very important in choosing remote job offers (Mean = 4.26 out of 5), and on the third place occurred technical skills and commitment (Mean = 4.08 out of 5). In other words, young people are ready to accept a remote, online offer if they have a suitable technical skills package, commitment, and pleasure to work with technology, and if they want/ need to work with flexible program and/ or location. Cost benefits appear on the fourth place (Mean = 4.00 out of 5) as factor that influence such job offers, and the role of the state authorities in this equation is minimized on the last place (Mean = 3.23 out of 5).

Respondents were asked to tick a list of challenges (with no limit in terms of number), that are considered to be important for organizing the remote, online work. The frequency of these challenges are presented in Table no. 2.

*Table no. 2 What do you think are the challenges of doing work remotely (online)? (N=405) (sort in descending order)*

No.crt.	Categories of challenges	Frequency
1.	Challenges related to communication	292
2.	Challenges related to technology	247
3.	Challenges in maintaining the cohesion of work teams	241
4.	Challenges related to management	214
5.	Achieving a balance between formal communication and documentation	185
6.	Absenteeism	177
7.	Involvement of employees to put effort into the work	165
8.	Persuading employees to use IT assets effectively	160
9.	Challenges related to transparency	157
10.	Information fragmentation	153
11.	Challenges related to performance	152
12.	Challenges related to training and professional training	146
13.	Security and safety challenges	119

*Source:* Data processings.

Although homework involves by default the use of many communication channels, most students are of the opinion that the many challenges of the remote work are related to communication. 292 respondents out of 405, representing 72,10% of the sample, chose this challenge that organizations have to manage. Technology, which turned out to be the first factor that influence a remote work offer, represents also a challenge for many of the students (247, representing a percentage of 60,99% of the sample). The cohesion of work teams represents a challenge worthy of consideration for the management boards of organizations, while security and safety challenges do not represent a challenge for too many respondents in the study (only a percentage of 29.38% of the sample checked it as a challenge). Management itself could represent a challenge if it is not properly done for the remote, online work.

## 5. Conclusion

There are many factors that influence the decision of getting a remote job. In our study, an analysis of 10 factors that influence the choice of a remote, online job offer was carried out and a frequency-based statistic of 13 challenges that can appear in such a work environment was made.

In the top 5 challenges for the online, remote jobs, 4 of them are correlated with communication problems: challenges related to communication (Frequency=292 out of 405), challenges in maintaining the cohesion of work teams (Frequency=241 out of 405), challenges related to

management (Frequency=214 out of 405), and achieving a balance between formal communication and documentation (Frequency=185 out of 405).

The most important factor that influences the acceptance of a remote job refers to the abilities of the employees to use technology and to work with it. Young people are ready to accept a remote, online offer if they have a suitable technical skills package, commitment, and pleasure to work with technology, and if they want/ need to work with flexible program and/ or location. Despite the fact that the remote work involves by default the use of many communication channels, most of the participants in our study are of the opinion that most common challenge of the remote work it is related to communication. This may mean that human resources may not yet be ready to work 100% online, remotely. Thus, we consider that a hybrid approach it would be preferable to the fresh employees.

The first limit of our research is represented by the number of factors/ challenges taken into account in the questionnaire. The second limit may consist of the data collection period, 12.2021-05.2022, immediately after the pandemic generated by the Sars-CoV-2 virus, which may influence the answers given due to the urgency of working from home during the pandemic. This research can continue with further studies analyzing human resources preferences for the remote, online work.

## 6. Acknowledgement

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## Employees Demands For Remote, Online Work. Post Pandemic Changes

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### Abstract

*In the recent years, the labor market has undergone many changes in terms of work location, work program and work conditions. If until the pandemic caused by the SARS-CoV-2 virus, the classic option of working in the office was preferred among employees, with the outbreak, working from home has become the new normal. This way of working has also become extremely useful post-pandemic, so that many companies choose to continue with fully or partially remote work. Along with these changes in the labor market, the preferences of employees for the rewards received from the remote work have changed, and they put accent on purchases necessary to work from home, payment of utility expenses, even on more free time. Employees also expect surprises from companies, such as: lunch sent directly at home or other surprises that will make them happy. This paper analyzes from a theoretical point of view what are the requirements of employees that work from home, online. The analysis is not carried out under the pretext of the past pandemic, but presents a post factum analysis.*

**Key words:** online environment, remote work, rewards, happy employee

**J.E.L. classification:** H12, J53, M54, O15

### 1. Introduction

Before the pandemic caused by the Sars-Cov-2 virus, employees were not very oriented towards working from home, online. During the pandemic, both employees and employers had to make working remotely as efficient as possible. After the pandemic, the requirements began to stabilize and focus on one thing: employees want to balance their schedules most of the time through hybrid work. Hybrid work brings out the best of the work done at home mixed with the work done at the office (Babapour Chafi *et al.*, 2022).

Nowadays employees are analyzing in details what they want from their careers, while employers reconsider the way the work is done, to respond to the employees desires (Raman, 2021). With this pandemic, managers understood that work means a set of task made on any device through artificial intelligence (Yadavalli, 2020). Moreover, the analysts appreciate that digital workplaces has become the new normal, and estimate the market to grow in this direction up to \$40 billion by 2025 (Yadavalli, 2020).

### 2. Literature review

The pandemic was a pretext for unlocking the remote work, which brought higher productivity, geographical mobility and lower costs (Bick *et al.*, 2021). Even if the remote employees work from home or from another location, they have the same rights as those who work from the offices (International Labour Organization, 2020). To support the hybrid work, employers are expected to redesign the fizical and the digital workplaces (Babapour Chafi *et al.*, 2022). The remote work was perceived in a positive manner, but has demonstrated its own leadership challenges (Babapour Chafi *et al.*, 2022). Thus, trust can be used in such situations, and it can be managed from the very beginning (Clipa *et al.*, 2019).

The remote work brought to Microsoft less interconnected groups (Yang *et al.*, 2021). Also, this type of work made individuals to spent less time with the weak ties, which provide new information in organizations (Yang *et al.*, 2021). This type of work brings also negative aspects, such as: more static networks, and poor communication, which has become more asynchronous than synchronous (Yang *et al.*, 2021).

In a study made on 129 interviews was demonstrated that the positive effects (work-life balance, cost savings) of the remote work are more important among employees than the negative ones (management problems, communication, technical problems) (Ferreira *et al.*, 2021). In another study, after a year of remote work, employees pointed out job satisfaction, with the comment that they faced significant job stress despite the good productivity obtained (Shakti *et al.*, 2021).

The adoption of the remote work has many lackings, so the research has to continue in this area (Ferreira *et al.*, 2021). However, there are several advantages of this type of work: business continuity plans, cost savings, competitive advantages (Ferreira *et al.*, 2021). Disadvantages of e-working were found in another study: affected well-being due to over loading and the missing time for recuperation (Grant *et al.*, 2013). For these problems, trust and style of management were found as key solutions (Grant *et al.*, 2013). The human resources policies are overcharged with the remote work, putting much stress on well-being, leave and compensation (Shahriar *et al.*, 2022).

### ***So what the "new normal" means? What it can be improved post pandemic?***

According to a post pandemic study, nowadays, 92% of people see flexibility extremely important, 38% of people want to choose when to start and to end the work program, and 17% would like to choose a four-day work week for less pay (Manpower Group, 2022). Further, flexible work arrangements and proper compensations bring a better chance of attracting and maintaining workforce post pandemic (Workforce Challenges: Pre- and Post- Pandemic, 2022). A strong culture would increase the employees adaptability, while opportunities offered by leaders would increase engagement and interest (Workforce Challenges: Pre- and Post- Pandemic, 2022).

The main post-pandemic trends are the following (Raman, 2021):

- Offices will serve especially for collaboration, learning and innovation (not for working).
- Artificial intelligence will be soon adopted by companies.
- There will be an emphasis on employees wellbeing, diversity, equity and inclusion; flexibility in terms of location (work from offices and from home) is desired by employees.
- There is a movement from performance monitoring to performance coaching.
- There will be an increased attention to culture.

Many challenges have occurred since the pandemic ended: the workplace has become more flexible, employers are concentrated and focused on well-being and employees health, management strongly needs contingency plans, and workforce is more demanding because of the worldwide remote offers (Infraspeak, 2022).

### **3. Research methodology**

This research is based on a qualitative analysis of specialized studies related to the subject: post-pandemic changes for working from home, online. In order to carry out this study, several studies were analyzed, and in the results section were presented the challenges encountered, the authors who recorded these challenges, and future possible solutions.

### **4. Findings**

The analyzed literature conducted us to a syntetic table, which presents the main challenges that appeared post pandemic, the authors that named these challenges, and proposed solutions. Data is presented in the Table no.1.

The solutions proposed for the challenges related to the remote work do not have a quantitative foundation, but are only starting points for future detailed analysis of the problems.



Table no. 1 Challenges and solutions proposed for the remote work

Nr. crt.	Challenges found in the remote work	Authors of the challenges found	Post pandemic solutions proposed
1.	Leadership challenges	Babapour Chafi <i>et al.</i> , 2022	<ul style="list-style-type: none"> <li>✓ Managers/ leaders have to maintain a continuous informal communication with the employees that work remotely.</li> <li>✓ Showing managers/ leaders availability for solving problems in front of the employees could be a plus.</li> </ul>
2.	Technical problems	Ferreira <i>et al.</i> , 2021	<ul style="list-style-type: none"> <li>✓ Training on the specific technical problems.</li> </ul>
3.	Employees are analyzing in details what they want from their careers	Raman, 2021	<ul style="list-style-type: none"> <li>✓ Employers have to re-design the jobs and to bring attractive structures for these.</li> </ul>
4.	Increased stress	Shakti <i>et al.</i> , 2021	<ul style="list-style-type: none"> <li>✓ Training on stress control.</li> <li>✓ More free time offered to the employees.</li> <li>✓ A free day weekly.</li> </ul>
5.	Less interconnected groups	Yang <i>et al.</i> , 2021	<ul style="list-style-type: none"> <li>✓ Short informal meetings at the beginning of the program.</li> <li>✓ Physical team buildings.</li> <li>✓ Weekly physical meetings with topics different than the professional area.</li> </ul>
6.	More static networks	Yang <i>et al.</i> , 2021	<ul style="list-style-type: none"> <li>✓ Weekly physical meetings.</li> <li>✓ Online interactive meetings.</li> </ul>
7.	Asynchronous communication	Yang <i>et al.</i> , 2021	<ul style="list-style-type: none"> <li>✓ Well established online meetings.</li> <li>✓ Communication via messages.</li> </ul>
8.	Affected well-being	Grant <i>et al.</i> , 2013	<ul style="list-style-type: none"> <li>✓ More free time offered to the employees.</li> <li>✓ A free day weekly.</li> <li>✓ The hybrid work.</li> </ul>

Source: Challenges synthesized after the authors in the third column.

Although at first glance, remote work seems to bring a balance between personal and the professional life, unfortunately, problems appear even on this aspect. The solutions we propose to counterbalance this imbalance are: more free time, one free day per week, or alternating work from home with work at the office. The static networks and the less interconnected groups are occurring because of the lack of the face to face communication. Thus, we expect more events with physical interacting between employees and online interactive meetings. The poor communication is the root of any problem related to interaction. The asynchronous communication could be avoided through a well established meetings program and by using more text messages.

Leadership challenges are the most difficult to be managed in the remote environment. Thus, we expect that leaders/ managers to promote trust, availability to employees in solving problems, and to use the informal communication even in the online environment. Technical problems are a urgent priority. For the remote employees who encounter such problems, we expect specific trainings. For the increased remote stress we proposed training on avoiding and managing stress, and more free time for relax.

Finally, when employees are analyzing in details what they want from their careers, employers could adapt the offer of jobs and could make them to be more attractive.

## 5. Conclusions

Post pandemic times brought us common digital workplaces. Post-pandemic trends are saying that offices will serve especially for collaboration, learning and innovation, not for working, and that artificial intelligence will be soon adopted by companies.

In this paper we have synthesized from literature the main problems that have occurred since the pandemic ended. We have found 8 major challenges: leadership challenges, technical problems, increased stress, less interconnected groups, more static networks, asynchronous communication, affected well-being and the fact that employees are analyzing in details what they want from their careers. For each problem encountered we proposed possible solutions, which are starting points for future detailed analysis.

The main limits of our study are: the number of references is limited to the topic, and the extraction of the main challenges of the remote work was done randomly. Future research directions about post pandemic problems found in the remote work can be conducted in the future.

## 6. Acknowledgement

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## Human Resource Management and Industry 4.0

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### Abstract

*The world of human resources is constantly changing, network communication between humans and robots, self-control, virtual processes and production, dynamics and efficiency, all these are no longer a dream of the future, but found in our everyday life. The future promises to be digital, more flexible and less predictable.*

*Given this structural change in the labor market, a rapidly changing professional world and the rapid progress of digitization, HR management must also react and adapt its work to the new Industry 4.0.*

*The purpose of this article is to highlight what challenges the HR department faces in the course of digitization and therefore Industry 4.0.*

*Industry 4.0 is our future and is related to so-called cyber-physical systems, the Internet of Things, chatbots, smart factories, cloud computing, artificial intelligence and much more.*

**Key words:** human resource management, industry 4.0, IoT, technology

**J.E.L. classification:** M12, M54, O32

### 1. Introduction

Our economy is in the midst of a revolution. The four megatrends mobile, social, cloud and analytics take digitization to a new level. And as people and machines connect, the generation is moving into a legacy job market, knowing nothing but the life of being part of the web. At the same time, job descriptions are becoming more demanding and complex, and employees are constantly being asked to acquire new skills. How will HR react to these changes? And how can HR look effective in Industry 4.0? In this article, we examine the changes resulting from HR 4.0, also in relation to Industry 4.0 and leadership.

Many are currently talking about the fourth industrial revolution, and experts are already using the term Industry 4.0. Which means that we are in a continuous ascent in terms of the degree of growth of digital networks and the fusion of people, intelligent machines and means of production. This will completely transform the future of human resources, bringing new business models and new types of collaboration. Along with this, work organization and corporate strategies will also change.

Anyone who embraces digitization is already one of the winners in today's market, because digitization megatrends hold a lot of potential. The path to Industry 4.0 has been almost linear compared to today's upheavals.

It moved from the steam engine to the introduction of modern production systems, to electricity and the possibility of mass production, to the use of computer systems and robots that automated parts of production and made it easier. This path has always been focused on organized companies offering standardized products. The organization of companies was characterized by steep hierarchies, by specifications and by controls, and the employee was checked to see if he fulfilled the duties of the position he held.

Staff work in Industry 4.0 is about connecting technology, data analysis, agile and digital staff planning and management. During the digitization of human resources, employees can be digitally mapped and processes can be automated and optimized, for example in the areas of personnel

organization, performance management, recruitment or electronic payroll accounting. Employer branding also plays an important role in the Industry 4.0 era.

Many of the necessary tools and technologies are already available to HR professionals, so many manual HR tasks can already be replaced today. This saves a lot of time for HR, and with the help of new digital tools, they can focus more on the essentials instead of dealing with manual, bureaucratic or repetitive tasks. Thus, automating and optimizing HR processes can improve not only the performance of the department, but also the overall performance of the company.

The demands on HR managers are higher than ever, because digitization brings with it a large number of changes and a certain technical know-how, which the staff must acquire first. As for HR managers, they must be especially well prepared, now and in the future, because it is the only way to step into the digital labor market of Industry 4.0.

The first step to successfully digitizing HR is also to get an overview of time-consuming repetitive processes, automate them and standardize them with the new electronic tools available.

The use of digital technologies and tools already facilitates the entire application process for many recruiters and headhunters. Recruiting software can also be used as an interface between the HR department and the managers in charge, thus facilitating internal communication during the application process. Digital software solutions can help HR professionals create an organizational framework for performance management.

It is important for companies to give HR departments the opportunity to shape the labor market themselves in line with Industry 4.0, which may also mean that company structures need to be fundamentally revised. This can lead to skepticism and uncertainty not only among managers but also among other employees.

Therefore, it is the task of HR management to support employees and managers in this process, but above all, it is their task to set an example for them in digitization. The role of the HR department is also to train and sensitize managers and employees to new tasks and technologies. Coaching and workshops offered by human resource management can help. An Industry 4.0 implementation strategy must also be compatible with overall corporate goals and approved by management. Each individual must be included and enabled in the implementation.

## **2. Literature review**

"The very name of organizational change does not offer a varied palette of descriptions on this subject, thus, by comparing the operational and the organizational change, we can see that the former refers exclusively to individuals, their roles and values, while the one the latter covers a much broader field, namely all operational processes: customer service, production and logistics." (Stegăroiu et al, 2020, p. 241).

The systematic use of specialized literature reflects the current state of research on the concept of Industry 4.0, to determine the possible effects on human resources and the role of human resource management, and to show the corresponding fields of action and design options for overcoming the challenges generated by digitalization.

The theoretical foundations of Industry 4.0 in general are elaborated by describing the most important components, requirements, objectives and risks for the company. Based on the literature review, the labor market and personnel management consequences are then identified and transferred to the relevant action areas. Digitization not only changes the possibilities within companies' production processes, but also offers HR departments new optimization possibilities.

"Organizations compete for their key resources including knowledge which is rare, valuable and hard to imitate and, which becomes a strategic resource when it comes to get competitive advantage." (Croitoru et al, 2012, p. 237)

Industry 4.0 is the new era of the Human Resources sector, based on the application of technologies and software to improve its processes. This industry indicates a change in mindset, making processes more strategic as well as focused on optimizing people management and their role in the business.

Change is inevitable and affects all sectors, but like previous revolutions, it does not happen overnight.

The technological revolution in the Human Resources sector applies advanced technology to personnel management, through recruitment and selection, attracting new talent with the help of Industry 4.0. This means that most HR functions will become automated, while new, more strategic functions will be created to attract and retain talent. A technological Human Resources sector is a response to the changes that are occurring, because for a long time HR was seen as a bureaucratic and backward sector, out of step with the rest of the company.

To change this scenario, new technologies are being inserted into the sector to evolve it. But what still causes confusion on this topic is the application of technology in everyday life. Many think that HR in Industry 4.0 is futuristic, almost like a science fiction movie, but the technology is more realistic than it seems.

Instead of robots and holographic screens, we will have an end-to-end integrated software sector with big data generation and analysis, strategic and operational. What Industry 4.0 brings is the possibility to work creatively, in a more strategic and human way.

### **The impact of the industrial revolution on human resources**

"Industrie 4.0 (I40), i.e. the implementation of cyber-physical systems along the entire value chain and a far reaching digitalization of products and processes, is regarded as a significant agent of change in our current industrial system." (Burmeister et al, 2016, p. 124).

It is impossible to explain Industry 4.0 without first contextualizing the revolutions that preceded and are responsible for its emergence. First, of course, the industrial revolution.

The first revolution happened a long time ago, with oil and steam powered machines replacing artisanal processes. The second revolution, brought about by electricity, could be used to build airplanes, refrigerators, and telephones. In the same period, the Human Resources sector was created. The third industrial revolution took place through technology as we know it today - and it is the closest to our generation, since the 20th century, smartphones, smart TVs and especially computers have been responsible for accelerating and popularizing knowledge generation, with billions of people connected.

This is the new industry we are facing, responsible for improving processes, streamlining communication, eliminating manual work and generating gains in efficiency and productivity. Even if this revolution is shaped by technology, it does not mean that the human being will be completely replaced. Many functions will be redefined and improved according to the needs of the new reality.

Adopting it is no longer a choice, especially for HR, this new way of acting and thinking based on technology brings countless innovations.

### **The challenges of HR 4.0: technology, data and the mental model**

Idealizing this new industry is the easy part. But a sea of challenges separates traditional HR from its new version, and this goes far beyond the sector itself. The technological revolution will have to deal with the processing and protection of a huge amount of data.

Among the main human resources challenges in Industry 4.0 is the HR mindset. This has strong roots in a bureaucratic reality. Before any change can take place, it is necessary for all participants, in the HR sector, to change their mental model to something new, which thinks, focusing on innovation and digital transformation. There is still the fight against resistance from many who believe that change is not necessary and that technology and innovation should not be a priority. This means that the first step towards change is creating a mental model based on innovation.

All advances in any science are made through study and research. But that requires investment in technology and the team required for scientific development. In HR, progress tends to take small steps due to a lack of investment. Thus, another challenge for the new industry in the sector is the lack of studies on this topic.

To get to the future that is being designed now, a lot of effort needs to be invested in tests and technologies in all sectors. It also includes investing in leadership and team development. In Industry 4.0, soft skills will be a priority. It is more than necessary to encourage and invest in knowledge about digital transformation, communication, business and trends in HR.

The human resources market still lacks advanced software with the possibility of integration that, in the future, will satisfy all the needs of the sector. It is necessary to invest today in technologies that already use artificial intelligence in HR and have the potential to develop a tool towards industry 4.0.

HR in the era of Industry 4.0 is becoming indispensable in the strategic direction of a business, in the development of people, their skills and in redefining what work is. The human resources sector becomes a reference, making strategic decisions and directing actions that value management. No more paperwork, forms and manual actions. The main difference between these two versions of the industry is that of being strategic.

Innovating is not necessarily creating something from scratch, but reinventing something that exists, giving it new features, and understanding how to work in different ways with the available tools. In this way, the ability to innovate in HR - something that is still rare today - will become a necessary skill. New functions will be created, talent retention and attraction strategies will be reinvented by HR, and many other roles as we know them will be reshaped according to market needs.

People Management is currently not known for its use and generation of data. But with the desired technology of Industry 4.0, HR will be able to collect, analyze and transform a large amount of data into valuable information. Thus, being able to know employee behavior patterns, identify employees prone to firing, and better understand what actions can be taken to improve the employee experience. The possibilities of data generation in human resource management are endless.

One of the biggest HR challenges today is operational work. Among the sectors of a company, the HR department is the most difficult to adopt digital transformation. Therefore, what will change with the technology provided by Industry 4.0 is the reduction of red tape. With fewer manual and repetitive tasks, HR will be able to focus on what matters, people. In this way, more active work will be done on the company's strategy in pursuit of results and objectives.

### **How to implement Industry 4.0**

Even before you think about hiring new tools, some actions help direct human resources towards Industry 4.0. After all, the future will also depend on human resource management, leadership and shared learning.

Industry 4.0 will not only require technological knowledge, but also knowledge of empathy and leadership, therefore, the development of leadership with a focus on the transformation of the digital era. Leaders are no longer administrators, they now bear responsibility for the company's culture and purpose. The leader is a coach who helps his team to build and develop. As the importance of organizational culture grows, leaders increasingly become ambassadors, and to drive the field toward the company's purpose and ambition, management will need to hire and train the team and seek to fill experience and diversity gaps. HR will no longer be the sector that only hires, but a fundamental part in the development and growth of the business, based on culture, purpose and values.

Companies that create a diverse and people-focused environment that care about employee well-being and develop a unique experience tend to have high-performing teams and better financial results.

### **3. Research methodology**

Due to the ever-increasing influx of information, triggered by the growing number of authors and publications, the literary landscape is becoming more and more extensive and complex, which makes the processing of scientific papers more difficult and requires a greater amount of work. Therefore, it is necessary to give special priority to the search and evaluation of the relevant literature. In order to save time and identify usable sources, a systematic approach is necessary in the context of this paper.

Systematics means a planned approach to searching, evaluating and managing the relevant literature that has been collected to meet the requirements required for a scientific paper. The main sources of information are scientific writings in the form of books, journals, papers, conference papers, etc. and form the main source of this article.

Following the systematic approach of literature research, it is not possible to find all publications that are relevant or interesting for this paper. This is partly because new journal articles, papers or reports have not yet been electronically registered, published in reputable journals, or do not contain all relevant keywords due to their timeliness. For this reason, the literature search was carried out using a systematic keyword search that was added to the bibliography of the article.

#### 4. Findings

This study aimed to understand the role of HR professionals in Industry 4.0. In particular, to provide an analysis of the skills needed by the HR manager to generate opportunities and manage them better with the challenges of Industry 4.0.

"Entrepreneurs and managers need to be aware that the path toward I4.0 requires not only focusing on the application of the I4.0 technologies, but also on the development of a series of organizational and managerial practices that become key to face the fourth Industrial Revolution." (Agostini et al, 2019, p.406).

The study demonstrates how the human resources management function has assumed an increasingly strategic role in the organization. In fact, along with Industry 4.0, the role of HR professionals is changing and they are becoming strategic partners of the organization. Such changes will require retraining and improvement actions. This will require not only the acquisition of new technical skills, but also the ability to cope with continuous and rapid change.

For this, flexibility, the ability to govern one's own emotional states and human relations will become the determining factor of success for HR. Moreover, in the era of Industry 4.0 the centrality of the human factor and teamwork focuses more and more on soft skills, being the indispensable skills for managing interpersonal relationships and being able to create a successful team.

The technical skills of the HR manager related to selection, recruitment and training are always the same, the skill lies in knowing how to transcribe these activities in digital format. Hence the need to develop digital technical skills that allow the human resources manager to support his own collaborators. However, the real ability of the HR manager will be to adopt a winning combination of skills, which bear fruit in the effective introduction of change.

Industry 4.0 has an increasingly profound impact on the lives of business people. The rapid progress of increasingly intelligent and ubiquitous digital systems is irreversibly changing every aspect of organizational life. The fourth industrial revolution involves, in fact, two generations within companies that change organizational and strategic solutions, modify operating procedures and the capabilities of the workforce are revised.

In most cases workers will have to renew their skills and transform them radically. In this scenario, the HR manager, as a change agent, will have to update his guidance, change and support skills for his collaborators by adopting new working methods. The analysis of specialized literature demonstrated that the need to update the HR manager's skills is evident in the light of new technologies related to Industry 4.0.

The human resources manager finds himself facing a more demanding future, in which the skills he possesses are no longer sufficient. For this reason the HR manager will have to develop skills such as information processing, digital content creation, communication and collaboration skills through the use of digital technologies, etc.

In addition, human resources should be the first to know the digital world, and all collaborators should have the necessary skills for the new organizations.

HR managers will also need to support employees to have recognized skills related to the use of new technologies. All this cannot happen without the development and strengthening of transversal skills which are the fulcrum of the fourth industrial revolution.

As repeatedly pointed out, in fact, Industry 4.0 focuses as much on technology as it does on people. Consequently, to be able to relate to others by creating positive and trusting relationships, to carry out research with intuition, ingenuity and creativity, to develop the ability to learn, to act as a guide and to know how to collaborate, all these are inherent qualities of people from the human resources department that will be increasingly necessary for the HR manager in Industry 4.0.



We can say that HR in the digital age must possess skills that we are used to consider almost incompatible: the technological component on the one hand and the humanities on the other. On closer inspection, however, the two categories are not so far apart and blend easily.

Real HR capability will be the most correct combination of technical skills and personal characteristics. In today's digitized context, more participation is needed and it is not just about doing recruitment work, it must increasingly provide a personal contribution in terms of values, originality and innovation.

"Relationship Technology will become the new key element for the use of information and customer knowledge, which shows the importance of relationships between organizations and customers." (Radu, 2020, p. 395).

## 5. Conclusions

If the future is technological, we can begin to adapt to the new technological reality by inserting innovative tools. Implementation of software that integrates processes and is in the cloud. Analyzing how the candidate experience can be improved, but also how recruiters' roles in the company can be improved.

Implementing recruitment and selection software in the recruitment process with the help of IoT to eliminate manual and time-consuming processes in the sorting and selection of CVs, which reduces the time used and enables the development of a more strategic sector.

Investing in tools that already use Industry 4.0 technologies, such as artificial intelligence, is a good way to innovate and take a big step into the future.

We have a long way to go to implement Industry 4.0, but the future is created from the actions taken today. Therefore, we must act in the Industry 4.0 enterprise with the innovative tools available on the market and with strategies focused on the management and experience of human resources.

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# **Section V**

## **Finance and Accounting**

## The European Union Taxonomy – The Revolution of Sustainable Activities

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### Abstract

*This paper represents qualitative research of the concept of taxonomy within the European Union (EU), drafted with the sole purpose of establishing the presence of the environmental elements specific to sustainable development within the economic activity. The EU taxonomy is an important mechanism which offers coherence in using every instrument conceived for accomplishing the ecological objectives of the environment. The concept of taxonomy refers to the investment funds of big economic entities within EU and beyond, which need to provide information about their environmental related activities.*

*The purpose of this paper is to highlight the cooperation between the regulation authorities and the technical experts in the domain (TEG), which offer a starting point in this journey from their experience with environmental, social and governance (ESG) information reporting. Therefore, the intention EU has regarding the taxonomy is guiding the capital towards the ecological and the implementation of a new universally available classification system of sustainable investments at an international level.*

**Key words:** EU taxonomy, environment, sustainability, sustainable investments, non-financial reporting

**J.E.L. classification:** Q56, M14, O44

### 1. Introduction

With time, a series of economy specialists and investors have taken more and more measures in integrating, within the economic activity, preoccupations regarding climate change. They have opted for sustainability through sustainable actions at a managerial level. Until recently, EU lacked a common classification system to encourage private investments towards sustainable growth and towards contributing to a neutral economy from a climate change point a view. As a result, a classification system within EU was born, called taxonomy. This provides organizations and investors a common language for identifying economic activities which can be considered sustainable from the point of view of the environment (Cremasco and Boni, 2022).

Taxonomy was born from sustainable development, conceived to encourage change regarding environmental aspects within the EU economic environment. Through taxonomy, EU tries to enhance transparency as a way of assuring economic organizations as well as the survival of truly sustainable activities. In this context, the economic entities which do not want to evolve in order to respond to the stringent needs of climate change and environmental perturbations are not promoted (European Commission, 2022).

In a broad sense, the EU taxonomy represents a classification system which establishes a list of economic activities, sustainable from an ecological point of view. The role taxonomy plays within EU is very important due to its contribution in intensifying sustainable investments within the European space. Moreover, taxonomy helps applying the European environmental agreement (Piebalgs and Jones, 2021).

Up until recently, identifying a sustainable financial investment was relatively easy to accomplish. The economic organizations could attract investors through financial and non-financial performances which were better than those of other economic actors active on the market. With that in mind, the dynamic of the economic environment, especially the decision factors of political nature, has admitted that there must be a supplementary amount of effort to stimulate investments (Kot and Măcriș, 2015). Considering this, one refers to the analysis of the commitments the economic organizations take regarding carbon emission reductions and regarding the regulations of the Paris Agreement. The latter takes into consideration climate change, presenting a long-term action plan for limiting global warming (European Council - Council of the European Union, 2021).

Moreover, it has been remarked, at a large scale, the clarification necessity of a higher level of certitude in different investment types regarding the sustainability of the investment environment and the economic activities. As a response to these preoccupations, a series of experts in the domain, representatives of EU member states, have started to create official definitions of sustainable economic activities. These documents, issued within the EU, are presented as a report whose content contains definitions regarding the taxonomies of the economic activities globally. Within the report there are included EU member states as well as Asian states such as China and Japan (European Commission, 2022).

Generally, all the definitions regarding taxonomy refer to the composition of a comprehensive classification system which can bring future benefits regarding the improvement of the economic market's quality globally. The definitions are characterized by precision and consistency and follow key words such as green investments or sustainable investments, aspects which offer trust and assurance to the investors. The benefits brought by the implementation of taxonomy include facilitating the tracking of sustainable investment fluxes (Hilde and Jona, 2021).

## 2. Literature review

Currently, taxonomy is governed through the 852/2020 EU Regulation, having applicability on financial markets, institutions of public interest and economic entities with over 500 employees at the date of drafting the balance. EU is a leader in developing an ecological classification system, while the other regions such as the United Kingdom of Great Britain are looking to develop a taxonomy regulation based on the criteria and the technical principles specific to the EU. Another partner headed towards taxonomy is China, which together with the EU are working with the purpose of standardizing an ecological investment system (European Commission, 2022).

At a European level, the debut of taxonomy took place in 1995, under legislative form of ecological credit as the (Green Funds Scheme). Also, within European context, France has created the GreenFin label for retail investment funds in 2015. Internationally, the concept of taxonomy and its definitions have been unanimously accepted. As a follow up, China has applied for the first time the term of Chinese taxonomy in 2015, as some projects of green obligations issued by the People's Bank of China (OECDLibrary, 2022). In 2017 Japan has launched green obligations through the Environment Ministry of Japan (MOEJ) (European Commission, 2022).

According to the European Commission, a sustainable European taxonomy would mean a uniform and harmonized classification system which would determine the types of activities which can be considered sustainable. It is expected that this approach will establish the global benchmark for financing sustainable investments and for introducing coherency within the actual complexity of labels and methodologies used in Europe (European Commission, 2022).

Considering the contribution of the Organisation for Economic Co-operation and Development (OCDE) at TEG of the EU regarding sustainable financing, the EU taxonomy admits that an economic activity cannot be truly considered sustainable if it is independent of the system in which it is found (Official Journal of the European Union, 2019).

In the EU the potential benefits of taxonomy have been recognized and in July 2020 a regulation has been adopted to establish a framework which would facilitate sustainable investments. This regulation is found under the name of "EU regulation regarding taxonomy" and it is the cornerstone of the EU's action plan regarding sustainable financing. Adopting this regulation results binding more regulation initiatives together such as the EU standard for green obligations, the EU ecological label for retail investment funds and others (European Commission, 2022).

In the specialty literature, authors such as Lucarelli, et al. (2020) declare that the most recent change in regulation needs a change of approach towards one where the disclosure of environmental aspects leads to significant changes within an economic organization.

Considering the EU's necessity of having a regulation applicable to financial instruments and the investment market, they have assumed, through taxonomy, the trial of achieving a cleaner environment, especially trying to slow down climate change (OECDiLibrary, 2022). The efforts in this direction are meant to cover multiple activity domains and they are not only addressed to the financial market. The year of 2022 has a double meaning when it comes to taxonomy: other than the reporting which will be a mandatory item, labelling will also be implemented. This means that the organizations cannot rely on policies and revelations to attract high ESG reporting shares or investments (Holly, Stéphane, and Peter, 2022).

### **3. Research methodology**

The present study is based on qualitative research resulted from the analysis of the theoretical approach regarding the EU taxonomy and its specific sustainable investments. Resorting to the qualitative research is due to the fact that one can develop the profoundness of the analysed concepts.

The main information sources underlying the paper are represented by applicable juridical regulations and articles published in specialty magazines. The exhaustive analysis of every aspect related to the implications of the EU taxonomy is offered through the inductive and deductive mechanisms which lead the research towards the desired direction.

Considering this, the paper has the role of approaching the aspects of taxonomy and its every detail involved in the requirements of this subject. A short review of the specialty literature regarding environmental aspects contribute to the understanding of sustainable investments. Through content analysis, the text can be integrated within the category of article type papers.

In drafting this paper, its planification has been established beforehand, necessary data and information has been collected and analysed and lastly, the article has been drafted.

### **4. Findings**

#### **4.1. Taxonomy in global context**

In global context there is a common language regarding the taxonomies of sustainable investments for international users which are willing to use this reporting instrument. However, given its early stage of implementation, taxonomy presents some gaps globally, having nonregulated sectors. For consolidating the international cooperation, the EU launched in 2019 an International platform for sustainable development (IPSF) destined to aspects referring to the international comparability of taxonomies (European Commission, 2022).

In international context, the EU taxonomy is remarked by its advanced level of offered explanations and details through elaborate definitions. Moreover, the EU taxonomy is the only reporting framework which binds environmental objectives. These elements are representative aspects to differentiate between the EU taxonomy and the global taxonomy. The EU taxonomy is the only one to include certain sectors of production whose environmental impact is hard to alleviate, such as the domain of constructions which inevitably influences environmental elements.

The identified common grounds within all taxonomies refer to reusable energy and green buildings, where the values and thresholds between concerned definitions are similar. In sectors of activity such as nonregenerative energy generation and transport, it is found that the sectorial coverage is similar between taxonomies, but the inclusion criteria differ from one regulation to another.

Through the character of economic activities regarding the intercommunity transactions, multiple organizations can find themselves in the situation where they are under the jurisdiction of multiple taxonomies. This aspect can represent an impediment when a taxonomy which reflects only one jurisdiction and the activities associated to it will not allow the coverage of all the international activities or investments. To resolve this impediment, TEG has identified certain criteria from the EU taxonomy as being of "international relevance" meaning that the users of taxonomy could use

them for economic activities outside the EU.

At an international level, the taxonomies should also be adaptable to the current knowledge and technologies. However, with technological progress comes the adjustment imposing of the transition path in order to value results obtained with time.

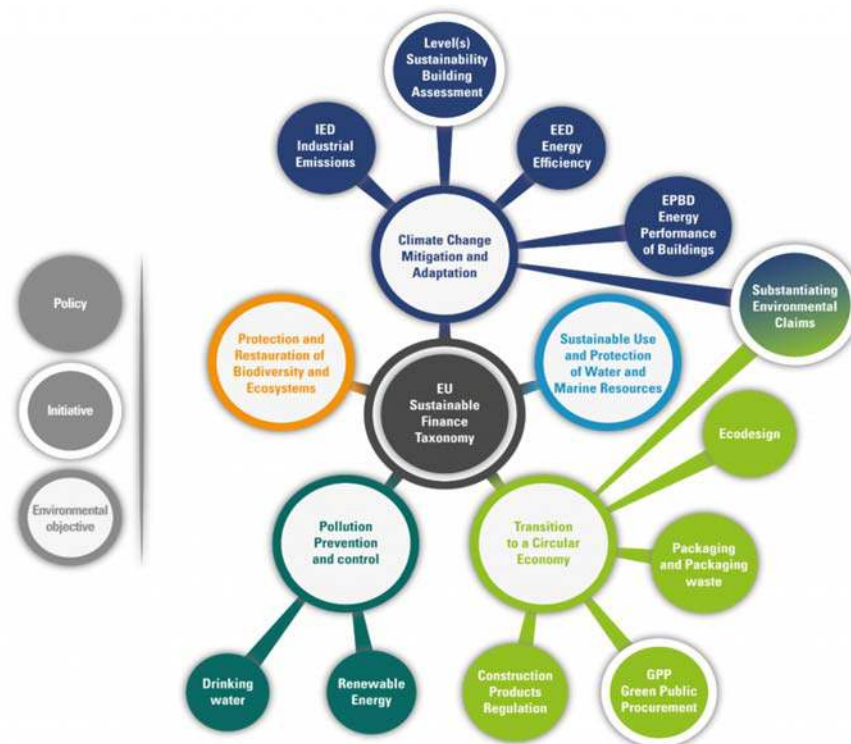
Aligning the two normative acts requires the continuous monitoring of the European Commission's activities to ensure the system's coherence. This task is difficult to accomplish considering the general approach of the regulation which includes, within the sector of constructions, the manufacturing processes of some construction products, buildings, and civil engineering works. Legislative documents approach sustainability in a broad perspective which covers the impact on the environment, circularity, harmful substances etc, but without making the connection with the regulations of taxonomy.

#### 4.2. Application framework of taxonomy

At a European level, the application framework of taxonomy is given by the regulation regarding the establishment of a framework for facilitating sustainable developments (EU) 2020/852. The purpose of this regulation is to establish a common language for taxonomy, to define what is sustainable and what is not, and last but not least to identify the domains in which investments can have the greatest impact. For an as high as possible visibility, the EU taxonomy has created labels for green financial products, allowing the investors to identify the investments which respect the ecological criteria or the ones with low carbon emissions. Moreover, with their help, it will be clear what is the duty of those involved, beneficiaries as well as users, regarding sustainable aspects which should be taken into account.

Also, at a European level, the European Commission together with TEG have developed a technical report to establish environmental objectives regarding the EU taxonomy of sustainable investments, presented in Figure no. 1.

Figure no. 1. Connection between taxonomy objectives and EU policies and initiatives



Source: (Construction Products Europe, 2020)

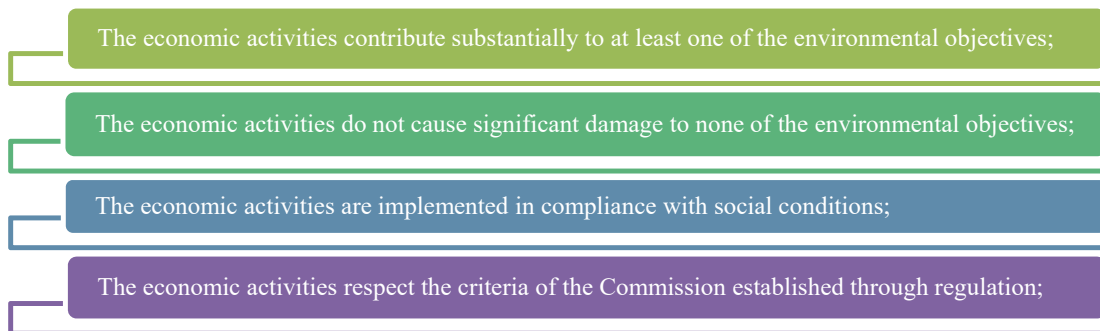
According to the figure, there are 5 great directions towards which the sustainable investments of the EU taxonomy are headed, respectively: the protection and restoration of the environment's biodiversity, climate change of migration and adaption, water usage sustainability, water and marine resources protection, the transition towards the circular economy, pollution prevention and control. A part of these directions is also divided into subcategories which can be interconnected. Up until now, the most developed directions are related to climate change and circular economy, these two developing substantial environmental requirements.

The notion of taxonomy currently covers a wide range of environmental objectives which refer to the attenuation of climate change, pollution, circular economy, or biodiversity.

The objectives referred within taxonomy can be independent or interdependent. From a created impact point of view, for distinction, the taxonomies have a specific colour which indicates the conformity with the environment. Therefore, economic activities or financial products which already comply with environmental objectives have a deep green coloured label, and the activities which are currently in transition to be compliant with taxonomy present a light green coloured label. Also, a role has been identified for activities which are not considered compatible with environmental objectives but are integrated within taxonomy, having a brown taxonomy label.

To assess economic activities as sustainable they must fulfil a series of requirements such as those presented in Figure no. 2.

*Figure no. 2. The sustainable development's requirements*



*Source:* (European Commission, 2022)

The intentions and purpose of taxonomy have a clear initiative, and the approach must make use of the existent evaluations and methodologies to establish application criteria. In case this does not happen, a certain situation may appear referring to a parallel and contradictory regulation framework which can undermine the taxonomy's credibility and can reduce competitiveness due to supplementary efforts when adapting to the new system.

Implementing taxonomies is intensely promoted through Government issued sponsorships which can significantly increase taxonomies in economic activities. Directing investments towards taxonomy raises the problem of the provided data availability. Similar to providing non-financial data, taxonomies need a standardization degree of the provided data to allow the aggregation and evaluation of conformity in a consequent and comparable manner. Another resemblance of taxonomy refers to its applicability within economic organizations of small dimensions. Even though current applicable regulations do not impose taxonomy application within small economic organizations, there is pressure coming from the financial market to draft conformity and verification criteria specific to taxonomy.

Through the implementation of taxonomy within the organization the decision factors are helping to develop and to grow sustainable financial markets, and therefore, accomplishing environmental objectives and other sustainable development objectives is supported.

The challenge in implementing taxonomy represents the coherence with other regulation frameworks. Therefore, a corresponding document of taxonomy is the document regarding the attenuation and adaption to climate change, whose methodology must be used to evaluate the global warming potential of buildings in conformity with the buildings' energy performance.

### 4.3. EU taxonomy and the future of reporting

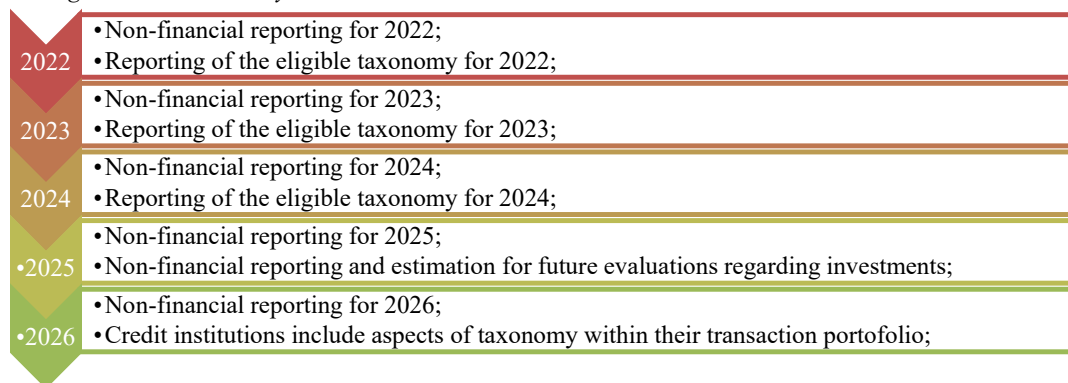
The economic organizations have made significant progress in trying to address the investors' and regulation organisms' pressure regarding the ESG reporting or the integrated reporting. The recent history of sustainable reporting has been marked by the absence of regulation pressure of ESG elements. During all this one may remark the efforts taken globally for assuring investors and economic organizations of implementing the objectives of sustainable development within the economic activities. At the head of these efforts was the EU which continuously tries to become "the first neutral continent from the climate perspective". This syntagm represents a base component which is concentrated under the name of EU taxonomy. This is part of a series of extended regulations of the main actors on the economic market.

Currently, the economic market is marked by the pressure of intensifying some series of regulations which were adopted or are in the process of coming into force. Among these, the taxonomy tries to determine what is and what is not "green" within the economic activities involving the environment. Therefore, the taxonomy is the starting point for the development of the regulation labelling of the economic organizations and their activities while bearing the green or environmentally friendly label.

Taxonomy defines sustainable activities from an ecological point of view as being economic activities which substantially contribute to at least one of the EU's environmental objectives while at the same time not being harmful to none of these objectives and also meeting the minimum social guarantees. All the participants of the financial market, all the big listed economic organizations will have to report according to taxonomy. For an economic activity to meet the sustainable definition from an ecological point of view, and therefore being considered aligned to taxonomy, it must contribute substantially to one or more of the six environmental objectives, and it must respect the development criteria.

Implementing the taxonomy signals an improvement of the non-financial reporting and the integrated reporting within EU, by directing the capital towards activities which are indisputably ecological. The taxonomy is conceived to play an important role in the transition towards an economy with low carbon emissions, offering a dynamic framework which creates transparency and comparability for the markets. One of these purposes is to offer objective criteria to evaluate the environment actions through sustainability, compared to the economic organizations which measure ESG performance just through reporting. The European Commission foresees the evolution of the EU taxonomy as having a similar trend with the one in Figure no. 3.

Figure no. 3. Taxonomy evolution



Source: (European Commission, 2022)

According to the adjacent figure, the EU's perspectives regarding the taxonomy's evolution follow more than the focus on environmental aspects, having as objective the identification similar to sustainable activities.

Even though the actual regulation regarding taxonomy is limited, the EU wants the list of sustainable activities to be extended in time, to cover all industries. It is true that, even though it does not approach a series of sectors and activities, it is important that the current list covers the industries



responsible for over 80% of EU's emissions. More significant is the fact that taxonomy represents the beginning of labelling the regulated activities as being compliant or not with the climate. In a space where multiple interested parties have asked for consistency and clarity, taxonomy can be the beginning of the regulation authorities which replace the markets.

Figure no. 4. Currently covered sectors by taxonomy



Source: (European Commission, 2022)

Currently, there are 13 sectors covered by taxonomy's regulations, according to figure 4. Out of those one may remark the absence of the agricultural sector and the fact that the energy sector is not fully covered. The EU intends on improving the current list within the next years; though, considering the limited list of activities, the organizations can ascertain that none of their activities is eligible under taxonomy, despite the fact that they possess provable sustainable accreditations or, at least they represent a minor impact on the environment.

For the economic organizations which develop activities which are not covered by taxonomy, the current form of the regulation offers motivation regarding the transition to more sustainable business activities or investments. Also, without coverage within the whole economy, it is unlikely that the regulation will have an extended adoption from investors, beyond the mandatory reporting requirements. In the current conditions the investors are looking more and more to channel the funds towards sustainable investments. The partial coverage of taxonomy, as well as the missing elements from certain activities limit more and more the hope that it will offer a fundamental change in the investment decisions.

However, the EU is looking for an expansion to open the approach by recognizing the economic activities which are developed at an intermediary level (not "green" but also not "brown"). These activities could be recognized as being a credible way towards sustainability with the condition that it does not provoke a significant prejudice. The EU also intends to create a list of economic activities which do not have significant impact on climate, to prevent those activities from suffering financial pressure to be aligned to taxonomy. These evolutions may have a positive impact on channelling funds towards "soon to be green" investments and could start to extend the taxonomy's impact to other sectors and a higher proportion of the economy.

Where there are yet to exist technical alignment criteria to the taxonomy's regulations, the economic organizations are encouraged to use their own values and measures and to explain the way they bind to taxonomy. The main obstacle in the taxonomy's direction in this situation represents the insufficient financial and human resources for easily implementing the new frameworks.

## 5. Conclusions

Relative to the impact the non-financial information had on the economic entities, one may appreciate taxonomy as being a term which will appear constantly in future discussions and preoccupations, with its effects extending within every domain. Responding to pressure from multiple directions, the economic organizations uncover more and more the risks and opportunities

of sustainability. As the EU searches for boosting investments towards more sustainable activities, the increase in transparency by disclosing corporative sustainability and data providing is an important step in the transition towards a more sustainable economy.

One may appreciate that in the absence of taxonomy's regulations and implicitly an agreed classification framework, an improved perception of ecological accreditations without objective evaluations has been allowed. Therefore, the organizations must make use of taxonomy's requirements to implement the strategic objectives and to support the transition towards a more sustainable business project from an ecological point of view. Even though the reporting should happen from actions, the reporting requirements determine change. In this sense, the organizations will have to differentiate, gravitating in a fundamental manner towards more sustainable business practices, which would be covered by taxonomy. Taxonomy allows the access to accomplishing one of the EU's environmental objectives, leading the progress and reflecting this efficiently within reporting. These must be according to the international standards regarding sustainable investments which means that the economic activities need to become more and more sustainable.

In the face of what is most likely to be a more and more regulated aspect of corporate reporting, all organizations must watch these last-minute steps to evaluate business activities and to be prepared to refer to more exigent regulations in the following period of time. If we refer to investments, they must not only be profitable, but they must prove, based on some legislative technical criteria, the fact that the investment meets at least one of the conditions for being able to be considered sustainable.

However, some limitations of this paper must be acknowledged. Firstly, applying the classification system in a global framework, a classification system identified by the European authorities of regulation mainly for the European economic organizations. This can represent a problem for other geographical areas or countries which might have different environmental objectives and priorities. Another limitation refers to the review period of the technical criteria of the EU's taxonomy as well as the transition activities, currently being proposed at least once every three years. A solution to this limitation is the readaptation of the review time periods depending on the dynamic and the necessities which appear on the way.

In conclusion, taxonomy comes to stop investments in projects which could harm the environment, which could change even more the climate, and even more, taxonomy establishes clear rules for the investment market to direct their money towards projects which support the prevention of climate change. This regulation imposes the criteria to establish whether an economic activity is sustainable from an environmental point of view. The EU taxonomy has defined the working method and has offered a valuable example of drafting environmental policies, based on the commitment and common efforts mainly of the economic and political organization, considered essential actors for a sustainable growth from an ecological point of view.

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## The Accounting Profession and Addressing Sustainability Issues

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### Abstract

*We currently live in a context where environmental, governmental, and social issues demand solutions. In line with these solutions, it is time for the accounting profession to address the issue of sustainability.*

*The solutions involve moving from traditional accounting to integrated reporting and offering financial and non-financial services, which requires specific skills from the accounting profession.*

*For this, national and international professional bodies play an essential role, in order to support accounting professionals, concrete measures through qualification programs for members, aware of the fact that they will be the main actors in the development of sustainability reports with a high degree of quality.*

*The purpose of this study is to show that A new approach to the accounting profession is expected and there is an urgent need to understand that something new is happening and it needs our involvement in setting trends. This study also highlights that the transition stage from traditional accounting to reporting adapted to new trends requires time and resources*

**Key words:** sustainability, integrated reporting, reporting standards, specific competencies, professional accountant

**J.E.L. classification:** M40, M41

### 1. Introduction

The context in which we live, the society in perpetual change, globalization, and digitization, has required on the part of the accounting profession a rapid adaptation to reality and progressive thinking toward the future (Ivan, 2009).

In its path to adaptation, the profession has turned every new challenge into an opportunity. There was a need to move from traditional accounting to integrated reporting, with the provision of financial and non-financial services, which requires specific skills from the accounting profession (Patrascu et al., 2017).

The transition stage from traditional accounting to reporting adapted to new trends requires time and resources. For this, national and international professional bodies play an essential role, in order to support accounting professionals, concrete measures through qualification programs for members, aware of the fact that they will be the main actors in the development of sustainability reports with a high degree of quality (Hummel et al. 2019).

A new approach to the accounting profession is expected and there is an urgent need to understand that something new is happening and it needs our involvement in setting trends (Tebergaoui et al., 2022).

"Today, more than ever, there is a need for thinking that encompasses more than the purely financial and accounting elements of an organization to ensure long-term business development and value creation" (Șova and Popa, 2022).

There is an assiduous need for a change in the mentality of the professional accountant, which through the lens of adaptation must make room within his portfolio for the new methods, we are referring here to Sustainability Reporting since ESG (environment, social, governance) is rapidly emerging as the risk reporting standard (Cioca et al., 2022).

Sustainability reporting is not just a new job that accounting professionals can add to their current activity, practically this strengthens their important role, that of advising partners, to help create sustainable businesses, prepared to face the challenges (Radu and Tabirca, 2019).

## **2. Literature review**

One of the first papers dealing with Sustainable Reporting belongs to the researcher Theodore J. Kreps, who in the early 1940s published a first paper based on new methods of measuring how a company contributes to the development of the environment. One of the methods reveals that Financial Performance is not an adequate method, while at the same time he wants to achieve a method by which the impact that companies have on the health of the education system and global peace is also measured (Kreps, 1940).

Another study that analyzed the relationship between Sustainability Reporting and the financial performance of companies was carried out in 2021, by Whelan, Atz, Holt and Clark, a study based on approx. 1000 studies were published between 2015 and 2020. The study demonstrated that financial performance improves due to sustainable reporting over a period of time. Another thing demonstrated by this study was that investing in Sustainability Reporting is a method of protecting companies during periods of economic crisis and that "trying to reduce the carbon footprint leads to better financial performance" (Whelan et al., 2015-2020).

On a national level, Nechita (2021) carried out a study analyzing the extent to which the provision of non-financial information related to sustainable development in the framework of sustainability reports published by companies listed on the Bucharest Stock Exchange, influences the market value of the capital. The study included a sample of 34 companies listed on the Bucharest Stock Exchange in the period 2015-2019. The result of the research highlighted the importance by which "the influence exerted on the market value of the capital increased as a result of the reporting of aspects related to sustainability" (Nechita, 2021).

In 2014, as a result of the influence of the European Directives, an additional obligation to present non-financial information in the financial statements was introduced for large companies (Directive 2014/95/EU). Through this Directive, the first provisions on the Reporting of non-financial information appeared. Subsequently, through the European Green Deal, the European Commission undertook to review these provisions, the final result being the proposal of a Directive to consolidate and expand Sustainability Reporting in the European Union through the reporting of sustainability information by companies.

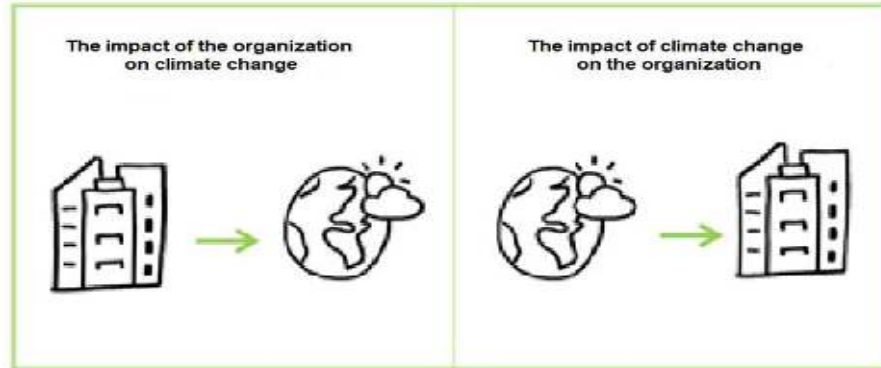
Directive 2014/95/EU introduced the reporting obligation for large companies - public interest entities. About 7,400 listed companies, insurance companies, banking companies, and other entities that generally have more than 500 employees are targeted. After 2017, some European countries lowered the threshold of 500 employees to 250 in Sweden and Denmark, and Luxembourg imposed reporting on the sustainability of Pension Funds and investment management companies (EU Directive, 2014).

## **3. Research methodology**

To substantiate the research, we are conducting research on how professional bodies in Romania support the process of adaptation to sustainability reporting. The methodological approach is based on previous studies carried out at the international level.

Sustainability reporting differs widely in the private sector. There may be reporting on only a specific impact on society, for example in Figure no. 1: energy consumption or water consumption or "how climate change reduces water availability and poses a threat to its business model (WGEA, 2013).

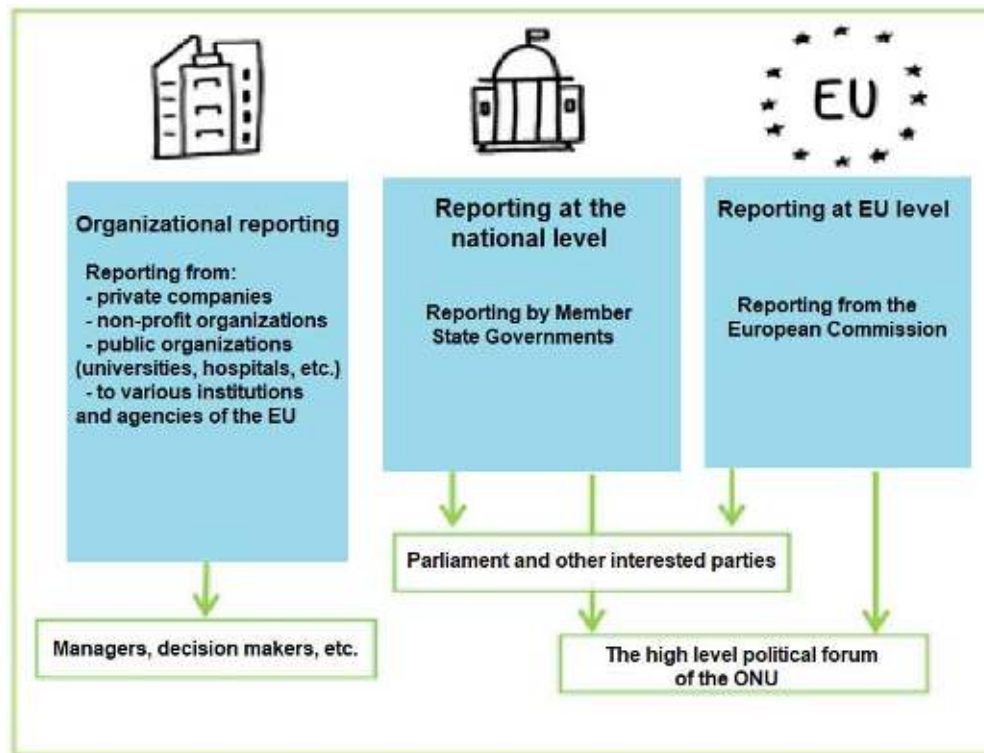
Figure no.1. Sustainability reports from the perspective of the impact of climate change



Source: (European Court of Auditors, 2019)

Entities that can prepare sustainability reports are detailed in Figure number 2 according with the European Court of Auditors (2019) .

Figure no. 2. Types of entities that prepare sustainability reports



Source: (European Court of Auditors, 2019)

Accounting professionals and the business community receive help in adapting to new sustainability requirements from professional bodies. So much so that a knowledge hub dedicated to supporting the business community on reinvention and adaptation has even been established. This information center provides tools and support to businesses in their business continuity efforts, shares practices identified at the national level, and is adapted from international models, in line with the goals of the Paris Agreement on climate change.

The Paris agreement led to the possibility of obtaining concrete, up-to-date information, guaranteed by professionals. At the heart of the Paris Agreement on sustainability was the reality that something new is happening and that all Accounting Professionals need to get involved. (EC, 2022)

It is very important that Professional Bodies establish a series of policies for their members so that they acquire the necessary knowledge in this new field because it must be understood that, only by creating value through integrated thinking and expanding the range of services with new ones, in this case, sustainability reporting, we can survive in the market.

One of the first professional bodies with concerns regarding reporting is the Corps of Accounting Experts and Chartered Accountants from Romania (CECCAR), which has taken a number of measures, namely:

- created an ESG knowledge portal for all interested parties
- organized professional accounting education programs for the initial and continuous professional development of its members
- concluded numerous partnerships with regulatory authorities
- promoted ESG reporting within business networks
- translated publications, articles, and studies
- created an ESG knowledge portal on the body's website

In 2020, CECCAR was the first professional body in Europe to join the Sustainability Accounting Standards Boards, later becoming a Member of the IFRS Sustainability Alliance.

#### **4. Findings**

The sustainable reports drawn up on the basis of the GRI Sustainable Reporting Standards (The Global Reporting Initiative Sustainability Reporting Standards, aim to: evaluate the sustainability of the organization from the perspective of compliance with norms, laws, and performance standards, providing information regarding the company's activity over time, observing how it evolves, how the organization influences or is influenced in order to achieve the objectives of sustainable development (EC, 2019).

The GRI reporting framework emerged as an aid to companies that can use it to demonstrate their sustainability efforts. The GRI sustainable reporting framework is dedicated to any company regardless of the field of activity, the country in which it operates, or its size from an economic point of view. These standards consist of certain political principles to ensure the quality of the information provided, they are developed following a dialogue between company owners, employees, and civil society, as well as continuous dialogue with Accounting Professionals.

Integrated reports are addressed especially to the private sector but also to non-profit organizations regardless of their size, their main objective is to provide information regarding the long-term profitability of the company created by this type of reporting but also the added value brought to the organization from both a financial perspective as well as non-financial, by drawing up sustainable reporting documents.

Those who benefit from all this information are the external users (Investors, Creditors, Population, and other interested parties). Integrated reporting has the role of providing an image of the entity's strategy, and how it contributes to the creation of added value in the short, medium, and long term. They can highlight significant opportunities, present the views of those charged with governance about the relationship between how the company has performed in the past and what the company's current performance is, and how it has changed its strategy based on sustainability experiences. In Figure no. 3 is the main role of integrated reporting is to improve the transparency and credibility of the information provided

Figure no. 3. The main role of integrated reporting

	Financial reporting	Sustainable reporting	Integrated reporting
<b>Scope</b>	Presentation of the financial position of the cash flow situation in the reporting period	Presentation of the entity's impact on the social environment as well as the objectives and strategies	It explains to investors how the company creates value over time
<b>External users</b>	Investors, employees, financial creditors, suppliers customers, other stakeholders	Investors, employees, financial creditors, suppliers customers, other stakeholders	Investors and other stakeholders in how the company creates value
<b>Objections</b>	<p>Assets</p> <p>Liabilities</p> <p>Income</p> <p>Expenses</p> <p>Changes in capital</p> <p>Cash flow</p>	<p>Presenting the impact on the environment:</p> <p>Economic Environmental Social</p> <p>labor protection, people's rights Governance</p>	<p>Are shown:</p> <p>Governance model</p> <p>Business model</p> <p>Strategy and how to allocate resources</p> <p>Risks and opportunities</p> <p>Performance</p> <p>Company values</p>

Source: Authors' contribution

If through the lens of the information provided to their partners, accounting professionals achieve their goals and generate healthy and trending business, this means that the objectives set by the Sustainability Reports have been achieved.

Sustainability is more than a need of the present, we can agree with the definition given by the Financial Times publication "a process by which companies manage their financial, social, environmental risks, both in terms of obligations and opportunities. These three impacts are often: profit-people-planet. But this approach is only based on an accounting perspective and does not fully capture the time element inherent in business sustainability. A more robust definition is that business sustainability is resilience over time, companies that can survive shocks because they are connected to healthy economic social, and environmental systems" (Noonan, 2022).

## 5. Conclusions

Sustainability reporting is a measure of an organization's performance in achieving the UN's Sustainable Development Goals. From this UN perspective, a new environmental approach was needed to develop sustainability.

The time has come for the accounting profession to address sustainability issues, moving from traditional accounting to Integrated Reporting. A shift of the accounting profession to a new approach is thus anticipated, one that creates an interdependence between financial and non-financial objectives. We need to understand that the "new" is happening now and we need to get involved by setting trends.

The role of sustainability is evolving based on investor relations. There is a growing demand from investors for companies to provide information on their sustainability performance. As more and more investors demand this information by which businesses minimize their environmental impact, managing sustainability impacts is imperative to ensure the company's long-term financial performance. The integration and reporting of ESG in the company's activity helps these companies to reduce their risks but also opens their way to new business opportunities.



On the other hand, it is essential that SMEs also become aware of the importance of sustainability reporting and inform themselves about the legislative framework that will regulate all these aspects in the future.

## 6. Acknowledgement

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## **Influence of the Energy Crisis on Prices and the Performance of Agricultural Holdings**

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### **Abstract**

*Agriculture is a complex science, made up of a number of factors that help the proper functioning and development of a society. In Romania, the agricultural sector has a strategic importance because it produces substantial income for the country, and the performance of this branch also depends on its Gross Domestic Product. The energy crisis imposed a new strategic approach on farmers in order to survive. The energy crisis triggered by the war between Russia and Ukraine generated an economic instability that also affected the price of cereals and implicitly agriculture throughout the world. The objective of this work is to observe what are the factors that direct the price of cereals on the main trading exchanges.*

**Key words:** performance, agricultural holding, energy crisis, cereals, costs

**J.E.L. classification:** J43, O13, Q10

### **1. Introduction**

The performance of agricultural holdings must be considered in accordance with the risk, because natural factors can influence the financial structure and balance, as well as the price of agricultural products.

Our country has the necessary natural resources to help it revive the national economy, but it does not have the necessary infrastructure and strategic thinking to use these resources to their maximum potential.

The motivation for starting this research study resides in the fact that agricultural activity is a basic pillar in the Romanian economy, but the lack of sustainable management and a sustainable strategic vision lead to a decrease in the performance of this activity and implicitly to an increase in production costs and an increase in the price paid by the final consumer of agricultural products.

### **2. Literature review**

The specialized literature presents agricultural holdings as those forms of organization whose main object of activity is the exploitation of the land with the help of mechanized equipment and the raising of animals to obtain agricultural products with the aim of providing food for the population.

We can affirm that the agricultural holding is a component of an economic branch, which cultivates the land by sowing with different plants and raises animals with the aim of obtaining raw or technologically processed agricultural products, which is where its social, demographic and ethnological importance resides.

In the specialized literature, the agricultural entity has the following characteristics:

*Table no. 1 The table of activities specific to the three types of form of organization*

Types of activities specific to agriculture	Agricultural holding	Agricultural enterprise	Agricultural unit
Production of green vegetables	yes	yes	yes
Animal production	yes	yes	yes
Providing agricultural services	no	yes	yes
Primary processing of production	no	yes	yes
Technical, scientific assistance	no	no	yes
Promoting agricultural interests	no	no	yes

*Source: Authors' projection*

Agricultural holdings are grouped by Romanian legislation according to a multitude of criteria, but the most important are related to profit, form of land ownership, human resources, destination of finished products and other economic or legal criteria.

In Romania, the most widespread form of organization in the agricultural field is the family farm, which represents the basic cell of Romanian agriculture that capitalizes on both the land and human resources, developing the social environment. This type of organization obtains products for its own consumption, and if there is a surplus of products, they are capitalized on the agri-food market.

### 3. Research methodology

The author Constantin Enachescu reports in his work "Treatise on the theory of scientific research" that ideas cannot appear without having a study basis or a period of observation of the phenomenon, being the starting point for the development of an informational system. If we start from this statement and analyze the entire management system of all methods, processes and techniques that lead to the development of these works, we will notice that the stages completed are the following: studying the specialized literature, establishing the research objectives, processing the data and establishing the conclusions.

The central objective of this literary research is the analysis of the influence of the energy crisis generated by the armed conflict at the borders of our country, on agricultural performance, followed by specific objectives such as:

- the positioning of agriculture in the Romanian economy;
- identification of internal and external factors that influence agricultural performance;

The paper combines qualitative research with quantitative research through the theoretical and practical approach to the elements that make up economic performance, offering a faithful image of the studied phenomenon.

In order to achieve the objectives proposed in the research, I used the descriptive method used in the review of specialized literature, in the analysis of economic phenomena and in the formulation of conclusions and personal opinions.

### 4. Findings

The agricultural activity is an integrated part of the economic activity that aims to produce food for the population by exploiting the land or raising animals. The place of agriculture in the Romanian economy is given by one of the most important attributions of this branch, namely the supply of agro-food products that aim to satisfy the needs of consumers on the domestic market, establishing an economic-social balance that ensures a healthy development of the population. In the context of the war between Russia and Ukraine, but also as a result of the liberalization of the electricity and gas market, agriculture in Romania and throughout the world suffered. in the reference year 2022, the price of gas is simply prohibitive to produce sustainably economically, many companies in the agricultural field being forced to reduce or suspend their activity, although from a technical point of view all measures are taken to remain operational, either whether we are talking about maintenance works, technical inspections or the development of new production

lines, from an economic point of view, the evolution of the energy market negatively influences the development process.

In Romania, the situation of the energy crisis should be felt differently compared to the other European states because it has its own gas resources, but the management of the situation is disastrous. in a negative scenario in which the energy crisis will deepen, along with the perpetuation of the war, the Romanian government must intervene to protect the national interests and the agricultural industry.

Agricultural inputs have a negative influence on agricultural performance, which together with the energy crisis and the coronavirus pandemic led to the formation of a supply crisis and the temporary closure of factories in Europe producing these inputs. The demand for these imputations is decreasing because they cannot be purchased at a feasible cost, and in the short term the goal is to maintain cohesion and implement a vision that stabilizes a sustainable development accessible to farmers.

Next, we will analyze the price quoted on the international stock exchanges of the most important cereals, wheat and maize, price set in dollars per ton for the reference period October 24-28, 2022.

*Table no. 2 The table with cereals prices quoted on the stock market*

Category	Place	24.10.22	25.10.22	26.10.22	27.10.22	28.10.22
Grain	Chicago Stock Exchange	315	317	319	321	323
Grain	Kansas Stock Exchange	343	345	347	349	350
Grain	Argentina Stock Exchange	379	381	383	385	383
Grain	France Stock Exchange	317	319	321	323	341
Maize	Chicago Stock Exchange	265	267	269	271	269
Maize	Argentina Stock Exchange	273	275	277	285	281
Maize	France Stock Exchange	325	323	327	333	337

*Source:* Authors' projection

This table illustrates how the price is influenced by the energy crisis triggered by the war between Russia and Ukraine. The price trend is a positive one, being in continuous growth during the reference period studied, missing small negative influences of decrease in the last analyzed day due to the trading of large quantities of cereals from the territory of Ukraine. The reference price shown in the table is expressed in dollars per ton, and the cereals delivery period is November.

## 5. Conclusions

Starting from the premise that agricultural exploitation is a component of the economic branch that aims to obtain agricultural products through the use of land, plants and animals, we can affirm that it also has a social role of community integration in daily activities.

The performance of agricultural holdings is deeply influenced by the political and social events that take place in civil society, but also on the geographical location and demographic density.

We can say that Romania's agricultural potential is huge, because it has unique natural resources in the world that, if they were exploited at their true value, would generate a substantial and sustainable economic development.

Increasing the performance of agricultural holdings also requires their development, which can only be obtained by combining land and creating farmer associations that can access European funds much more easily, they can develop much more easily and having higher productions at the association level, they can also negotiate the price sale of the obtained products. the price in the food market is generated by the ratio between demand and supply, but quality can make the difference between a low price and a fair one.

In recent years, we could observe how the corona virus pandemic and the war in the neighboring garrison shook the agri-food market all over the world from its foundations and generated a global energy crisis. the lack of procedures for regulating this crisis and a faulty management led to the halting of many activities in the agricultural field, but also to the reduction of the activity of even the most profitable companies, putting future development visions under the sign of danger.

## 6. Acknowledgement

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## The Evolution of the Collaborative/Shared Economy on Demand and its Impact on Fiscal Systems

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### Abstract

*The rapid technological progress that characterizes the digital economy has led to the emergence of many trends leading to potential developments. The digital economy has changed the distribution of global value chains in which multinational enterprises integrate their international activities, and it is necessary to monitor possible developments to assess their impact on tax systems.*

*Thus, the on-demand collaborative/sharing economy has experienced significant growth and global coverage in recent years.*

*The large number of new economic actors that can submit to the VAT regime can generate very high revenues as a result of the growth of the collaborative/sharing economy on demand and can determine considerable risks at an aggregate level, generating new administrative challenges.*

*The objective of this article is to present the possible evolutions of the collaborative/sharing economy on demand, to assess their impact on tax systems, with digital platforms being at the forefront of its development and expansion.*

**Key words:** collaborative/shared economy on demand (CE/SD), digital platforms, VAT

**J.E.L. classification:** O3, M10, M41

### 1. Introduction

The key role played by digital platforms in the collaborative/sharing economy on demand, hereinafter referred to as CE/SD, is recognized by the report published by the OECD in 2019 on the role of digital platforms in the collection of VAT on online sales. This report provides practical advice to tax authorities on the design and implementation of various solutions for the efficient collection of VAT on online sales made through digital platforms. However, it points out that within the platform economy, CE/SD has specific characteristics that require further evaluation and analysis.

The spectacular growth of CE/SD, facilitated by digital platforms, is revolutionizing the commercial reality in a number of sectors, especially those of transportation (with the emergence of ride-hailing services) and accommodation (especially short-term vacation rentals). This new reality, where many new economic actors conduct their business in ways that may escape traditional tax rules and administrative practices, may have consequences for VAT design, administration and revenue, as well as competition.

The potentially significant impact on VAT revenue, tax administration and the competitive position of traditional businesses should be central considerations.

It is now recognized that CE/SD poses a number of economic, social, fiscal, legal and regulatory issues that go beyond the design of VAT policy. Although the possible impact of these different dimensions on VAT policy and administration and vice versa is analysed, where relevant it focuses only on VAT-related aspects.

Also, the main objective is to improve the tax authorities' understanding of CE/SD from an economic and commercial point of view, to identify and analyze the opportunities it opens up and the difficulties it raises in terms of VAT, policy and administration of GST (Goods and Services Tax) and suggest possible approaches and actions that the tax authorities could consider in this regard.

The underlying assumption is that tax authorities may wish to analyze and study the impact of CE/SD on VAT in the light of their particular circumstances and objectives. However, it is quite possible that the main objective of the government is not to subject all CE/SD transactions to VAT rules.

International consistency will help facilitate compliance, reduce compliance costs and administrative burden, and improve the efficiency of VAT regimes, especially as various CE/SD actors, especially digital platforms, will be subject to different obligations in multiple jurisdictions.

## **2. Literature review**

The expression "collaborative/shared economy on demand" (CE/SD) is a concept likely to evolve over time. Several different terms are used in the research literature as well as by jurisdictions that have taken steps to address VAT implications in this area or are considering doing so. The CE/SD economy comes with unprecedented challenges, particularly for civil servants trying to assess its size and impact and craft appropriate responses. Activities in the CE/SD economy generally involve the temporary use of resources (assets or labor), without involving a transfer of ownership of the assets. These are activities that may cover the rental, exchange and sharing of assets, either free of charge or against compensation for the cost of the activity, proportionate to the use of the asset (costs of sharing arrangements). These activities can also be carried out non-monetarily (compensation in kind).

The generic term CE/SD designates the scope of the platform economy that has a number of specific characteristics considered relevant from a VAT perspective. Given these specific characteristics and based on existing definitions, a broad, working definition to qualify CE/SD is: "A socio-economic model that emphasizes viability, usually enabled or facilitated by developed information technologies, solutions and ways of substantiating trust, in which people or materials and/or assets are used for temporary use, with the objective of obtaining financial and non-financial advantages".

In general, the activities related to the sharing economy involve the temporary transfer of the use of underutilized assets or resources, as opposed to the transfer of ownership, in situations such as: short-term (e.g. vacation) rental of an apartment, sharing of a tool or equipment for manual work. In principle, on-demand activities aim to enable a workforce, high or low-skilled, to offer their labor and/or professional services in a market characterized by the prevalence of short-term and often atypical contracts, or self-employment, as opposed to permanent jobs and traditional employment contracts (see the OECD report *Fiscal Challenges Raised by the Digitization of the Economy – Interim Report 2018* (OECD, 2018)).

These on-demand activities may include cleaning, gardening or more intellectual services such as website creation, IT services or consulting services. The distinction between the different categories of CE/SD is not always very clear (the example of a driver who has free seats in the car and offers to transport passengers going in the same direction as him for a fee). Participants in the on-demand sharing economy can often combine different activities that involve sharing assets and labor.

The VAT status of CE/SD economic actors (including relevant platforms and suppliers) in a given jurisdiction will generally be determined in accordance with the normal VAT rules of that jurisdiction. The large number of new economic actors that may become subject to VAT regulations as a result of the increase in CE/SD is what raises the main political and administrative challenges. These new players often have limited knowledge of VAT rules and a low ability to comply with them (micro-enterprises, SMEs, for example), even though their activities can generate very high VAT revenues and involve risks of distortion of competition that they are minimal at the individual level, but can become considerable at the aggregate level.

### **2.1 Key emerging sectors of the CE/SD economy**

Given its diversity, the CE/SD economy can encompass a wide range of activities in different sectors of the economy.



*Table no. 1 Key emerging sectors of the sharing/on-demand economy*

<b><i>The transport sector</i></b>	The platforms connect drivers, who may be non-professionals in the sense that they sometimes do not have a professional license (taxi license for example), but only a normal driver's license, with passengers, usually individuals, for a more or less long journey. It should be noted that jurisdictions are increasingly resorting to enforcing measures requiring drivers to obtain a professional license in order to offer online ride-hailing services.
<b><i>The accommodation sector</i></b>	The platforms connect potential clients with the owners, professionals or non-professionals, who offer accommodation services. Increasingly, platforms are adding other services, such as selling airline tickets, car rentals and vacation packages, either on their own behalf or on behalf of other platforms and/or third parties.
<b><i>The on-demand services sector</i></b>	Platforms allow people to (most often) find more or less qualified service providers ready to provide manual and/or professional services. These services include manual (skilled) work such as cleaning, moving or DIY, which mainly takes the form of physical delivery, and professional services such as website creation, legal or IT consultancy services.
<b><i>Crowdfunding, loans and donations</i></b>	The platforms connect individuals and companies who want to invest, lend money directly to each other, without the intervention of traditional financial institutions such as banks. These are mainly crowdfunding platforms and loans between individuals (either between consumers or between investors and SMEs and/or in favor of start-ups).

*Source:* OECD research based on public sources

Available evidence shows that the accommodation and transport sectors are the top two largest in terms of total transaction value. Combined, they account for approximately 90% of the total CE/SD economy market value globally.

The growth rates of the two sectors (transportation and accommodation) that currently dominate the market are expected to remain high in the coming years and allow them to maintain their position. Business sub-models within the transportation sector, such as ride-hailing (e.g. food and grocery delivery), are also expected to grow rapidly as major ride-hailing platforms continue to expand into these two areas, by leveraging their network, well known to drivers, to provide other services. Professional services and crowdfunding/lending are also sectors with considerable growth potential.

## **2.2 Understanding CE/SD as part of the platform economy**

The rapid growth of the CE/SD economy is a global phenomenon. A number of major CE/SD economy platforms operate in various jurisdictions around the world. As CE/SD continues to evolve and given the complexity and multiplication of platforms and activities involved, there is not yet enough data to reliably determine its size. Collecting statistical data to measure size, growth and activities has shown its limits, but efforts are underway to develop a framework and methodology that can improve the measurement of the CE/SD economy. Despite these challenges, available evidence suggests that the CE/SD economy has experienced strong growth and global reach in recent years and has significant growth potential for the future.

According to a 2019 study covering the world's major markets, the CE/SD business was worth \$204 billion in 2018 and is expected to reach \$455 billion by 2023 as consumers become more receptive to sharing and globalization is accelerating (Mastercard and Kaiser Associates, 2019).

The CE/SD economy is constantly evolving. The COVID-19 pandemic, combined with other regulatory (e.g., labor law developments that may redefine the relationship between platforms and their providers) and technological (the potential use of self-driving cars in the future), could transform the scope of the economy CE/SD nationally and globally. Therefore, it is necessary to constantly monitor developments in this field.

### **3. Research methodology**

In order to create this article, the basic elements that represented a landmark for the study were studied, namely data on the development of technology that facilitates the improvement of the quality of administrative data and how they can be used for the application of VAT, at the same time, how it is done in practices VAT collection and document control, which determine the provision of benefits for taxpayer compliance, as well as to facilitate enforcement. We also studied best practice guides available in the specialized literature.

In order to determine these aspects, we conducted six focus groups with companies registered for VAT purposes in Romania, between March and July 2022.

The interviews consisted of three sections. Part one focused on the VAT system as a whole, with the aim of capturing participants' general impressions of what is working and what is not. Parts two and three focused specifically on the dysfunctions arising from the important results of the administrative data analysis, which we wanted to investigate in more depth.

These focus groups offered perspectives on how VAT works in practice from the point of view of the taxpayer, which helped us to explain some of the dysfunctionalities.

### **4. Findings**

#### **4.1 Key features of CE/SD for designing and administering VAT policy**

As the CE/SD economy continues to rapidly evolve and new business models emerge that tend to converge on existing ones, it is increasingly difficult to draw a line between the CE/SD economy and the rest of the economy's activities. However, CE/SD has specific characteristics that distinguish it from the wider platform economy and as such requires further assessment and analysis in relation to VAT.

Digital platforms are at the forefront of CE/SD development and expansion as they connect providers and users through state-of-the-art technology solutions and tools to build trust, such as online reviews, reputation management tools and other secure online payment systems. For digital platforms participating in CE/SD, these tools are essential because the imperatives of quality assurance, verification, optimizing the use of customer reviews and payment security are keys to success.

CE/SD economy activities are generally not new (transportation services, housing rentals, etc.), but the growth of CE/SD platforms has made possible, through digital technologies, and allowed these activities to reach scale, an unprecedented scope and frequency on a global scale. It sometimes happens that some of these activities are not taxed or are generally considered non-taxable under the VAT regimes in force (the exploitation of an asset by a natural person). The scope of these CE/SD activities is potentially limitless as long as the technology enables interactions between providers and interested customers.

Suppliers in the CE/SD economy are often individuals who sometimes engage in a large number of low-value transactions ("micro-transactions"), particularly in sharing economy sectors such as transportation (VTC (Virtual Trucking Company) services ). These individuals may engage in CE/SD activities in addition to their primary source of income, thus their activity may be occasional/infrequent and dispersed across multiple platforms. These providers often use assets that are also partially used for private purposes. These suppliers (individuals) often have little or no knowledge of their VAT obligations and sometimes lack the ability to comply with these obligations

even if they have the knowledge. However, the profiles and statuses of suppliers in the CE/SD economy are diverse and constantly changing. The technology of the platforms allows these providers to easily access a large number of potential "customers" with little or no initial investment.

The CE/SD economy can lead to the transformation of large numbers of individuals operating through a platform into (potentially global) companies that can collectively compete with larger economic operators. Many people who now offer their property for short-term rental through accommodation platforms have become real competitors to the traditional hotel sector. The line between individuals and businesses is becoming increasingly blurred.

CE/SD economy platforms often do not have a physical presence in the jurisdiction where the transactions they facilitate are performed (made, used or consumed), while the providers involved in these activities generally have a presence in the jurisdiction where such activities are carried out. This presence may consist of a physical presence of the supplier (the presence of the driver in the transport services sector, for example) or it may be limited to the presence of assets belonging to the supplier in the jurisdiction having tax jurisdiction (real estate of a certain value located in the jurisdiction having tax jurisdiction, e.g). Some suppliers may decide to settle in a different jurisdiction to temporarily carry out activities in the CE/SD economy cross-border workers or people staying for several months in a jurisdiction to carry out activities in the CE/SD economy, although these situations appear to be quite rare. While users and suppliers participating in the CE/SD economy often each have a physical presence in the jurisdiction where these activities are performed or consumed at the time of their performance or consumption (transportation or short-term rental of services), this is not necessarily always (especially when services can be provided remotely) and users and providers sometimes have their habitual residence or place of business in different jurisdictions.

Certain types of CE/SD economic activities may no longer involve "sharing" of excess capacity, but evolve into a more traditional type of service activity facilitated by a platform. Let's take the example of a driver who rents a car he didn't have before to offer rides, as opposed to a driver who has seats available in his vehicle and intends to make a particular trip, offering free seats to passengers who want to make the same travel. The same applies to underutilized assets in the accommodation sector: it may become less and less easy to determine whether a short-term rental activity relates to temporarily underutilized assets or goods that, for example, were purchased in investment purposes and mainly offered for short term rentals.

Payments in the CE/SD economy are generally made through electronic means of payment (credit cards, online banking, bitcoins, etc.), with or without the intervention of platforms (payment processing can be outsourced and entrusted to third parties). The widespread use of electronic means of payment could improve access to data that facilitate the tracking and monitoring of CE/SD economy activities or to relevant data to enable VAT compliance checks in case of sharing economic transactions (including helping platforms to fulfill these obligations on behalf of suppliers involved in the CE/SD economy). Available data suggest that cash payments are still accepted in some sectors or by some operators, particularly in developing economies.

### **Sectoral typology established according to operational characteristics relevant to VAT**

The activities of the CE/SD economy are diverse and constantly evolving. The implications of these activities for VAT policy and administration can be equally diverse and tax administration responses should be tailored to the unique characteristics of these activities.

At the structuring stage of the policy analysis and design process, it may be useful for tax authorities to classify the main operators or sectors of the CE/SD economy according to a number of key characteristics of the mode of operation, which may be relevant for purposes of VAT.

## **4.2 Overview of opportunities for WATT**

The growth of the sharing/on-demand economy can create opportunities to facilitate and strengthen VAT administration and compliance and provide opportunities to expand the VAT base. These opportunities and perspectives are particularly related to the central role played by a relatively small number of CE/SD economy platforms that help facilitate and energize these activities by

leveraging advanced technologies and data analytics. The essential role of data and improved data analysis in the CE/SD economy holds promise in terms of improving the visibility and traceability of economic activity, the formalization of previously informal economic activities, as well as the efficiency of tax collection.

- **Potential positive impact on the VAT tax base**

The CE/SD economy is a way for potentially large numbers of individuals, often unable to afford to invest, to use their labor or assets to generate financial gain. It therefore provides jurisdictions with possibilities for broadening the tax base resulting from an expansion of economic activity that go beyond simply replacing a new type of activity with an old type of activity, to the extent that it opens up new markets and brings new players onto the scene economic.

However, the phenomenon is much more complex and depending on how a jurisdiction's VAT system is designed, the growth of the CE/SD economy can represent both a growth perspective and a threat of base erosion. Although there are concerns especially regarding VAT, it also opens up vast possibilities for formalizing activities that have so far been outside the scope of VAT. Two of the main drivers of the CE/SD economy are the rapid growth of digital connectivity facilitated by mobile devices and the strong growth of secure mobile payment solutions. The CE/SD economy relies heavily on data and technology. As it continues to develop and expand to ever wider areas and segments of economic activity, these key features are likely to open up unprecedented opportunities for the "shrink economy", with increased cash transactions leading to a considerable expansion of the formal sector, especially in developing countries.

- **Opportunities to increase efficiency for both tax administrations and CE/SD providers**

The business models of the CE/SD economy and its platforms are likely to open opportunities for tax administrations to increase administrative and tax collection efficiency. Beyond the opportunities for data collection and improved tax collection efficiency offered by the emergence of platforms, the CE/SD economy is likely to provide tax administrations with the means to improve risk efficiency, strategies based on tax compliance management and audit, including through audits of platform systems than through audits for each individual supplier. CE/SD platforms are already operating in many countries, working closely with tax administrations to exploit emerging opportunities (sharing data/information to help suppliers meet their VAT obligations).

#### **4.3 Difficulties and risks regarding VAT**

These difficulties and risks relate in particular to the possible erosion of the VAT base, resulting from a redistribution of economic activity to the detriment of a relatively small number of traditional, long-standing companies that largely comply with their tax obligations, to the benefit of to a large number of relatively small new economic players (including atypical workers) who are less compliant with tax obligations or are not subject to tax because the volume of their activity remains below the VAT exemption threshold.

- **CE/SD increase, potential threat of erosion of the VAT tax base**

Depending on how a jurisdiction's VAT system is designed, increasing CE/SD can represent both an opportunity for growth and a threat to erode the VAT tax base. While VAT is a general consumption tax on most goods and services, many jurisdictions have opted to exempt individuals and micro-enterprises from VAT registration and collection requirements. The exemption threshold differs from country to country and may differ from sector to sector within the same jurisdiction, in particular to minimize the risk of distortion of competition. In these jurisdictions, depending on the type of activity, it is likely that a large number of CE/SD economy suppliers will fall below the exemption threshold and thus be exempt from VAT registration. This can lead to a risk of erosion of the VAT tax base, more or less high depending on the economic structure of the country and the activities in question. In the accommodation sector, for example, the CE/SD economy may lead to a shift in bookings away from traditional hotels in favor of bookings with non-VAT registered suppliers and therefore lead to a decrease in VAT revenue collected by the hotel sector. This trend is increasingly likely to pose serious problems, especially in jurisdictions with an intensive tourism

sector. Similarly, in the transport sector, the CE/SD economy can harm traditional taxis and reduce the VAT revenue collected in this sector, as drivers sometimes find it easier and simpler to switch to CE/SD economy activities, especially when they are less regulated than traditional activities.

- **It is not always easy to determine the VAT status and role of suppliers in CE/SD**

Determining the VAT status of suppliers and users is important to define not only the possible obligations to comply with in terms of VAT, but also the associated rights that can be used by economic actors, in particular the rights of deduction and recovery of VAT

From the available data it appears that many suppliers involved in the CE/SD economy are probably unknown to the VAT tax departments and are unaware of their related obligations or at least unaware of the simplification measures they could benefit from in order to be able to comply more easily. The risk analysis performed on the basis of data provided by the CE/SD economy platforms confirmed the existence of these risks in certain jurisdictions.

The importance of determining the VAT status of the basic suppliers in the case of CE/SD economy platforms is also related to the fact that this status can have an influence on their VAT obligations, especially in terms of treatment, in terms of VAT , taxes and fees (especially in the context of transnational activities), as well as reporting obligations (invoicing, etc.).

If, for example, the transaction between the platform and the underlying sharing economy/on-demand provider is considered a business-to-business (B2B) transaction, many jurisdictions require the collection of VAT on commissions and fees charged by the platform to the provider through a mechanism of reverse charge, when the platform is not located in the jurisdiction that has tax jurisdiction.

If the transaction qualifies as a business-to-consumer (B2C) transaction, the platform may be required to register for VAT in the tax jurisdiction (via a seller registration system).

To overcome this difficulty, some platforms have created a web page that allows users to communicate information about their tax status. However, platforms often face difficulties when it comes to verifying suppliers' VAT registration data, especially in the absence of a reliable real-time verification mechanism for this information managed by tax authorities.

The fact that suppliers carry out several CE/SD economy activities in parallel through several platforms, or that one agent (local booking agency, for example) operates on one platform on behalf of several people without the information about these suppliers also poses problems special.

## **5. Conclusions**

As the digital economy becomes more and more assimilated into the economy itself, it would be difficult, if not impossible, to distinguish it from the rest of the economy from a tax perspective. Attempting to isolate it to make it a separate sector would inevitably necessitate the arbitrary distinction between what is digital and what is not. This makes it easier to identify and address the challenges posed by the digital economy and the concerns it raises in terms of base erosion and profit shifting by looking at the structures already adopted by multinational enterprises as well as new business models.

The digital economy is constantly changing and it is necessary to monitor possible future developments to assess their impact on tax systems.

The rapid technological progress that characterizes the digital economy has led to the emergence of several trends, and this carries potential developments. While this rapidity makes it difficult to predict future developments with any degree of reliability, they should be watched closely as they are likely to present new challenges to policy makers in the near future.

The digital economy has also accelerated and changed the distribution of global value chains in which multinational enterprises integrate their international activities. Previously, it was common for a multinational company to set up a subsidiary in each country in which it was established to manage the group's activities in that country. This structure resulted from a number of constraints, including slow communications, foreign exchange rules, customs duties or relatively high transportation costs, which made integrated global supply chains difficult to operate.

Several factors, such as advances in ICT, the reduction of many currency and customs barriers, and the transition to digital products and a service-based economy, have combined to reduce the barriers to integration, thereby allowing multinational business groups to operate much more like global companies. Because of this integration, it has become easier for companies to adopt global business models where functions are centralized regionally or globally. Even small and medium-sized enterprises are now able to assert themselves as "micro-multinationals" with operations and staff in several countries and on different continents. ICT has played a key role in this underlying trend, further exacerbated by the fact that many of the big digital companies are young and designed from the start to operate in an integrated way on a global scale. The ability to centralize the remote infrastructure of a marketplace and conduct substantial business of selling goods and services in that remote marketplace, and the increasing ability to conduct substantial business with minimal staffing, also open up opportunities for base erosion and profit shifting by fragmenting physical activities to avoid taxation.

Certain fundamental characteristics of the digital economy increase the risks of base erosion and profit shifting in terms of indirect taxation, especially for companies carrying out activities that are not subject to value added tax.

## 6. Acknowledgement

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## Skandia Navigator - an Innovative Tool for Evaluating Hidden Intangible Assets

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### Abstract

*The true amplitude of the contemporary enterprise is found in its hidden assets such as human capital, structural capital, customer capital and organizational capital. These elements are now known as intellectual capital or hidden intangible assets due to the fact that they are not reflected in the current financial statements but which contribute decisively to establishing the market value of the contemporary enterprise. The present research emphasizes the idea of understanding hidden intangible resources as the main value-generating assets of the enterprise, but also the need to promote and measure them through Skandia Navigator to have a series of grouped and balanced tools to promote enterprise development.*

**Key words:** Skandia Navigator, hidden intangible assets, intellectual capital, human capital, value-generating assets

**J.E.L. classification:** M40, M41, M42

### 1. Introduction

As early as 1960, Galbraith emphasized the importance of human capital over technical capital: “But if people are the ones who matter, then our first concern should be to make those arrangements that preserve and develop personal talents. If cars are the decisive thing, then the social arrangements by which we do not develop the infrastructure and equipment will be of the first importance” (Galbraith, 1960, p.34). In 1963, Schultz wrote about the need for investment in education to increase productivity in US agriculture.

The mere possession of capital offers no guarantee that the necessary talent in a company can be properly obtained and organized. Experience has shown this, and it is therefore possible to anticipate “a shift of power in industrial enterprises from capital to organized intelligence.” (Galbraith, 1971, p.71).

Thus, the book value relative to the market value is on the New York Stock Exchange of about 15% (1/7) and it can be reached, as in the case of Ericsson, that the tangible assets represent only 5% of the total value. The question remains - Who is responsible for managing the other 95 percent? Intangible assets are one of the most important parts of the market value of companies and organizations in general, its analysis corresponding to the need for traditional accounting that does not provide enough information in relation to the measurement and use of these resources.

### 2. Theoretical background

Intellectual capital is combined intangible assets owned or controlled by a company or organization and which create a competitive advantage for them. Intangible assets of the nature of intellectual capital may include the knowledge and experience of employees, brands, customer relations, contracts, intellectual property, such as patents and copyrights, as well as organizational technologies, processes and methods. Intellectual capital can exist in an implicit and incorporeal form - that is, existing (stored) only in the memory of workers - or explicit and documented in a written or electronic form (Stan et al, 2006, p.5).

Intellectual capital can be defined starting from its components, as follows (Ficco et al, 2021, p.105):

- Human capital refers to elements such as educational level, know-how, professional qualification, professional knowledge, previous experience, ability to learn, ability to innovate, entrepreneurial ability, creativity, negotiation skills, ability to work in a team, employee adaptability (ability to change), ability to act, motivation, satisfaction, loyalty, performance, cultural diversity, health and safety, etc.
- Structural capital refers to elements such as: organizational structure, organizational culture, management processes and models, corporate governance, information and communication systems, databases, control systems, computer network systems, software, technologies, organizational flexibility, organizational learning capacity, research and development efforts, intellectual property, patents, product names, brands, company image, customer databases, customer loyalty and satisfaction, supplier databases, supplier agreements, cooperation agreements, strategic alliances, commercial power, ability to negotiate, social commitment, environmental protection, corporate reputation, market positioning, etc.

Even though contemporary society has become aware of the importance of hidden intangible assets in creating wealth for the enterprise, the main problem that arises is related to the way of valuing them.

At the moment, there are numerous methods of intellectual capital assessment that can be divided into financial (monetary) methods and non-financial (non-monetary) methods as follows (Ficco et al, 2021, p.105-122):

- Market capitalization methods that calculate the monetary value of the intellectual capital as the difference between accounting value and market value: Q Coefficient or Market Net -Book Value Indicator.
- Methods based on the return on assets that estimate the value of intellectual capital based on the profitability of the assets, the average return of the industry to which it belongs and the value of tangible assets: Economic Added Value, Market Added- Value, Capitalization of Knowledge Generated Profit ,Total Intangible Value.
- Direct methods that estimate the monetary value of intellectual capital by identifying and measuring some of its components: Nevado & Lopez, Meritum, Technology Broker, Inclusive Valuation Methodology.
- Methods based on scores that identify the components of intellectual capital, but without making measurements in monetary terms, but in certain non-monetary indicators: Skandia Navigator, Balanced ScoreCard, Intangible Asset Monitor, IC Index.

### **3. Research methodology**

This paper is a literature review as a research methodology and provides an overview of different models for measuring and managing intellectual capital. It emphasizes the idea of understanding hidden intangible resources as the main value-generating assets of the enterprise, but also the need to promote and measure them through Skandia Navigator to have a series of grouped and balanced tools to promote enterprise development.

### **4. Findings**

The Skandia Navigator model is based on defining intellectual capital as the difference between accounting value and market value. Therefore, the basic premise is that the market value is the true value of the company, because it includes both tangible assets and intellectual capital. This model is generally accepted in accounting and is easy to apply.

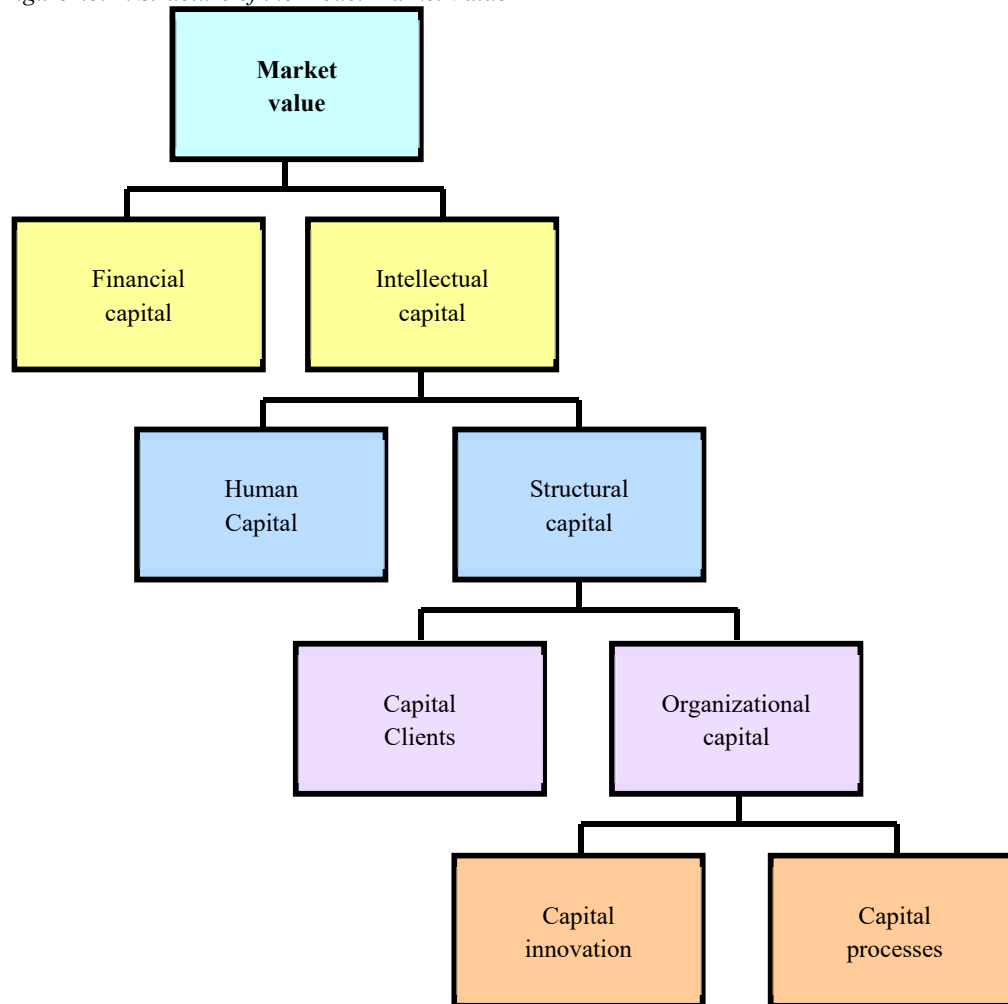
This model is the effect of an ongoing intellectual capital effort by Edvinsson and his team at Swedish enterprise Skandia PLC. Other significant contributions in this area are Market Value Scheme and Intellectual Capital Index.



The taxonomy provided by market value schemes is widely utilised by those interested in intellectual capital field (Brătianu, 2009, p.145). Total market value consists of intellectual capital and financial capital. Intellectual capital can be divided into structural capital and human capital. Structural capital consists of organizational capital and customer capital, which is process capital and innovation capital.

Skandia uses non-financial and financial elements to determine a company's market value. Skandia's measurement, management and information tool is the "Skandia Navigator" which is presented in the form of a house (Figure no. 2.).

Figure no. 1. Structure of the Model Market Value



Source: (Van den Berg, 2002, 146)

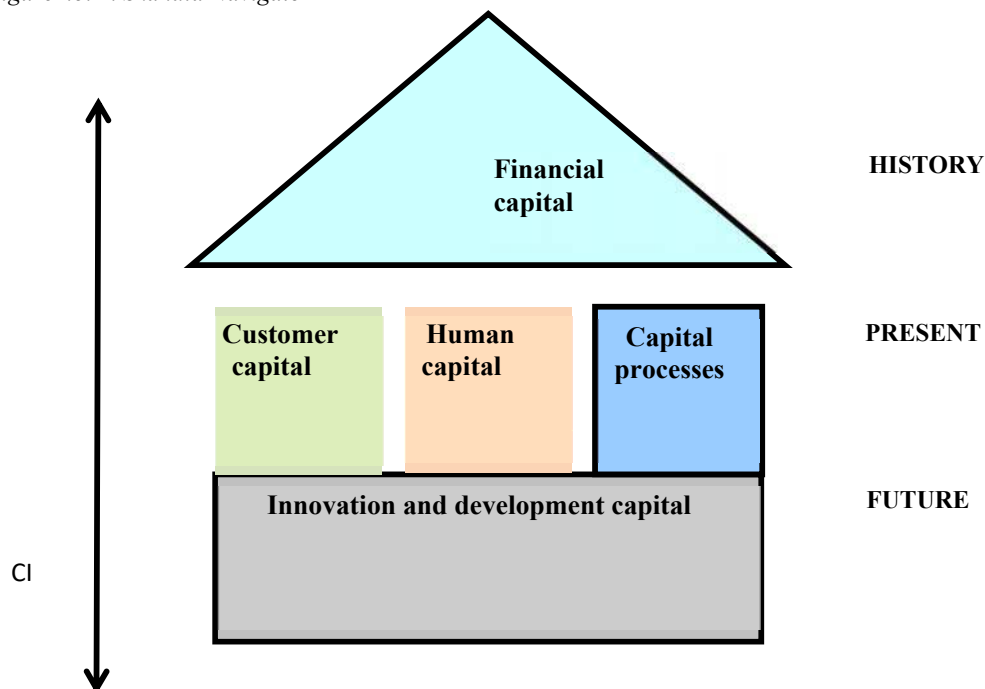
The triangle above represents the financial point of view (the company's past - financial statements). The walls of the house represent the present and include customers and market processes and the foundation is the capacity for innovation and development. In the centre we find human capital – "the heart of an organization." In addition, the Skandia Navigator model suggests that in the past, measuring a company's performance was based solely on financial information. The other areas of activity were not evaluated. Furthermore, the model suggests that, although not used to its full potential, performance measurements currently include customer relationships and other human resources and business processes.

The Skandia Navigator model shown in Figure 2 reflects five key dimensions of the company. These five key dimensions are similar to those identified in the Balanced Scorecard, namely financial orientation, customer orientation, process orientation, human orientation, and renewal and development orientation. To these four key dimensions of the company highlighted in the Balanced Scorecard, the model adds a human perspective.

Each area visualizes the value creation process and the connection between the five performance perspectives:

- The financial perspective captures the information that emerges from the financial statements;
- The customer perspective provides an insight into the extent to which the business meets the needs of its customers with its products and services, with indicators regarding the share of new customers in sales, or how loyal its customers are.
- The human perspective is "the heart of an organization", "that part of the intellectual capital that goes home every night", and "the combination of experience and innovation found in these employees and the company's strategies to change and preserve this combination."
- The process perspective refers to the processes of efficient production of customer-oriented products and services.
- The innovation and development perspective seeks to capture the opportunities that define the future of the enterprise - to look to the future to prepare for it and to set the course of action to ensure long-term growth and profitability.

Figure no. 2. Skandia Navigator



Source: (Edvinsson & Malone, 1999, 90)

According to the five areas of interest of this model, each company must develop its own list of indicators, starting from the company's vision and mission. Edvinsson and Malone present a list of indicators used by Skandia with more than 160 indicators.

Subsequently, they shorten the list to only 111 indicators, which can be applied, in the opinion of the authors, in any organization (Andriessen, 2009, p.147). It is a rather long list of indicators, which can create problems both in collecting and processing data, but especially in interpreting the results. Complementing the indicators with the other narrative elements and sketches bring an extra utility to the managers and to the other stakeholders.

The model needs further development of the relationship between perspectives and indicators. It has the following contributions:

- take into account the time horizons;
- the centre of the model is the human perspective;
- empirical application.

The advantages of the "Skandia Navigator" model can be:

- allows the evaluation of the intellectual capital of the enterprise;
- creates value starting from the interaction of human capital with structural capital;
- it does not take into account only the financial capital;
- identifies and highlights the visibility and measurement of intangible assets.

Although the authors argue that this tool will help a company "navigate the future", this does not seem to be the case. Indicators show where a company is, not where it needs to go. It does not help to formulate a strategy. It is more of a positioning tool than a navigation tool.

Like any other measuring element, we cannot tell if a certain value of an indicator is good, very good, etc. since we do not have standards to compare. Moreover, there are no elements to help us clarify the cause-and-effect relationship. We may notice problems in some areas, but this tool does not help to determine the causes of those problems (Andriessen, 2009, p.147).

## 5. Conclusions

The true amplitude of the contemporary enterprise is found in its hidden assets such as human capital, structural capital, customer capital and organizational capital. These elements are now known as intellectual capital or hidden intangible assets due to the fact that they are not reflected in the current financial statements but which contribute decisively to establishing the market value of the contemporary enterprise

By knowing its resources, measuring and managing them correctly, an organization can present a more accurate picture of its value by providing a variety of information relevant to various categories of *shareholders* - existing or potential. Taking into account the issue of intellectual capital paves the way for an enhanced strategic way of thinking, in which *all* the resources available to an organization are revealed - tangible and intangible.

This way of thinking allows for the formation of a more accurate, holistic perspective on the organization in question and its value. Intellectual capital is a complex of intangible resources and capabilities, based on individual and collective knowledge that a company owns and controls at a certain time well defined in time, and can be a source of development and facilitation of competitive advantage.

## 6. Acknowledgement

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## Intellectual Capital Measurement and Evaluation Models Based on Assets Return as Non-Accounting Value

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### Abstract

*In recent decades, the emphasis on the knowledge resources and organizational skills of companies has contributed to the creation of a broad understanding of the strategic role of intangible resources for the success of a company, resources consisting of intangible assets and, in particular, intellectual capital. The purpose of this study is to analyse different definitions of intellectual capital, in order to identify the defining features of the concept and the different elements and categories that compose it, as well as to provide an overview of the methods and models that have become the most used for its identification and measurement.*

**Key words:** non-accounting value, intellectual capital, added economic value, added market value, total intangible value

**J.E.L. classification:** M40, M41, M42

### 1. Introduction

Global business has developed rapidly, as indicated by the development of information, information and communication technology, science and intense global competition, the success of a business depending on the ability to use knowledge as a form of intangible assets that have become the new source of financial performance and competitive advantage. The transition from an economy based on physical resources to a knowledge-based economy has caused many researchers to find a new way to measure intangible assets, including intellectual capital (Soewarno & Tjahjadi, 2020). Intellectual capital, as an intangible asset, is a resource of an entity that is controlled as a result of past events and from which future economic benefits are expected to result as a result of past events and from which future economic benefits are expected to result. It is identifiable, has no physical appearance and is non-monetary, meaning it does not represent cash or other assets for which future economic benefits are expected.

### 2. Theoretical background

The concept of intellectual capital has emerged as a key element in the interpretation of a company's intangible resources. Its understanding meets the needs of managers to have an interpretive and operational notion of intangible resources to determine the value of the enterprise. A company's intellectual capital can be defined as the existing knowledge within the organization that brings value to the company or that could bring value to the company in the future. Intellectual capital consists of people and systems and integrates and combines all forms of human, social and structural stakeholder capital. Intellectual capital can be divided into three areas:

- Human capital. Human capital is defined as the set of capabilities, skills, knowledge, abilities, capabilities, capacities and experiences possessed by employees, managers and every person in the company and which are relevant to the tasks of the organization, as well as the ability to create a reservoir of knowledge, experience and skills through individual learning. In short, a company's human capital is represented by the knowledge and skills of its professionals destined to produce services.

- **Organizational capital.** When we talk about organizational capital, or also known as structural capital, we mean all the mechanisms and structures that can help employees improve their cognitive resources to improve company performance. In other words, these are all the systems, processes and/or procedures that the organization has and are specific to the company.

- **Relational Capital -** Relational capital is a combination of local institutions and trusting relationships between economic actors that evolve from local cultures. This network of civic engagement (which grows over time) contributes to improving the company's economic performance.

All these assets, all this capital (human, organizational and social) bring value to the company and can create even more value, so it is necessary to be managed effectively to achieve positive results.

### **3. Research methodology**

This paper is a literature review as a research methodology and provides an overview of different different definitions of intellectual capital, in order to identify the defining features of the concept and the different elements and categories that compose it, as well as to provide an overview of the methods and models that have become the most used for its identification and measurement.

### **4. Findings**

Intellectual capital is both an asset with added value and a resource capable of generating value in the business. According to Van der Meer-Kooistra and Zijlstra (Van der Meer, 2001, p. 472) the measurement system should provide a broad perspective in the value creation capacity of intellectual capital. Therefore, it is important to quantify information about intellectual capital (Van der Meer, 2001, p. 473). Both financial and non-financial measurements recommended by different researchers should be used to help companies capture their value creation capacity. Measuring and reporting intellectual capital closes the gap between a company's book value and market value. The market value of a company refers to the sum of recognized conventional assets, recognized intangible assets, as well as unrecognized skills that are represented by intellectual capital (Mouritsen, 2002, p.20). Part of the difference between a company's book value and its perceived market value is intellectual capital, which is not recognized in the company's individual financial statements.

Intellectual capital can be evaluated by different methods, the most simplistic method being given by the difference between the market value of a company and the total value of its assets. Of course, there are enough evaluation methods, but the one presented previously is one of the few methods that actually assigns a certain value to intellectual capital. Even though contemporary society has become aware of the importance of hidden intangible assets in creating wealth for the enterprise, the main problem that arises is related to the way of valuing them. At the moment, there are numerous methods of intellectual capital assessment that can be divided into financial (monetary) methods and non-financial (non-monetary) methods as follows (Ficco et al, 2021, p.105-122):

- Market capitalization methods that calculate the monetary value of the intellectual capital as the difference between the market value and its book value: the Q Coefficient or the Market Net - Book Value Indicator.
- Methods based on the return on assets that estimate the value of intellectual capital based on the profitability of the assets, the average return of the industry to which it belongs and the value of tangible assets: Economic Added Value, Market Added- Value, Capitalization of Knowledge Generated Profit ,Total Intangible Value.
- Direct methods that estimate the monetary value of intellectual capital by identifying and measuring some of its components: Nevado & Lopez, Meritum, Technology Broker, Inclusive Valuation Methodology.
- Methods based on scores that identify the components of intellectual capital, but without making measurements in monetary terms, but in certain non-monetary indicators: Skandia Navigator, Balanced ScoreCard, Intangible Asset Monitor, IC Index.

#### 4.1. Economic value added (EVA)

This indicator is based on the theory of net residual profit, also called economic profit, which exists only if the rate of return on invested capital is higher than the weighted average cost of capital of an enterprise. This method was introduced and trademarked (TM) by Stern Stewart & Company to more accurately reflect a company's financial performance. The concept of residual net profit, also called economic profit, was introduced by Alfred Marshall in 1890. By economic profit, A. Marshall understood the difference between the total net profit and the net profit attributable to the invested capital, calculated according to its current cost. EVA is defined as "the difference between net sales and operating expenses, taxes and the net income required to reward capital, calculated by multiplying the cost of each category of invested capital and the value of that category of capital. In practice, EVA increases if the weighted average cost of capital is lower than the rate of return on net assets and vice versa". In other words, EVA is the difference between the net operating profit and the value cost of invested capital (the sum of equity capital and long-term borrowed capital).

The equation for calculating EVA is:  $EVA = (ROIC - wacc) \times \text{initial value of invested capital}$

in which: - ROIC = return rate on invested capital

- wacc = weighted average cost of capital

This means that EVA does not quantify the value of a company's intellectual capital, but only its existence, because it is usually calculated separately for each future year, indicating the annual increase in value of a firm, instead, EVA is the best indicator for quantifying value created for shareholders. This model was introduced by Stern Stewart in 1997 as a global measure of performance based on variables that include the capital budget, financial plan, proposed goals, and incentive compensation for any way the company's value can be increased or decreased. The added economic value is given by the difference between the value of net sales and the sum of operating expenses, taxes and invested capital. The added economic value is considered a surrogate indicator of the intellectual capital, because it does not show what is the specific contribution of the intellectual capital to the achievement of the company's performance indicators. It can only be said that the change in economic value added reflects a productive capital or not.

#### 4.2. Market value added

This indicator also derives from the concept of economic profit. MVA is calculated as the difference between the market value of a company and the capital that shareholders and creditors have put into the company over the years, in the form of paid-in capital, loans and retained earnings. That is why MVA reflects the difference between the market value of the company, at a given moment, and the net capital put in by investors, starting with the initial invested capital. Therefore:  $MVA = \text{market value of equity capital} + \text{market value of outstanding loan} - \text{total invested capital}$

#### 4.3. Capitalization of profit generated by knowledge

The author of this method is the American professor from New-York University, Lev Baruch. The knowledge capital evaluation approach is made by capitalizing a normalized net profit (calculated following some corrections of past annual net profits and the forecast of future net profits), with an appropriate capitalization rate (Ahmad et al, 2019, p. 225) the calculation formula is:  $\text{Knowledge capital} = (\text{normalized annual net profit} - \text{net profit related to tangible and current assets}) / \text{capitalization rate related to knowledge capital}$

#### 4.4. Total intangible value

This method is also based on the theory of excess profit, compared to the profit obtained by an enterprise with an average efficiency management. As a result, the market value of a better performing company is higher than the market value of a similar company with average financial performance (Gu, & Lev, 2011). The stages of applying this method are:

- calculation of the annual average gross profit, from the last three years;
- calculation of the average annual value of tangible assets, from the last three years;

- calculation of the average annual return on assets (ROA of the enterprise), by the ratio between the two indicators above and calculation on the average annual return on assets in the company's field of activity (average ROA of the branch);
- calculation of excess gross profit, by the formula: *Average annual gross profit - (Average ROA of the branch x tangible assets of the company)*
- calculation of the average annual rate of profit tax, from the last three years;
- multiplying the annual average rate of profit tax, from the last three years, with the surplus gross profit and determining the surplus net profit, attributable to intangible assets;
- the capitalization of surplus annual average net profit, attributable to intangible assets, with an appropriate capitalization rate and thus calculating the total value of intangible assets.

## 5. Conclusions

Intellectual capital is extremely relevant in the current context, although it is a complex and multifaceted subject, whose approach is still unfinished and in continuous evolution, which opens an important field for the development of research in this regard. Consequently, CI is considered an intangible activity that includes people, the art of doing and learning (human capital), organizational and technological culture (structural capital) and relationships with the external environment (relational capital). From a theoretical point of view, this study confirms the important role of intellectual capital on financial performance and provides empirical evidence regarding the theory and literature on intellectual capital, especially the use of intellectual capital measurement and evaluation models based on profitability. The most common reasons cited in the literature to justify the assessment of intellectual capital are (Marr et al, 2003, p. 461): to help organizations formulate strategy, assess and implement strategy by businesses, support expansion and diversification decisions, communicating this information to shareholders.

## 6. Acknowledgement

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## The Importance of Non-Financial Information in Financial Situations for the Sustainability of the National Economy

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### Abstract

*The purpose of this article is to draw attention to the importance that must be given to the introduction in the financial statements of economic entities of non-financial information related to the sustainable development of the economy by means of a system for reporting the status of the implementation of environmental standards. Because lately the most serious problem facing humanity is the effects of climate change produced by environmental pollution, I believe that environmental standards must be implemented in every organization.*

*A society that respects itself, also respects the environment and must contribute to removing the effects that affect it. The results of the study indicate that the companies that have implemented environmental standards are in a small percentage of less than 30%, which urgently requires the introduction of mandatory environmental standards into the national legislation and their reporting in the financial statements depending on the impact of the activity carried out of society on the environment.*

**Key words:** non-financial information, financial statements, sustainable development, sustainable economy.

**J.E.L. classification:** M40, M41

### 1. Introduction

Commercial companies that carry out their activity in fields that affect the environment are necessary and mandatory to implement, depending on the environmental impact intensity, their own policies to reduce/diminish these negative effects, thus contributing to the sustainable development of society and implicitly of the Romanian economy (Dragotă et al., 2003; Andrei et al., 2018).

The European Union has materialized the environmental protection policy through environmental legislation in the form of European directives, regulations and decisions (Directive 2014/95/UE). The European directives are complex in nature and are binding on all member states, while the regulations and decisions are optional recommendations of an indicative nature (Minister of Finance, Order No. 1802/2014).

Companies that make investments in order to benefit the environment should detail the related expenses in separate accounts (Bețianu, 2008). The Romanian state, from its own point of view, should offer financial support or fiscal facilities to these companies, in order to encourage investments in this sense, thus contributing to the main goal, that of reducing the effects of pollution (Nicolaescu et al., 2015).

The integration of environmental strategies in the global policy of the society by optimizing the use of resources is the main concern of the companies, having as objectives the use of green energy, combating rainfall and reducing climate change (Sen and Inanga, 2005).

## 2. Theoretical background

The main key factors that contribute to the sustainable development of society are political, environmental, social and legal factors (Radu, 2009).

A complete financial report of an economic entity should include the following aspects: financial, economic, social and environmental (Stefan and Radu, 2016).

The official publication of information related to the environment generated numerous debates related to the classification and quantification of the degree of impact on the environment, the costs and risks generated by them (Berheci, 2006).

In many countries there are laws adopted in this sense, environmental information being an important aspect, treated separately in the financial statements (Mulford and Comiskey, 2005).

The performance of a company in Romania is reflected in the annual financial statements only through economic-financial information, not through social and environmental information, which is expected to be improved in the Romanian financial reporting system in the near future (Ministry of Finance, Order No. 3781/2019).

In Romania, non-financial information is optionally presented in the explanatory notes that accompany the financial statements of small, medium and large entities, micro-entities not reporting these notes (Gîju et al., 2012).

Among the most important non-financial information that should be included in the analysis of the organizations' activities are those related to the environment, and especially the activities that bring changes to it by imposing the obligation of environmental risk analysis, reporting and presentation of methods to reduce the impact on ecosystems (Radu and Tabirca, 2019).

At the management level, strategic management should be based on a detailed analysis of operational or daily management, whose organizational culture must be implemented from the bottom up, from small to large, so the company will have long-term gains (Naser, 1993).

Environmental risk management must be an integral part of the company's global management.

## 3. Research methodology

The methodology used in this research used the "on-site intervention", the questionnaire as a quantitative and qualitative research tool of the phenomenon subject to this study, on a sample of 200 commercial companies operating in the South Muntenia region. This is based on methods of analysis and synthesis, interpretation and relevant comparisons.

As the method applied in the content of the work, the "profiles" method will be used, used in order to determine the result of the empirical research and to represent the profiles of the analyzed entities, conceptualized on the basis of criteria established by restating and regrouping the answers received in the questionnaire.

## 4. Findings

The classification of companies according to the degree of impact of the activity carried out on the environment was based on the classification made by law (Law 292/2018 or EIM Law).

In order to quantify the impact on the environment, according to the degree of pollution, in the case study we classified the economic activities of the analyzed entities as follows:

- Activities with an insignificant degree of pollution, coefficient 1;
- Activities with minimum/reduced degree of pollution, coefficient 2;
- Activities with a high/high degree of pollution, coefficient 3.

The following table presents the situation of the implementation of the environmental policies within the companies according to the coefficient attributed to the activity carried out by them. All the 200 surveyed companies answered the questions related to the stage of environmental policy implementation within the entity.

Table no. 1. Classification of the companies analyzed according to the degree of classification of the activity carried out and the environmental policy applied/not applied.

Activities with:	Companies that have implemented environmental policies	Companies that have not implemented environmental policies
Coefficient 1	0	72
Coefficient 2	18	63
Coefficient 3	41	6
Total	59	141

Source: Authors' own contribution

The analysis of non-financial information carried out in the research was limited only to information related to the environment, this does not mean that all other non-financial information is not equally important for the overall image of an entity. In the figure below, a team of Japanese researchers in the study "Management of non-financial information: corporate value creation insight from advanced case studies", presents the possibility of measuring this information by different companies (PwC Japan, 2021).

Figure no. 1. Common indicators measured by many companies

Key quantitative indicators for natural capital	Key quantitative indicators for social and human capital
<b>Climate change indicators</b> <ul style="list-style-type: none"> <li>- Carbon and GHG emissions (measured by all surveyed companies)</li> <li>- Carbon footprint (product lifecycle)</li> <li>- Reduction in energy consumption rate</li> <li>- Renewable energy conversion rate</li> </ul>	<b>Employee indicators</b> <ul style="list-style-type: none"> <li>- Employee satisfaction</li> <li>- Diversity and inclusion</li> <li>- Accident rate, injury rate (occupational health and safety)</li> </ul>
<b>Raw materials / resource indicators</b> <ul style="list-style-type: none"> <li>- Water use</li> <li>- Efficiency of water use</li> <li>- Percentage of raw materials that are sustainably produced (timber, palm oil, cotton etc.)</li> </ul>	<b>Community indicators</b> <ul style="list-style-type: none"> <li>- Participation and investment in community programs, such as the number of programs and amount of investments</li> </ul>
<b>Waste indicators</b> <ul style="list-style-type: none"> <li>- Amount of waste</li> </ul>	<b>Human rights indicators</b> <ul style="list-style-type: none"> <li>- Percentage of projects for which human rights due diligence and ethical procurement are in place</li> </ul>

Source: <https://www.pwc.com/jp/en/knowledge/thoughtleadership/assets/pdf/non-financial-information-management.pdf>

## 5. Conclusions

From the studies carried out, it would be indicated for companies with a high coefficient (2.3) to be subject to an environmental audit, by creating a legal system for comparing and auditing them based on recognized standards such as the ISO standards, regulated at national level (Drăgulescu et al., 2014).

Currently, environmental strategies are presented in the financial statements only optionally, or at the request of certain institutions, in the explanatory notes.

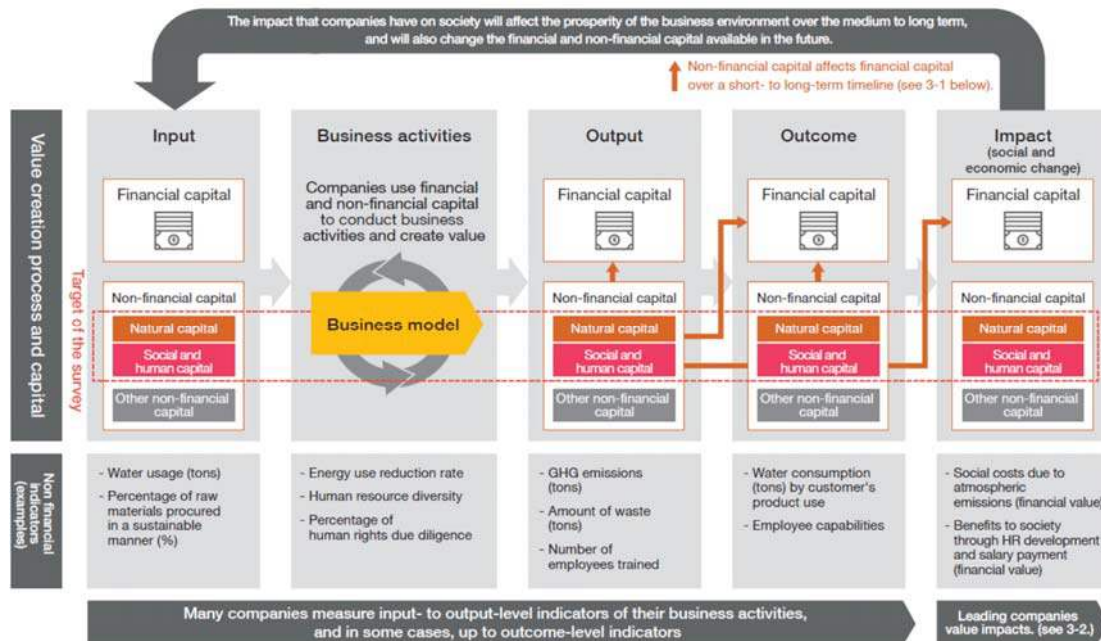
Orientation towards environmental problems and climate changes, which currently affect the entire planet, leads to the premise that those who pollute must pay, starting with the latter, meaning with the societies with a high degree of pollution, where the implementation of standards is mandatory but also the restoration of the effects negative impacts on the environment must be prioritized (European Green Pact). This can be done by introducing environmental taxation, or real

environmental taxes, to help reduce these effects and improve the quality of the environment.

In future research, we will analyze all non-financial information important for society and the need to include it in the financial statements, as the team of researchers from Japan did.

Sustainable development, in the current context, is based on finding the balance between economic growth/progress and reducing the negative effects brought to the environment. This can be achieved by quickly restoring ecosystems where they have been seriously affected. The invoked balance imposes a regulatory framework that must be regulated at the national level through special laws and implemented as quickly as possible so that the intervention to save the environment is not late. Sustainability includes the socio-ecological process in the medium and long term through the use of renewable resources, in the future contributing to the accessibility of these resources by future generations. According to the report "Our Common Future" developed by the Brundtland Commission (1987), which is the reference document in the definition of sustainability, this term represents "the satisfaction of today's needs without sacrificing the ability of future generations to meet their own needs", accepted definition and recognized at the same value even today (European Commission).

Figure no. 2. Examples of non-financial indicators in a logic model.

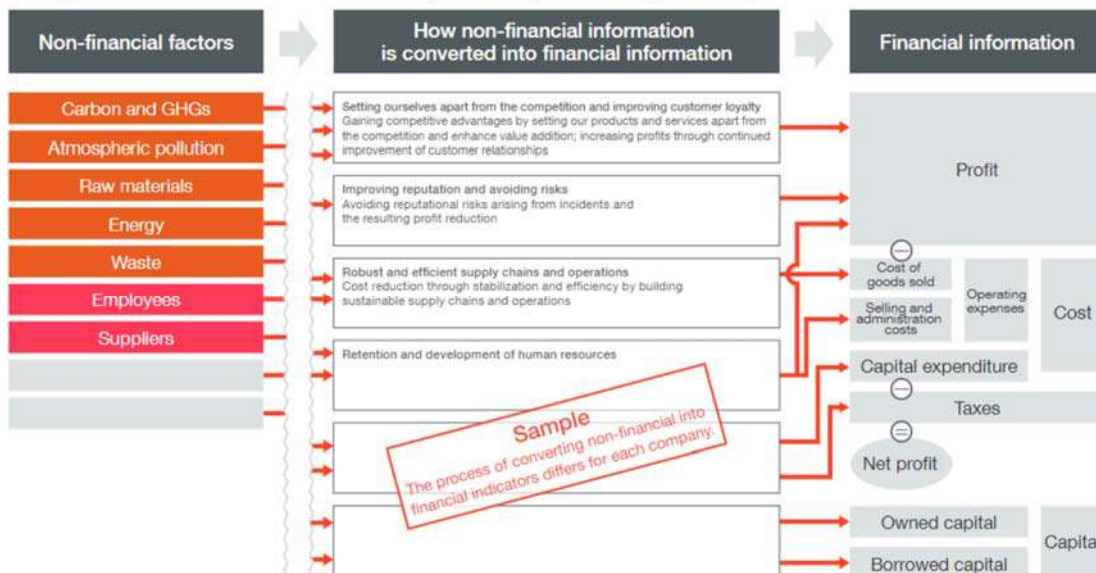


Source: <https://www.pwc.com/jp/en/knowledge/thoughtleadership/assets/pdf/non-financial-information-management.pdf>

The figure presented by the Japanese researchers clearly shows the importance given to non-financial information and the added value brought to the company in the long term from their integration in the economic analysis. This study must also be carried out on a sample of Romanian companies and interpreted from the point of view of the legal provisions and the European standards applicable to them.

Figure 3 shows as clearly all the interdependencies between non-financial and financial information, as well as their different interpretation from case to case. It should be noted that the non-financial information brings a different added value, the conclusions not being generally valid for all the analyzed entities.

Figure no. 3. Connection between non-financial factors and financial factors



Source: <https://www.pwc.com/jp/en/knowledge/thoughtleadership/assets/pdf/non-financial-information-management.pdf>

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## Reporting on Errors and Fraud in Financial Audit Missions

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### Abstract

*Although in Romania the financial audit is at the beginning of the road, the system of legislative regulations of recent years anticipates new trends and the expansion of its role in the next century. The main responsibility in the prevention of fraud and errors, as well as in their detection, belongs to the management of the entity, but at the same time also to those who are entrusted with the governance. These responsibilities may vary from one country to another, or from one entity to another. The management, under the careful supervision of those delegated with governance, must create an appropriate climate, establish and maintain high ethical standards, a culture of honesty and establish the setting of periodic controls to prevent and detect possible fraud and errors at the level the audited entity.*

**Key words:** report, financial audit, error, fraud, auditor

**J.E.L. classification:** M 40, M 41, M 42

### 1. Introduction

The improvement activities of the financial audit are unnecessary, especially in Romania, where such activities are stabilizing, together with the advancement of the reform process and the incorporation of the Romanian economy into the structures of the European Union.

Although in Romania the financial audit is at the beginning of the road, the system of legislative regulations of recent years anticipates new trends and the expansion of its role in the next century. This turn is also substantiated by the numerous changes in the economic environment, such as the evolution of stock market activities, the bankruptcy or merger of some entities, the increase in the number of financial transactions.

From the 20th century, laws begin to be drawn up regarding the official recognition of the importance of verification by means of the audit, and even its obligation is imposed as well as that of the publication of the balance sheet, with the aim that it provides "a true and accurate picture" of heritage. The development of accounting, together with the evolution of auditing and internal control, were the result of activities and conclusions formulated by accountants and auditing firms, as a result of their experiences and not as a result of a legislative imposition.

Financial audit procedures began to be used in our country, during the transition to a market economy, from the aspiration of Romanian specialists to transform and correlate Romanian regulations to international accounting standards.

The financial audit stabilizes with the development of the reform process and the realization of an economy similar to that of the countries within the European Union.

Therefore, Romania imposes the introduction of financial audit techniques harmonized with international ones, and the plurivalence and maintenance of the evolution of economic activities causes the continuous improvement of accounting and financial audit standards, as well as the training of professionals in the field.



## 2. Literature review

In order to reduce the risk to a minimum satisfactory level, in planning and performing the audit, it is necessary for the auditor to take into account the risk of conclusive distortions in the financial statements, due to fraud.

In financial statements, misstatements arise when errors and frauds occur. The distinction between error and fraud is given by the factor that shows whether the underlying action that resulted in a misstatement of the financial statements is intentional or unintentional.

The term "error" refers to an unintentional misstatement in the financial statements, including the omission of a statement or amount, such as: an erroneous accounting estimate, arising as a result of overlooking or misinterpreting some facts; a mistake in the application of accounting policies regarding the evaluation, classification, recognition, presentation and description of information; a deviation arising in the collection and processing of the data on the basis of which the financial statements are drawn up.

The term "fraud" refers to an act of a willful nature undertaken by a person or a group of persons within the management, among third parties or employees, or those charged with governance, an action that entails the use of deception in order to achieve a unfair or illegal advantage. Although fraud is a broad legal concept, the auditor is more concerned with fraudulent misstatements that cause a material misstatement in the financial statements. There is a possibility that the misstatement of the financial statements is not caused by existing fraud. Auditors are not the ones who legally decide whether a type of fraud is present or not.

In the content of the audit rules, it is stated that the auditor has the duty to inform the management of his findings as soon as possible, in case:

- the presence of an insignificant error or fraud was discovered;
- the auditor suspects the presence of fraud, even if its potential effect is immaterial to the financial statements.

The information must be carried out taking into account the persons who could be complicit in the commission of the respective fraud, either directly or indirectly. That is why it is recommended that these findings be reported directly to the department under which the persons involved in the respective fraud bias are located. The auditor will resort to legal advice, in order to establish the procedures that must be carried out in the situation where there are doubts regarding the persons who have final responsibility regarding the management of the entity as a whole.

If the auditor believes that the error or fraud will have a material effect on the financial statements, he must apply additional procedures or appropriate modified procedures.

The extent to which such additional or modified procedures are applied takes into account the auditor's judgment in relation to: the type of error or fraud indicated; the probability of their occurrence; the possibility that some type of error or fraud will have a material effect on the financial statements.

Unless the circumstances clearly indicate otherwise, the auditor cannot believe that a particular error or fraud is an isolated occurrence. If absolutely necessary, the auditor makes the decision to modify the nature, duration and scope of substantive procedures.

Typically, the application of additional sets of procedures or modified procedures gives the auditor the opportunity to confirm or disprove suspected error or fraud. If the doubt of error or fraud does not cease, the auditor must have a discussion with the management of the audited entity regarding this issue and analyze whether it has been corrected or properly reflected in the financial statements. The auditor intends the possible impact on his report caused by such a problem. Thus, the following two situations can arise:

- ✓ the situation in which the auditor is confused by the entity to carry out sufficient and appropriate audit tests and evidence in order to assess the possibilities of the development of an error or fraud that exerts a significant influence on the financial statements, then he is forced to express his opinion with reservations or even announce the lack of possibility to express an opinion on the financial statements, caused by the limitation of the scope of the audit.

- ✓ the situation in which the auditor is confused by the entity to carry out sufficient and appropriate audit tests and evidence in order to assess the possibilities of the development of an error or fraud that exerts a significant influence on the financial statements, then he is forced to express his opinion with reservations or even announce the lack of possibility to express an opinion on the financial statements, caused by the limitation of the scope of the audit.

Naturally, the auditor's duty of confidentiality prevents him from reporting errors and fraud to third parties. However, in certain situations by law, statute or court decision, decisions can be made regarding the waiver of confidentiality, but the auditor may seek legal advice in such situations, taking into account the auditor's responsibility regarding the public interest.

The auditor may conclude that it is useful to withdraw from the engagement in the situation where the entity does not take actions to improve the frauds, which the auditor considers indispensable in the respective circumstances, even if the frauds are not significant for the financial statements. The auditor's conclusion may be affected by the involvement of the highest authority within the entity, a situation in which confidence in the management's statements is affected, and the auditor's credibility may also be affected, if he continues the association with that entity.

The national and international audit norms mention that the auditor has to notify the management of his findings as soon as possible, when:

- The auditor suspects the presence of a possible fraud, even if the consequences are insignificant for the financial statements;
- The presence of an insignificant error or fraud has been disclosed.

The communication is necessarily made, taking into account the persons who are likely to have an implication in the commission of the respective fraud, either with a direct or indirect contribution. Therefore, it is more favorable that these remarks are reported directly to the upper management, under whose authority the persons in favoring or perpetrating the respective fraud are located. In conditions where there are doubts regarding the persons who are directly liable within the entity, the auditor will naturally resort to legal advice to establish the procedures that must be followed.

In the situation where the auditor believes that the error or fraud is likely to create significant effects on the financial statements, he will require the application of appropriate changed procedures or additional procedures.

The extent to which such changed or additional procedures are used depends on the auditor's consideration of:

- The category of error or fraud indicated;
- The probability of their production;
- The likelihood that a particular category of error or fraud will have a material influence on the financial statements.

Unless the circumstances clearly show otherwise, the auditor cannot accept that a situation of error or fraud is an isolated occurrence. If it is useful, the auditor turns to the processing of substantive procedures, from the point of view of duration, nature and degree of coverage.

The use of changed procedures or additional procedures normally enables the auditor to certify or not to certify the suspected error or fraud. If the suspicion of error or fraud persists, the auditor should discuss the matter with the management of the audited company and examine whether this matter has been properly represented or rectified in the financial statements. The auditor is required to consider the possible consequences of such a problem to his report. Therefore, two situations can be outlined:

- Situation in which the auditor concludes that the error or fraud has a suggestive influence on the financial statements and that it has not been adequately reflected or rectified in the financial statements, the auditor proceeds to express a qualified opinion or an adverse opinion.
- Situation in which the auditor is retained by the company to procure consistent and sufficient audit evidence in order to assess the possibility of errors or frauds that suggestively worsen the financial statements, then it is required that he formulate a point of view with reservations or even to support the impossibility of formulating an opinion on the financial statements, due to the narrowing of the area of applicability of the audit.

Naturally, the auditor's duty of confidentiality restrains him from reporting errors and fraud to third parties. However, in certain circumstances, by law, statute or court decision, it is possible for the auditor to opt out of confidentiality. In such situations, the auditor may seek legal advice, bearing in mind the auditor's public interest responsibility.

The auditor may conclude that it is useful to withdraw from the task in the situation where the company does not carry out actions regarding the correction of frauds, which the auditor finds indispensable in the respective circumstances, even if the said frauds are not conclusive for the financial statements. The involvement of the highest authority within the company may prejudice the auditor's conclusion, a circumstance in which the credibility of management's statements is also affected, and the auditor may also be prejudiced if he does not cease association with the entity. It is required that the auditor investigate the fraud risk factors recognized as existing throughout the assessment action performed by the auditor and investigate the auditor's response to each such factor. If during the audit it is noted that the factors recognized for the occurrence of the risk of fraud cause the auditor to consider that additional audit procedures are indispensable, in the situation where it is required that the auditor investigate the existence of such risk factors and the response to these factors provided by auditor.

### **3. Research methodology**

One of the requirements of this article is to present and analyze the reporting of error and fraud discovered in audit engagements, the empirical part of the research presents the reporting, communication and statements of the management.

For the collection of data and information, the main method used was the observation method, this being evaluated as one of the most and often used methods in research activities. Through the use of scientific observation one perceives the thorough and systematic tracking of specific actions with the aim of understanding the essential and differential aspects.

A very important source of ideas discussed and analyzed, and also of information in this paper, was the articles, books and articles on error and fraud discovered as a result of the audit missions. A large part of these materials were taken into account for the drafting of this paper, in the research carried out and the debate on the issue of financial audit. Special emphasis is placed on management communication and statements.

### **4. Findings**

The auditor is required to obtain written representations from management that:

- ✓ Management attests to its obligations regarding the introduction and operation of internal control systems and accounting systems that have the mission of warning and detecting the occurrence of errors and frauds.
- ✓ Management is of the opinion that the consequences of those uncorrected misstatements of the financial statements gathered by the auditor during the audit process are inconclusive, both individually and in the aggregate, for the financial statements as a whole. A summary of such elements is required to be included in the written statements or attached to them;
- ✓ Management informs the auditor of all significant actions taken to remove any suspected errors or fraud that could harm the entity, known to management;
- ✓ The management informs the auditor about the effects of their own assessment of the danger that the financial statements will be significantly distorted as a result of the existence of frauds;
- ✓ Due to the fact that management is responsible for adjusting the financial statements to correct material misstatements, it is essential that the auditor obtain written statements from management that any uncorrected misstatements resulting from either error or fraud are, in management's opinion, not suggestive. both individually and in aggregate. Such representations are not a substitute for obtaining appropriate and sufficient audit evidence. In some circumstances, management may not consider certain uncorrected misstatements of the financial statements collected by the auditor throughout the audit to be misstatements.

Because of this, management may use wording in written statements such as, "We do not agree that items ... and ... constitute misstatements because [specify reasons].

## 5. Conclusions

An audit engagement may not be able to provide absolute assurance that the content of the financial statements is free from material error or fraud. Errors can arise either as a consequence of processing accounting data in an incorrect way, or due to the application of erroneous reasoning in the selection and use of accounting standards, thus there is a risk that the auditor will not be able to discover them, regardless of the conscientiousness with which apply these auditing standards.

The specialized literature affirms the fact that the synthesized financial statements cannot be of perfect accuracy, or perhaps because of some unclear concepts existing in accounting. Thus, most of the results calculated in accounting based on the estimation principle cannot provide greater precision than the methods used for their sizing allow. For example, one cannot accurately predict the results of a future event, the evolution of market prices or the value of the exchange rate at a given time. Because of this, whenever accounting estimates relate to uncertain outcomes of future events, these approximations will be inherently inaccurate. Consequently, the annual accounts that are subject to audit cannot have a very high degree of precision either, due to the inherent restrictions brought by the accounting concepts.

During the course of the study, I had the chance to make contact with the specialized literature, especially with the international standards used in this field, but it was necessary to familiarize myself with cosacrate, but older methods.

Secondly, during the preparation of the project I had to deal with the aspects and stages of auditing an entity, all of which were carried out under the guidance of the scientific coordinator.

In Romania, economic agents have not yet managed to reach the indispensable degree of awareness or, in some situations, they have no interest in calling on professional financial audit services. Therefore, their general lack of interest in the financial audit is justified, as a way of reflecting the manner of compliance with the provisions of the International Accounting Standards and the correct delivery of the acquired financial results.

In conclusion, the auditing of the annual financial statements of a company, by a financial auditor, represents complex and systematic work, which presupposes special responsibilities of the participants. The purpose of the financial audit activity consists in: notifying the results, respecting certain professional rigors in terms of the formulation of the audit report and the clear and concise expression of the formulated opinion and the beneficiaries' understanding of the future responsibilities.

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## Capitalization of Accounting Information in the Analysis of the Economic and Financial Position of the Company

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### Abstract

*The information provided by the annual financial statements is a source of valuable data in the diagnosis of the financial condition of an economic entity in terms of visibility and credibility, the structures specific to the financial position and performance through liquidity, but also the profitability that ensures the optimal conditions for maintaining the financial balance and at the same time the efficiency of the activity.*

*The present study is meant to analyze the intermediate management balances in the period 2017-2021 of a company having the main activity field exploitation of salt and other non-metallic products as well as the profitability rates as ways of analyzing economic performance in applying a discrepant method using the model proposed by Altman and Conan-Holder.*

**Key words:** financial performance, intermediate management balances, financial profitability rates, liquidity, risk of bankruptcy

**J.E.L. classification:** C30, G33, M41

### 1. Introduction

The diagnosis of the economic and financial condition of the company aims at the use of tools for assessing the economic and financial results in order to calculate a score type indicator in detecting the risk of bankruptcy through the prism of the existing connection between suppliers, investors, customers, competitors, all of them having a common denominator / ground, such as : annual financial statements that provides relevant information regarding the performance and financial position of a company, over a long period of time.

### 2. Literature review

The degree of performance measurement for managers determines whether the company's goals are met, to the extent that it facilitates the assessment of profitability for shareholders but also risk management by them. (Kopecká, 2018, pp. 385-393)

The SWOT analysis is the tool through which the management of the entity looks for the viable solutions to clarify problems or to improve the activity. (Staicu, 2002, p. 16)

A sensitive topic of high relevance among specialists is the detection of financial difficulties that affect the proper functioning of the company based on the analysis of the financial report. (Altman, 1967, p. 59)

Securing the necessary funds for the current activity of the company involves choosing a strategy that ensures a minimum cost of financing and an optimal structure of mobilized capital. The financial structure of economic entities is based on the own sources of financing (equity) and external sources of long-term funding (long-term or medium-term debt) as well as operating liabilities. (Gomoi et al, 2020, pp. 30-40)

In order to face the challenges manifested in the market, economic agents choose to use models of analysis of economic activity. (Simionescu, 2015, p.3)

Performance measurement involves the use of result indicators determined on the basis of the information provided by the annual financial statement, which have a supporting role in decision-making. (Vâlceanu et al, 2005, pp.269,278,283,363)

In H.Stolowy's view performance is quantified by reporting to predetermined objectives, this being in itself an abstract notion, a fact that involves its analysis with the help of some result indicators. (Stolowy, 1991)

A similar approach in terms of performance can also be found at Collasse, which associates terms such as profitability, efficiency, effectiveness productivity to this concept. (Collasse, 2008. pp.22-45)

Another point of view formulated by Bourguignon defines performance as:

- a success, because it is dependent on the manner of success representation by the different categories of users of accounting information;
- a result of an action, because it represents an ex-post evaluation of the results obtained;
- an action, because it is a process and not a result that appears at some point (Bourguignon, 1995, pp.61-66)

The performance of an economic entity aims at the profitability of the advanced capital, the risk assumed by investors but also the development potential of the business. According to Purcărea, and Stancu the opportunity of placing the available funds must be analyzed referring to the alternatives available on the market. (Purcărea et al, 2008, p.304)

The appreciation of performance must be seen as a condition of competitiveness in relation to the efficiency and productivity of the business that guarantees its resistance and existence in the market (Niculescu, 2005, p.43). Starting from this idea, we can tell the fact that financial performance presents an unstable character given the value-cost relationship and the steps taken by the company through the strategies adopted to face the pressures from the competition. (Lavalette et al, 1999, p.228)

A current problem faced by economic agents is risk, a state of imbalance that generates significant losses, some so serious that they can lead to the destruction of the organization. (Rusu, 2003, p.360)

Specialists in the field have signaled an imminent obstacle in anticipating the risk, because once identified it must be minimized and kept under control through the set of necessary measures imposed by the management of the organization. (Rusu et al, 2001)

#### **4. Research methodology**

For the analysis of the risk of bankruptcy we used two models, Conan -Holder and Altman. In the case of Conan and Holder the set of indicators used are represented by the own debt financing capacity, the patrimonial solvency, the performance of the patrimonial asset, the level of financial expenses, the level of staff remuneration having the Z-score ranges (-0.05-0.16). The score function for this model is customized by industry branches and it's applied to industrial enterprises with a number of employees between 10 and 500.

In the case of the model proposed by Altman, the indicators used are the return on assets reported to gross profit, the economic operator's own contribution to the financing of investments, the asset structure rate, the patrimonial efficiency, and the level of indebtedness, and the Z score range should be within the range (1.81-2.675). The score type indicator allows the early detection of the company's difficulties and, as a result, facilitates the adoption of preventive measures from the first signs of vulnerability. (Beaver, 1967, p.23)

#### **5. Findings**

To determine the set of indicators in the two models, we calculated the intermediate managements balances that represented the starting point for the Z-score method.

Table no.1 The dynamics of the interim management balances for SALROM SA in period 2017-2021

Indicators	2017	2018	2019	2020	2021
1.Trade margin	9.854.096	9.253.910	10.662.008	10.793.889	12.888.397
Revenue from sale of goods	22.106.062	21.574.700	24.933.523	23.821.658	27.657.101
The costs of goods sold	12.251.966	12.320.790	14.271.515	13.027.769	14.768.704
2. Exercise production	323.434.661	362.999.440	346.107.997	247.003.371	324.321.188
Sold production	317.170.875	353.325.994	321.494.941	214.301.679	314.033.036
Stored production	6.263.786	8.994.381	20.865.158	27.963.980	2.363.737
Capitalised production	0	679.065	3.747.898	4737712	7.924.415
3.Intermediate consumption (CI)	55.394.529	62.500.551	62.313.890	50.710.856	55.898.965
Expenses raw materials and consumable materials (Mp)	44.613.886	48.868.358	48.876.981	39.711.102	43.919.284
Other materials expenses (Acm)	0	0		0	0
Utilities (U)	10.780.643	13.632.193	13.436.909	10.999.754	11.979.681
Other external benefits (Ape)	0	0		0	0
4.Added value (VA)	277.894.228	309.752.799	294.456.115	207.086.404	281.310.620
Operating subsidies	0	0	0	0	0
Other taxes ,duties and similar expenses	0	0	0	0	0
5.Gross operating surplus(EBE)	172.312.264	200.747.415	167.454.925	80.304.991	151.720.154
6.Operating profit	107.302.626	93.503.490	84.559.489	15.837.395	70.132.300
Financial revenue	198.755	2.532.514	3.047.525	2.160.977	2.245.573
Financial expenses	375.567	361.245	519.637	462.312	579.637
7.Current result	107.125.814	95.674.759	87.087.377	17.536.060	71.798.236
8.Gross result ot the exercise	81.121.398	76.383.983	76.955.788	11.481.766	60.191.050
Profit tax	19.924.205	22.039.182	5.279.140	4.419.444	13.695.548
9.The net result of the exercise	61.197.193	54.344.801	71.676.648	7.062.322	46.495.502

Source: Own processing based on financial statements <https://www.salrom.ro/rapoarte.php>

The trade margin is the first factor used through intermediate management balances in order to identify the solution and make the necessary decisions to optimize the profitability of the business, For SALROM SA in 2018, compared to 2017, the trade margin decreased by 600.186 lei due to the decrease in revenue from sales of goods with 531.362 lei and the simultaneous increase in spending on goods with cu 68.824 lei. In 2021, the trade margin increased by 3.034.301 lei because the increase in income (3.835.443 lei, by16%) was higher than the increase in expenses (1.740.935 lei, by 13%), the overall situation can be appreciated as favorable.

The production of the exercise in the case of the SALROM SA company with the main activity of the exploitation of salt and other non-metallic products, we notice a downward trend in the value of the production in the period 2017-2021 which demonstrates a reduction in the dynamism of the activity. In 2019 compared to 2018 ,the year's production increased by 39.564.779 lei, due on the hand to the increase in stored production (by 2.730.595 lei) and on the other hand to the increase in income from the sale of production(increase by 36.155.119 lei),and the increase in income from immobilized production.(by 679,095 lei).In 2021,compared to 2020,the production of the exercise



increased by 31%, indicating a good situation for the analyzed period, especially as the degree of capitalization of the exercise's production increased. We can say that the production and marketing activity of the company has developed with 74.224.216 lei (by 35,8%). Raw materials and materials expenses increased by 4.208.722 lei (by 10,8%) and utility expenses by 4.208.182 lei (by 8,9%).

In 2019, the added value increased by 31.858.571 lei (in percentage terms by 11%), mainly due to the evolution of the year's production (which registered an increase of 12%). At the same time, there is a slight increase in expenses with raw materials and consumables of 4.254.472 lei (by 9%) and in expenses with utilities of 2.851.550 lei (by 26%). In 2021 the evolution of added value followed the same trend, recording an increase of 929.927 lei (by 10,8%). Given the increase in production during the year, the increase in expenses represents a relatively normal development.

It can be seen that all the indicators of intermediate management balances have a positive value. The added value is high and indicates that the company has sufficient financial resources for all stakeholders involved in the company. At the same time, the net result is positive being available to stakeholders/associates for distribution in the form of dividends or reinvestments in the business.

*Table no.2 The patrimonial situation of the company SALROM SA is presented in the following table for the years 2017-2021*

Indicators	2017	2018	2019	2020	2021
Current assets	338.809.261	355.968.190	304.246.765	291.782.700	347.655.459
Stocks	15.255.477	12.867.458	25.060.306	40.170.855	29.937.517
TOTAL Asset	545.241.188	537.769.563	497.026.679	543.344.916	617.180.734
Net current assets	195.965.304	213.278.223	222.646.769	239.048.966	272.052.692
Equity	360.991.281	368.701.903	383.191.722	453.044.025	510.585.268
Provisions for risks and expenses	65.289.475	69.722.316	18.863.023	7.342.433	15.553.915
Permanent equity	745.902.995	757.653.470	515.889.703	550.687.349	632.734.648
Reinvested profit (retained earnings)	-	-	-	72.317.870	77.226.943
Gross profit	81.121.398	76.383.983	76.955.788	11.481.766	60.191.050
Total liquidity	319.622.239	19.229.251	113.834.958	90.300.891	106.595.465

Source: Own processing based on financial statements (<https://www.salrom.ro/rapoarte.php>)

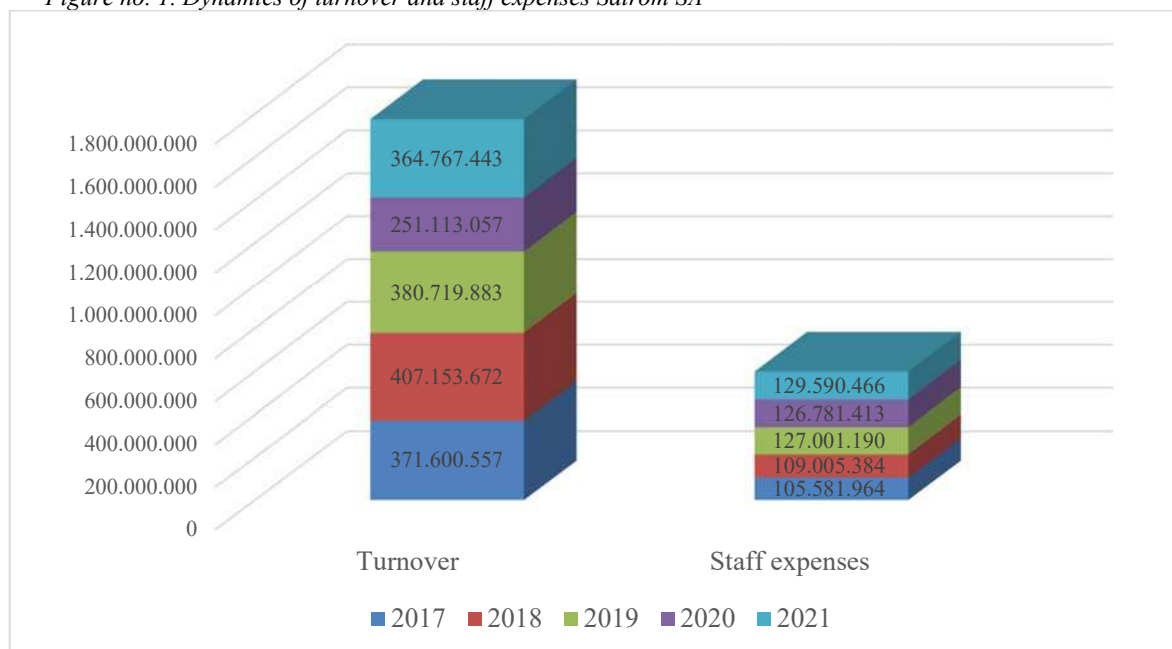
The determination the optimal size of permanent equity is a problem of greatest importance in the financial management of the enterprise, because a possible insufficient of long-term sources influences its solvency, liquidity and profitability.

*Table no. 3 The turnover and staff expenses for SALROM SA for the years 2017-2021*

Indicators	2017	2018	2019	2020	2021
Turnover	371.600.557	407.153.672	380.719.883	251.113.057	364.767.443
Staff expenses	105.581.964	109.005.384	127.001.190	126.781.413	129.590.466

Source: Own processing based on financial statement (<https://www.salrom.ro/rapoarte.php>)

Figure no. 1. Dynamics of turnover and staff expenses Salrom SA



Source: Own processing based on financial statements

The assessment of the turnover dynamics for SALROM SA is realized through the turnover index, a criterion for an indirect assessment of the economic efficiency. Thus, the turnover index in 2021 compared to 2017 was 98.16%  $[(364,767,443/371,600,557)*100]$ .

Staff expenses have registered an ascendant trend during 2017-2021, respectively a variation of 24,008,502 lei in 2021 compared to 2017.

In the table presented below, we calculated the repayment capacity of SALROM SA necessary for the establishment the company's financing rate.

Table no. 4 The dynamics of the repayment capacity of SALROM in the period 2017-2021

Indicators	2017	2018	2019	2020	2021
Exercise production (1)	323,434,661	362,999,440	346,107,997	247,003,371	32,4321,188
Intermediary consumption (2)	55,394,529	62,500,551	62,313,890	50,710,856	55,898,965
Staff expenses (3)	105,581,964	109,005,384	127,001,190	126,781,413	129,590,466
Other taxes, fees and similar payments (4)	0	0	0	0	0
Other operating income receivable (5)	15,881,481	238,400	63,881,488	13,167,300	2,656,480
Other operating expenses receivable (6)	829,985	947,448	38,623,714	234,147	361,731
Financial income earned (7)	198,755	2,532,514	3,047,525	2,160,977	2,245,573
Financial expenses payable (8)	0	0	530,970	107,640	367,995
Profit tax (9)	19,924,205	22,039,182	5,279,140	4,419,444	13,695,548
Expenses related to employee participation in profit (10)	5,974,087	3,687,948	4,237,010	4,239,000	3,373,728
CAF (1-2-3-4+5-6+7-8-9-10)	151,810,127	167,589,841	175,582,066	75,946,788	126,302,803

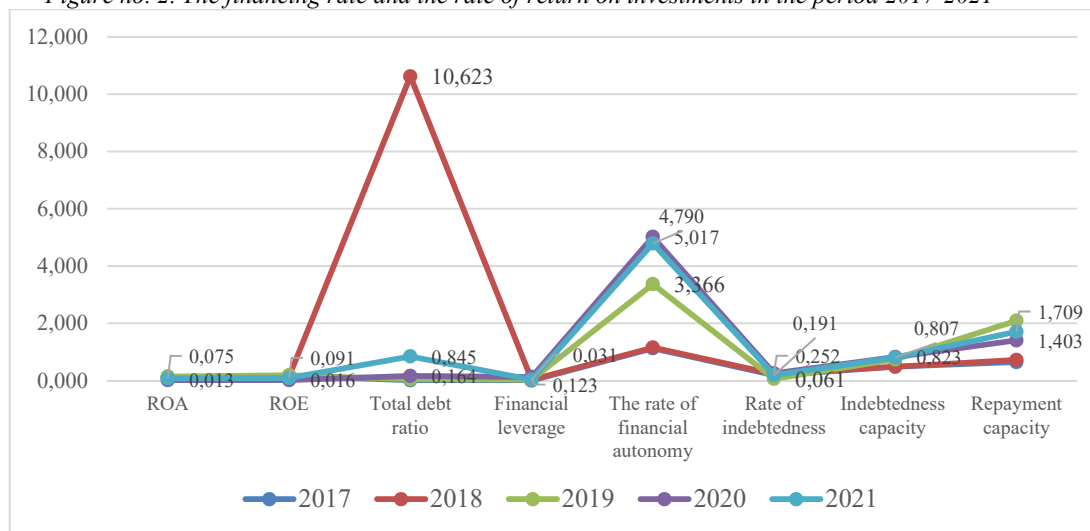
Source: Own processing based on financial statements

Table no. 5 The financial return rates and the financing rate for the period 2017-2021

Indicators	2017	2018	2019	2020	2021
ROA	0,11	0,10	0,14	0,01	0,08
ROE	0,17	0,15	0,19	0,02	0,09
Total debt ratio (Total liabilities/liability)	0,59	0,59	0,23	0,17	0,17
Financial leverage (Total liabilities/equity)	0,89	0,87	0,30	0,20	0,21
The rate of financial autonomy (Equity/total liabilities)	1,13	1,15	3,37	5,02	4,79
Rate of indebtedness (Non-current liabilities/Equity)	0,49	0,48	0,08	0,08	0,06
Indebtedness capacity (Equity/permanent equity)	0,48	0,49	0,74	0,82	0,81
Repayment capacity (CAF/total liabilities)	0,47	0,52	1,54	0,84	1,18

Source: Own processing based on financial statements

Figure no. 2. The financing rate and the rate of return on investments in the period 2017-2021



Source: Own processing based on financial statements

By analyzing the degree to which the total assets of the company generate net profit (ROA), we can notice a fluctuating evolution, sinusoidal, during the period under review. The values are positioned around an average of 8.8% and are satisfactory. According to the data in the table above, ROA, the economic entity is situated in the safe range for each invested leu. Practice suggests that an optimal range for a society is within the range of 3%-9%.

By analyzing the degree to which the company's equity generates net profit (ROE), we can observe the same oscillating dynamics during the period under review. The values are positioned around an average of 12.4% and are satisfactory.

According to the data presented in the table, the total indebtedness rate is 59% in the period 2017-2018, continuing with a descending trend in 2021 of 17%, which means that total liabilities in total liabilities have been reduced.

Starting from the data presented in the table, the degree of the term indebtedness rate is below the threshold of 50% between 2017-2021.

We can also see that the solvency ratio is lower than 1.5, which means that the total debt is covered by equity.

The decrease in debt capacity that remains above 0.5% indicates the decreasing trend of the share equity in permanent equity.

The results show that the company has a good solvency and can always honor its long-term debts.

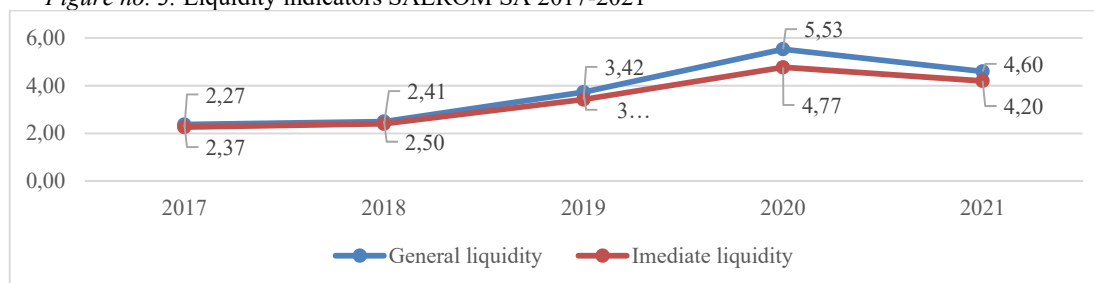
If there is limited responsibility of shareholders, a very good solvency implies a debt ratio of less than 50% and a leverage of up to 100%. For solid entities with strong links with creditors, it can be admitted debt ratios of up to 67% (two-thirds of the asset/liability) and a leverage of up to 200%.

Table no.6 Liquidity indicators for the period 2017-2021 for SALROM SA

Indicators	2017	2018	2019	2020	2021
General liquidity	2,372	2,495	3,729	5,533	4,598
Imediate liquidity	2,265	2,405	3,421	4,771	4,202

Source: Own processing based on financial statements

Figure no. 3. Liquidity indicators SALROM SA 2017-2021



Source: Own processing based on financial statements

In this context, the liquidity of the company involved favorable levels and trends in the analyzed interval, the values recorded at 31.12.2021 being 4.6 which reflect a balance in the short-term, that means that the company has the ability to pay its current debts from current capital, the size of this indicator is recommended as acceptable if it is around 2.61.

The size of the immediate liquidity rate of 0.77 at the level of 2021 reflects the company's ability of not being forced to postpone its creditors. In economic theory, there are views which stipulate that a rate between [0.8-1] represents the optimal situation in terms of partial liquidity.

According to the proposed Conan and Holder model, the set of indicators used to determine the Z test equation are found in the table below:

$$Z = 0,24 X1 + 0,22 X2 + 0,16 X3 - 0,87 X4 - 0,1 X5$$

X1 = gross operating surplus/total debt

X2 = permanent equity / equity

X3 = current asset - stocks / current liabilities

X4 = financial expenses / turnover

X5 = staff expenses / added value

Table no.7 The results obtain after applying the Conan-Holder model

INDICATORS	2017	2018	2019	2020	2021
X1	0,539	0,629	1,471	0,889	1,423
X2	2,265	2,405	3,421	1,216	1,239
X3	2,265	2,405	3,421	4,771	4,202
X4	0,001	0,001	0,001	0,002	0,002
X5	0,380	0,352	0,431	0,612	0,461
Z	0,9512466	1,0286783	1,6088627	1,181444112	1,2391750

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Source: Own processing based on financial statements

Table no.8 Rating scale

Z-score value	The situation of enterprises	Risk of bankruptcy (%)
$Z > 0,16$	Very good	<10%
$0,1 < Z < 0,16$	Good	10%-30%
$0,04 < Z < 0,1$	Alert	30%-65%
$-0,05 < Z < 0,04$	Danger	65%-90%
$Z < -0,05$	Failure	>90%

Source: Own processing based on financial statements

The Z-score value reveals that the company has a very good situation with low risk of bankruptcy, however, we can see a decreasing trend of this value recorded over the years 2020-2021, it is recommended to the management of the company to outline an action plan in the correct management of the current debts of the company.

The first major model on the analysis of the risk of bankruptcy, both in the literature and in the financial practice, belonged to E. I. Altman, who published it in its original form in 1968, is known as the Z-score function. Although apparently simple, this model had an analogous effect on the prediction of the risk company bankruptcy, which the famous Black-Scholes model had on the evaluation of derivatives.

According to the model proposed by Altman, the set of indicators used to determine the equation of the Z test are found in the table below:

$$Z = 1,2 X_3 + 1,4 X_2 + 3,3 X_1 + 0,6 X_5 + 1,0 X_4$$

$X_1$  = profit before tax and interest / total assets

$X_2$  = reinvested profit (retained earnings) / total assets

$X_3$  = net currents assets / total assets

$X_4$  = turnover / total assets

$X_5$  = equity / total debts

Table no.9 The results obtain after applying the Altman model

INDICATORS	2017	2018	2019	2020	2021
X1	0,149	0,142	0,155	0,021	0,098
X2	-0,041	-0,041	-0,051	0,133	0,125
X3	0,359	0,397	0,448	0,440	0,441
X4	0,682	0,757	0,766	0,462	0,591
X5	1,129	1,155	3,366	5,017	4,790
Z	2,223664	2,337749	3,763166	4,256412	4,490957

Source: Own processing based on financial statements

Table no.10 Rating scale

Z-score value	The situation of enterprises	Risk of bankruptcy (%)
$Z > 2,675$	Good solvent	Non-existent
$1,81 < Z < 2,675$	Precarious difficulty	Undetermined
$Z < 1,81$	Hard-insolvent	Iminent-maxim

Source: Own processing based on financial statements

Analyzing the data obtained from the table we can see that during 2017-2018 SALROM SA the situation of the company was precarious, worrying for the management of the company. However, during the following years 2018-2021 this has improved and the risk of bankruptcy has decreased.

## 6. Conclusions

The information provided by the annual financial statements is a source of valuable data in the diagnosis of the financial condition of an economic entity in terms of visibility and credibility, the structures specific to the financial position and performance through liquidity, but also the profitability that ensures the optimal conditions for maintaining the financial balance and at the same time the efficiency of the activity.

It can be seen that all the indicators of intermediate management balances have a positive value. The added value is high and indicates that the company has sufficient financial resources for all stakeholders involved in the company. At the same time, the net result is positive being available to stakeholders/associates for distribution in the form of dividends or reinvestments in the business.

By analyzing the degree to which the total assets of the company generate net profit (ROA), we can notice a fluctuating evolution, sinusoidal, during the period under review. The values are positioned around an average of 8.8% and are satisfactory. According to the data in the table above, ROA, the economic entity is situated in the safe range for each invested leu. Practice suggests that an optimal range for a society is within the range of 3%-9%.

By analyzing the degree to which the company's equity generates net profit (ROE), we can observe the same oscillating dynamics during the period under review. The values are positioned around an average of 12.4% and are satisfactory. We can also see that the solvency ratio is lower than 1.5, which means that the total debt is covered by equity.

The liquidity of the company involved favorable levels and trends in the analyzed interval, the values recorded at 31.12.2021 being 4.6 which reflect a balance in the short-term, that means that the company has the ability to pay its current debts from current capital, the size of this indicator is recommended as acceptable if it is around 2.61.

The size of the immediate liquidity rate of 0.77 at the level of 2021 reflects the company's ability of not being forced to postpone its creditors. In economic theory, there are views which stipulate that a rate between [0.8-1] represents the optimal situation in terms of partial liquidity

The two models used to detect the risk of bankruptcy reveal the fact that the company has a good situation, the risk of bankruptcy being low, in the period 2017-2018, subsequently increasing slightly which requires the management of the company to outline an action plan in the correct management of the company's current debts.

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## Some Attempts to Speculate Vigilance on the International Financial Market

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### Abstract

*This material has been designed to highlight some of the forms of misleading the vigilance of those who drive with money, whatever its form. Although we are in the first half of the first century of the third millennium, there are still people who deliberately try to round up their income by taking advantage of the good faith of their partners. Even petty scams are scams and do not absolve the perpetrators from criminal liability or moral implications (where they exist). But, as is well known, little by little, the great lake is made and so the sums pile up in some people's accounts. We do not want to find solutions to counteract these slippages, but, once again, we say that we want to open the eyes of those who want to take all measures to reduce the risks, so that their reduction tends towards zero.*

**Key words:** fraud, vigilance, financial market, investment, trust

**J.E.L. classification:** G39

### 1. Introduction

It is well known that when economies go into decline and employment falls sharply, fraud cases increase during recessions. We have witnessed four former major crises and now Romania is on the verge of recession. After each crisis, there has been an increase in fraud cases and the damage they cause, both to individuals and businesses, and to institutions and states. Expectations are similar for the coming crisis. A survey by a specialist firm (Deloitte) showed that over 60% of companies expect an increase in fraud as a result of what will happen in our country and in Europe.

Even though AML (Anti-Money Laundering) and KYC (Know Your Customer) compliance has been intensely discussed over the last decade, the field itself and the related professions are relatively new. Most likely, most professionals working in this field today have not experienced a recession or a real economic downturn while working in compliance departments. Organizations' internal experience and literature on money laundering is generally limited, mostly covering only economic boom times.

We will briefly outline some of the most common financial scams and what you need to know to avoid them.

### 2. Theoretical background

„Email Scams” is a simpler method and available to anyone. Suspicious emails from unknown people proposing various ways to make money or help them in exchange for extraordinarily large sums should not tempt any serious investor. Although many of these email scams are easy to spot, investors need to be cautious, as countless frauds can be hidden beneath emails that appear very serious. (Sav, 2010, passim)



However, suggestions that you could make very large sums of money or simply recommending a profitable investment should be treated with care. Why would a stranger want to recommend you a share, an investment or any other form of earning?

Think that if a strategy or investment was a safe bet with a high winning rate, no one would want to give away such an opportunity for free.

The "pump & dump" strategies became very popular during the speculative dot-com bubble, when the shares of IT&C companies were artificially inflated by means of comments and posts on various Internet sites, so that, after registering spectacular increases, the authors of these financial scams to sell the securities, thereby collecting exorbitant profits. Since then, this model of fraud is still preserved. (Ionescu et al, 2022, *passim*)

Increases usually start on an optimistic news or expectation (it can be exceptional financial results, a potential purchase offer, the signing of a contract with an important customer, an increase in quotations on foreign markets for the company's products). On low volumes, shares are being scooped up by insiders, several days at a time, and prices are steadily climbing.

The move is all the more successful as there are no sophisticated investors in the shareholding to be tempted to mark up the profits. In the end, all kinds of optimistic reports appear in the press absolutely by coincidence, some brokers encourage their clients that the already outlined trend gives way to new appreciations and novice investors start to bite the bullet. The appearance of higher trading volumes, against the backdrop of stagnant quotations, is the signal that profits are being made and prices will soon collapse.

Any action or investment highly praised and promoted on various media channels, may not be as safe as those who maintain the euphoria claim.

### **3. Research Methodology**

We used the simplest and most accessible scientific methods of research, represented by enumeration, exposition, description, comparison and findings. We consider that all this can create an overall picture, after briefly reviewing the shortcomings found in the financial and monetary markets, from which we believe that even some conclusions can be drawn. In fact, we are not dealing with finding sophisticated methods to put an end to these crimes, but we want to create that overall picture, as I stated before, so that everything is known, even for beginners in the financial world.

### **4. Findings**

The fascination of gold -As the financial crisis deepened, more and more investors turned to investing in gold or other metals. Although, investing in gold offers a safety net against the effects of inflation, like any other investment, it also has risks. It is smart to diversify and thus have, in the portfolio, including gold, but it is not healthy to believe that if you give up risky assets and move all your money to gold, the risks will be lower. (Păun et al, 1999, *passim*)

Recently, even in Romania, various companies have appeared, more or less unknown, generally forex brokers that entice customers to invest small amounts in gold. What they don't say is that the investments they recommend are on margin, which means that no matter how "safe" the investment in gold is, the leverage effect can very easily bring your account to zero.

Leverage effect -Leverage, in financial terms, means using borrowed money to increase your return on investment. It is called "leverage", because with a relatively small amount of invested capital, significant gains (but also losses) can be obtained, when the degree of indebtedness is high. (Ionescu et al, 2022, *passim*)

Margin Investments -The investor is buying on margin (buying on margin) when he borrows money from his broker, so he will be able to buy more shares than normal. For this he needs to open a margin account which is different from the usual cash account (cash account) and which will require the deposit of an amount at least equal to the minimum required by the respective broker. Any loan is repaid, so the broker will charge interest on top of transaction fees. (Ionescu, 2019, p. 62)

Initial margin - initial profit (initial margin) It is, in fact, the amount that the investor brings from his pocket - equity, when opening the account. A minimum margin is always required – usually min. 50% margin (and max 50% loan), i.e. at least 50% of the price paid for the shares must be from own funds. After the first purchase transaction, the reference point will be the maintenance margin.

It is often lower than the initial one (so as not to put the investor in difficulty right from the first transactions) and which will have to be respected throughout the use of the account. When the value of the investment decreases and therefore the weight of the equity decreases (because all the loss is subtracted from the equity), then the famous margin call appears, through which the broker forces you to bring more money to the account, in order to return to the required proportion. (Ionescu, 2019, p. 64)

Overconfidence in financial advisors In the Bernard Madoff era investors place far too much trust in financial advisors or certain investment experts. For example, the Cristian Sima Case is a very good example, that even in Romania investors, often even with serious financial education, rely far too much on experts or individuals posing as specialists.

Any investor must maintain a dose of distrust in the consultant who presents the benefits of an investment or a financial strategy.

Furthermore, no investor should accept a consultant or fund manager who guarantees him a certain return or tempts him with certain gains. Most likely, if a consultant promises a certain profit, in the financial markets, in addition to being illegal, at some point it will turn out that he will not be able to keep his promise to the clients, and they will realize that were deceived by these practices. (Negoiescu, 2022, *passim*)

By viewing financial advisors and stock market specialists with more distrust, investors will be more likely to recognize various fraudulent practices.

One of the most important players on the American stock market in recent decades, Madoff, was the founder of the L. Bernard firm. Madoff Investment Securities LLC. Madoff also established an investment fund, based on the so-called "Ponzi scheme", an illegal operation in the management of investment funds, similar to pyramid schemes. It involves returning exaggerated profits to investors without any real basis. It bears the name of Charles Ponzi, an Italian immigrant who went down in US history as one of the biggest fraudsters. (Ionescu, 2022, *passim*)

He stated that he could not believe that the American authorities had not been able to discover, sooner, the huge fraud that he had set up and that he had managed to escape for so many years without being arrested. Madoff was sentenced to 150 years in prison after being found guilty of defrauding more than \$50 billion.

The mirage of the Forex market and short-term transactions With the expansion of the Internet and online trading platforms, investors were lured with "day-trading" strategies, through which, in theory, they could realize good profits, trading on very short terms, even for a day. The various advertisements, in general, of the companies that traded on the foreign exchange market (Forex), suggested that even housewives with little financial education or specialization in the capital markets, could make good money, just by reading a trading manual. (Ionescu, 2019, p. 64)

Day trading (active trading) It refers to the practice of buying and selling financial instruments on the same day, with most positions usually closed before the market closes. Traders who participate in "day trading" are also called "active traders" or "day traders". In this context, by traders we do not mean authorized brokers, but natural or legal persons who make this occupation, a job or a passion. Large exchanges owe a large part of their daily traded volume to these special participants who, in turn, can derive significant benefits from this activity. (Ionescu, 2019, p. 65)

Active day traders focus on price movements, trying to anticipate them. They use for this technical analysis, an unlimited number of strategies that they consider potentially profitable. Day traders prefer to liquidate their positions before the close of the trading session to avoid the risk of a significant price change. in a direction that could cause them major losses.

As a rule, for a large number of transactions in a day, brokers practice pre-ferential rates. Also, statistically, it was found that most active traders prefer to transact online, so as to avoid delays due to internal procedures of brokers.

It is common sense not to believe such a thing. If it were that simple and any investor could read a 20-page manual and suddenly start making money on Forex, everyone would be rich, and no one would work. It is enough, however, to look at the statistics, to realize that inexperienced investors "are the cannon fodder" in the markets. Over 90% of Forex traders lose money, and only a little under 5% manage to make a profit a year. Moral for investors - Do not rely on a trading system bought from the Internet or lessons taught by a more or less obscure Forex broker. (Ionescu, 2019, p. 61)

## 5. Conclusions

First of all, you cannot act in the international financial market as an uninitiated. , that is, you must provide a minimum of information, regarding some risks, no matter how small. So, the prevention activity, including for natural persons, is part of the arsenal of ways to counter fraud attempts by some considered ... more experts. Then, it should be known that there is a Regulation on market abuse (market abuse regulation - MAR) which aims to guarantee that the regulation in the European Union (EU) keeps pace with market developments, in order to combat abuse on the financial markets, as well as on the financial markets related derivative commodities (such as gold or wheat). The Regulation explicitly prohibits the manipulation of commodities and reference values [such as the interbank interest rate offered for operations in euros (Euribor)]. It strengthens the investigative and sanctioning powers of regulatory authorities appointed by EU Member States to ensure the smooth functioning of their financial markets. The Regulation, which must be known by all, provides a single regulatory framework, reducing administrative burdens on medium-sized issuers where possible.

Market abuse inhibits the full transparency required for trading in modern integrated financial markets. The rules outlaw three types of abuse: market manipulation, insider trading and unauthorized disclosure of insider information.

The MAR rules apply to a person or an enterprise that commits market abuse while trading financial instruments, either through trading platforms or privately negotiated in "over-the-counter" transactions, as long as they can influence: financial instruments traded in -a trading place; or financial instruments whose price or value depends on or has an effect on the price or value of a financial instrument traded on a trading venue.

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## Perspectives on Tax Optimization: Opportunities and Challenges

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### Abstract

*The importance of taxation has always had a dual side. While the state is interested in increasing its budget revenues by influencing taxability, taxpayers are interested in reducing their tax obligations. In this regard, the concept of tax optimization has different meanings depending on the interests of the parties concerned. This paper presents a literature review on tax optimization issues and highlights opportunities or challenges associated with tax mechanism. Tax compliance methods, tax avoidance or fraud are subjects of particular attention. Topics such as the impact of taxation on business organization forms, complexity of regulations, tax havens, cryptocurrency and transfer prices are competing to clarify the meaning of tax optimization and to receive theoretical approaches and practical examples of interest to both scholars and professionals involved in tax practice.*

**Key words:** tax optimization, tax planning, tax avoidance, tax fraud

**J.E.L. classification:** H26, H30, H87

### 1. Introduction

Tax administration has long provoked intense research debate. The economy has ups and downs, periods of calm or significant challenges. In recent years, the economic balance has faced strong challenges due to the COVID-19 pandemic and the war in Ukraine (Aivaz et al., 2022). There are a number of questions that concern the general public: How can taxation be optimized? How can we legally pay less taxes?

Tax perception has always represented a dual role (Hong et al., 2010, p.82). While the state wants to increase budget revenues by influencing taxability, taxpayers want to reduce tax payments. In this context, the definition of tax optimization has different meanings, depending on the person who is interested in formulating answers.

Decision-making processes and the variety of options generated by the complexity of the tax system can be simplified by an approach based on an explanation of interest concepts (Pukeliene et al., 2016, p.30). In this view, tax optimization can be seen in three directions: tax planning, tax avoidance or tax fraud.

The present paper proposes a review of tax research. Mechanisms and attitudes towards taxation are analyzed in two ways by comparing the perspectives of the State and the complied attitudes of the taxpayers. The study uses descriptive and explanatory methods to observe the dynamic relationship between scientific literature and regulatory reference, and proposes a number of practical examples. A number of tax arrangements are examined, with analysis focusing on the position between right or wrong, legal or illegal, according to research on the subject.

## 2. Theoretical background

Tax planning can mean voluntary compliance with tax payments. Studies show a number of situations in which tax optimization can be done in compliance with the law. A good knowledge of tax rules can enable the dimensioning of the tax base in a way that can benefit both the taxpayer and the state that collects the taxes. Optimization of general costs is an example of the planned allocation of economic resources in the sense of future estimates of taxes due.

Tax planning has existed since ancient times, when citizens tried not to pay taxes to the king and the administrative system. In modern times, financial planning has been shown to be an objective need in the business environment (Mills et al., 1998, p.1), mainly due to changes or regional differences in the application of financial legislation. From the legislator's point of view, budgetary planning was a requirement of the budget forecasting framework for calculating budget revenues that the state expects to receive from taxes.

Fiscal planning is based on international treaties and conventions to avoid double taxation between partner States on the basis of reciprocity. The ease of access to the various tools specifically related to financial planning gives the economic operator the opportunity and legal reduction of his tax burden by reducing the tax base, with the possibility of avoiding serious mistakes regarding the development of optimization methods, without the intentional commission of any crime.

Tax avoidance refers to situations in which taxpayers find ways to reduce taxes (Kovermann et al., 2021, p.20). Avoiding taxation can be creative and within the legal framework. Deep knowledge of tax mechanisms and levers for identifying financial benefits are situations that lead to identifying aggressive tax planning opportunities (Feller et al., 2017, p.494), or to reassessment of taxation applicable to certain operations, so they can be used to find tax debt. Mechanisms to solve tax avoidance problems are often artificial, inaccurate or not within the legal framework. Tax avoidance situations most often result in the application of contraventional sanctions by the financial authorities. There are also some exceptions, such as situations where evidence of fraud is identified, which trigger the launch of criminal investigation mechanisms.

Tax fraud is a combination of illegal acts and acts by which taxpayers evade paying taxes. In cases of physical fraud, information supplied to the authorities is intentionally distorted and does not represent a true picture of an entity's financial position. The penalties imposed on the detection of tax fraud have a serious repercussion (Aivaz et al., 2022, p.337) and are classified as criminal sanctions. The detection of tax fraud leads to the calculation of damages and the responsibility of the people who committed them.

Unlike tax planning and tax avoidance, tax fraud is carried out with the explicit intention of illegal acts (de La Feria, 2020, p.240). In these circumstances, management assumes a very high risk of non-compliance (Chiriac et al., 2022), assuming violations of the rules of residence.

Figure no. 1. The graphical representation of tax optimization categories



Source: Own research

However, practice has shown that there are few cases in which financial regulations are incomplete or interpretational (de La Feria, 2020, p.240) and that the inclusion in one of the three categories of financial optimization is left to the authority of the interpretation authorities with fiscal control responsibilities. Figure 1 shows in graphical terms the meaning of the concept of tax optimization. According to previous studies relating to practical situations, fiscal planning is a form of financial compliance, tax avoidance is a form of violation of the regulation punishable by infringement, while financial fraud is subject to the strictures of criminal regulations, which sanction the intention of fraud and the responsibility of the perpetrator.

Tax arrangements are another way of defining financial optimization. Understanding tax arrangements is directly related and influenced by the interest of the State in granting tax exemptions or facilities. The motives for fiscal arrangements are to stimulate production, maintain or create new jobs, reduce the grey economy and, in general, stimulate social and economic development.

This article examines various forms of taxation, and analyses whether they can fall into one of three categories of tax planning, tax avoidance, or tax evasion.

### **3. Research methodology**

The methodology used in this paper allows for an explanation and comparative analysis of the main tools and mechanisms for fiscal optimization. The descriptive and dynamic study of specialized literature on the specific mechanisms for financial optimization contributes to the creation of a representative framework (Koverman et al., 2021, p.20) in which the results of scientific research are analyzed in relation to the evolution of a specific regulatory framework and current practice.

### **4. Findings**

The complexity of the concept of fiscal optimization lies in the double nature of its evaluation. The principles of taxability relate to the neutrality of taxation, fair dimension of the tax burden compared to the achieved tax base, predictability of taxes, efficiency and certainty of taxation. These principles are clearly clear, but practice shows that reflection in real situations often faces several challenges.

#### **4.1. Transfer pricing**

The management of economic entities uses various methods and activities to reduce taxes and costs. The assessment of the accuracy or artificiality of financial decisions made in operations between affiliated parties or exercising various forms of mutual control is carried out through the transfer price mechanism (Yao, 2013, p.1). Specific transfer price regulations mainly aim to establish whether or not preferential prices are applied between members of a group of entities.

The financial authorities wish to determine and limit the profits achieved at a reasonable level, in accordance with the "arm's length" principle. Any transaction must respect the principles of the competitive market, in which both buyers and sellers act independently without any interference by the other parties.

In the case of transactions between group members, members can exercise various forms of control among themselves, establishing disproportionate tax bases in relation to the results of the financial year or even avoiding taxation. On the basis of network value, intra-group transactions are determined based on networks that would normally be connected for a similar transaction when participating economic entities act independently of the network.

#### **4.2. The Territorial Legal System**

The use of a particular place for the establishment of a company or business significantly changes the tax burden (Yao, 2013, p.1). There are sometimes significant differences in tax conditions depending on the region, state, area or jurisdiction. Such an example are the disadvantaged areas declared at the level of different regions, where the difficulty of living or

working conditions urges the State to grant different types of financial facilities. In addition, taxes and duties may vary from region to region in the same state depending on local development, trade flows or industrialization. The determinants of the fiscal system are many, and studies show over time the determination of the government to establish the tax system according to the economic context.

#### **4.3. The legal organization form of the entities**

The use of a form of legal organization can have the same influence as the mode of taxation (Yost, 2022) both in terms of the taxation of the realized revenues and in terms of the taxes to be owed to employees. Several European countries offer different levels of taxation depending on the size of the company, the number of employees, or the legal form of the business.

For example, in Romania, the most commonly used legal entities are authorized physical persons (P.F.A.), individual partnerships (I.I.), limited liability companies (S.R.L.) and limited liability companies-beginners (S.R.L.-D.). The tax system varies depending on the legal form of the entity, from S.R.L. to S.R.L.-D. Similarly, the use of a legal form such as P.F.A. or S.R.L. can be an alternative to different income tax rates. Depending on the business activity or complexity, the option for the legal organization form may be extremely beneficial or, the opposite, the generator for significant tax burdens.

According to certain financial indicators, companies with a narrow activity can be tax payers on the income of micro-enterprises, while other entities with a broader activity are tax payers of profit. Depending on the number of employees of small companies paying, the tax rate may vary, depending on whether there are employees or whether the company employs labor.

In recent years, Romania's legislation has changed constantly, which has increased the pressure on investor activity and the ability of enterprises to predict their financial obligations.

#### **4.4. Accounting and fiscal policies**

In general, accounting policies can affect tax assessments for transactions. Tax planning can be considered a competent, practical or aggressive tool for business financial optimization (Feller et al., 2017, p.494). The choice of some tax policies to the detriment of others, adapted to the specificity of the activity, can make the difference between a lower or higher tax level. In actual cases, a variety of accounting records can be used, based on revisions of national accounting standards or "IFRS" and observing the financial rigors established at the national level. The use of several methods of evidence for goods and materials stocks (FIFO, LIFO, CMP) in financial stability has a significant impact on the financial results of a reference period for economic players.

#### **4.5. The postponement of tax payment**

To maximize the potential of cash-based optimization systems (Mills et al., 1998, p.1), it is necessary to plan tax payments according to well-established plans and distribute them by month, quarter, and year, which are usually paid on the last day of maturity. There is an important research directive on the effects of creative accounting and financial reporting on the reality of reported operations and taxability (Blazek, 2021, p.2007).

The conditions for tax payment vary depending on certain conditions relating to the delivery of goods, the provision of services or the payment of advances. Good business planning can lead to the establishment of a framework for financial opportunities at the business level.

#### **4.6. Fiscal heavens and off-shore tax arrangements**

The phenomenon of financial evasion has reached a magnitude not only at national level, but also at international level, especially in very developed countries with very high tax levels. Investment mechanisms are closely related to the efficiency of the organization and control mechanisms of tax authorities, the challenges of globalization (Hong et al., 2010, p.82) and the risk of non-compliance that enterprises may experience in different territories, respectively.

Each Government has its own tax system, which is higher or lower in taxation. This situation can offer companies useful tools, such as relaxed corporate taxes, or challenging, such as aggressive controls and uncertainty in tax forecasts due to frequent changes in tax regulations.

However, in some areas of "tax havens", the grant of tax facilities or relaxed taxation is not necessarily influenced by the size of the company, but by the simple location of its tax residence. The existence of such areas can benefit some investors who are qualified to manage fiscal mechanisms in order to optimize their business interests. Offshore vehicles are the most common mechanisms in business development within the framework of tax paradises. In the usual language, the term "offshore" means "outside the coast". A practical example is when a company acts outside the geographical area in which it is established, without employing local resources. In a simple language, this term includes all economic activities carried out by entities outside the national borders of the State in which they reside.

There are different views on the assessment of the existence of these tax havens, and the studies developed in this direction sometimes propose a comparative approach to tax havens and tax sanctuaries specific to States with excessive taxation (Hansen and Anke, 2001, p. 1103). On the one hand, they are considered to have a role to play in avoiding certain taxes, which is why attempts have been made to standardize fiscal regulations or to streamline information communication between financial authorities organised at the national level. According to the OECD, the mechanisms that have the greatest influence on the financial system and that have the greatest impact on trade and investment are those that erode the national tax base and weaken the authority and structure of the national financial system. According to estimates, only developing countries lose US\$ 50 billion annually due to financial evasion using a financial instrument as their main instrument.

On the other hand, tax havens are catalysts for many businesses, such as multinationals. There are opinions that support their function of stimulating competitiveness. At the same time, some consider the governance structures of these countries to be developed compared to the governance structures of non-tax haven countries (Dharmapala, 2008, p.661).

In general, offshore agreements arise when companies register in a State or geographical area, engage in major economic activities in different countries or geographical areas, but benefit from special facilities in the country where their headquarters are registered. States recognized as legal residences are available to those interested, through an offshore mechanism, in generous fiscal status for companies carrying out economic activities on their territory. These relaxed regulations result in a tax reduction or even non-existent tax burden. Offshore companies are financial instruments used in financial arrangements, to avoid excessive taxation, to increase the profitability of enterprises for the benefit of shareholders, to ensure freedom of movement of financial resources, and to ensure the anonymous distribution of benefits.

#### **4.7. Cryptocurrencies – reflections on tax avoidance**

Cryptocurrency is a particular modern payment method that uses cryptography, a decentralized and insufficiently regulated mechanism through which non-taxable and non-declared financial transactions can be made.

The use of cryptocurrencies is often assimilated to tax facilities specific to tax havens (Marian, 2013, p.38), from the point of view of lack of regulation or lack of taxation. The most common currencies in the digital economy are Bitcoin, Ethereum, Ripple, Litecoin si Monero. In 2009, the use of Bitcoin appeared and rapidly increased (Chason, 2019 p.279). Its popularity has increased and its flexibility in use has given rise to concerns among the European and global authorities engaged in the fight against economic crime.

Recent research draws attention to the fact that digital currency transactions are similar to cash transactions, payments are anonymous and very difficult to follow. Many countries' banking systems do not recognize cryptocurrencies as currencies or legal means of payment, but as alternative means of payment, and warn for the risks associated with the use of these digital currencies (Marian, 2013, p.38). At the same time, more and more states are aware of the tax avoiding mechanisms for cryptocurrency transactions and are implementing new regulation for tax optimization and fraud prevention.

The impact of virtual currency transactions is not only limited to significant imbalances in the country's income balance and negative impact on the economy, but it can also cause serious infrastructure damage (Kethineni&Cao, 2020, p.325). The widespread acceptance of cryptocurrency payments can facilitate tax evasion and considerably increase the impact of money



laundering and terrorist financing.

## 5. Conclusions

The frequent changes in business taxation often bear the impression of political reasons. Other factors for regulation change appears to be the institutional difficulties or professional skills that challenge public authorities with attributions in management or control of taxpayers active in the market. Tax changes are considered appropriate in periods of economic elasticity, where business profitability is high and tax changes have no major impact on the continuity of business activities. In recent years, the general economy has faced unprecedented challenges, such as major transport or social imbalances, immigration flows or resource crises caused by the effects of the pandemic and the war in Ukraine. Under these circumstances, the need for economic research has increased the development of scientific studies and the identification of opportunities or solutions to the severe problems facing the world economy.

Since the phenomenon of tax evasion and fraud has a negative impact on the creation of economic imbalances at the global level, urgent and effective action and measures are needed. The research on this subject has identified opportunities or challenges for states to reduce the phenomenon of tax fraud. Good financial management is one of the main means of tackling financial nonconformity and tax evasion. Principles of good fiscal governance represent common benchmarks accepted and implemented at several state levels, with the main aim of limiting the risks of the spread of the negative effects of fiscal non-compliance.

Considering the creativity of the mechanisms that give the concept of fiscal optimization a side of non-compliance or violation of legal provisions, it is necessary to intensify research in this direction. Awareness of the phenomenon of fraud or fiscal inefficiency in general is indispensable. The taxation mechanism determines the budgetary balance at the level of each country. Tax principles apply to the actors involved in tax transactions and, at the same time, to safety and certainty in the prediction of future activities. The present study presents a review of the multitude of meanings that financial optimization acquires, as well as the perspectives through which it is evaluated. Understanding the concept of fiscal optimization and promoting fairness in its acquisition are, in the authors' opinion, values for stabilizing tax mechanisms in a general sense.

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## Accounting Information System – A Quantitative Analyse of the Bibliometric Elements

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### Abstract

*The present study presents an overview of Accounting Information System (AIS) research applied in Accounting System field by a quantitative analyse of the bibliometric elements provided by Scopus database on the scientific articles published in the last decade regarding the role and the importance of AIS, as a part of the accounting informational system at the company level and establishes the links of dependence and variability between their various elements type. It provides knowledges about methodologies used in accounting research, research documents, accounting area studied and emerging technologies examined in scholarship accounting information system. A set of 649 published articles was selected in this research because of their appropriate fit with the research question. The analysis emphasizes the need to support the continuation of research in the field of AIS in concordance with the changes and trends of evolution of the international academic fields.*

**Key word:** accounting information system, accounting research, bibliometric research, quantitative research, Scopus database

**J.E.L. classification:** M41

### 1. Introduction

The present study carries out a quantitative analysis of the bibliometric elements provided by the Scopus database in the field of accounting, of the research area of accounting information systems, in the last 10 years. It can be useful both to researchers in their making decisions about the next submission, as well as to Academics when they need information in order to updating and establishing the study topics in their annual study program.

Bibliometric analyses are the key to the process of discovering and innovating new scientific research tools, cultivating new skills and improving the performance of all those involved directly or indirectly in scientific research activities in any field, implicitly in that of accounting.

In the last decades, the scientific community in the states with a tradition in research activity supported the direct link between research activity, professional, organizational and educational efficiency and the coherent evolution of the scientific field. Accounting science, as a part of the social sciences, must be constantly synchronized with the needs of professional practitioners and Stakeholders. Modelling the future of accounting on the structure of the technological and IT evolution of recent years, represents an interesting and, at the same time, extremely necessary perspective. The motivation for choosing this topic is justified by the fact that the AIS has experienced a complex dynamic in recent years and the issue of studying this topic is an extremely interesting one.

The work aims to contribute to deepening the knowledge of research in the AIS field, becoming a point of interest both for professional practitioners in the implementation and development of new trend in the organization of accounting activity, but also to serve as one of the resource necessary for emerging scientific research, through a deep X-ray for the works of all types of specialty (articles,

conference paper, book chapter, projects, periodical publication). The novelty and originality of this study are given by the fact that it carries out a deep investigation of the bibliometric elements of the articles published in the field of accounting, on the topic of AIS, aiming to find out not only "WHO" is researching – who are the subjects most interested in this topic –, but also "HOW" is researched – which are the research methods used –, "WHAT" is researched – which are the most used keywords –, "WHERE" are they published – where are published the most papers with selected theme –, "WHEN" were published – the years when the most articles were published- but "TO HOW MANY" paper are addressed – how many citation every works recorded during the time.

The analysis period begins in 2013, the first year that generated result with works on the subject of AIS in the field of accounting, and continues with the research of emerging works in the domain of artificial intelligence and the research of information technologies applicable to accounting appearing until 2022. The studied articles are interested in the technologies emerging accounting either as a central focus or as part of a broad view of AIS. The Scopus database was chosen due to its size, being considered the most extensive database with a friendly interface, containing abstracts and citations of peer-reviewed literature with over 5,5 million works (20,000 journal) from over 5,000 publishers.

The first part of the paper reveals a brief introduction of the work and justification of the choice of the topic and the working methodology. The second part, summarizes the relevant literature review. The third section describes the research methodology of this study and defines the specific terms but also the limitations of the paper. Section four provides the results of the qualitative analysis of the bibliometric data of published papers in the field of AIS. Finally, section number five provides a synthesis of the results as well as future opportunities.

## 2. Literature review

Science is a form of observation, understanding, explanation and transposition made from man's desire to understand the universal in which we live. As society evolved and developed, access to research activity became permissible for a growing number of researchers from increasingly varied field and different geographical areas, modern science becoming an attractive field. So, science can be seen as a process that generates new information, but also new point of research, having a consecutive and collective character: a scientific research work has at its starting point certain ideas taken from previous works and appears as a result of their development or reinterpretation. So, an informational model of science was outlined, a model compared by Nalimov and Mul'chenko (1969) with a biological process that cannot be stopped, starting from idea that the development of the organism is determinate by the hereditary informational flow. Thus, the speed of development of the organism may vary depending on the external environment, but the environment cannot change the organism development to a direction foreign to the organism.

At the global level, science is treated as a world information process. This basic model motivates the creation of various international databases such as Scopus, Web of Science, Google Scholar, etc., databases which allow the evaluation and the ranking of contribution in the development of modern science for individuals or group researchers, laboratories and other different institution, and also the performance of various types of interdependencies between certain fields and groups of researchers and identification of new research trends and perspectives (Harzing, 2022). Along with the emergence of informatics in all fields of research, the speed of growth of scientific publication is determined by the level of development of science. As early as 1951, Derek Price (1951) emphasized the fact that the rate of society evolution in general, but also of the science, in particular, leads to an exponential increase in scientific research work and, as a result, in the last decade, were edited hundred of new magazines. From this rapid society evolution, but also from the responsibility of the researchers to carry out quality studies and to add value to science, arose the need for an analysis of the scientific publication performance.

Looking into the research history, the origins of bibliometric analysis can be found in West of Europe and it refers to the bibliography study that is using a series of analysis techniques and statistical indicators (Egghe and Rousseau, 1990). In some Eastern European countries, it is used the notion of „*Scientometry*” (Bookstein, 1995). In the year of 1923, the term „*statistical bibliography*” appears for the first time in the works of Hulme (Hulme, 1923), referring to the methods of counting various

scientific publication. However, the method was consecrated by Pritchard in 1969 when he proposed the term „bibliometric” de define de application of statistical methods and mathematical analysis in the ranking of various publications. Potter (1981) summarized the characteristics of bibliometrics, defining it as „the study and measurement of the publication patterns of all forms of written communication as well as their authors”.

Therefore, the bibliometric study of scientific works does not represent a research innovation, and it is a quantitative research method of various fields of interest from specialized literature. The purpose of using this analysis is to provide information about the structure and the dynamics of the scientific field (science mapping) on the hand, but also about the authors and publishing house performance (performance analysis).

### 3. Research methodology

This research began by identifying articles in the fields of accounting in the Scopus database, using “Accounting Information System” and “AIS” as searching keys. The result was generated on 11 December, 2022, at 06:16 pm with the following selection criteria:

*Table no. 1. Selected criteria on Scopus database*

<b>SEARCHING KEY</b>	Accounting Information System
	AIS
	Accounting System
<b>ARTICLES TYPE</b>	Review Articles
	Research Articles
	Encyclopedia
	Book Chapters
<b>YEARS</b>	2007 - 2024
<b>SUBJECT AREA</b>	Computer Science
	Social Sciences
	Neuroscience
	Environmental Science
	Business, Management and Accounting

*Source:* Authors’ contribution

A total number of 7,650 titles of published articles since 2013 was generated. Those were saved into an Excel worksheet and were manually sorted and selected in order to remove duplicate works caused by the use of two searching keys and those that were referred to other fields than accounting (AIS abbreviation is also used for health – Adolescent Idiopathic Scoliosis/Artificial Immune System, engineering Artificial Intelligent System, shipping - Automatic Identification System, education - Asian International Students).

In the end, resulted a number of 656 papers, with which the research was continued. During the analysis, were identified and removed from the study a number of five works published in the years of 2013, 2014, 2016 and 2018 whose title referred to the effects of the Covid-19 pandemic. Other two works were excluded because their publication year were 2014, respectively 2017 and their Title and conclusions were made to an analysis carried out in the interval of 1923-2022, respectively 1923-2021.

All this selection procedure and the analysis of the resulting papers was done manually, the resulting fields from the Scopus database (Table no. 2) being saved and processed in Excel, resulting in the final database that was submitted.

*Table no. 2. Fields saved from Scopus database*

Authors	Authors ID	Title	Year	Source Title	Volume	Issue	Art. No	Page Start	Page End
Page count	Cited By	DOI	Link	Document Type	Publication Stage	Open Access	Source	EID	

*Source:* Authors’ contribution

The bibliometric analysis was carried out with EViews software on a final number of 649 works from Scopus database with the research key "Accounting Information System (AIS)", in the period of years 2013-2022, saved in Excel and completed with a number of eight additional.

Table no. 3. Additional fields completed in data base

Citation Group	Cited By	Research Methods	No. Of Authors	First Author Affiliation Country	First Author Affiliation Geographic Region	Publisher Country	Publisher Geographic Region
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Source: Authors' contribution

The articles were grouped into seven geographical areas: Africa (1), Asia-Pacific (2), Australia (3), Europe (4), Middle East (5), North America (6), South America (7) by the country of sole/first author affiliation. The same geographical areas were used to identify the geographical areas within the articles were published.

There were created five groups where articles were ranges by number of citations.

Table no. 4. Groups by number of citations

Group 1	Group 2	Group 3	Group 4	Group 5
0 – 5 citations	6-10 citations	11 - 20 citations	21- 40 citations	More than 41 citations

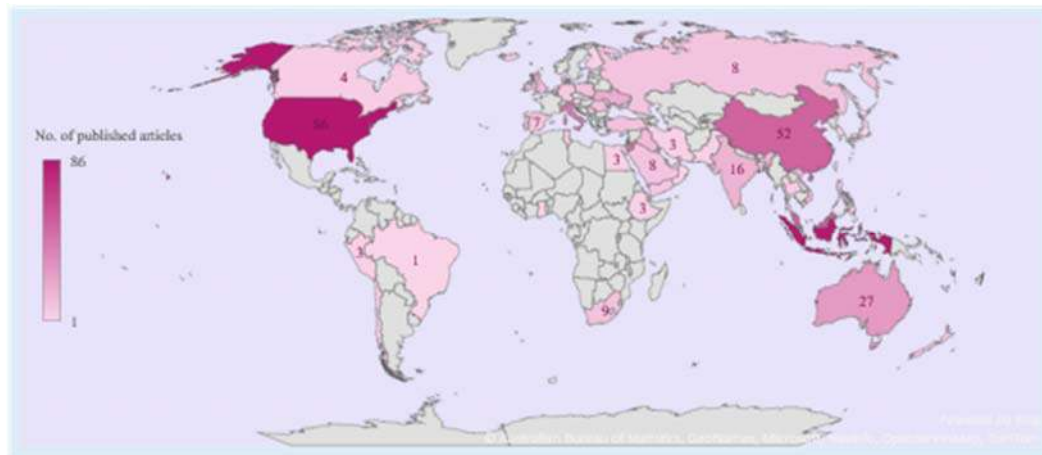
Source: Authors' contribution

The final Excel database was saved in EViews and there were calculate the frequencies, distributions and dependency relationships between the different bibliometric fields.

#### 4. Findings

Analysing the affiliation of the first author/single author, it turned that those 649 articles can be associated with 55 national states spread all over the world, with an average of 12 papers per state.

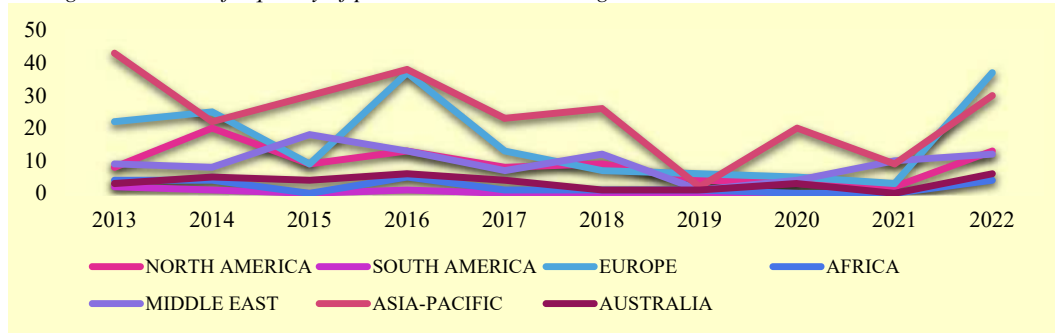
Figure no. 1 Geographical distribution of the analyzed articles



Source: Authors' contribution

Figure no. 2 indicate the frequency of publication number during the analyzed period in those seven geographical regions defined at the beginning of the research: North America, South America, Europe, Africa, Middle East, Asia-Pacific and Australia.

Figure no. 2. The frequency of published articles during 2013 - 2022

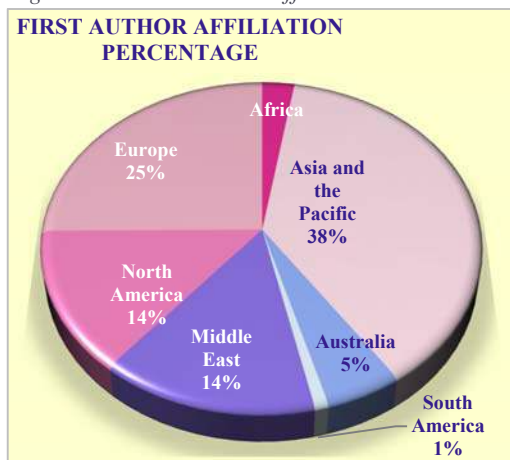


Source: Authors' contribution

The results of the research highlighted the fact that in the states of the Asia-Pacific area and in those of Europe, there is an increased research interest in the subject of AIS compared to other geographical areas. Unfortunately, in Africa and South America, the interest in this topic is extremely low.

This bibliometric analyse shows that although the articles with authors affiliated to countries in the Middle East and Asia-Pacific hold together more than 52 percent from all the articles of this study, only 11% of them were published in the same geographic area and most of them (42.8%) were published in Europe followed by United States (21.4%), situation that shows the increase interest of European publishers in accounting information system subject. Most of European researchers choose to publish their research wok in European area (76.22%), 15.85% of them were accepted in north America publication and only 6.1% were published in Asia-Pacific and Middle East. Regarding North America authors, 51.69% of them were published in the same area and 47.19% in Europe, so the interest in publishing information about accounting information system from North America is very hight in Europe. The same situation is recorded with regard to the Australian author, 78.79% of them were published in Europe, 18.18 % in North America and only 3.03 in Australia.

Figure no. 3. First author affiliation ratio



Source: Authors' contribution

Figure no. 4. Publisher distribution ratio

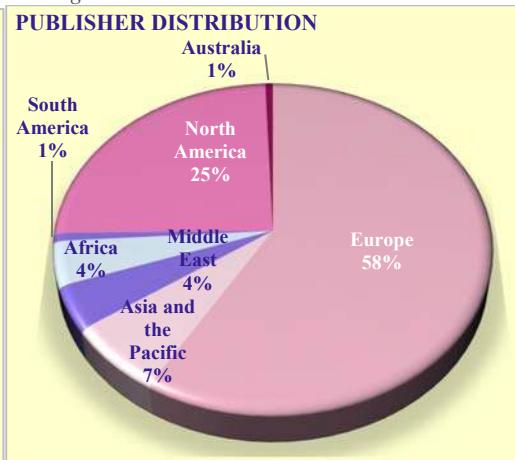
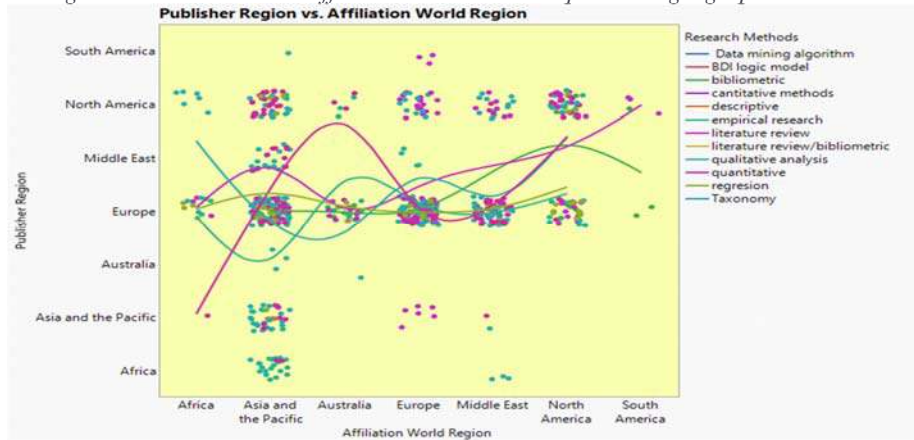




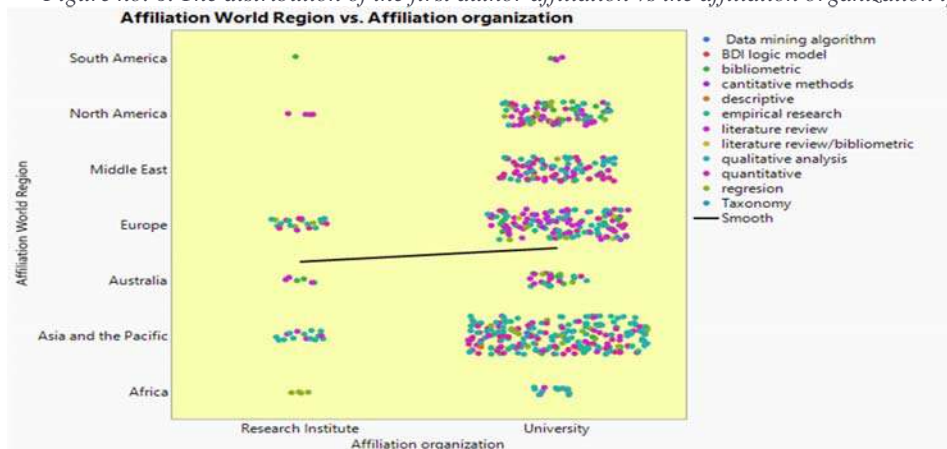
Figure no. 5. First author affiliation distribution vs publisher geographic area



Source: Authors' contribution

Analysing the articles where at least one of the authors is affiliated to a Research/Consultancy/Science and Innovation Institute, other than university/education, the results shows that only 8.47% from all 649 articles has such affiliate. There are 2,095 of authors for those articles, which means that only 2.62% are involved in research project and that means that their interest in researching the issue of accounting information system is not extremely high but it represents an increased interest in the university environment. Twenty-tree authors are affiliated to an European institution, other than educational ones (41.81 of the authors who meet this condition), showing that there is an increased interest in researching the topic compared to counterparts from areas with developed accounting system such as North America (9.09%) or Australia (10.9%).

Figure no. 6. The distribution of the first author affiliation vs the affiliation organization type



Source: Authors' contribution

Figure no.7 represents all the sources for those 649 articles. The three sources most interested in publishing AIS articles are:

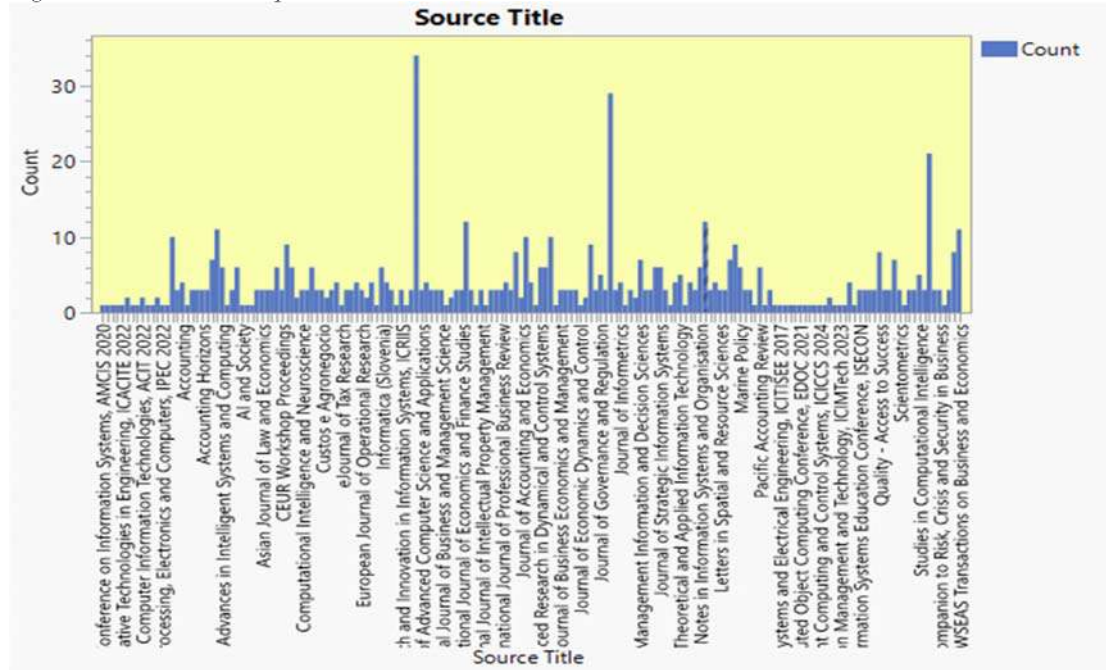
Table no. 5. Top tree sources interested in publishing AIS articles

Source name	Count	%
International Journal of Accounting Information System	34	0.05239
Journal of Information System	29	0.04468
Sustainability (Switzerland)	21	0.03236

Source: Authors' contribution



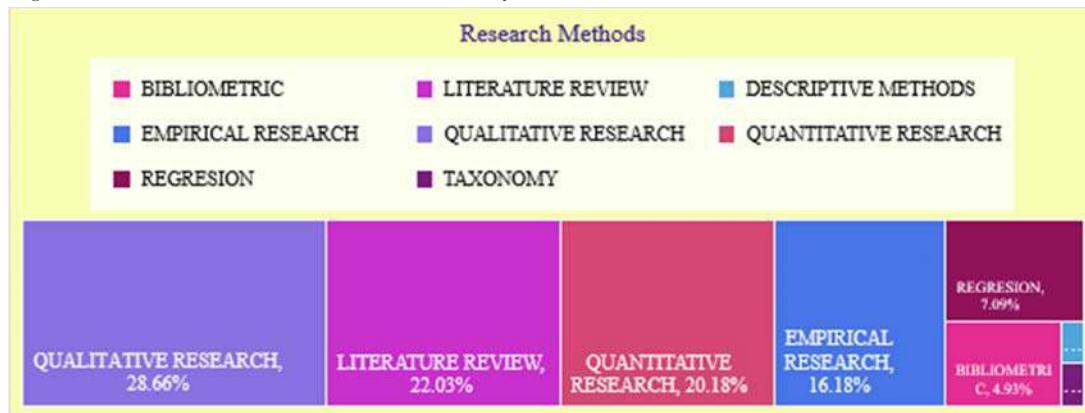
Figure no. 7. Sources that published AIS articles



Source: Authors' contribution

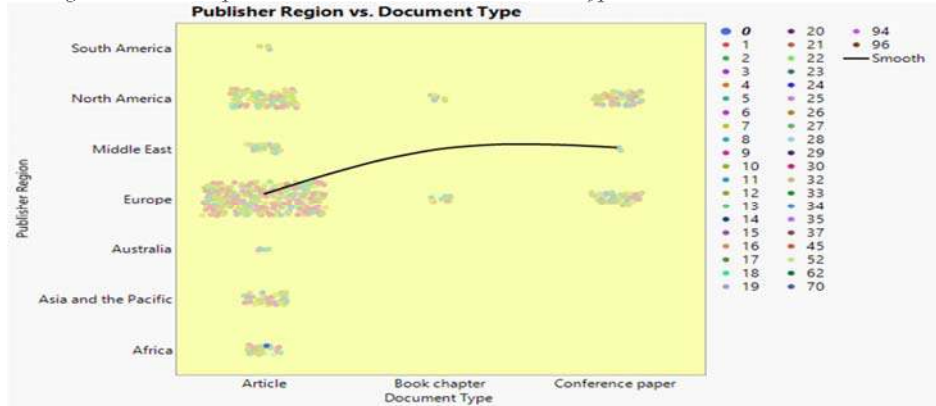
Researchers prefer qualitative methods, followed by literature review methods. Bibliometric and descriptive analyzes are the least addressed in AIS research. Except for Europe and North America, in the other geographical areas, exclusive articles are published, not Book Chapters or Conference Papers. So, research articles on AIS are the most published.

Figure no. 8. Research Methods that were used by those 649 selected articles



Source: Authors' contribution

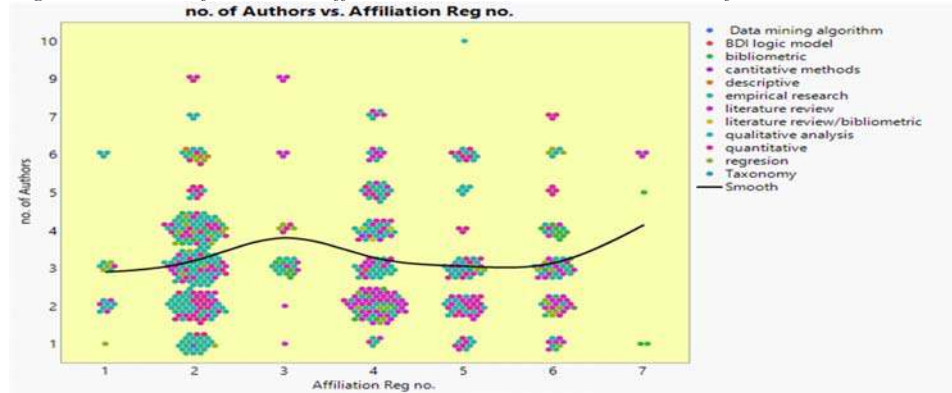
Figure no. 9. The publisher distribution vs document type



Source: Authors' contribution

The average number of authors is three, with the trend being higher in Asia-Pacific, while in Europe most of the articles have two authors. The paper with the most authors (9) belongs to a first author affiliated in the Middle East.

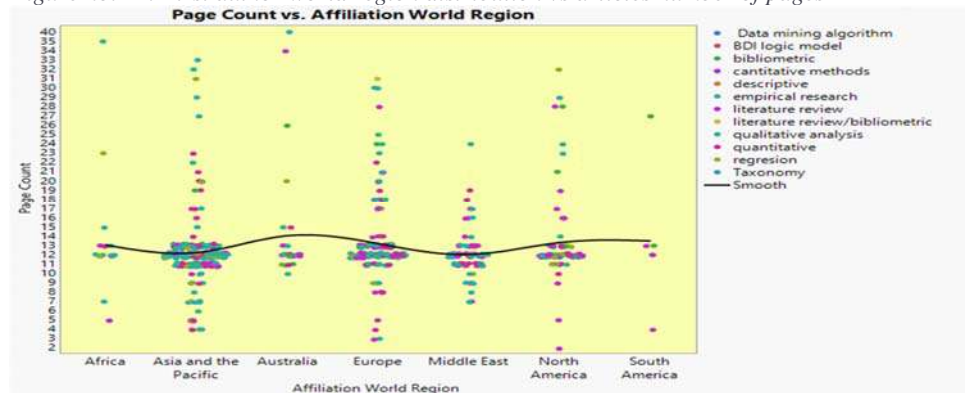
Figure no. 10. The first author affiliation distribution vs total number of authors



Source: Authors' contribution

Analyzing the number of pages, a preference for publishing papers with an average number of pages between 10-14 was found in all seven geographical areas. The median trend is maintained until the year 2019 when an increasing trend in the length of the works is observed, in 2022 publications with a number of up to 40 pages appear.

Figure no. 11. First author world region distribution vs articles number of pages



Source: Authors' contribution

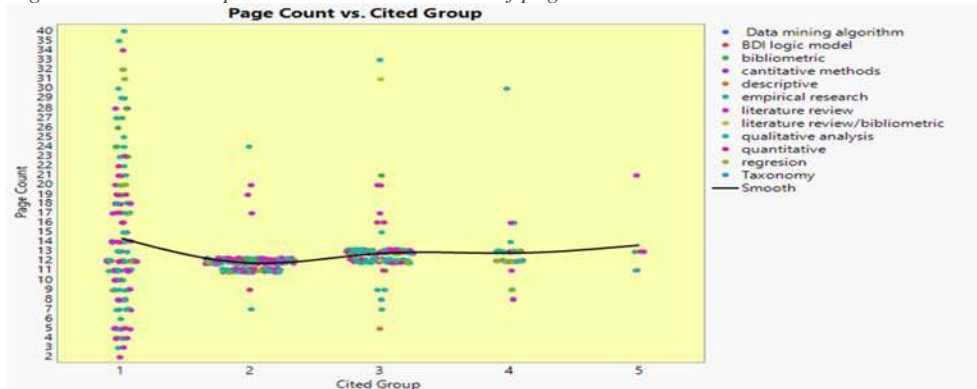
Figure no. 12. Number of articles pages vs publication year



Source: Authors' contribution

Graphic no. 13 shows that there is a strong dependence between the number of article pages and number of citations. Authors prefer to cite works that have a number of pages between eight and fifteen. Papers with less than five pages ore more than thirty recorded less than five citations.

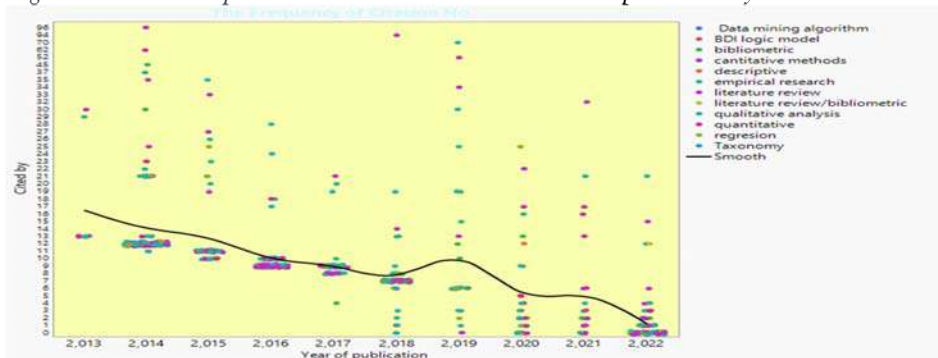
Figure no. 13. The dependence between number of pages and citation number



Source: Authors' contribution

Regarding the frequency of citations, a tendency to decrease their number over time is observed, so it is advisable to analyze another type of citation index, related to the unit of time.

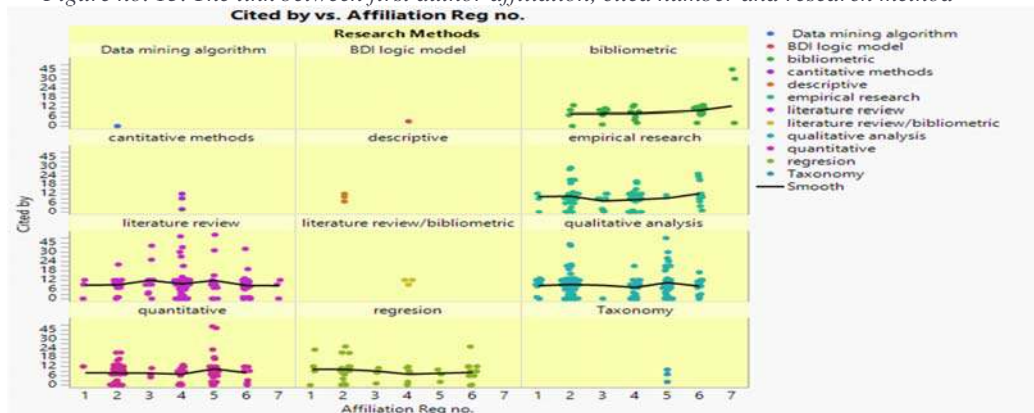
Figure no. 14. The dependence between citation number and publication year



Source: Authors' contribution

The papers with the greatest impact in the scientific community were those that used literature review and quantitative methods as research methods. If we refer to the geographical distribution of the authors, a linearity is observed in terms of the number of citations and the research methods approached.

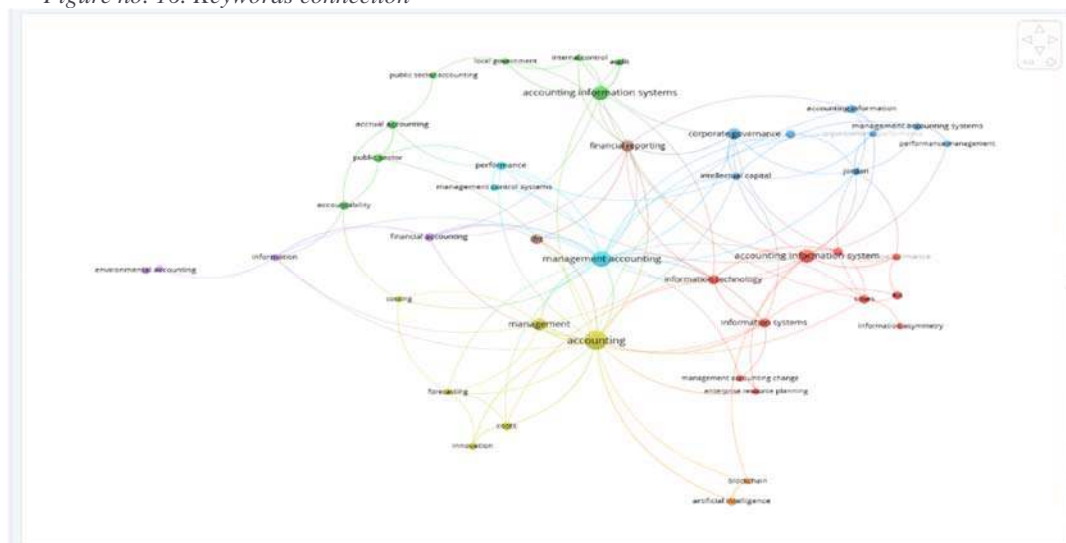
Figure no. 15. The link between first author affiliation, cited number and research method



*Source:* Authors' contribution

The following mapping diagram shows the connections between the authors most used keywords.

Figure no. 16. Keywords connection



*Source:* made by authors based on Scopus Database

## 5. Conclusions

The bibliometric analysis carried out in the present study generated a series of interesting information. Although the subject of the accounting information system was of equal interest to researchers from Europe, North America, Asia-Pacific and the Middle East, the bibliometric analysis showed that European publishing houses showed the greatest openness in publishing research articles on the subject accounting information systems. The results of the research highlighted the increased interest of authors from Asia-Pacific area and European researching Accounting Information Systems. Their highest interest was manifested at the beginning of the researched period and the lowest was showed in the Pandemic year, 2019.

No direct connection can be established between the number of citation and the research methodology adopted within the article or author affiliation but there is a strong dependence between number of pages and number of citations. Most cited articles were based on qualitative research and literature review.

The works with the same theme and the same research methodology register different numbers of citations, not being able to establish any dependence between the research method and the number of citations.



The most appreciated scientific journals with papers about AIS are International Journal of Accounting Information System, Journal of Information System and Sustainability from Switzerland.

The number of bibliometric studies with the Accounting Information Systems as their subject is limited in the specialized literature, which is why we believe that this analysis contributes to the research in the field of accounting by providing some starting points for future research but also by providing relevant bibliographic sources on the analyzed topic. Bibliometric analysis in the field of accounting was successfully used in 2017 by Merigó and Yang [10] and the results indicated that the American centers in the field of accounting were the most influential and the most appreciated scientific accounting journals were the Journal of Accounting and Economics, Journal of Accounting Research, The Accounting Review and Accounting, Organization and Society.

The limit of this study is represented by database consisting only of the articles present in Scopus. In the future, the research can be extended to others databases in order to compare the results. The study describes the evolution and research trends in the field of IT accounting systems but does not offer the possibility to explain the links between AIS and their computerization or to make predictions about the trends in the field. For those reasons, we believe that it is opportune in the future to deepen the factors that determine these trends, so that the research results also meet the conditions of applicability in accounting practice.

"Not everything that counts can be counted, and not everything that can be counted counts" – William Bruce Cameron

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## The Covid-19 Pandemic and the Global Value of Companies in Emerging Economy Countries

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### Abstract

*The COVID -19 pandemic that broke out in 2019 in China has impacted the economic growth and economic sustainability of all economies of the world. The effects of this health crisis were generally felt by the private sector, which faced a bottleneck in the supply of raw materials, affecting business operations. The shock of the COVID-19 pandemic is far greater than the 2008 economic crisis, particularly accentuated by large-scale inflation, cessation of commodity exports, price collapses, rising unemployment, reduced foreign direct investment flows, etc. The aim of this research is to identify the determinants of the overall value of companies in emerging economies in the pre- and post-pandemic period. Thus, in order to achieve the proposed purpose, the following objectives have been outlined: O1- analysis of economic indicators reported by companies in emerging countries in the period of 2019-2021; O2- analysis of correlations between economic and financial indicators reported by companies in emerging countries (EVA, Equity EVA, BV of Equity, BV of Capital, Market Capitalization). The research is relevant for academics and also for potential and current investors interested in the impact of COVID-19 on the business.*

**Key words:** COVID-19, emerging economies, performance, bibliometric analysis, scientific output  
**J.E.L. classification:** M40

### 1. Introduction

Triggered in China in 2019, the COVID-19 pandemic has caused not only a health crisis, but also a global economic crisis through the cessation of exports and labour migration. As a result, many enterprises have had to stop their activities or reduce their production capacity, which has led to a drop in profitability, reduced investment, increased unemployment, etc. The largest emerging economies supplying raw materials and human resources have seen a huge economic decline amid the pandemic crisis, amplified by rising inflation and by the shutdown of many foreign-owned enterprises. The effects of the COVID-19 pandemic have been much more felt in emerging economies than in developed countries, which is explained by the fact that most emerging countries have a weak health system that is struggling to cope with the pandemic.

Emerging economies are the main recipients of foreign direct investment flows and the main contributors to Gross Domestic Product (about one third). During recessions, there is also a liquidity constraint that negatively influences the investment process and mainly the level of investment flows. The reduction in FDI flows has affected the business environment in these countries and the contribution of emerging countries to global GDP has been reduced. To counter the effects of the pandemic on the private sector, governments in emerging countries have adopted a range of fiscal measures/facilities aimed at supporting the business environment. For example, India, one of the largest emerging economies and the largest recipient of FDI inflows, has implemented a number of

measures to encourage investors and support the business environment, such as: "reduction in corporate tax from 30% to 25%, a measure implemented from FY 2019-2020; simplification of labour laws by abolishing the 3 labour codes - Social Security Code, Industrial Relations Code and SSM Code; financial sector reforms; financial inclusion and digitization of India and last but not least human capital"( Melega et al., 2021).

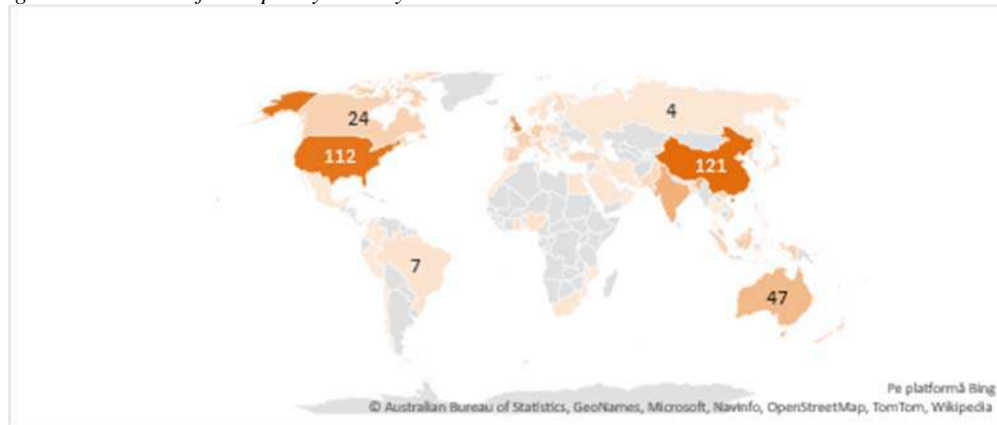
Dependent on foreign direct investment flows, economic indicators reported by emerging economy companies also showed declines in some industry sectors. The market capitalisation of emerging economy companies fluctuated during the pandemic period, with massive falls in share values.

Analysis of the indicators reported by companies in emerging countries is required because of the importance of these countries for the global economy and the fact that they remain attractive to the investment environment, with a much higher proportion of foreign direct investment flows in emerging economies compared to developed economies.

## 2. Literature review

The issue of the impact of the COVID-19 pandemic on business performance has attracted the attention of several researchers from different countries and academic backgrounds, who have tried to assess how the health crisis has affected the business environment and the global economy in general. Thus, using the Web of Science platform as a search engine, a total of 373 scientific publications have been generated, over the period 2020-2022, regarding the topic under analysis. Figure 1 shows the distribution of published scientific output over the period of 2020-2022. Most scientific publications are affiliated to institutions based and operating in China, namely about 121 articles out of the total number of publications in the period 2020-2022, followed by USA and India with 112 publications and 55 publications respectively. The hegemony of scientific outputs is held by emerging countries in Asia, followed by North America, Oceania, Europe and South America.

Figure no. 1. Scientific output by country



Source: elaborated by the authors

Following the cartographic analysis of the scientific production we can underline that most publications are affiliated to institutions in emerging countries. The abundance of articles and publications from China and India highlights the research interest on the effects of the COVID-19 pandemic in these countries, with the authors focusing in particular on the analysis of the impact of COVID-19 on the business environment in China, which was the first country affected by the pandemic and the country that first recovered. The main concern of the scientific community in these countries is to assess the response of the business environment to health and economic crises. As far as publications from developed countries are concerned, the research focuses in particular on the study of the relationship between the health crisis and the pandemic crisis and its effects on the business environment, namely on key sectors that have been most affected, for example tourism.

Table no. 1. Classification of authors by number of citations

Paper	Total Citations	TC per Year	Normalized TC
MAZUR M, 2021, FINANC RES LETT	150	75	32.395
KRAUS S, NA, INT J ENTREP BEHAV R	136	NA	44.971
SHEN HY, 2020, EMERG MARK FINANC TR	120	40	4.075
CALIGIURI P, 2020, J INT BUS STUD	96	32	3.26
ALBUQUERQUE R, 2020, REV CORP FINANC STUD	95	31.667	3.226
EGGERS F, 2020, J BUS RES	92	30.667	3.125
CRICK JM, 2020, IND MARKET MANAG	85	28.333	2.887
WANG YG, 2020, J BUS RES	81	27	2.751
GU X, 2020, EMERG MARK FINANC TR	71	23.667	2.411
DING WZ, 2021, J FINANC ECON	64	32	13.822

Source: elaborated by the authors

In terms of number of citations (see Table 1), the most cited paper is "*COVID-19 and the March 2020 stock market crash. Evidence from S&P1500*" by Mazur (2021) with a number of 150 citations. The paper provides an analysis of the impact of COVID-19 on US stock market performance. The results of the study revealed that "natural gas, food, healthcare and software stocks achieve high positive returns, while stock values in the oil, real estate, entertainment and hospitality sectors decline dramatically". At the same time, the authors note that companies react differently to the earnings shocks caused by the healthcare crisis.

Shen et al. (2020) studied the impact of COVID-19 on corporate performance of Chinese companies. The authors concluded that the COVID -19 pandemic negatively influenced the corporate performance of Chinese companies, and "the negative impact of COVID-19 on firm performance is more pronounced when the scale of investment or sales revenue of firms is lower". Caligiuri et al. (2020) argue that "the pandemic has led to increased cross-border remoteness issues (e.g. as a result of travel bans and reduced international mobility) and often also to new intra-firm remoteness challenges imposed on previously placed employees". At the same time, the authors consider that the COVID-19 pandemic requires a redefinition of organisational performance of the enterprise.

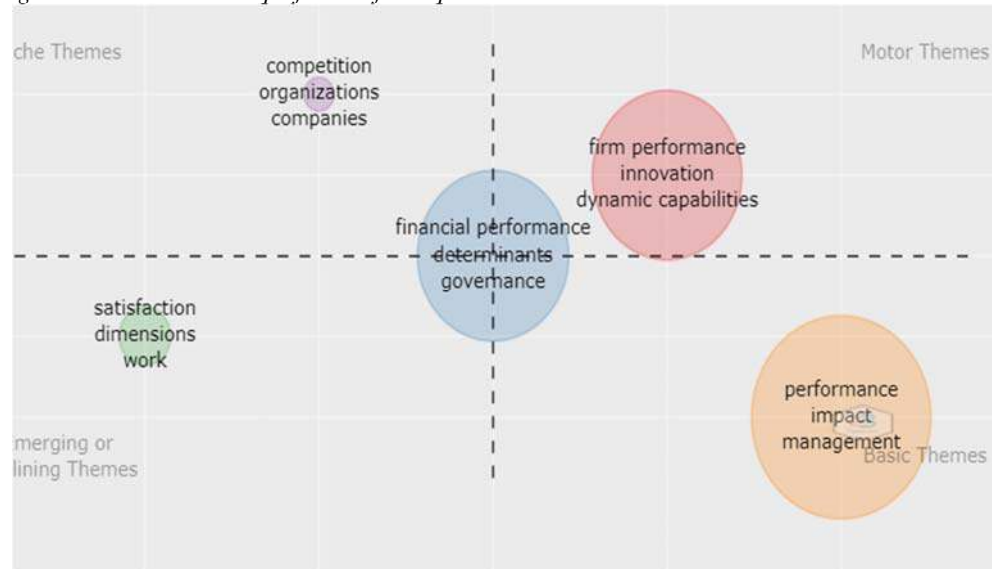
Eggers (2020), starting from the premise that SMEs are the "backbone of any economy", has conducted a literature review analysing SMEs in previous crises and proposes ways to overcome economic downturns in the areas of finance, strategy and institutional environment. Gu et al. (2020) argue that the COVID-19 pandemic had a major negative effect on manufacturing firms, "while industries such as construction, information transfer, computer and software services, health care and social assistance were positively affected by COVID-19".

Anh et al. (2021) explored the effects of COVID-19 on daily stock returns of listed firms in Vietnam, finding that increasing the number of COVID-19-infected individuals negatively impacts stock returns. Vietnam is a rapidly developing economy that has managed to control the pandemic with a rejuvenated stock market after the lockdown.

Using the Bibliometrix software, we have carried out an analysis of the research areas according to the centrality and density of the themes. According to Wasserman and Faust (1994), "the network density of each cluster ranges from 0 to 1, where a value of zero indicates that there is no relationship between cluster members and a value of 1 indicates that all clusters are interconnected, this being a maximum level of relationship that can exist between cluster members. Vertical axis - the area of centrality is an attribute that identifies the node with the most connections in the network". The strategic dilemma consists of four quadrants: niche themes - segments of themes with a specialised character and marginal importance; motor themes - are located in the right quadrant and represent developed and relevant themes with a strong centrality and density linked to outside concepts; emerging or declining themes - are marginal, poorly developed or disappearing research themes with low centrality and density; basic themes - are important but poorly developed research areas (Callon et al. 1991; Courtial and Michelet, 1994; Coulter et al. 1998; López-Herrera, 2011).



Figure no. 2. Thematic map of scientific output 2020-2022



Source: developed by the authors with Bibliometrix

In the period of 2020-2022, five research themes have been identified (see Figure 2) according to the publications, classified into niche themes, motor themes, emerging or declining themes and basic themes. Niche themes with a specialised focus are grouped in a cluster, consisting of themes such as competition, organisations and companies. However, these themes are of negligible importance for scientific production and are only well developed internally. The most frequent research themes according to the number of appearances of the keyword plus are the basic themes, which are grouped in a cluster made up of the following topics: performance (147), impact (91), management (58), firms (28), capabilities (21), crisis (19), resilience (18), competitive advantage (13) and entrepreneurship (13). The motor themes, which represent a large part of the scientific production, with a high density and centrality are the following: firm performance (47), innovation (32), dynamic capabilities (22), business (20), moderating role (17), antecedents (13), mediating role (13), knowledge (12), perspective (12) and strategy (11).

The scientific output from 2020-2022 focused on assessing the impact of the health crisis on the business environment, studying the performance of firms in the context of the crisis, management decisions on countering the effects of the COVID-19 pandemic. By the end of 2021, researchers' concerns are focused on analysing how the world's economies are recovering from the retreating COVID-19 pandemic. Our study complements the existing scientific output by elucidating the impact of the COVID-19 pandemic on indicators reported by companies in emerging economy countries.

### 3. Research methodology

The first stage of the research consisted of a quantitative and qualitative analysis of the literature on the topic "impact of COVID-19 on firm performance". Thus, articles published in the period 2020-2022 were selected from the Web of Science platform, a period in which scientific production focused on analysing the impact of the pandemic on the global economy and in particular on the business environment. Applying as search filters the keywords: firm performance, emerging countries and COVID-19, it resulted in 373 articles.

The second stage of the research is the overview analysis of EVA, Equity EVA, BV of Equity, BV of Capital and Market Capitalization indicators that are reported by companies in emerging economy countries during 2019-2021 and the impact of COVID-19 pandemic on them. For this purpose, we collected data from the financial reports of 21,977 companies, grouping them into 94 industries, from emerging economy countries.

#### 4. Findings

Economic indicators reported by companies aim to highlight the health of the companies and to demonstrate to their stakeholders the sustainability of the business (Grosu et al. 2022) In times of economic/social downturn, the analysis of performance indicators is an important process for investors in analysing investment risk.

Market capitalisation is an important indicator for investors in Value-at-Risk analysis (an indicator that measures investment losses in an investment package), representing the market value of a company's shares and being calculated by multiplying the total number of outstanding shares of a company by the current market price of a share. According to researchers ( Bloom et al.,2009; Schwert, 1998) - during economic downturns - market capitalization affects Value-at-Risk, the market volatility during this period being much higher.

The performance of the EVA indicator value leads to the increase in stock returns, i.e. the increase or decrease in stock price being strongly associated with the performance of the EVA indicator (Behera, 2020). According to researchers, EVA provides broader explanations for stock returns than other accounting measures (Behera, 2019). Economic value added (EVA), is "an indicator of a company's performance calculated as the difference between net operating income and the cost of capital employed to produce that income".

The Book Value of Equity (BVE) indicator represents the fund that belongs to shareholders, being available for distribution to them and being calculated as the net amount remaining after deducting all the company's liabilities from its total assets. Fama and French (2008) argue that "past change in equity and book price provide independent information about expected cash flows that can be used to improve estimates of expected returns." Bali et al. (2013) note that "the change in equity capital says much more about expected stock returns than price changes."

Book Value of Capital (BVC) is the book value of liabilities plus the book value of equity, which measures the amount of capital invested in existing assets.

The Economic Value Added to Shareholders (Equity EVA- EEVA) represents the excess return earned by investors from shares and is calculated as:

$$EEVA = (ROE - Cost\ of\ equity) * Book\ value\ of\ equity. \quad (1)$$

Thus, based on the analysis of the relationships between market capitalization and the indicators economic value added (EVA), book value of equity (BVE), book value of capital (BVC) and number of firms, we constructed an econometric model which is presented as:

$$MC = \alpha + \beta_1 * BVE + \beta_2 * EEVA + \beta_3 * BVC + \beta_4 * EVA + \beta_5 * NF + \varepsilon \quad (2)$$

This econometric model aims to highlight the influence of EVA, BVE, BVC and number of firms indicators on market capitalisation in the post-pandemic period (2019), during the pandemic (2020) and in 2021, which is considered the restart year of the world economies.

Table no. 2. Correlation coefficients calculated on the basis of indicators reported by emerging market companies in 2019

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Mr
		B	Std. Error	Beta		
1	(Constant)	56064.918	20061.533		2.795	.006
	BV of Equity 2019	1.989	.283	1.455	7.018	.000
	Equity EVA 2019	10.058	1.220	.540	8.243	.000
	BV of Capital 2019	-.620	.157	-.948	-3.947	.000
	EVA 2019	2.560	.717	.183	3.572	.001
	Number of firms 2019	246.096	70.018	.120	3.515	.001
a. Dependent Variable: Market Capitalization 2019						

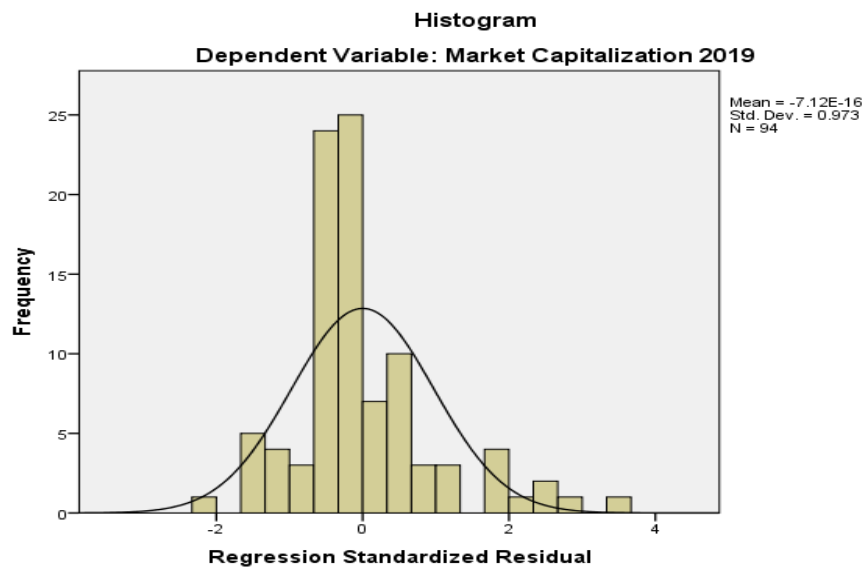
Source: developed by the author using IBM SPSS Statistics, version 26

According to the data in Table 2, the estimated equation of the multiple linear regression model looks like this:

$$MC = 56064,918 + 1,989 * BVE + 10,058 * EEVA - 0.620 * BVC + 2,560 * EVA + 246,096 * NF \quad (3)$$

According to the correlation coefficients, it can be observed that the market capitalization of companies in emerging economies in 2019, therefore before the COVID-19 pandemic crisis was influenced by the economic value added (EVA) indicator in the proportion of 2.56, followed by the economic value of equity (EVA) indicator, respectively 1.98 and economic value added for shareholders (EEVA). In this regard, we estimate that the development of EVA, EEVA and BVE indicators contributed to the increase in the market value of companies, while the increase in economic value of equity (EVA) leads to a decrease in the market value of shares. There is a strong correlation between EVA and stock price and the indicator provides important information regarding the performance of the firm (Behera, 2020; Ahmed, 2015; Bhasin, 2013). Banerjee (2000) argues that "the market value of the firm could be predicted by the present value of EVA". The economic value added indicator plays a key role in "predicting the market value of equity by adding the book value of equity with the present value of EVA under the assumption of constant required return and constant return on equity" (Stewart, 1991). Economic value added is an important indicator for assessing firm performance and also for evaluating and predicting the stock price, i.e. the market value of the firm, providing valuable information for stakeholders in evaluating and anticipating investment risk.

Figure no. 3. Histogram



Source: developed by the author using IBM SPSS Statistics, version 26

In 2019, the market value of emerging economy companies operating in the semiconductor, electronics, brokerage & investment banking sectors, saw massive declines in share prices. Instead, the companies in the Computer Services, electronics (consumer & office) and oil/gas distribution sectors recorded share price increases, with a significant number of financial transactions on the stock markets.

Table no. 3. Correlation coefficients calculated on the basis of indicators reported by emerging country companies in 2020

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Mr
		B	Std. Error	Beta		
1	(Constant)	61790.867	28931.901		2.136	.035
	BV of Equity 2020	2.574	.324	2.445	7.950	.000
	Equity EVA 2020	1.786	1.766	.068	1.011	.315
	BV of Capital 2020	-.885	.191	-1.625	-4.632	.000
	EVA 2020	1.216	1.009	.097	1.206	.231
	Number of firms 2020	247.005	85.801	.139	2.879	.005

a. Dependent Variable: Market Capitalization 2020

Source: developed by the author using IBM SPSS Statistics, version 26

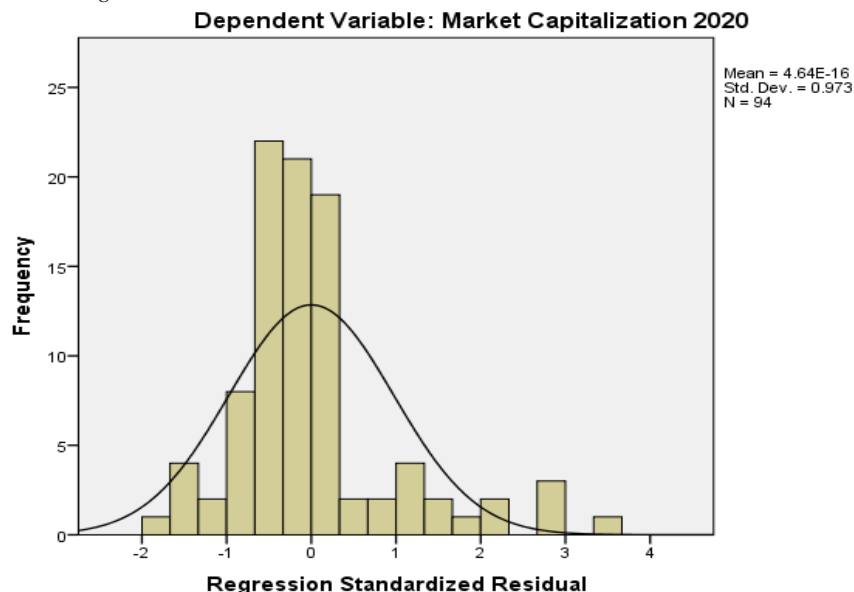
The estimated equation of the multiple linear regression model for the year 2020 is as follows:

$$MC = 61790,867 + 2,574 * BVE + 1,786 * EEVA - 0.885 * BVC + 1,216 * EVA + 247,005 * NF \quad (4)$$

During the COVID-19 pandemic, the increase in the book value of capital (BV of Capital) leads to a much greater decline in the market value of companies compared to the pre-pandemic period. At the same time, it is observed that the economic value added decreased significantly compared to 2019, from 2.56 to 1.21 in 2020. The economic value of capital in 2020 increased compared to 2019, from 1.98 to 2.57. The economic value added to shareholders or the excess return earned by investors from shares decreased drastically in 2020 compared to 2019, from 10.05 to 1.78.

During the pandemic period, firms in emerging economies performed poorly, the investment risk during this period being very high.

Figure no. 4. Histogram



Source: developed by the author using IBM SPSS Statistics, version 26

If in 2019, companies belonging to the Beverage (alcoholic), Software (entertainment), Brokerage & Investment Banking, Oil/Gas (Integrated) sectors saw increases in share price, then in 2020 these saw a decline in share price value. Meanwhile companies in the Healthcare, Utilities, Retail,

Computers/Peripherals sectors have seen an increase in share market value, given the fact that due to the COVID-19 pandemic, there has been an increase in demand. The market capitalization rate is influenced by external shocks, macroeconomic environment respectively economic and social crises that have repercussions on the business environment (Kurihara, 2006; Rad, 2011).

Table no. 4. Correlation coefficients calculated on the basis of indicators reported by emerging country companies in 2021

Model	Unstandardized Coefficients		Standardized Coefficients	t	Mr
	B	Std. Error	Beta		
1 (Constant)	79931.270	34027.578		2.349	.021
BV of Equity 2021	2.399	.413	1.896	5.815	.000
Equity EVA 2021	7.711	2.107	.347	3.659	.000
BV of Capital 2021	-.908	.222	-1.422	-4.093	.000
EVA 2021	.029	1.049	.002	.028	.978
Number of firms 2021	425.510	99.143	.198	4.292	.000

a. Dependent Variable: Market Capitalization 2021

Source: developed by the author using IBM SPSS Statistics, version 26

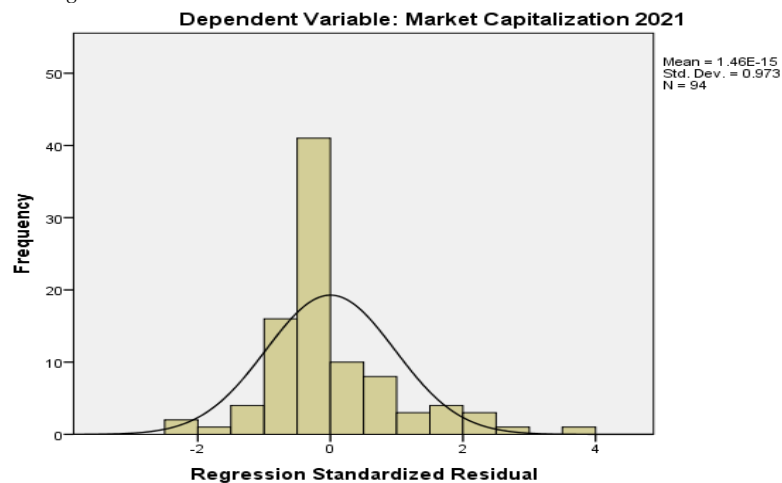
For the year 2021, the regression equation of the multiple linear model is outlined as:

$$MC = 79931,270 + 2,399 * BVE + 7,711 * EEVA - 0.908 * BVC + 0,029 * EVA + 425,510 * NF \quad (5)$$

In the 2021 period, the increase in the book value of capital (BV of Capital) leads to a much larger decrease in the market value of companies compared to the pre-pandemic period. At the same time, it is observed that, the economic value added (EVA) decreased significantly compared to 2020, namely from 1.21 to 0.29 in 2021, having an upward trend from the beginning of the pandemic until now.

The economic value of capital in 2021 decreased compared to 2019, from 2.57 to 2.39. The economic value added to shareholders or excess return earned by investors on equity increased in 2021 compared to 2020, namely from 1.78 to 7.71.

Figure no. 5. Histogram



Source: developed by the author using IBM SPSS Statistics, version 26

The year 2021 is characterized as a good year in terms of market value of shares for companies in the Telecom (wireless, services) and retail sectors. Companies in the oil/gas, air transport, beverage and semiconductor sectors continue to be affected by the effects of the COVID-19 pandemic, with declines in share market value.

The recovery of the business environment is difficult and slow, hampered by high inflation, the energy crisis and speculative market effects.

## 5. Conclusions

Even though a number of measures have been taken by governments to support the business environment, the effects of the pandemic are still strongly felt today, as evidenced by the downward trend in economic indicators reported by companies in emerging economies. At the same time, companies are coping differently with the shocks caused by the pandemic crisis, which also triggered the global economic crisis, amplified by rising inflation.

The determinants of overall firm value are economic value added, economic value of equity and shareholder value added. These are important factors for predicting the market value of the firm and anticipating investment risk. Research results show that during the pandemic period, the companies in emerging economy countries performed poorly and the market value had a fluctuating trend during and after the COVID-19 pandemic. Thus, companies need to identify tools to increase the level of performance, either by first identifying and reducing non-essential business expenses and second, by assessing the level of productivity of the company.

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## The post-COVID Economic Crisis and its Major Influences in the Economic Activity of Firms

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### Abstract

*The global coronavirus pandemic has triggered an unprecedented crisis, creating economic and financial challenges for economic activities in Romania, but also around the world. Faced with strong reactions at the level of activities, companies have found themselves forced to take exceptional measures to maintain, maintain and maintain the financial stability of the country. The high rates of inflation, restrictive financial conditions and unfavorable influences that were directly related to the demand and supply of raw materials, materials, goods, services had repercussions for all companies in the Romanian economy. The sustainable vulnerabilities generated by the pandemic have presented risks at the level of smooth functioning for all activities regardless of their nature. This study presents a comparison of the evolution of performance indicators for companies from different sectors of activity in optimal operating conditions and during the pandemic, highlighting the major influences of the crisis for economic activities.*

**Key words:** multinational companies, economic and financial indicators, financial accounting situations, challenges, economic crisis

**J.E.L. classification:** F23, G32, M41, M48

### 1. Introduction

The unprecedented economic crisis in Europe has led to an economic decline across the continent. The recession has severely affected all sectors of the economy, as well as the daily activities of businesses. In this context, the fast and correct reporting of economic results and the calculation of economic and financial indicators in real time was a necessity, but also a challenge at the same time (Bostan et al, 2021). The communication and information policies have seen a profound change in this period and have as main purpose a better information of the economic situation for shareholders and other parties participating in the economic process (Tiron-Tudor et al, 2021)

The distortion of information in the financial statements of recent years, and especially in these times of global crisis, has led the management of companies to seek complementary solutions for obtaining reliable and relevant information in order to allocate resources (Al-Dhamari, 2018). On a near-reality prediction of future economic phenomena, based on sustainable information, a budget can be built for future expenses, and shareholders can make decisions for the future safely, minimized in this way the adverse consequences of the phenomena that disturb the economy.

A strategic vision of results combined with a form of continuous communication of company management with shareholders has led many economic activity participants to implement IRC reporting.

In times of economic instability, annual financial statements are very important, as through them caregivers can see and make informed decisions about future business activity (Oskouei et al, 2021). However, an increasing importance is given to risk management and implicitly to knowledge of the macroeconomic context, which through its unpredictable evolution can make management decisions not the right ones (Lim et al, 2018).



## 2. Literature review

Until a few years ago, information on the financial results of the companies was highlighted mainly through the annual financial statements, but the confidence of the shareholders in the information presented in these reports has decreased considerably, especially in the current recession period (Ilhang et al, 2022). Accounting is not an exact science and therefore the information provided can be interpreted according to the vision of the person analyzing it (Anghelache 2017). The value of the information depends on how useful they are in the decision-making process. It can be said that the higher the gains obtained from decisions, the higher the economic value of information increases (Pasc et al, 2020).

The countries of the European Union have different accounting systems, which are adapted to the respective countries and the needs of the companies belonging to these countries (Kohlbeck et al, 2017). Multinational companies operating in the Romanian economy adapt the transmission of financial information according to the accounting system used in the country of origin of the companies (Pasc et al 2021) . The reports are made according to the reporting deadlines in the countries of origin of the mother companies.

A definition of accounting assessments can also be this: "The information provided by financial reporting often results from approximate assessments rather than accurate calculations. Assessments typically involve a number of estimates, classifications, summaries, judgments, and assignments. In a dynamic economy, the results of economic activity are uncertain and come from various combinations of factors. Therefore, despite the aura of precision that may seem to surround financial reporting in the general sense and financial statements in particular, assessments are, with few exceptions, approximate, based on rules and conventions rather than exact figures." (FASB, 1978, p. 8).

The International Accounting standards Board (IASB, 2018) has developed a "conceptual Framework for Financial Reporting", which stipulates the particularities to be taken into account, In order for the financial statements to provide relevance and utility to those who analyze them ( Mates et al, 2021). The quality of economic information increases depending on the accuracy of the data presented (Churet et al, 2014)

Due to the fast evolution of scientific research in all fields, specifically determined by technology and easy access to information, a performance analysis of scientific publications is beneficial, thus creating the possibility for researchers to add value to the scientific act by publishing scientific studies relevant to literature (Burca et al, 2018).

In the acceptance of the US GAAP Financial Accounting standards Declaration 57 (as 57) "Affiliate transactions are transactions between a company and its subsidiaries, subsidiaries, principal owners, directors or their families, entities owned or controlled by company directors or their families." According to IAS 24, a related party transaction (RPT) is a "transfer of resources, services or obligations between related parties, regardless of whether a price is charged" (IASB, 2009).

In the current economic context, where uncertainty defines economic processes, reports of transactions between affiliated parties are very important and have an important role in managing earnings. In the external environment, it can be expensive and difficult to manage. Thus, internal financing within the group can lead to reduced additional costs and a better use of internal resources.

## 3. Research methodology

The last three years have been full of challenges for all branches of the economy, with the economic recession having effects not seen in recent decades. These effects were also felt at the level of the transmission of financial statements, people being forced to work remotely, and the transmission of financial information was accelerated by the need to know the negative effects generated by the economic crisis, in order to take the necessary measures to avoid interruptions or even closure of the companies' activities (Bunget et al, 2021). The end of the pandemic did not bring

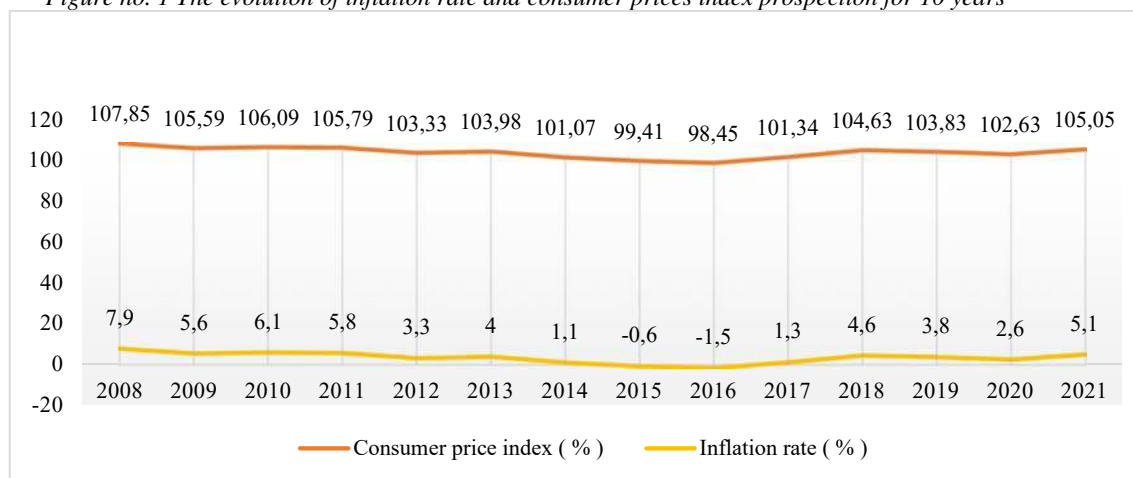
about a crisis of economic disruption, as most participants in economic processes hoped due to the onset of the conflict in Ukraine.

The research methodology used was qualitative and consisted in synthesizing the information obtained from the financial reports of the companies, but also from the datasets that were extracted from the platforms developed by National Institute of Statistics and National banks of Romania.

In the first stage, the evolution of inflation rate and consumer price index has been analyzed since 2008, when another financial crisis appeared in the economy, caused by the breaking of the real estate bubble in the United States and the bankruptcy of Lehman Brothers. The research followed the evolution of the two indices each year until 2021, thus capturing how they change their values during the two economic crises. And at the end was presented a future projection of the evolution of the inflation rate until 2024. The analyzed data were collected from the databases of the company, The National Institute of Statistics and the National Bank of Romania.

Comparing the economic crisis of 2008, which lasted until 2010, although the return to a normal economy occurred only since 2013 and the current crisis generated by the pandemic, amplified by the conflict in Ukraine, there are similar developments in inflation and consumer prices, we are told that economic crises are cyclical. The disturbances that occur in times of crisis are similar regardless of the causes that cause them. Thus, at the beginning of the crisis of 2008, inflation rates and consumer price indices had high rates, but from 2010 until 2021, they had a linear evolution, with a small decrease in 2015 and 2016, then increasing steadily in the following years, at the end of 2021, they had a value almost equal to those of 2011.

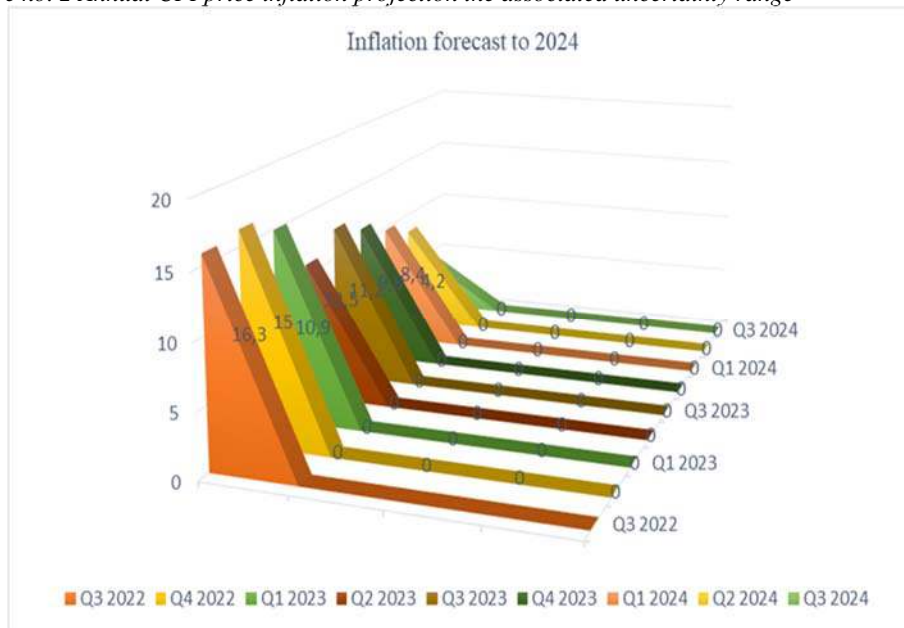
Figure no. 1 The evolution of inflation rate and consumer prices index prospection for 10 years



Source: NSI, Annual IPC data series – presentation of the author, 2022

In 2022, the inflation rate reached 15,9 in the third quarter, continuing to increase to 16,3 in the fourth quarter (National Bank of Romania forecast, 2022). After that it will start to gradually decrease until 2024, when it may start at 4,2 according to the forecasts of the National Bank of Romania.

Figure no. 2 Annual CPI price inflation projection the associated uncertainty range



Source: The NBR projections graphic selections - presentation of the author, 2022

In the second part of the research, the sample was made up of the first six companies in Alba County that had foreign investments with the turnover of 2021 and made an important contribution to the economic life of the county. The choice was made in order to surprise how the disturbances caused by the crisis have it was a very important part of the business because these companies had a majority foreign capital. The analysis period spans four years, starting from 2018, the year before the crisis and ending in 2021, In the year when the economic instability reached alarming levels due to the war in Ukraine. The data from the sample were extracted from the monograph of Alba County, in the data provided by the National Institute of Statistics.

The sample company is from the food industry, auto parts industry, wood production industry and footwear and trade, having as activity the manufacture of ice cream, bearings, gears, gearboxes and mechanical transmission elements, veneer and wood panels, manufacture of footwear and manufacture of other parts and accessories for motor vehicles and motor vehicles.

An important role in choosing the companies had the shareholder structure, namely the share of foreign capital in the equity of the economic agents. Four companies had entirely foreign capital, one had a 99.99% and one 70% foreign capital. All companies are affiliated parties, having "mother-in-law" in Switzerland, the Netherlands, Austria, Italy and Germany.

The maturity of the companies on the Romanian market was highlighted by the year of its establishment and thus two companies were created in 1994, having the highest experience in the market of the total analyzed companies, one company was founded in 2001, another in 2006 and the last one is younger than all the others, approaching the analyzed period, being founded in 2013. One of the companies has a special situation because it merged in April 2022 with another company.

Table no. 1 TOP 6 Companies that had foreign investments at the end of 2021-County Alba

Name	CUI	Shareholder name	Country	Year of establishment	Field of activity	Share of participation (%)
ALPIN 57 LUX SA	5900631	HOLDING (CY) PUBLIC COMPANY LIMITED	CY	1994	Manufacture of ice cream	70
BOSCH AUTOMOTIVE SRL	18039704	BOSCH INVESTMENT NEDERLAND	NL	2006	Manufacture of bearings, gears, gearboxes and mechanical transmission elements	100
KRONOSPAN SEBES SA	11358544	EAST CENTRO CAPITAL MANAGEMENT AG	AT	Dissolution without liquidation (merger) in 01.04.2020	Manufacture of veneer and wood panels	99.99
REKORD SRL	6698930	X	IT	1994	Manufacture of footwear	100
STAR TRANSMISSION SRL	14179039	DAIMLER AG	DE	2001	Manufacture of other parts and accessories for motor vehicles and motor vehicles	100
STAR ASSEMBLY SRL	31875758	DAIMLER AG	DE	2013	Manufacture of bearings, gears, gearboxes and mechanical transmission elements	100

Notes: X – absence details

Source: NSI, Monograph Alba county - processing of the author, 2022

The scientific research then followed the projection of the main economic indicators presented in the annual financial statements reported to the National Agency for Fiscal Administration in the period 2018-2021. The indicators analyzed from the accounting balance sheet were fixed assets (AI), current assets (AC) and debts (D), And the indicators in the profit and loss account net turnover (CAN), total revenues (VT), total expenses (CHT), Net profit of the financial year (PN/P) among the indicators reported in the informative data, attached to the accounting balance sheet, we extracted the average number of employees (NMS).

Table no. 2 Projection indicators reported in the annual financial statements – period 2018-2021

Name	Period analysed	Indicators in the balance sheet ( mil. lei)			Indicators in the profit and loss account ( mil.lei)				NMS
		AI	AC	D	CAN	VT	CHT	PN/P	
ALPIN 57 LUX SA	2021	42	50	14	107	110	108	2	483
	2020	46	42	12	100	101	97	3	509
	2019	51	35	13	105	106	100	6	535
	2018	49	25	10	114	117	104	11	571
BOSCH AUTOMOTIVE SRL	2021	693	667	734	2720	2814	2735	67	3040
	2020	724	614	772	2385	2432	2423	6	3006
	2019	789	534	758	2643	2691	2564	10	3269
	2018	750	504	790	2245	2285	2124	131	3209
KRONOSPAN SEBES SA	2021	695	141	529	134	136	101	35	0
	2020	711	98	271	49	52	98	-46	0
	2019	734	116	532	49	149	96	54	1
	2018	573	88	585	832	1095	1175	-80	358
REKORD SRL	2021	48	122	42	237	250	209	35	411
	2020	46	82	28	130	139	121	15	330
	2019	47	80	28	149	155	136	16	423
	2018	43	75	31	166	171	151	16	445
STAR ASSEMBLY SRL	2021	1588	1065	1552	7074	7125	6740	326	1691
	2020	1834	948	1758	7365	7451	7137	243	1746
	2019	2058	1023	2052	7205	7222	6924	232	1737
	2018	2222	740	1899	7230	7529	7186	264	1854
STAR TRANSMISSION SRL	2021	446	183	355	334	348	336	10	1021
	2020	483	139	356	290	307	300	7	1110
	2019	450	183	403	352	372	354	17	1209
	2018	492	127	304	390	417	375	37	1214

Notes: AI – Fixed Assets, AC – Current Assets, D – Debt, CAN – Net Turnover, VT – Total Revenue, CHT – Total Expenditures, PN/P – Net Profit/ Loss, NMS - average number of employees

Source: Ministry of Public Finance, Economic agents and public institutions - identification data, tax information, balance sheets - processing of the author, 2022

For the first company presented, Alpin 57 LUX SA, the immobilized assets did not keep their volume, recording decreases from 49 million lei to 42 million lei. Current assets increased from 25 million lei in 2018 to 50 million lei in 2021, due to the quantitative increase in stocks of raw materials and materials. The debts also increased from RON 10 million to RON 14 million. Net turnover registered decreases throughout the analyzed period, reaching RON 107 million in 2021, by 7 million lei less than in 2018. Total revenues also decreased from 117 million lei to 110 million lei while total expenses increased from 104 million lei to 108 million lei. Net profit accelerated from 11 million lei in 2018 at 2 million lei in 2021. The average number of employees recorded decreases from 571 employees in 2018 to 483 employees in 2021.

Bosch Automotive had a decrease in fixed assets from RON 750 million in 2018 to RON 693 million in 2021 and current assets increased from RON 504 million in 2018 to RON 667 million in 2021. Debts decreased from RON 790 million in 2018 to RON 734 million in 2021. Net turnover increased from RON 2245 million in 2018 to RON 2720 million in 2021, but being lower in 2020 during the pandemic period. Total revenues increased from RON 2285 million in 2018 to RON 2720 million in 2021, but at the same time, the total expenses increased from 2124 in 2018 to 2735 million lei in 2021. The profit in return decreased from 131 million lei in 2018 to 67 million lei in 2021. The employees were also fewer in 2021 their number decreasing by 169 in 2021, there were 3,040 employees.

Kronospan Sebes has a special situation due to the fact that it merged on April 1, 2022 with another company. Recorded increases in fixed assets from RON 573 million in 2018 to RON 695 million in 2021, as well as current assets from RON 88 million in 2018 to RON 141 million in 2021. Debts decreased from RON 585 million in 2018, to RON 529 million in 2021. Net turnover recorded a very high decrease from RON 832 million in 2018, to RON 134 million in 2021, which explained the merger with another company.

At the same time, the total revenues from RON 1095 million in 2018 to RON 136 million in 2021 and the total expenses from RON 1175 million in 2018 decreased as sharply at 101 million lei in 2021. The company had profit in 2019 54 million lei and 101 million lei in 2021. The average number of employees was 358 in 2018, in 2019 the company reported an employee, and for 2020 and 2021 the company reported that it has no employees.

Rekord, the company that has as its object of activity the manufacture of footwear also recorded increases in fixed assets from RON 43 million in 2018 to RON 48 million in 2019 and current assets from RON 75 million in 2018 to RON 122 million in 2021. Debts also increased from 31 million lei in 2018 to 42 million lei in 2021. Net turnover increased from 166 in 2018 to 237 million lei in 2021. Net turnover increased from 166 in 2018 to 237 million lei in 2021. Total revenues and expenses also increased from 171 million lei in 2018, to 250 million lei in 2021, respectively from 151 million lei in 2018. To RON 209 million in 2021. Net profit increased from RON 16 million in 2018 to RON 35 million in 2021. the average number of employees reported in 2021 was 411 employees, compared to 445 employees in 2018.

Another analyzed company was Star Assembly S.R.L. whose immobilized assets decreased from 2222 in 2018 to 1588 in 2021. Current assets increased from 740 million lei in 2018 to 1065 lei in 2021. Debts decreased from 1899 million lei in 2018, To RON 1552 million in 2021. Net turnover fell from RON 7230 million in 2018 to RON 7074 million in 2021. Total revenues and expenses both decreased from RON 7529 million in 2018 to RON 7125 million in 2021 and from RON 7186 million in 2018 to RON 6740 million in 2021. Net profit increased from RON 264 million in 2018, To 326 million lei in 2021. the average number of employees decreased from 1854 in 2018 to 1691 million lei in 2021. This company was the first in terms of foreign investments in the county in 2018.

The last company analyzed in the sample was Star Transmission, whose immobilized assets decreased from RON 492 million in 2018 to RON 446 million in 2021. Active activity increased instead from RON 127 million in 2018, to RON million in 2015 , To RON 183 million in 2021. Debts increased from RON 304 million in 2018 to RON 355 million in 2021. Net turnover decreased from RON 390 million in 2018 to RON 334 million in 2021. Total revenues decreased from RON 417 million in 2018, To RON 348 million in 2021, the same trend having the total expenses decreasing from RON 375 million in 2018 to RON 336 million in 2021. The net profit decreased from RON 37 million in 2018. To RON 10 million in 2021. the average number of employees also decreased from RON 1214 million in 2018 to RON 1021 million in 2021.

#### 4. Findings

Through our scientific approach we wanted to show how companies behave in times of crisis, what are its effects on the economic activity of companies and last but not least what decisions can be made by managers to avoid interruptions of economic activities or worse the closure of companies.

Shareholders and company management did not have the ability to accurately estimate the consequences of the restrictions imposed in the pandemic. The measures taken have not proved effective for all participants in economic activity.

Of the selected sample, only one company reported the increase in profit in 2020, with the other companies reporting lower values than previous periods. Total revenue and expenditure had the lowest values during the pandemic, again one company, reporting increases in 2020. The companies reported in their financial situations in 2020 the lowest values for net turnover. Debt did not rise in the pandemic, which leads us to conclude that companies had a cautious attitude in 2020, not registering new debts. The current assets had values that oscillated. Some companies renewed their stocks, others made the most of their existing stock. The fixed assets recorded decreases in the value of the assets. Companies have alienated some of the assets, thus obtaining financial resources to overcome crisis periods. The average number of employees decreased in 2020, with companies having to lay off some of their staff during the period when their activity was restricted or closed. Of the six companies analyzed, only one constituted provisions in 2020.



## 5. Conclusions

In times of economic decline, uncertainty has very high values. Predictability of events is difficult to achieve, and management decisions are primarily based on keeping economic activity at the level before the crisis. The speed with which the effects of the crisis are spreading requires accurate information of managers and shareholders in order for them to take early measures for the safe continuity of economic activity.

The limits of the research consisted in the small number of companies that composed the sample, the low number of economic indicators analyzed, but also in the fact that the data series were not certified, the data collection being done manually, being taken from the information reported by companies in the annual financial statements.

In the future, we aim to expand research at national and international level, using a larger set of indicators, and in future research to highlight the interconnections that are established between the different phenomena investigated.

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## A Bibliometric Analysis of Scientific Accounting Studies Concerning Fiscal Topics

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### Abstract

*This paper contributes to the development of accounting research by presenting a bibliometric analysis of scientific accounting studies that are concerned with fiscal topics during the period 2017-2022. The study was carried out on a sample of 555 articles published by specialized journals in the field of accounting. The clarity of the presentation is enhanced by the visual reflection of the main results with the help of color bibliometric maps and clustering techniques. The use of VOSviewer allowed us to present the findings in an easy-to-interpret graphical representation. Keywords, word occurrence, relevance of words in titles, and author citation were targeted. The study resulted in the identification of multiple results of interest both for academics and for the general interest involved with expanding knowledge and substantiating financial decisions on a solid basis of evidence and legal rigor. This paper can represent a relevant reference point for future research.*

**Key words:** bibliometric, mapping, fiscal, accounting, visual accounting

**J.E.L. classification:** C38, E60, O50

### 1. Introduction

In a dynamic economy, faced with multiple challenges, taxation and its levers acquire an essential role. Although there are trends to standardize the principles of taxation worldwide, each state has the autonomy to configure its own system of taxes and fees in order to stimulate economic growth at the national level. The current economic context has pushed both the governance and the business environment to identify new opportunities and assess new risk management methods to help overcome their own conditions and achieve performance. Fiscal optimization thus becomes a common and at the same time antagonistic objective, the vision of the state generally manifesting a dual relationship with the vision of fiscal optimization of businesses or individuals. Financial information, provided by accounting and influenced by taxation principles, becomes a challenge and a necessity for knowledge.

The fiscal strategy oriented towards optimization is important from the perspective of the government decision, and, at the same time, it represents a permanent desire for business growth. The ability of an entity, whether we refer to a public entity, or a private one, or even to the individuals themselves (Brewer, 2017, p.5), to use the means, methods, and legal tools to reduce the financial obligations as much as possible defines financial knowledge. Mastering financial knowledge and fiscal optimization are talents that define "the art of finance". The desire to develop businesses with minimum tax obligations, confronted with the budgetary need to increase the budget revenues by influencing the size of taxes, represents the quintessence of an antagonistic interest. It is precisely this duality that gives taxation a distinct significance, conferring it the distinction of an art and the ingenuity of a strategist.

The links and combinations of taxation, the inclination of the actors involved in the use of fiscal levers to serve individual or common interests, determine different levels of risk towards which the financial management can adopt various positions. The field of taxation has stimulated research interest since ancient times. Many subjects received different analysis approaches, starting from the intricate perspectives of regulation (Lippi, 2021, p.1887), leading to theory or practice.

The present study is oriented towards a qualitative investigation of the evolution of accounting research related to fiscal topics. The study focuses on identifying the main research directions of the fiscal dimension, as can be observed from the analysis of research studies in the field of accounting. With the help of the bibliometric data analysis method (Van Eck and Waltman, 2020), the main research directions on the fiscal side of accounting are investigated. The analysis is set on keywords, word occurrence, word occurrence in titles, and authors' citations.

## **2. Literature review**

The literature focused on the study of accounting presents the breadth and complexity of a strategic field with intricate meanings for the economy and for its actors. Accounting is an essential source of information for any decision with financial impact. The study of accounting followed various research paths. Empirical research shows that economic recession or monetary strength can be significantly influenced by the quality of accounting or auditing policies. (Tahinakis et al., 2017).

The fiscal side of financial information represented a research path preferred by accounting specialists. Mastering the understanding and modeling of financial information allows the identification of new opportunities and paves the way for progress. Understanding the interdependences between fiscal policies regarding personal income taxation and local tax outcomes, the analysis of the measure in which the change in tax prices impacts the outcomes of local budgets has shown interesting valences of progressive policy options (Coyne, 2017, p.223).

The studies addressed various topics, such as inflation determinants (Cornell et al., 2021, p.1), labor taxation and fiscal reforms (Sicsic, 2022, p.291), fiscal inequity (Aivaz et al., 2022, p.337), or quantitative and qualitative data analysis models focused on the modification of fiscal policies (Chiriac et al., 2022, p.298) as a result of the challenges brought by the Covid-19 pandemic (Di Pietro et al., 2020, p.927; Aivaz et al., 2022). The challenges brought by the modification of fiscal regulations both to the decision-making factors of the states and to the taxpayers (Costa-Font et al., 2017, p.365), are yet interesting research topics.

In this dynamic and varied context of research paths in accounting or taxation, notions can acquire distinct meanings. The meaning can be influenced by the field of research, by the specialization of the researcher or even by the definitions given by the referential that regulates the respective notions. In order to improve the side of qualitative analyses, Langfeldt et al. have proposed a multidimensional framework of "good research", in which the categorization and understanding of notions receive a systematized approach and a logical organization (Langfeldt et al., 2020, p.115).

In the field of qualitative research, bibliometric data analysis studies have gained momentum during recent years (Waltman et al., 2012). This statistical method has been used more and more for the exploration of various research topics. The increasingly intensive use of bibliometric analysis was encouraged by the possibility of online access and processing of databases (Szomszor et al., 2021, p.2), such as Web of Science, Scopus, BASE, PubMed, etc.

## **3. Research methodology**

The rigors for accuracy and clarity that accounting imprints on information encouraged the choice of the research method used in this paper. The authors' option was oriented towards qualitative, visual statistical research, based on clusters and graphic representation. The bibliometric research used in this work was carried out with the help of the VOSviewer software. This program allows different clustering opportunities of data and the formation of easy-to-interpret color maps, which optimize the presentation and interpretation of results.

The database included scientific research studies published in specialized prestigious journals, selected with the help of the scientific studies database, Bielefeld Academic Search Engine (BASE). All selected items represented research in the field of accounting. The choice of items indexed in this database covered the period 2017-2022 and met the type condition of 'article contribution'. The data was further filtered following the condition of using the word "fiscal" in the title or in the abstract of the selected articles. After applying these filters, a sample of 555 items that met the filtering criteria were selected from 310,720,536 documents published in the field of accounting. Among the selected items, the items classified according to the content provider, with more than five contributions each, were provided by Wiley Online Library (238), UNTHSC Scholarly Repository (100), Emerald (50), Springer Nature (30), Oxford University Press (15), and University of Chicago Press (12).

The analysis of the selected sample was then carried out from the perspective of the most frequently used keywords, the most frequently used thematic words, the most frequently used words in the article titles, and the most frequently cited authors.

## **4. Findings**

The bibliometric analysis of the database revealed a series of very interesting results. The VOSviewer software allowed us to present a comprehensive picture of previous research directions and polarization. The results obtained with the bibliometric analysis cluster method could be presented as network maps, with chromatic accents on the links established between various items relevant to the study.

### **4.1. Keywords analysis**

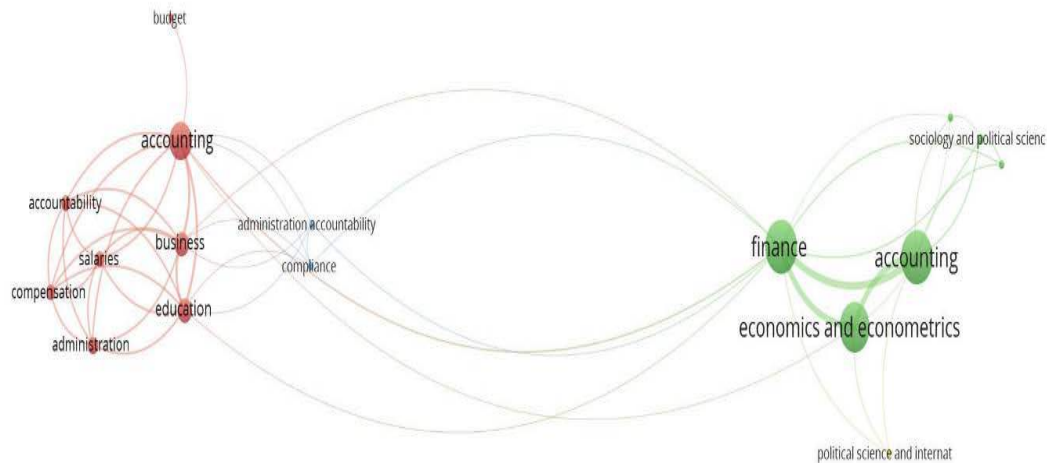
Regarding the keywords frequently used in articles on the fiscal topic addressed in the body of accounting research, the graphical representation of the results is presented in Figure 1. The database identified a number of 354 keywords used, out of which 44 met the criterion of repetition of at least seven times. The software reduced the items to a number of 17 and grouped them into 3 clusters. The analysis showed a very strong connection between the research topics of accounting cases, with the direction of financial analysis and the development of econometric studies.

The first cluster, represented in red in Figure 1, includes the most interconnected keywords, respectively, a number of 8 items, the main keyword being "accounting". According to the analysis, the general themes of the accounting research are significantly related to a series of directions of case analysis focused on accountability, salaries, business, education, budget, and administration.

The second cluster includes 6 items and is represented in green in Figure 1. This cluster contains the keywords with the highest representation (the highest link strength) in the sample chosen for the items "accounting" (376 occurrences), "finance" (367 occurrences) and "economics and econometrics" (317 occurrences). These items also show significant links with "development", "public administration" and "sociology and political sciences".

Cluster 3 is represented in Figure 1 in blue and includes the terms "administration accountability" and "compliance". The statistically significant links identified between these items and the rest of the clusters suggest that, in general, the research focusing on compliance and administration accountability has shown interest in the direction of accounting investigations, business, education, and finance.

Figure no. 1. Keywords network



Source: Own research in VOSviewer

## 4.2. Word occurrence analysis

Regarding the words identified as frequently used in the sample studies, the analysis showed that the terms "fiscal year" (occurrence 122, total link strength 111) and "evidence" (occurrence 92, total link strength 147) have the best representation, being highlighted as central elements, with strong connections with all the identified clusters. As expected, the rigor of accounting information requires a solid foundation in 'evidence' and in the faithful representation of the financial statements reported each 'fiscal year'.

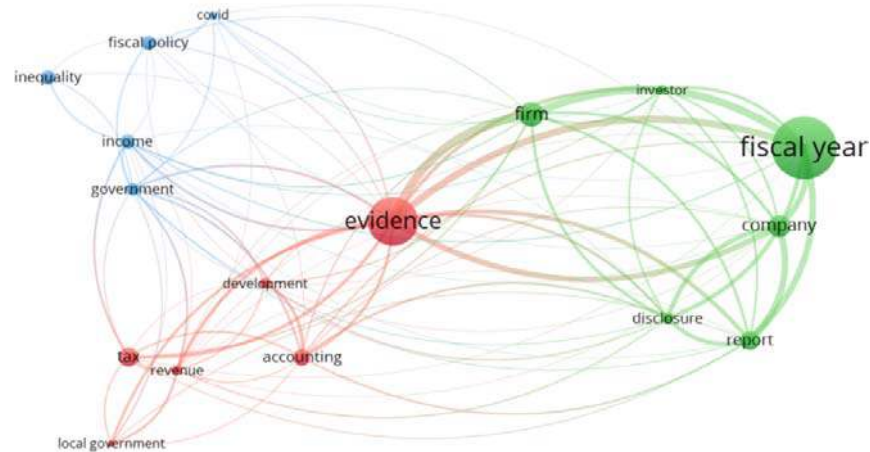
The analysis carried out at this stage focused on the repetitiveness of the words in the titles and abstracts of the works included in the sample. Among the 4562 repetitive items, a minimum threshold of 10 occurrences was set for each term. The result was that 77 terms met the criterion. From the list of terms obtained, the common words were removed. The program retained in the analysis a number of 16 items, which were grouped into 3 clusters, according to Figure no. 2.

In perfect agreement with the hypothesis of accounting rigor, the word "evidence", included in the red cluster, shows significant bibliometric links with "accounting", "development", "tax", "revenue", and "local government". At the same time, the link between "evidence" and the rest of the clusters is strongly represented, having the highest total link strength (147).

The accounting significance of financial reports is supported by the abundance of occurrence of the item "fiscal year". The studies oriented towards the development of analyses based on annual information used repetitively and related terms such as "report" (occurrence 32), "firm" (occurrence 43), "company" (occurrence 38), "disclosure" (occurrence 19) and "investor" (occurrence 14).

The blue cluster shows a very interesting grouping between the terms "government" (total link strength 39), "income" (total link strength 31), "fiscal policy", "inequality" and "covid".

Figure no. 2. Word-occurrence network



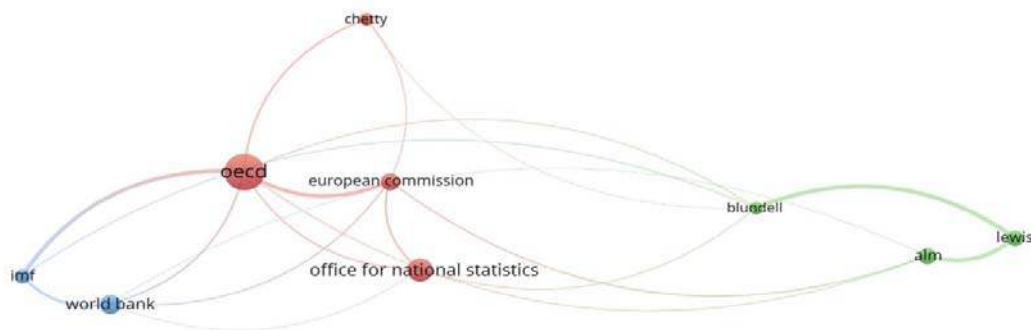
Source: Own research in VOSviewer

#### 4.3. Author citation analysis

The analysis carried out in this stage of the study aimed to identify the representation and links between the authors who received the highest number of citations. The articles included in the analysis indicated a number of 3737 authors, of which 12 met the threshold of a minimum of 10 citations of an author. Of the 12 items, the program could make connections between only 9 items, grouped into 3 clusters.

As can be seen in Figure no. 3, the biographical sources most frequently cited in articles on the analyzed accounting and fiscal topics are the OECD and national statistical institutes. The result is significant and, in accordance with the results identified in the previous stage of the analysis of frequently used words, the conclusion that can be drawn is that, for the most part, accounting research is based on statistical data and regulations.

Figure no. 3. Authors' Citation Network



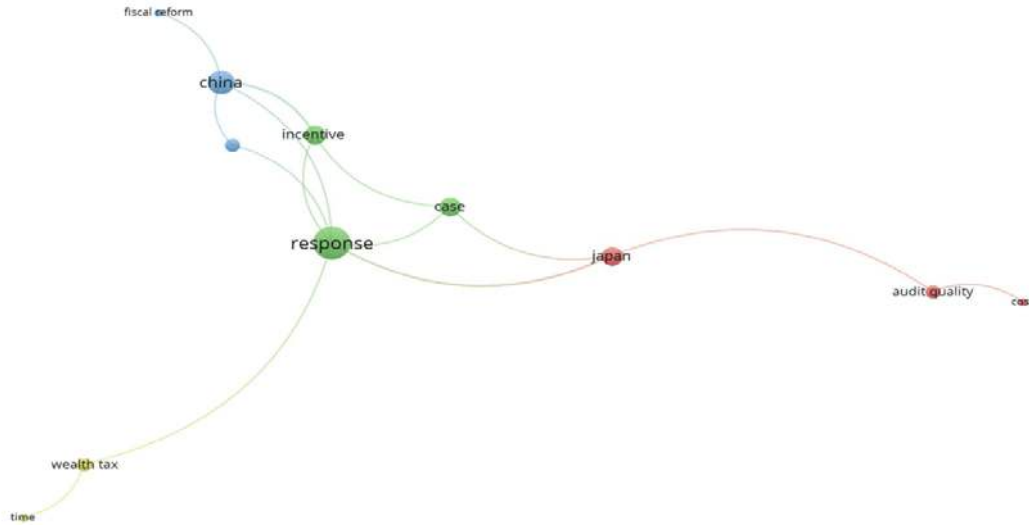
Source: Own research in VOSviewer

#### 4.4. Title-word occurrence analysis

In another stage, the analysis followed the predilection for the use of certain words in the title of the analyzed accounting and fiscal articles. For this investigation, only published articles that were assigned DOI were extracted from the database; a total of 303 items were extracted. From the 773 repetitive terms observed, a minimum threshold of 3 occurrences was set for each term and 51 items were extracted. The software calculated a significance threshold of 60%, and a number of 22 items were selected, which were grouped into 4 clusters, as can be seen in Figure 4.

According to Figure 4, the most frequently used word in the title of the analyzed articles was "response", which presents significant bibliometric links with the term 'incentive' and with terms indicative of countries. The finding indicates a predilection toward the research of case studies anchored in the reality of statistical data and regional representations.

Figure no. 4. Title word occurrence network



Source: Own research in VOSviewer

## 5. Conclusions

The present study proposed a bibliometric analysis based on a number of 555 articles published in distinguished journals, with the main theme accounting and the secondary study direction the fiscal dimension. The results of the bibliometric investigation allowed the identification of a series of keywords frequently used in research, various links between research directions, and the predilection for certain sources of data collection included in the accounting research.

The analysis of the bibliometric maps confirms the general hypothesis that any accounting study must be supported by evidence and be anchored in the precision of the regulations. Our work shows that accounting and financial research has experienced remarkable progress in developing econometric studies in recent years. The most frequently used keywords in the 555 specialized articles included in the research sample are "economics and econometrics", along with "accounting" and "finance". The investigation of financial indicators relevant to present 'the faithful image' in accounting, together with the evolution of financial regulations, found a better support for research in the statistical analysis of data and the econometric modeling, as the links between keywords and word occurrence show in Figures 1 and 2.

Accounting is a broad field, with deep interest both for scholars, as well as for specialists practicing accounting professions, for the business environment, and for the general public. Accounting information substantiates the foundation of all decisions with financial impact, whether we refer to the governmental, executive, business levels, or to individuals from a certain geographical area. In support of this conclusion, this paper shows that terms such as "evidence" and "fiscal year" are the most frequently studied. Furthermore, most studies are based on information provided by the OECD or statistical offices. The topics, the research directions, and the results of the analyzes carried out in the 555 articles analyzed in this paper considered that the most suitable titles should include terms like "response", "incentive", or the country where the study was carried out.

The intertwining between fiscal optimization and accounting information is also subject to the same broad interest area, accounting information and fiscal information being most often necessary to be observed and analyzed together. Evidence anchored in the legislative repertoire represents the tools that are the basis for any financial decision and provide answers to questions of financial

interest. Fiscal optimization cannot be fully understood without a good understanding of the research history in the field. The bibliometric research presented in this paper unequivocally shows that the links between fiscality and accounting are of deep research interest. We consider that the results of this article represent a relevant reference point for the development of future research.

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## Comparative Study of Bank Cards in Romania, Bulgaria and Hungary

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### Abstract

*The digital age in which we live has brought changes to the financial and payments industry. Whereas until recently banknotes and coins were in power, in recent years electronic money has become the main player in payments. Due to political regimes up to the 1990s, Eastern European countries were late to access financial innovations.*

*However, in recent years, the market for bank cards has been dynamic in this part of the EU as well. This paper analyses the types of cards present on the Hungarian, Bulgarian and Romanian markets. The comparative study of the evolution of the number of cards over a period of 7 years will show us which are the common and individual characteristics. The paper is relevant for analysts and the public because it also captures the period of the Covid 19 pandemic. At the end some directions for future studies are presented.*

**Key words:** credit card, debit card, electronic money

**J.E.L. classification:** E44, F10, F19, F40, G20

### 1. Introduction

At the level of a state or region, the *volume of payments* indicator is an important one. Over the last decade electronic payments have grown in both form and volume. Extensive digitisation in all areas has led to increased interest in online payments for all stakeholders. E-payments, which in the past were initiated only by specialised institutions, are now used by banks, companies, local and central governments and individuals.

Therefore cashless payments are on the rise. At EU level, there has been an increase of more than 8% over the last year. Half of these transactions were card transactions and the other half were credit transfers and direct debits.

This accelerated pace of digitisation was also somewhat driven by the coronavirus pandemic, which led to the rise of online payments and the use of card payments in shops, especially as it was one of the recommended measures to prevent the spread of the virus.

The number of online transactions has increased year on year. Even if this trend already existed, it can be said that the COVID-19 pandemic has accelerated the use of cards and other means of payment at the expense of cash.

Studies have shown that the pandemic has changed consumer behaviour, the way B2B trade is conducted, (Zaif, Cerchia & Micu, 2020), and implicitly of the peasants.

In this context, the analysis of payment means and the volume of electronic payments is a topical issue.

### 2. Theoretical background

The developments brought about by accelerated digitisation have transformed all areas of contemporary society and hence the nature of money and goods and services, resulting in a process called dematerialisation.

It should be noted that the systems used by banks have been specifically adapted to new realities and technologies. The topic of new technologies and innovations in the banking system was dealt with by Cerchia, Oachesu & Constantin (2018).



Financial and communication innovations have brought changes across the board. Thus national and international companies, but especially niche companies have adopted marketing strategies targeting online buyers (Zaif & Cerchia, 2019).

### 3. Research methodology

The card is the most widely used and fastest growing electronic payment instrument in Europe. Although these cards are popular everywhere, their use varies widely across European countries but it is worth noting that the percentage of cross-border card payment transactions is still relatively low in overall volumes. Thus, this points to a vast potential for growth in card use, both in individual countries and across borders.

The behaviour of consumers and e-commerce participants and beyond, the choice of financial instruments used by them, are important issues now and in the future. may be extremely important in the near future, as the battle between cash and e-currency has reached a turning point and electronic payments are slowly overtaking cash.

The study will analyse the evolution of the number of cards in three neighbouring Eastern European countries: Romania, Bulgaria and Hungary. The following types will be analysed: cash cards, debit cards and credit cards.

The empirical study will capture characteristics of the three markets as well as consumer behaviour traits.

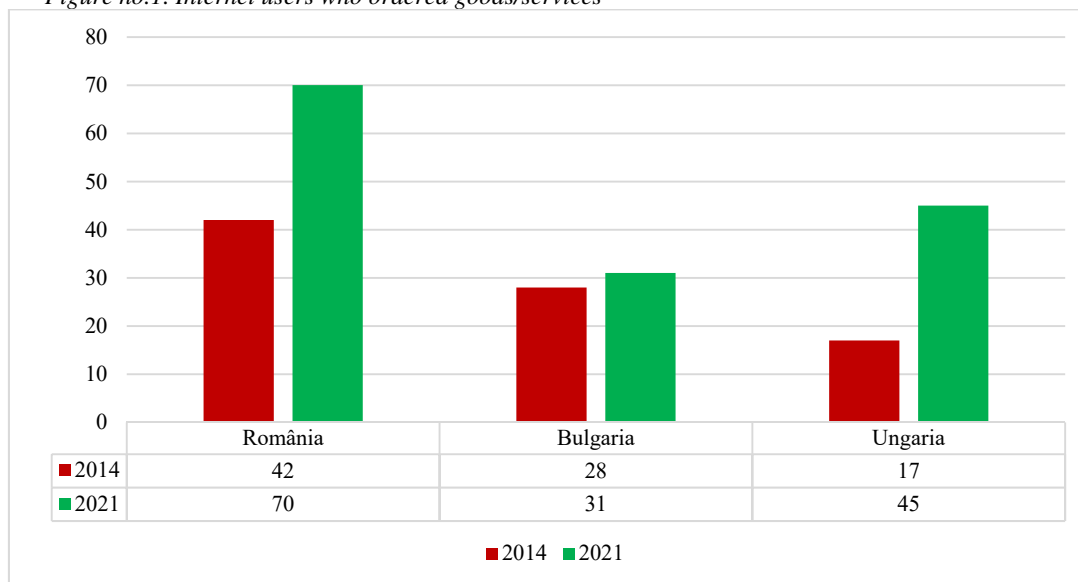
The limitations of the study are that the data available for all three countries were limited to the year 2020.

### 4. Findings

#### 4.1. Use of cards in electronic commerce

In the study we analysed the percentage of internet users who ordered goods or services in Romania, Bulgaria and Hungary between 2014 and 2020 and found that the percentage of orders increased in 2021 compared to 2014.

Figure no.1. Internet users who ordered goods/services



Source: own conception - data processing

[https://ec.europa.eu/eurostat/databrowser/view/ISOC\\_EC\\_IBUY\\_custom\\_557430/bookmark/table?lang=en&bookmarkId=231aabef-4dca-4294-ae0e-59a1f84e268b](https://ec.europa.eu/eurostat/databrowser/view/ISOC_EC_IBUY_custom_557430/bookmark/table?lang=en&bookmarkId=231aabef-4dca-4294-ae0e-59a1f84e268b) [Accessed sept.2022]

The biggest increase in orders for goods and/or services was recorded by Romania, with +28 pp, obviously in relation to the percentage recorded in 2014, while at the opposite pole is Bulgaria with an increase of only +3 pp compared to 2014 and Hungary recorded the same increase as Romania, i.e. +28 pp. The increase in Romania is remarkable, especially since a few years earlier e-commerce in Romania was almost zero. (Grozea (Lazăr), Spătariu, Asaloş, 2009).

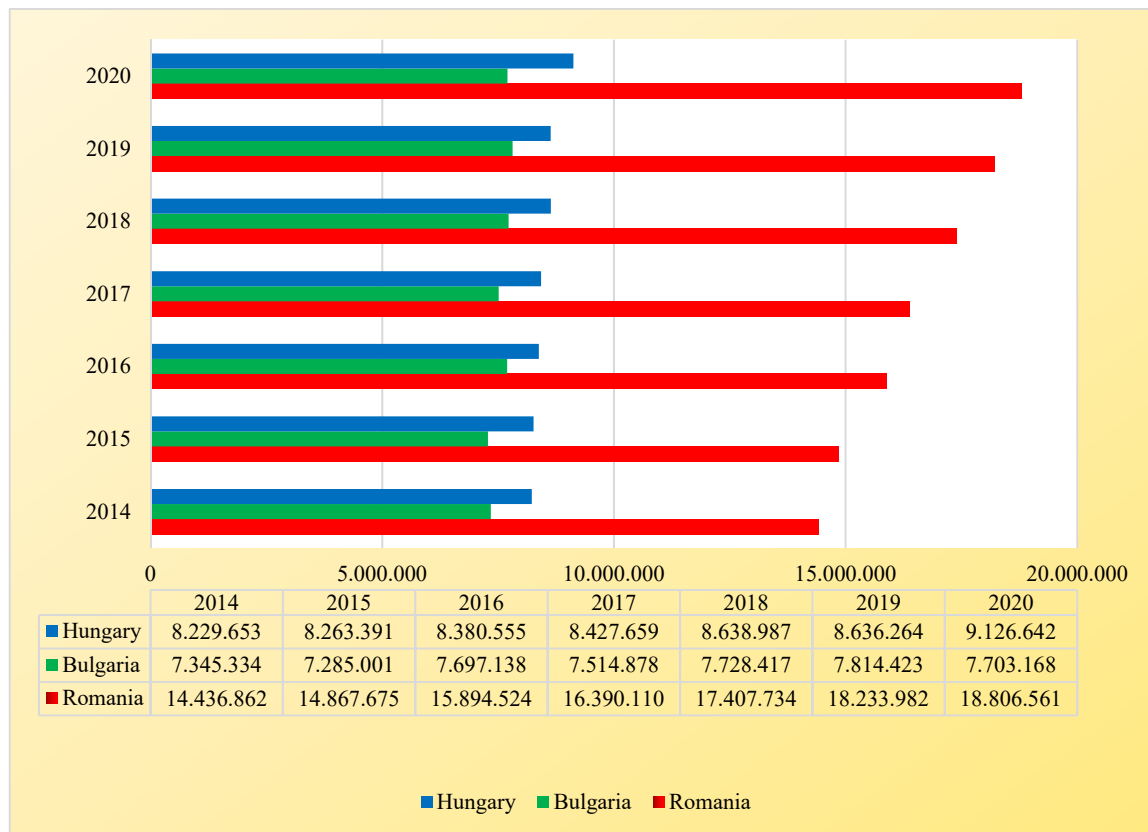
If we analyse the situation in 2014 for the three countries we can see that Hungary had the highest percentage of orders for goods and/or services, i.e. 42%, followed by Bulgaria with 28% and then Romania with only 17%. In 2021 the situation changes a little.

Hungary remains in the same position as in 2014, while Romania is in second place this time, with 45% of orders for goods and/or services, followed by Bulgaria with 31%.

#### 4.2. Evolution of the number of cards in Romania, Bulgaria and Hungary - Comparative study

In the analysis we have processed the available data from the ECB published statements to illustrate the evolution of the number of cards with cash function in Romania, Bulgaria and Hungary over the period 2014-2020.

Figure no. 2 Number of cards with cash function



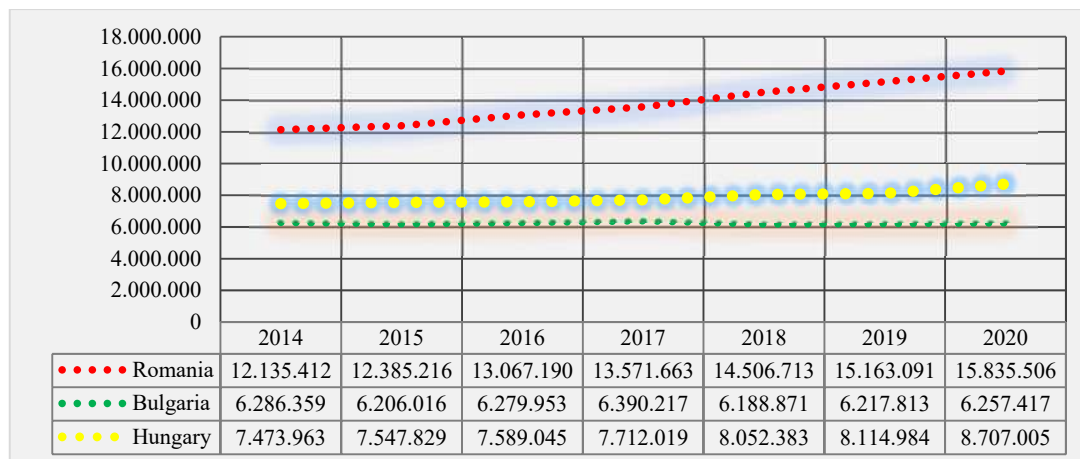
Source: ECB data processing <https://sdw.ecb.europa.eu/browse.do?node=9691545> [Accessed sept. 2022]

The number of cards with a cash function in Romania is higher than in Bulgaria throughout the study period. In Romania, the peak of the period was recorded in 2020, (18,806,561 cards), while Bulgaria recorded the maximum number of cards in 2019 (7,814,423 cards).

Hungary is showing comparative developments with Bulgaria. The maximum number of cards with cash function was recorded in 2020. In 2020, Romania recorded twice as many cards with cash function as Hungary.

The study went on to analyse the number of cards with a debit function. Chart 3 shows that from 2014 to 2020 the number of cards with debit function in Romania increased by 3,700,094 cards while in Bulgaria from 2014 to 2020 the number of cards with debit function decreased by 28,942 cards.

Figure no. 3 Number of cards with debit function

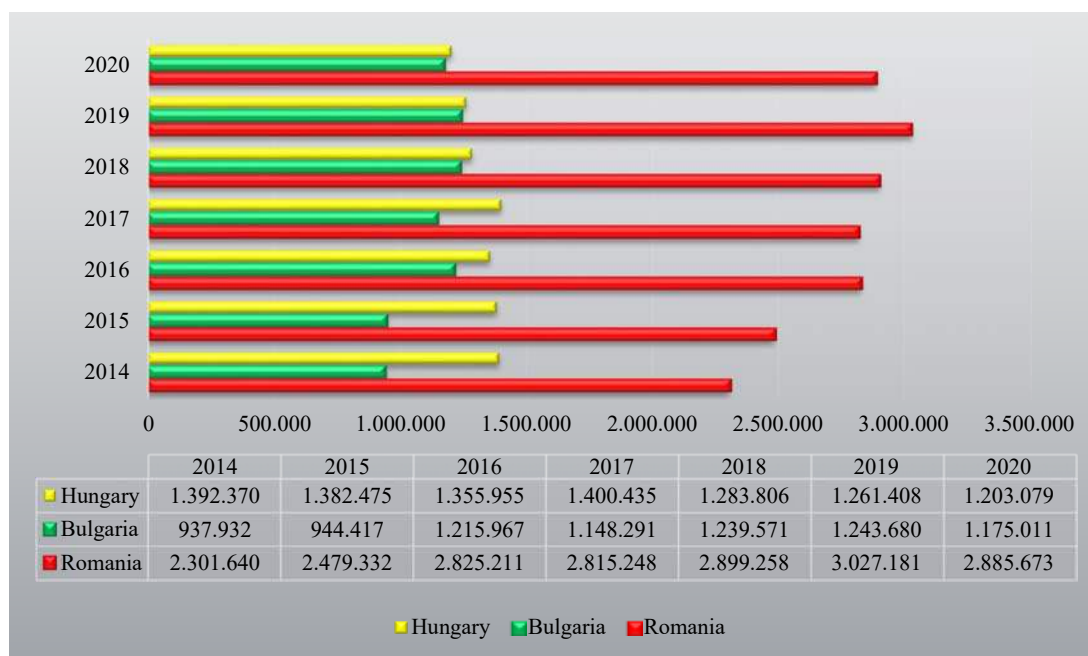


Source: Own design based on ECB data processing <https://sdw.ecb.europa.eu/browse.do?node=9691545> [Accessed Sept. 2022]

In Hungary, the number of debit function cards increased from 2014 to 2020, while the values recorded by Bulgaria during the period under study were volatile.

Regarding the evolution of the number of cards with a credit function from 2014 to 2020, we note that Bulgaria had an uneven evolution, while Romania had an even evolution from 2014 to 2019. In 2020 the number of these cards decreased by 141,508 compared to 2019.

Figure no.4 Number of cards with credit function



Source: Own design based on data processing from the link <https://sdw.ecb.europa.eu/browse.do?node=9691545> [Accessed sept. 2022]

Both Romania and Bulgaria recorded the maximum number of cards with cash function in 2019, (3,027,181 cards and 1,243,680 respectively).

As for Hungary, the number of cards with a cash function was increasing from 2014 to 2017, but decreased in the following years. The minimum value within the period under study was recorded in 2020, and the maximum value was 1,400,435 cards, which was recorded by Hungary in 2017.

It can be seen that Romania and Bulgaria recorded the maximum number of cards in 2019, and Hungary in 2017.

Studies in recent years have shown that there is a tendency to use electronic payment systems rather than cash. Analyses at EU level and in the countries studied support this conclusion.

For the three countries, the comparative study showed that in Romania all types of cards showed an increase in volume, in the case of Bulgaria we have a powerful increase and in Hungary we have contradictory trends. Based on a recent study, Pinter, Nagy, Toth & Varga (2022) concluded that Hungarians find it difficult to abandon cash payments.

Cards with cash function in Romania grew by more than 28 percent. In Bulgaria and Hungary, the number of cards in this category has remained roughly constant over the period. This may indicate market saturation or a lack of confidence in the use of e-money.

During the period under review, the total number of credit cards in Romania increased by more than 25%, although the active population is slightly decreasing. A similar trend can be observed in Bulgaria, with an increase of 25.4%. In Hungary the number of credit cards has decreased.

Again in Romania, a different consumer behaviour is observed. On the one hand, the situation is explained by access to electronic payment systems (large number of ATMs, POS and electronic payment platforms), but also by the fact that there is confidence in electronic money.

## 5. Conclusions

Currency is and always will be a hot topic. It is a concern for everyone and an important economic indicator. Over time the concept of currency has changed with the emergence of different forms of currency and especially with the ongoing digital progress.

Lately, bank cards have been used for payment. According to their function they are classified as: debit cards, credit cards, deferred debit cards and cash cards.

In the countries analysed, there was a favourable trend in bank card payments in the case of Romania and Bulgaria and a decrease in the number of cards issued in the case of Hungary.

There is a study in Hungary based on a survey of 499 people. The authors examined the reasons behind people's decisions, with a particular focus on financial awareness. The result shows that the vast majority of Hungarian consumers are not yet ready to fully accept electronic payments (Pinter, Nagy, Toth & Varga, 2022).

Consumer behaviour may be extremely important in the near future, as the battle between cash and e-currency has reached a tipping point and electronic payments are slowly overtaking cash.

As future research directions we propose to analyse the influence of macroeconomic indicators on the bank card industry. It has already been confirmed that the unemployment rate (UR) is a main macroeconomic indicator used in credit card risk analysis. The COVID-19 pandemic has caused an unprecedented level of volatility in the labour market, leading to new challenges for the use of UR in credit risk modelling. (Liu Z., Liang H, 2022)

In today's age of continuous digitisation, it can be said that the use of cash internationally is declining and e-currency is increasingly used. We cannot ignore the fact that the concept of *cryptocurrency* is increasingly present in studies dealing with the currency of the future.

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## Aspects Regarding the Monetary Policy in The European Union's Countries

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### Abstract

*Monetary policy is a task of central banks. Until recently, each country had its own monetary policy. After the introduction of the single euro, monetary policy for the whole euro area is the ECB's responsibility. In non-euro EU countries, monetary policy is conducted by each national central bank.*

*In EU countries, regardless of currency, the monetary policy instruments are: open market operations, standing facilities and minimum reserve requirements. These operations are based on the monetary policy interest rate, but also on the interest rate on the lending and deposit facility.*

*The study analysed the corridor in which these rates are situated in the period 2017-2022 for the EU countries. It will be seen that there are situations where we have a symmetric corridor with respect to the base rate, but also countries or periods where the corridor is asymmetric.*

*The analysis of interest rates is a topical subject, especially at a time when inflation is an international problem.*

**Key words:** monetary policy interest rate, banking system, spread

**J.E.L. classification:** G01, G20, G21, G24, G30, E50

### 1. Introduction

Over the past decade, monetary policy has been an important topic in the financial world and beyond. The free movement of capital in the EU and many other regions, technological breakthroughs and their applications in financial systems have made money easy to use and transfer.

Rising inflation in recent years has made monetary policy and the policy interest rate a hot topic in the financial world, analysts and the general public.

We must not forget that there were periods when the question of the morality of interest was raised. Today this paradigm brings smiles. Regardless of the type of contract, the borrower of a loan will pay interest to the lender.

Within a country's banking system, the cost of money can be influenced by the level of the policy interest rate. This paper has therefore analysed the evolution of these rates in the EU.

The interest rate is the price paid by the borrower for the use of funds provided by the lender. The interest rate contains, in addition to the *price of money*, a margin that quantifies the risk of default. An increase in interest rates leads to a decrease in the money supply in circulation by reducing the volume of credit.

In the last 10 years, the economies of European countries have become more connected, through trade, investment and free transfers of financial funds. That is why it is important to look at interest rates in monetary policy at EU level.

## 2. Theoretical background

Central banks have single or multiple objectives. If in the US or Japan the central bank has multiple objectives, in all EU countries the objective is unique: to ensure and maintain price stability. The strategy adopted in the EU is inflation targeting. The objective is achieved through monetary policy and its instruments. Within this framework, standing facilities take two forms: the lending facility and the deposit facility. The central bank initiates the operations and the partners are credit institutions.

The spread between the interest rate on the lending and deposit facility is an important indicator of financial stability.

In classical theory, the interest rate is the price paid by the borrower for the use of funds provided by the lender. In the past, the monetary policy interest rate (originally the repo rate) was the base rate for the other loan rates.

In recent decades the mechanisms have evolved, and the monetary policy interest rate is important, but not determinative in setting all bank rates. Taufiq Carnegie Dawood (2019) has shown that the lending rate is influenced by changes in the policy interest rate and that a monetary contraction reduces the volume of credit in the banking sector, even if there is a stretched response (lag).

Studies have also been published showing the link between monetary policy, the fiscal system and banking. One such paper shows the causality between monetary policy, the banking system or the fiscal system and the effects on the economy (Lipară & Dănilă, 2015).

Rising interest rates lead to a shrinkage of the money supply in circulation by reducing the volume of credit. This has implications for financial intermediation (Munteanu & Dobre, 2021).

In addition, the effects of central bank decisions generate changes or adaptations to the systems used by commercial banks (Cerchia & Zaif, 2019).

## 3. Research methodology

Monetary policy is part of a country's economic policy and is carried out by the central bank. Monetary policy instruments are used by the central bank alternatively in order to achieve the objective(s). Worldwide there are central banks that have multiple objectives and banks that have a single objective. Central banks in the ESCB have a single objective: to ensure and maintain price stability. The strategy of EU banks is inflation targeting. In recent years, inflation has been a constant topic of discussion. Hence the increasingly visible role of central banks.

In this paper we will conduct an analysis of monetary policy interest rates and the standing facilities corridor.

In 2019-2021, some central banks have announced negative interest rates. We have paid attention to this. The implications for the economy of negative interest rates are special. That's why we looked at these cases.

We have noticed that the Eurozone, Denmark, Sweden and Hungary have at times announced negative interest rates on one or more facilities. Thus, out of the 27 EU countries, 22 countries (81.48% of the total EU countries) had negative interest rates on one or more facilities.

The standing facilities are the lending facility and the deposit facility. The central bank initiates money market operations involving commercial banks and other eligible participants. The corridor in which these rates are located in relation to the monetary policy interest rate is set by each central authority and can be changed.

The current methodology allows countries to have their own monetary policy. The level of these rates is announced publicly after each meeting of the central bank's Governing Council.

Geopolitical changes have influenced prices and brought inflation in all countries. It is therefore interesting to look at central bank decisions and monetary policy issues in this context.

## 4. Findings

### 4.1. Monetary policy interest rates in European countries. Implications of negative interest rates

In the study we used EU and ECB databases. In Figure no.1 we can see the interest rates of the ESCB central banks, period 2017 - 2022.

The central banks that are part of the Eurosystem use the euro as their national currency, and ECB decisions apply in all of them. Reference to them as a whole is made by the term Eurozone.

Figure no.1. Monetary policy interest rates in the EU

	Valid from date of:	Interest rate of monetary policy (%)	Deposit interest rate (%)	Lending interest rate (%)
Eurozone	18.09.2019	0,00	-0,50	0,25
Bulgaria	01.02.2022	0,00	-	-
Czech Republic	06.05.2022	5,75	4,75	6,75
Croatia	02.10.2017	0,05	0,00	2,50
Denmark	01.10.2021	-0,60	-0,60	-0,45
Poland	06.05.2022	5,25	4,75	5,75
Romania	11.05.2022	3,75	2,75	4,75
Sweden	04.05.2022	0,25	0,15	0,35
Hungary	27.04.2022	5,40	5,40	8,40

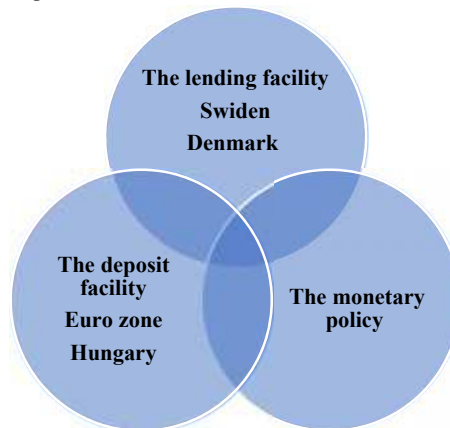
Source: authors' processing based on data provided by ECB & non-euro EU central banks [Accessed 21.09.2022]

As regards the **negative** monetary policy interest rate, two of the Union states (7.41%) had negative interest rates; 22 states (81.48% of all Union states) had negative interest rates on the deposit facility and one of the 27 (3.70%) had negative interest rates on the lending facility.

20 of the 27 states (74.07%) had only negative deposit facility rates, one state had negative benchmark interest rates and negative deposit interest rates, and one state had all three key interest rates negative.

In the Eurozone, the interest rate on deposits attracted by the ECB was negative throughout the period under review: -0.40% from January 2017 to August 2019 and -0.50% from September 2019 onwards, a decrease of 0.10 percentage points.

Figure no. 2. Countries with negative interest rates between 2017 and 2022



Source: authors' design



The Central Bank of Denmark has set a negative deposit facility interest rate for the whole period: -0.65% until September 2019, when it fell by 0.10 percentage points to -0.75%. In March 2020 it announced a 0.15 percentage point increase but remained negative: -0.60%. As of March 2021, both the deposit interest rate and the monetary policy and credit facility rates are negative, i.e. the base interest rate fell from 0.00% to -0.50%, the deposit interest rate increased by 0.10 percentage points to -0.50%, identical to the base rate, and the credit facility rate fell from 0.05% to -0.35% by 0.40 percentage points; these were valid until January 2022, and in the month immediately following, February, they each fell by 0.10 percentage points. Thus, monetary policy and deposit interest rates became -0.60% and the interest rate on the credit facility fell to -0.45%.

Sveriges Riksbank had two negative rates (out of 3), the monetary policy rate and the deposit facility rate until early 2020. By January 2020 there were two changes: in January 2019 both rates increased by 0.25 percentage points, with the base rate increasing to -0.25% from -0.50% and the deposit rate increasing to -1.00% from -1.25%; the second change took place ten months later, in October 2019, when the deposit facility rate increased by 0.65 percentage points to -0.35%. Since January 2020 the Central Bank of Sweden has only had a negative rate, with the policy rate and the deposit rate both increasing by 0.25 percentage points, the former to 0.00% and the latter to -0.10%.

As in the case of the ECB, the National Bank of Hungary announced a negative deposit facility interest rate, but only until June 2021. From the beginning of the review period until September 2017, the interest rate was -0.05%, at which point it fell by percentage points to -0.15%, and returned to its original value in March 2019. In July 2021, it increased by 0.30 percentage points to 0.25% above the 0.00% threshold.

#### **4.2. Corridor analysis *Deposit interest rate - Lending facility interest rate***

As part of the adopted policy, it is interesting to compare countries that have announced symmetric or asymmetric paths of credit and deposit rates in relation to the monetary policy interest rate.

Of the 25 countries that had an *asymmetric corridor*, 21 countries maintained their decision for the whole period analysed and 4 countries only for a limited period of time.

The Eurozone corridor was between -0.40 and +0.25 percentage points between January 2017 and August 2019, and between -0.50 and +0.25 percentage points from September 2019 onwards.

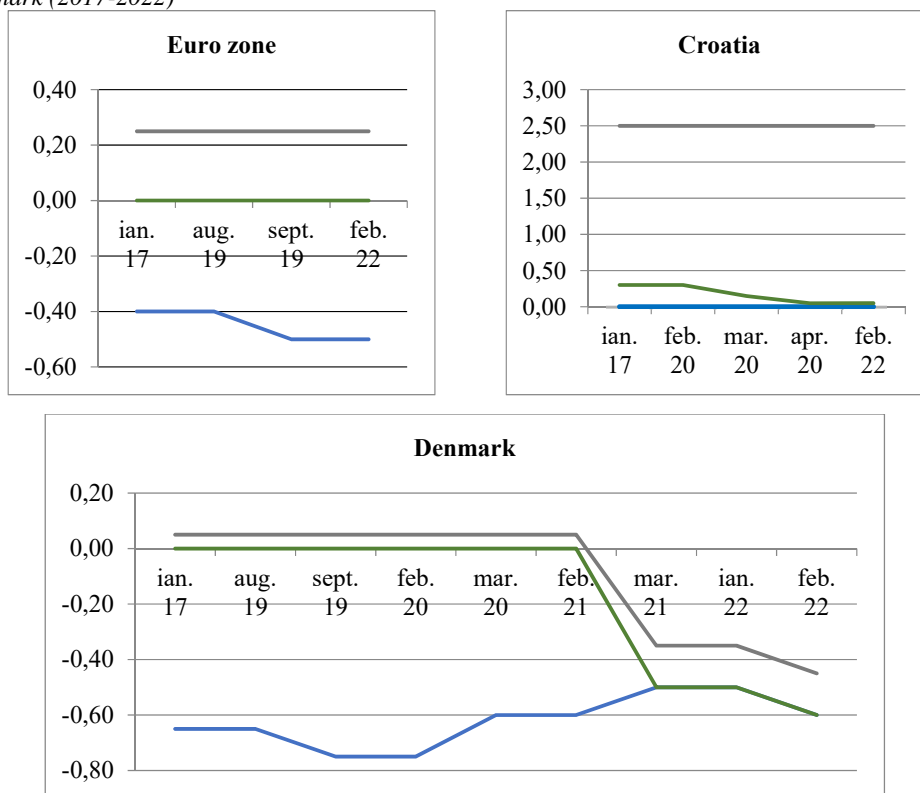
Croatia has a spread between the monetary policy interest rate and the standing facility interest rates of -0.30 and +0.20 percentage points in the period January 2017 to February 2020, -0.15 and +2.35 percentage points in March 2020, -0.05 and +2.45 percentage points from April 2020.

The Central Bank of Denmark had a corridor of -0.65 and +0.05 percentage points between January 2017 and August 2019. Between September 2019 and February 2020 it was between -0.75 and +0.05 percentage points, after which it narrowed by 0.15 percentage points to between -0.60 and 0.05 percentage points from March 2020 to February 2021. From March 2021 the monetary policy interest rate is identical to the deposit facility rate. Figure no. 3 shows the developments of these rates.

The case of the Czech Republic is the following. From January 2017 to July 2017, the monetary policy interest rate was identical to the deposit facility interest rate of 0.05% and the lending rate was 0.20 percentage points higher at 0.25%; from August 2017 to October 2017 the corridor was between -0.20 and +0.15 percentage points; between November 2017 and January 2018 it was between -0.45 and +0.50 percentage points; between February 2018 and May 2018 it was between -0.70 and +0.75 percentage points; and between June 2018 and July 2018 it was between -0.95 and 1.00 percentage points. It can be seen that in the four time periods, the corridor was almost symmetric, with the difference between the limits being 0.05 percentage points.

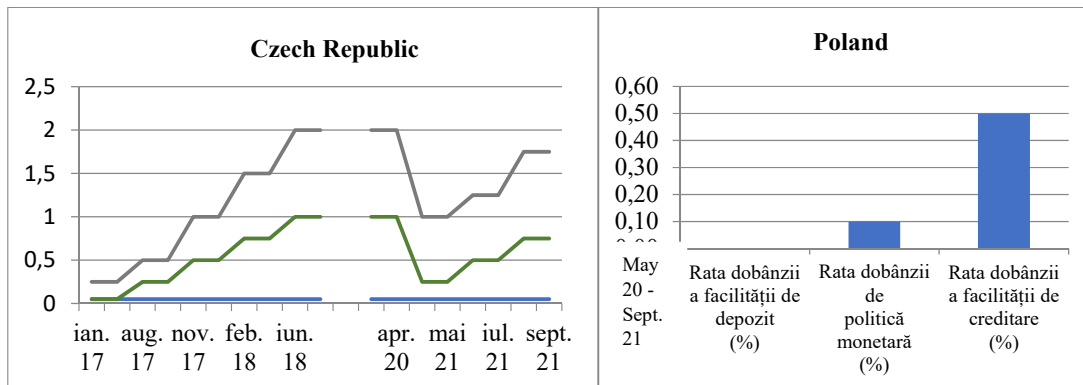
The March 2020 to September 2021 time frame had four different corridor sizes framing the policy rate, three of which were valid for equal two-month time intervals: in the period March 2020 - April 2020 the corridor ranged from -0.95 to +1.00 percentage points; in the period May 2020 - May 2021 it ranged from -0.20 to +0.75 percentage points; in the periods June 2021 - July 2021 and August 2021 - September 2021 the difference between the limits was 0.30 percentage points, with the corridors ranging from -0.45 to +0.75 percentage points and -0.70 to +1.00 p. respectively p.p.

Figure no. 3. Asymmetric corridors around monetary policy interest rates: Euro Area, Croatia and Denmark (2017-2022)



Source: authors' processing of data published on the official websites of the central banks analysed [accessed sept.2022]

Figure no. 4. Asymmetric corridors: Czech Republic, Poland

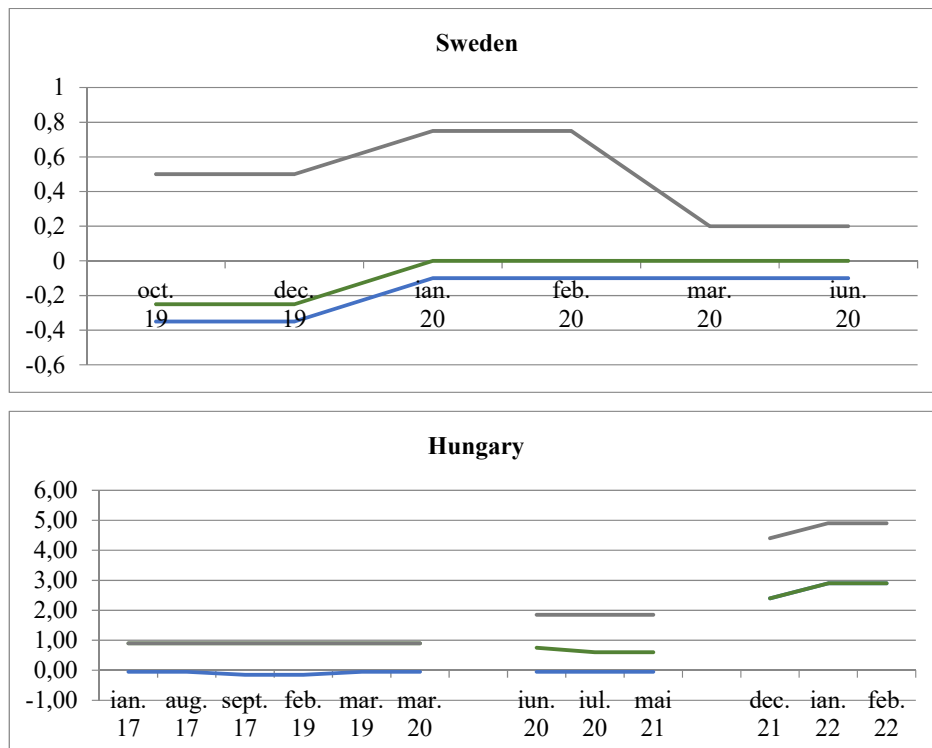


Source: authors' processing of data published on the official websites of the Central Banks analysed

The Bank of Hungary's policy is different over time: the first one from January 2017 to March 2020 had three lanes that margined the base interest rate, of which in the first one (which lasted eight months from January 2017 to August 2017) and the third one (which lasted 13 months from March 2019 to March 2020) the policy rate was equal to the lending facility rate of 0.90% and the deposit facility rate was 0.95 percentage points lower at -0.05%; in the intervening period between September 2017 and February 2019 the monetary policy interest rate and the lending rate remained constant, but the deposit rate was 0.10 percentage points lower at -0.15%.

The second time frame, June 2020 - May 2021, was divided into one-month periods, in which the range of the base interest rate was between -0.80 and +1.10 percentage points, and the second period was 11 months, in which the spread between the policy rate and the facility rates was -0.65 and +1.25 percentage points, respectively. The last period, December 2021 to February 2022, shows, like the second period, two lanes where one was valid for one month. Both lanes are similar in that the monetary policy interest rate is equal to the deposit facility interest rate and the difference between the lending and deposit/base interest rate is two percentage points; in the first lane the interest rates are 2.40% for deposit/money policy and 4.40% for lending, and in the second lane the interest rates are 2.90% for deposit/money policy and 4.90% for lending.

Figure no. 5. Asymmetric corridors: Sweden and Hungary



Source: own processing of data published on the official websites of the Central Banks analysed

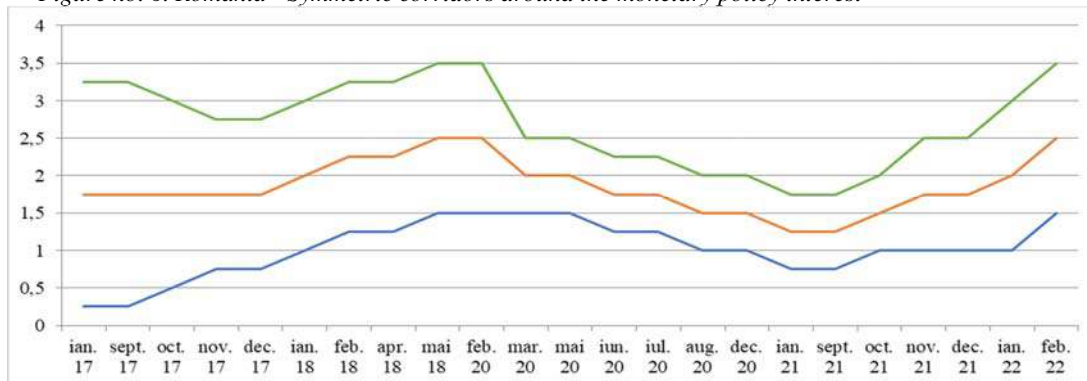
The cases of Poland and Sweden are similar: asymmetric corridor over a time span of 17 months and 9 months respectively in the case of Sweden (Figure no. 5).

In some countries, central banks have chosen a symmetric corridor of lending and deposit facility interest data relative to the base rate. This is the case in Romania. (Figure no.6)

The NBR is one of the central banks that have adopted a symmetric corridor. The period high was  $\pm 1.50$  percentage points, after which it moved up 0.25 percentage points to  $\pm 1.25$  percentage points in October 2017.

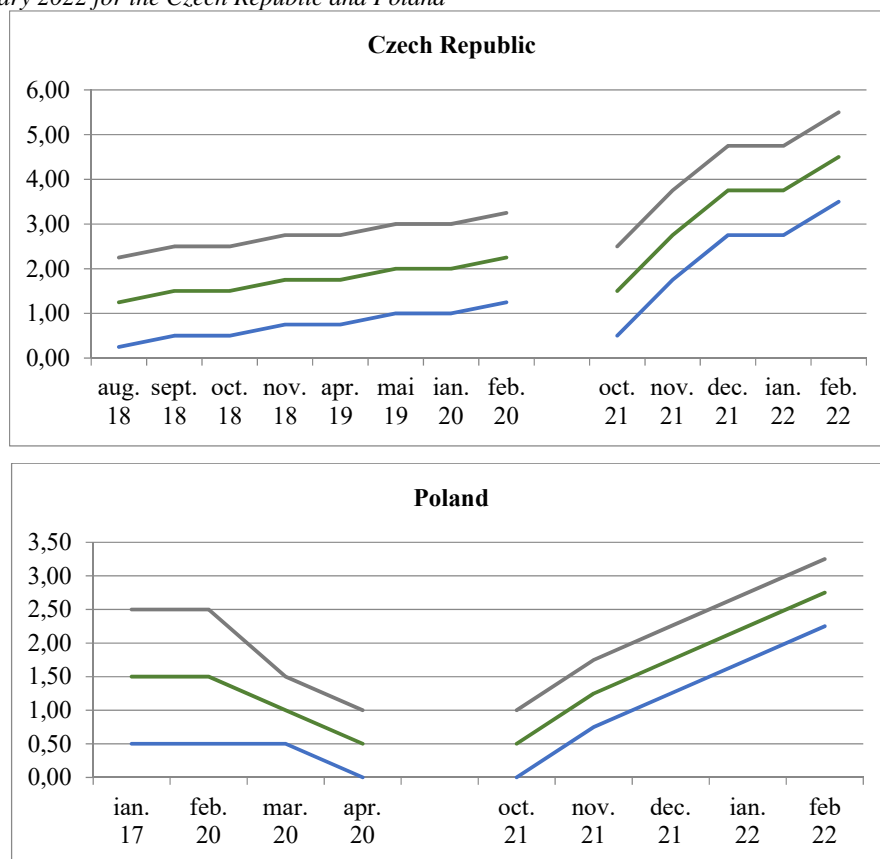
Other countries have had alternative periods. This is the case for the Czech Republic, Poland and Hungary, as well as Sweden. (Figure no.7)

Figure no. 6. Romania - Symmetric corridors around the monetary policy interest



Source: authors' processing of data published by NBR

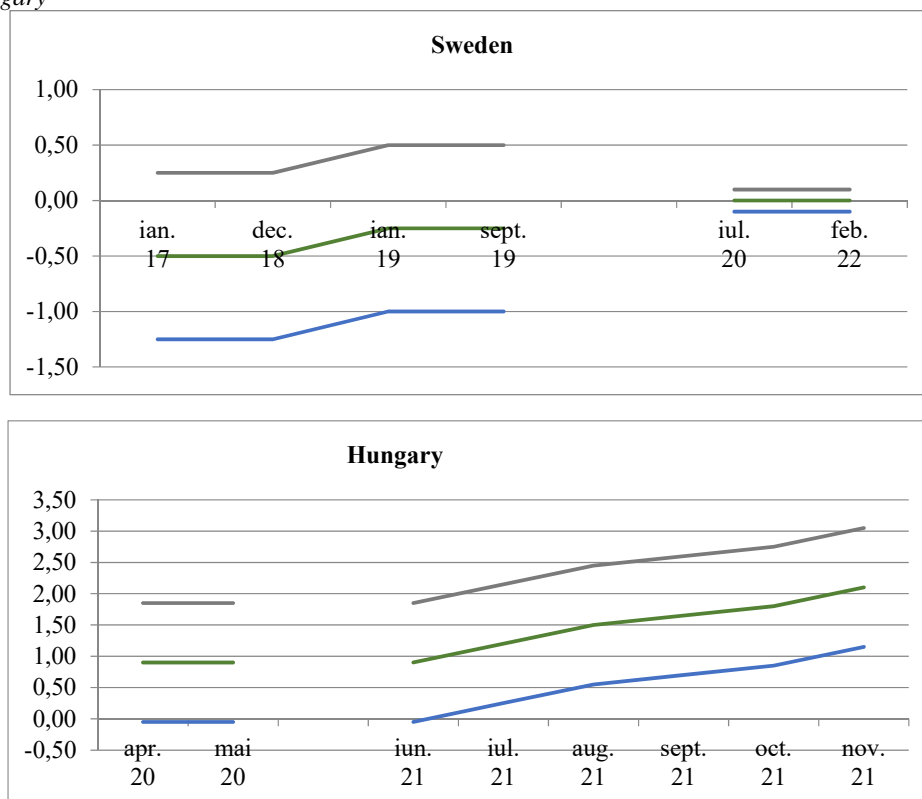
Figure no. 7 Symmetric corridors around monetary policy interest rates in the period January 2017 - February 2022 for the Czech Republic and Poland



Source: own processing of data published on the official websites of the Central Banks analysed

Sweden had a corridor of  $\pm 0.75$  percentage points between January 2017 and September 2019, and narrowed by 0.65 percentage points to  $\pm 0.10$  percentage points between July 2020 and February 2022. Hungary had in both periods, April 2020 - May 2020 and June 2021 - November 2021 the corridor of  $\pm 0.95$  percentage points.

Figure no. 8. Symmetric corridors around monetary policy interest rates (2017 - 2022) Sweden and Hungary



Source: own processing of data published on the official websites of the Central Banks analysed

## 5. Findings

Monetary policy in EU countries has common elements, but there are also differences. The ECB conducts a single monetary policy for the euro area, but the other countries set their own monetary policy interest rates as well as lending and deposit rates as monetary policy instruments. But the corridor between key rates is country-specific.

The analyses carried out showed that there are two situations: in some cases the interest forms asymmetric colours and in others symmetric colours.

It is noted that out of the total number of EU countries, 25 countries (92.59%) had an asymmetric corridor at some point, consisting of interest rates on standing facilities around the monetary policy rate, while five countries (18.52%) announced a symmetric corridor at some point.

We found that in the Eurozone countries, Croatia and Denmark the interest rate corridor on standing facilities relative to the base rate was asymmetric.

The Czech Republic has recorded an asymmetric corridor for a total duration of 38 months divided equally into two periods, January 2017 - July 2018 and March 2020 - September 2021.

The Central Bank of Hungary has adopted asymmetric intervals for 54 months divided into three time periods: January 2017 - March 2020, June 2020 - May 2021 and December 2021 - February 2022.

Poland and Sweden had the asymmetric corridor for only one time interval, 17 months in the case of Poland (May 2020 - September 2021) where the corridor was between -0.10 and +0.40 percentage points, and 9 months in the case of Sweden (October 2019 - June 2020) where the corridor was between -0.10 and +0.75 percentage points in the period October 2019 - February 2020, and between -0.10 and +0.20 percentage points in the period March 2020 - June 2020.

In the case of Romania, the NBR has always maintained a symmetric corridor, even though the spread between the interest rate on the lending facility and the deposit facility has changed over time. The widest spread was in the period January 2017 - September 2017. In March 2020 - October 2021, the corridor had values at half the previous period, at  $\pm 0.50$  percentage points, after which it widened by 0.25 percentage points, reaching  $\pm 0.75$  percentage points in the period November 2021 - December 2021.

The Czech Republic, Poland, Sweden and Hungary had symmetric colours for two time periods. The Czech Republic had in the periods August 2018 - February 2020 and October 2021 - February 2022 the  $\pm 1.00$  percentage point corridor. Poland had two lanes in the period January 2017 - April 2020, the first one being  $\pm 1.00$  percentage points between January 2017 and February 2020 and the second one  $\pm 0.50$  percentage points between March 2020 and April 2020, this lane being maintained also in the period October 2021 - February 2022.

The Czech Republic, Poland, Sweden and Hungary had symmetric colors for two time periods.

## 6. Conclusions

The study confirmed that there is a link between the change in the policy interest rate and the interest rate corridor for standing facilities.

From the survey, 25 countries had an *asymmetric corridor* of interest rates analysed. Of these 84% had asymmetry between key rates. It should be noted that more than 77% of EU countries experienced this situation over the whole period analysed, and 4 countries (16% of the total) reported asymmetries over a shorter period than the period analysed.

We found that the Czech Republic, Poland, Sweden and Hungary had the asymmetric corridor for shorter periods of time. But it should be noted that there are countries where the corridor has been permanently modified, and in other cases not. For example, in the Czech Republic in the period January 2017 - July 2018 the corridor had 5 different sizes.

Of the five countries that had a symmetric corridor, one (20% of the countries that had symmetry between key rates; 3.70% of the total Union countries) had it for the whole time period analysed, and the remaining four (80% of the countries that had symmetry between key rates; 14.81% of the total Union countries) had symmetry for a shorter time period. Romania belongs to the group of countries that have chosen a symmetric corridor.

The Czech Republic had in the periods August 2018 to February 2020 and October 2021 to February 2022 the  $\pm 1.00$  percentage point corridor. Poland had in the period January 2017 - April 2020 two lanes, the first being  $\pm 1.00$  percentage points between January 2017 and February 2020 and the second  $\pm 0.50$  percentage points between March 2020 and April 2020, this lane being maintained also in the period October 2021 - February 2022.

An important issue to study would be: how has public confidence in central banks and monetary policy evolved? We agree that it is important for financial institutions and the public to trust the central bank. However, it can be seen that confidence in the ECB has changed during the pandemic. (Van der Cruiser and Sammarina, 2022).

In another vein, recent studies have shown that there is a link between ECB decisions and the political orientation of citizens. Brouer & Haan conducted a survey of Dutch households to analyse trust in the ECB. The results confirmed the link between right-wing ideology and public trust in the ECB. We think this is a topic worth studying in the future.

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## Air Pollution, Mood and Stock Return in Romania

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### Abstract

*Considered one of the major threats of our times for the human species, air pollution was proven to have multiple psychological, social and economic effects. In the last two decades, the relationship between air pollution and the stock market was analysed mainly for the Chinese stock market, with very few papers oriented towards other markets. The present paper tries to fulfil this gap by exploring this relationship for the Romanian stock market. The main results show that relative pollution values (mainly PM10) and pollution awareness impact stock returns in Bucharest Stock Market, in line with the assumption of the Mood Maintenance Hypothesis.*

**Key words:** pollution, mood misattribution, risk aversion, stock returns

**J.E.L. classification :** D91, E44, E71, G41

### 1. Introduction

Classical finance theory seems unable to explain why individuals continue to have irrational attitudes about investment decisions. If the investors were as self-interested, rational and utility maximisers as the theory say, there would be fewer speculative bubbles, panic, herd behaviour and financial crises. The truth is that the ability of the human mind to understand and process large amounts of data is limited. Confronted with thousands of daily information, the brain often uses heuristics and relies on less rational reasoning.

According to the risk-as-feelings hypothesis, feeling, emotions and mood play a very important role in the financial decision, being responsible for generating behaviours responses far away from rational ones (Loewenstein et al. 2001). Since stock pricing represents a trade-off between benefits and costs (benefits represented by the future cash net flows and costs represented by the associated risks) mood, more precisely mood misattribution usually affects decision-making. According to the *mood-as-information theory*, developed by Schwarz (1990), people tend to take decisions depending on their mood, even when the source of their mood state is unrelated to those specific decisions: *mood misattribution*. On the one hand, individuals in a bad mood are more pessimistic about their future perspective profits than those in a neutral or positive mood and on the other hand, risk aversion is also proved to be influenced by mood. Even if various limits to arbitrage exist, equities remain occasionally mispriced, so a small group of investors influenced by mood may generate specific patterns in stock markets. (Lucey and Dowling, 2005).

Mood and changes if mood influences decision-making through cognitive evaluation and risk-taking channels.

Individuals in a good mood tend to have greater creativity, ingenuity, and efficiency in solving multi-attribute decision problems (Pham, 2007), but they are prone to rely on stereotypes and judgmental heuristics and have a higher propensity to optimism and overconfidence biases (Barberis and Thaler, 2003). On the other side, sad individuals tend to rely less on scripts and stereotypes and trigger a more systematic, data-driven form of reasoning (Schwarz, 2002) but anger and disgust seems to encourage the use of heuristic rather than systematic processing (Triedens and Linton, 2001).



The link between mood and risk-taking may be explained in the framework of the Affect Diffusion Model (AIM) proposed by Forgas (1995) and the Mood Maintenance Hypothesis (MMH) proposed by Isen, Nygren, & Ashby (1998).

The AIM model suggests that individuals in bad moods have a more pessimistic view of the future, perceive the situation as riskier and have a lower propensity toward risk. Individuals in a positive affective state have a more optimistic view, perceive a safer environment and are tempted to take more risks. The AIM key assumption is that the mood influence on risk-taking and decision is more influential in driving evaluation and responses if the situation is more complex and unanticipated. A key element in the correlation between mood and risk-taking is the reaction to the news in different psychological states. For instance, the individual's response to bad news differs according to the initial affective state. If the individual has a pleasant, happy day, the influence of bad news may be limited but exacerbated if the individual is already in a bad mood. So, our mood in case of bad news influences our response but also the level of response.

The MMH is pretty different and, at first look, irreconcilable with AIM. The core of MMH is that no matter the current mood, the main goal of any individual is to achieve and maintain well-being. According to this desiderate, the individual in a good mood attempt to avoid risky situations to preserve the positive affective state. In case of a bad mood, the individual is more prone to choose a risky situation hoping that the potential positive result would be able to lift his spirit.

One may wonder how to reconcile these hypotheses since they seem quite the opposite. The main point is that individuals are pretty different, so we cannot say that two individuals will act precisely the same in similar circumstances. Various factors influence the relationship between mood and risky behaviour as age, gender, genetic heritage, personality traits and endocrine system functioning. Chou, Lee and Ho (2007) found an effect of positive and negative mood on risk-taking tendency according to *age*, in the line of AIM. It seems that extreme events produce greater brain reactions than similar magnitude positive events in younger adults, but in older adults, cognitive functioning and positive emotion play a more critical role. In terms of *gender*, Fehr-Duda et al.(2011), based on a laboratory experiment, demonstrated that women in elated mood are more prone to take more risks because they are tempted to weigh more optimistically the probabilities opposite to men who, even in a positive state, tend to apply rational decision criteria. Risk attitude is proven to be also influenced by the presence of certain types of *genes* (Kuhnen and Chiao., 2009). Consequently, the same mood, either positive or negative, may affect two individuals with different genetic heritage differently. Recent studies conducted in Neuroeconomics show that a higher *testosterone level* determines a reduction of fear and anxiety, decreases the risk-aversion and increases the frequency of higher offers (Eisenegger et al., 2010), except in the case of increased market volatility that generates a higher level of *cortisol* associated with a higher risk-aversion. *Personality* influences the relationship between mood, risk aversion, and behaviours. Neurotic individuals prefer to engage in risky behaviour to cope with negative mood states (in line with MMH). Still, extrovert individuals will take more risks due to a positive mood (in line with AIM). In both cases, impulsivity is a catalyst for the connection between mood and risk attitude since it increases the probability that a neurotic individual will take more risks due to a negative mood. (Cooper, Agocha, and Sheldon, 2000).

Since mood has a non-equivocal impact on risk aversion, one could conclude that the variables influencing mood could also impact risk aversion and capital markets returns. Several studies in the last decade analyse the correlation between air pollution, mood and stock returns, mainly in the Chinese stock market, American, Italian and Turkish markets. From our knowledge, there is no study to asses this relation for the Romanian capital marker, so this study is aimed to fill this gap.

The paper is structured as follows: the second part is dedicated to the previous literature that assesses the psychological, social and economic impact of air pollution; the third part details the used data and methodology, the fourth part includes the main results, and the last part concludes.

## **2. Literature review. Psychological, social and economic effects of air pollution**

Air pollution represents the most significant environmental threat to public health, responsible for approximately 9 million deaths per year, corresponding to one in six deaths worldwide (Fuller et al., 2022).

Air pollution consists of a mixture of particulate matter ( $PM_{2.5}$ ,  $PM_{10}$ ), gases such as carbon monoxide (CO), ozone ( $O_3$ ), sulphur dioxide ( $SO_2$ ), nitrogen dioxide ( $NO_2$ ), organic compounds and metals and it is usually measured and reported with the help of composite indexes: Air Pollution Index (API) and Air Quality Index (AQI). The most widely studied pollutants in the literature are  $PM_{2.5}$  and  $PM_{10}$  (a comprehensive review of pollution's main psychological, social and economic effects may be found in Lu, 2020).

The recent literature shows that severe air pollution may heavily impact health.  $PM_{2.5}$  alone is proven to reduce global life expectancy by approximately one year in 2019 (Vos et al., 2020). The primary diseases associated with  $PM_{2.5}$  air pollution are lung diseases, stroke, heart disease and cancer, diabetes, and mental problems.

On a psychological level, air pollution is associated with a decrease in well-being and happiness, increased annoyance, anxiety, substance abuse, suicide and prevalence of mental disorders such as depression, schizophrenia and autism (Lu, 2020).

Air pollution harms cognitive functioning, from prenatal development, childhood and youth to young and old adults. Exposure to air pollutants reduces the capacity of red cells' hemoglobin to oxygenate the brain and other organs leading to deficits in attention, memory, math ability, verbal and non-verbal intelligence, visuo-construction or concentration, increased prevalence for cognitive biases (Schikowski et al., 2015). Considering the negative impact of pollution on cognitive performance, several studies proved that decision-making quality is also affected if the air is not clean. For instance, Chew et al. (2021) found that when the pollution level is accentuated, individuals have a higher risk aversion, and ambiguity aversion and are more impatient in decisions. Also, due to air pollution, the disposition bias (predisposition to sell winners' assets and keep losers) is exacerbated (Huang, Xu and Yu, 2020).

Stock investments are cognitively demanding decisions, so it is not surprising that recent literature found a significant correlation between air quality and trading behaviour in stock markets. The most important studies that address this issue are summarised in the following table:

*Table no. 1. Published studies on the stock return effects of the air pollution*

Authors	Stock markets	Timespan	Variable for pollution	Main results
Lepori (2008)	Milan Stock Exchange	January 2, 1980, to May 19, 2006	PM, $NO_2$ , and $SO_2$ daily average values- computed based on hourly data from 5 am through 6 pm.	The results show a negative relationship between air pollution concentrations and demand in stock markets. This relation is channelled on one side by the increased bodily cortisol levels associated with the increased air pollution that reduces the investor's risk appetite. Conversely, poor air quality affects investors' moods, making them more risk-averse.
Levy and Yagil (2011)	NYSE, AMEX, NASDAQ and the stock exchange in Philadelphia	January 1, 1997 to June 30, 2007	Dummy variable based on the daily values of the AQI carrying the value of 1 for Good days and 0 for Unhealthy days.	The results proved that air pollution negatively affects stock returns for all four stock exchanges, even after controlling for other variables. The exchange distance from the polluted areas matters since the relationship becomes weaker as the distance increases.
Demir and Ersan (2016)	Istanbul Stock Exchange	2008 to 2013	Particulate matter $PM_{10}$ and $lagPM_{10}$	The authors found a negative relationship between the lag of air pollution and stock returns in Istanbul, Ankara and Izmir, dominant Turkish people regarding investments.
Heyes, Neidell, and Saberian (2016)	New York Stock Exchange	January 2000 to November 2014	Particulate matter $PM_{2.5}$	A strong negative relationship between pollution and stock returns was found at the day level and intraday. The connection is mediated by the changes in risk appetite induced by pollution.

Li and Peng (2016)	Shanghai and Shenzhen Stock Exchanges	January 2005 to 31 December 2014	AQI daily values	The results show a negative relationship between air pollution and stock returns and a two-day-lagged positive relationship over the period. The effect seems weaker for companies that protect air quality, but the authors did not find a more substantial effect for polluting companies.
Wu et al.(2018)	Chinese stock market	December from 2014 to 2016	AQI daily values	The main conclusion is that pollution starts to negatively influence the stock yield (the study includes stocks from the most polluting industries) after the AQI passes the threshold of 300.
Wu, Hao, and Lu (2018)	Shanghai and Shenzhen Stock Exchanges	December 1, 2013 to December 31, 2015	AQI daily values	The authors find a strong relationship between air pollution and stock pricing of locally headquartered firms, mainly manifested in low returns and turnovers and high illiquidity due to the home bias.
Wu and Lu (2020)	1656 firms listed on Shanghai and Shenzhen Stock Exchanges	January 2014 to December 2017	A daily firm-level individual investor mood index based on AQI weighted with daily search volume for each firm and city considered, using Baidu Index.	A bad mood induced by poor air quality seems to increase risk aversion and determine individual investors to buy fewer stocks, lowering stocks' returns and liquidity. This relationship was not found in the institutional investor's case.
Wu, Chou and Lu (2020)	Chinese A-share market	December 2013 to December 2016	A firm-level measure of fund-manager mood determined by air pollution based on the average air quality in the areas where open-end funds managers are located, weighted by their portfolio holdings.	The results show that the depressed fund-managers mood also determines negative stock returns and a decrease in liquidity during the most polluted days.
Xu, Wang, and Tu, (2021)	Shanghai Stock Exchange	March 1, 2013, to December 30, 2016	Daily average PM <sub>2.5</sub> and air pollution awareness using the related searches on the Baidu search engine.	The authors point out that the current day's air conditions and consecutive days significantly affect the stock returns through people's awareness of air pollution.
Jiang et al.(2021)	Shenzhen Exchange	2005-2019.	API for 2005-2012 and air quality index AQI for 2014-2019	The main findings support the idea that high air pollution significantly and Shenzhen stock returns, especially in the bullish market phases.
Nguyen, and Pham, (2021)	NYSE, AMEX and NASDAQ	January 1980 to December 2016	A monthly AQI for each metro area is computed based on the daily values of the AQI.	The authors analysed 16 capital market anomalies and concluded that long-short returns of anomalies are stronger following high rather than low pollution periods because air pollution intensifies cognitive biases.
Liu et al. (2021)	China's A-share market	January 1, 2016 to September 2, 2020	AQI daily values	The results show that polluting enterprises receive more attention on trading days when increased investors' attention will directly reduce their stock prices, except when stock markets show an upward trend or frequently fluctuate when this effect is not visible.

Dong et al.(2021)	Shenzhen Stock Exchange	2009–2015	API and AQI	The authors document a negative relationship between air pollution during the visits made by investment analysts, mutual/hedge fund managers, reporters and individual investors and subsequent earnings forecasts.
Kiihamäki, Korhonen, and Jaakkola (2021)	47 stock exchanges all over the world	2004-2019, with different study periods across the considered cities	Daily PM <sub>2.5</sub>	The main results of the study show that, on average, a 10 µg/m <sup>3</sup> increase in PM <sub>2.5</sub> reduces same-day returns by 1.2 per cent (with a stronger correlation in the areas with the lower average PM <sub>2.5</sub> concentration and lower stock capitalisation). The second effect is on market volatility since the same decline in air quality seems to increase stock market volatility by 0,2 per cent.
Li et al.(2021)	Chinese stock market	2007–2015	Daily AQI for 247 cities where the investment accounts analysed are opened.	The authors found that air pollution significantly increases the tendency to sell winning assets while holding onto losing assets after analysing 773,198 investment accounts open in one of the most significant mutual funds in Shanghai.
Ming Lee, Ling and Tan (2022)	Malaysian stock market	5 July 2019 to 8 April 2022	AQI daily values	Air pollution (both same-day and lagged ones) seems to affect some of the analysed sectors: finance, property, construction, healthcare, technology, energy, utilities, and consumer sectors, but the impact varies across the industries and market conditions.
Guo, Wei and Huang (2022)	China Stock Market	June 24, 2016, to November 7, 2018	AQI daily values for the 104 cities where the investor sample was located	Based on an analysis of individual transaction data, the authors show that air pollution reduces investors' propensity to buy and increases their tendency to sell. The effect seems stronger for less experienced investors and those who live in very polluted cities.
Xu (2022)	Chinese stock market	Dec. 2013 to Apr. 2018	AQI and concentrations of various pollutants: PM <sub>2.5</sub> and PM <sub>10</sub> , SO <sub>2</sub> , CO, NO <sub>2</sub> , and O <sub>3</sub> .	Aside from the decrease in stock returns generated by the increase in pollution found also in other papers, the authors see a significant mediation effect between air pollution and the stock market (first, air pollution affects stock returns, and then stock returns mediate the impact of air pollution on trading volume on the following day)

Source: author's compilation

### 3. Research methodology

The majority of studies conducted in this area use the Chinese stock market, considering, on the one side, that China has struggled a lot in the last decades with the air pollution problem and, on the other side, that the market is driven in large proportion by individual investors. The present study addresses the same issue for the Romanian capital market. Even if we do not expect such a strong correlation due to the smaller level of pollution and lower individual investors' participation in the Bucharest Stock Exchange, we expect air pollution to exercise some effects on the stock returns. Similar to other stock markets, home bias (Wu, Hao and Lu, 2018) would determine investors to prefer trading on the domestic market, so the influence of the foreign investors, exposed to other air quality conditions, may be neglected.

In this study, we have used a twofold approach.

First, we tested the impact of primary pollutants on daily returns from 23 October 2020 to 14 October 2022. The air pollution data refer to the daily values of the most significant pollutants (PM<sub>2.5</sub>, PM<sub>10</sub>, O<sub>3</sub>, NO<sub>2</sub>, SO<sub>2</sub>). Air quality data were compiled from <https://aqicn.org/city/bucharest> and transformed into relative values. For the market return, we have used daily BET (daily closing values of BET are provided by the Bucharest Stock Exchange: [www.bvb.ro](http://www.bvb.ro)) transformed into daily returns (BETR<sub>t</sub>) using the following formula:

$$BETR_t = \frac{(BETR_t - BET_{t-1})}{BETR_{t-1}} \quad (1)$$

Daily returns and pollution levels were matched and we eliminated the days where either air quality or BET values were missing. In total, our sample consists of 471 observations.

To avoid spurious results, the Augmented Dickey-Fuller test and Phillips- Perron were performed, and the results show that all series are stationary.

The central hypothesis is that air pollution (through one or several pollutants) will have an impact on the stock returns, channelled by mood misattribution, either in a negative sense (according to the AIM hypothesis) or in a positive sense (according to the MMH hypothesis). The proposed model is OLS, in line with the large part of the previous research included in Table 1:

$$BETR_t = c + \beta_1 BETR_{t-1} + \beta_2 PM_{10(t)} + \beta_3 PM_{2.5(t)} + \beta_4 O_{3(t)} + \beta_5 NO_{2(t)} + \beta_6 SO_{2(t)} \quad (2)$$

where c- intercept

$\beta_1 \dots \beta_6$  importance coefficients

$PM_{2.5}$ ,  $PM_{10}$ ,  $O_3$ ,  $NO_2$ ,  $SO_2$ -relative daily values of pollutants

We have used the previous rate of return as a control variable. We decided not to use variables for different calendar anomalies such as the January effect, the Turn of the month effect, and the Monday effect because, on the one side, our sample is relatively short, and for instance, a dummy variable for the January effect would lead to no results. On the other side, due to missing data in terms of pollution, we had to adjust the sample very much and missed some important observations in terms of return to account for the Turn of the month effect or Monday effect. The last motivation was that all those effects were proven to diminish in turmoil times, and since our sample is focused on the COVID era, we expected the market to be too volatile for these anomalies.

The second approach used as the independent variable the air pollution awareness (idea present in Wu and Lu, 2020; Xu, Wang and Tu, 2021). Individuals' perception of air pollution increases their anxiety and depression since perceiving air pollution will determine people to reduce outdoor. The time spent outside and physical activities are very important for a good affective state (as we have seen in the introduction, the connection between air pollution and stock return is channelled by mood misattribution through risk aversion). As a proxy for air pollution awareness, we have used the weekly number of searches in Google Trends for a couple of key terms as air pollution, air quality, smog, mist ("poluarea aerului", "calitatea aerului", "smog", "ceata") and in the end, after testing the model we choose the first syntax to determine the variable awareness. For market returns, we have used the weekly BET returns (BETWR) computed with a similar formula used for daily one but using the weekly closing values for BET provided by <https://tradingeconomics.com/romania/stock-market>. The data spans between 12 October 2017 and 30 October 2022, raising 258 observations. We hypothesise that both current and previous air pollution awareness would have an impact on weekly returns.

The proposed model is:

$$BETWR_t = c + \beta_1 awareness_t + \beta_2 awareness_{t-1} \quad (3)$$

where c- intercept

$\beta_1, \beta_2$  importance coefficients

#### 4. Findings

After testing the first model specifications, we obtained the following results, starting from the initial model and eliminating the statistically non-significant variables one by one. Similar to Demir and Ersan (2016), we also tested the influence of one-day lag pollution in the last model.

Table no. 2 Results based on the first approach

Independent variables	Model 1 coefficients	Model 2 coefficients	Model 3 coefficients	Model 4 coefficients	Model 5 coefficients	Model 6 coefficients
c	0,000261 (0,000477)					
BETR <sub>t-1</sub>	0,115720** (0,046195)	0,116427** (0,046141)	0,110455** (0,046341)	0,111273** (0,046303)	0,112622** (0,046211)	0,110502** (0,045872)
PM <sub>10(t)</sub>	0,000731 (0,001280)	0,000742 (0,001278)				
PM <sub>2.5(t)</sub>	0,000136 (0,001023)	0,000208 (0,001014)	-0,00660 (0,000910)			
O <sub>3(t)</sub>	0,000748 (0,000942)	0,000829 (0,000930)	0,000589 (0,000931)	0,000535 (0,000928)		
NO <sub>2(t)</sub>	0,0000053 (0,000966)	0,000139 (0,000953)	0,000359 (0,000887)	0,000349 (0,000886)	0,000288 (0,000879)	
SO <sub>2(t)</sub>	-0,000819 (0,001191)	-0,000746 (0,001183)	-0,000621 (0,001145)	-0,000598 (0,001144)	-0,000587 (0,001143)	
PM <sub>10(t-1)</sub>						0,001934* (0,001094)
R-squared	0,019473	0,015823	0,013891	0,012770	0,012060	0,017761
Adjusted R-squared	0,003418	0,004961	0,005353	0,006374	0,007802	0,017621
No. of observations	471	471	471	471	471	471

**Note:** In the table \*\*\* stands for statistically significant at 1%, \*\* stands for statistically significant at 5%, \* stands for statistically significant at 10%, and the standard deviation is in ().

Source: author's computation

As one may notice, except for the last model, the pollution variable does not seem to have any statistically significant impact on stock returns in this period. It is not unexpected considering the market's very high volatility and the recession's start. The only model with a statistically significant impact of the lagged relative value of PM<sub>10</sub> on the daily return is the last one, but the direction is not the expected one. In the majority of the previous studies, air pollution has a negative impact on stock returns. Here, it seems that even though the influence is relatively small, the air pollution with PM<sub>10</sub> determines an increase in stock returns. This kind of direction may be justified either by a prevalence toward an attitude in line with MMH or by the fact that being visible pollution (particles PM<sub>10</sub> are quite large, so their increase may be distinguishable), investors are more prone to limit outdoor activities, have more time to assess investment alternatives and, due to the COVID crises, maybe also more resources to spend since the consumption was contracted.

The results from the second approach are included in the following table.

Table no. 3 Results based on the second approach

Independent variables	Model 1 coefficients	Model 2 coefficients	Model 3	Model 4
c	0,002764 (0,002720)			
awareness <sub>t</sub>	0,000186 (0,000106)	0,000242* (0,0000091)	0,000141* (0,0000079)	
awareness <sub>t-1</sub>	-0,000258 (0,000106)	-0,000203** (0,0000091)		0,0000082 (0,000008)
R-squared	0,031082	0,027160	0,008396	0,000440
Adjusted R-squared	0,023483	0,023360	0,008396	0,000440
No. of observations	258	258	258	258

**Note:** In the table \*\*\* stands for statistically significant at 1%, \*\* stands for statistically significant at 5%, \* stands for statistically significant at 10%, and the standard deviation is in ().

Source: author's computation

Looking at the result, one may notice that the direction of the influence seems to be the same (see model 3). Current pollution awareness seems to increase stock market returns even if, again, the influence is relatively small and the statistical significance is not very large. The lagged awareness seemed initially influential when included in the same model as the current one but using it alone in model 4 proved insignificant.

## 5. Conclusions

The COVID crisis, combined with the energy crisis from the last months, managed to drag the world economy into recession. The turmoil times analysed in the present paper are characterised by fear and irrational behaviour that is often hard to include in a particular theory. Personality traits are changing; the mood oscillates a lot, and, as a result, the appetite for risky investments is also affected.

Contrary to our initial expectations, based on the previous literature, air pollution from Bucharest seems to have a very small positive effect on stock returns traded on the Bucharest Stock Exchange, somehow in line with the assertion of the Mood Maintenance Hypothesis. According to this hypothesis, individuals in bad moods will take more risks in an attempt to use the potential success to lift their spirits. The direction is the same for the relative level of pollution and pollution awareness.

The study results have to be interpreted with caution. The sample is small; we had to deal with many missing values, which created some limitations. Some future research using a larger dataset may generate more reliable results.

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## Management Tools on Guaranteeing and Financing SMEs in Times Of Crisis

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### Abstract

*The present study has as main theme the presentation of the two major guarantee programs launched in times of crisis, namely the period of the Covid-19 pandemic and that of Russia's invasion of Ukraine, with major effects on the world economy. The study is structured in three parts, as follows: the first part presents general elements on the situation of SMEs in Romania and the degree of their financing. The following two parties present the 2 guarantee programs, SMEs Invest Romania and SMEs Invest PLUS.*

**Key words:** SMEs, entrepreneurship, SMEs financing, guarantee programs

**J.E.L. classification:** G20, G21, M10, M20, F61, F65

### 1. Introduction

The SMEs sector has an essential role in the national and implicitly European economy, representing more than two thirds of the workforce in the private sector, being one of the most important factors in supporting and developing the economy.

In Romania, the SMEs sector accounts for 99.7% of the total number of enterprises, contributing about 55-56% to Romania's GDP. They generate 52.7% of the value added in the economy and employ 65.8% of the total employees. (Figure no. 1)

Figure no. 1 Total number of companies in Romania and their implications for the economy

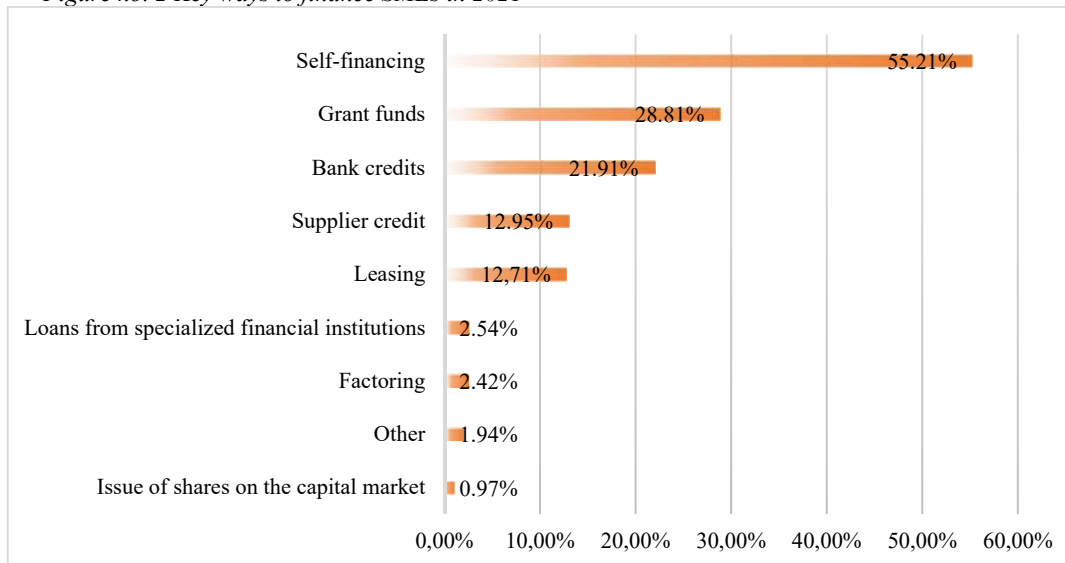
Class size	Number of enterprises			Number of persons employed			Value added		
	Romania		EU-28	Romania		EU-28	Romania		EU-28
	Number	Share	Share	Number	Share	Share	Billion €	Share	Share
Micro	430,925	88.4%	93.0%	930,720	22.8%	29.7%	13.6	17.6%	20.8%
Small	46,299	9.5%	5.9%	903,635	22.1%	20.1%	13.5	17.5%	17.6%
Medium-sized	8,533	1.8%	0.9%	857,129	21.0%	16.8%	13.6	17.6%	18.0%
<b>SMEs</b>	<b>485,757</b>	<b>99.7%</b>	<b>99.8%</b>	<b>2,691,484</b>	<b>65.8%</b>	<b>66.6%</b>	<b>40.8</b>	<b>52.7%</b>	<b>56.4%</b>
Large	1,667	0.3%	0.2%	1,397,566	34.2%	33.4%	36.6	47.3%	43.6%
<b>Total</b>	<b>487,424</b>	<b>100.0%</b>	<b>100.0%</b>	<b>4,089,050</b>	<b>100.0%</b>	<b>100.0%</b>	<b>77.3</b>	<b>100.0%</b>	<b>100.0%</b>

Source: Small Business Act, 2019

According to the latest research report published by CNIPMMR, White Paper of SMEs in Romania in 2021, the main problems faced by SMEs in Romania are access to finance, liquidity, lending, uncertainty in the market, decrease in internal demand, as well as training and retaining of employees.

According to the same source, in 2021, in the complex and difficult context generated by the Covid-19 pandemic, 46.59% of SMEs self-financed, 31.72% accessed non-reimbursable funds, 16.31% turned to bank loans and 10.75% turned to bank loans guaranteed with guarantee funds. (Figure no. 2)

Figure no. 2 Key ways to finance SMEs in 2021



Source: (Nicolescu et al., 2021)

The figure mentioned above reveals that the access to finance of the SMEs sector is extremely difficult for entrepreneurs, only 16.31% of entrepreneurs turn to bank loans. In contrast, self-financing is at a level well above that of lending, i.e. over 46%. This percentage, combined with the low percentage of SMEs lending applied in financial institutions – about one-sixth of the existing SMEs – indicates a serious situation for Romanian companies, with major negative effects in the future.

According to the latest report published in June 2022, by the NBR, entitled Report on Financial Stability, the growth rate of loans granted to non-financial companies reached from 8% in March 2021 to 19% in March 2022, and represents the largest increase from an absolute point of view (over 24 billion ron) in the post-2008 period. Both corporations (over 25%) and SMEs (over 17%) made significant contributions. In this context, it should be noted the importance of the government programs "SMEs Invest" and "Agro SMEs", which represent 30% of the balance of loans granted to SMEs.

## 2. Theoretical background. Guarantee programs carried out by FNGCMM SA IFN in times of global crisis

### 2.1. SMEs Invest Romania program

The SMEs Invest Romania program is a governmental program, which started in 2020, as a result of the Covid-19 pandemic. The program is designed to support the entrepreneurial environment, facilitating the access of SMEs to finance, to ensure the necessary liquidity in order to continue the economic activity or for investments in times of crisis.

Among the main advantages of a loan granted with the state guarantee through the program, we list:

- 90% state guarantee from the value of the loans that the SMEs accesses.
- the payment of the interest owed by the companies for a period of eight months from the date of granting the loan is borne by the state, and the management fee and the risk fee are fully subsidized throughout the duration of the loan.
- the high value of the loans that can be accessed by an SME, which can be up to 10,000,000 RON for investments and up to 5,000,000 RON for working capital.

According to the FNGCIMM press office, in the period 2020-2022, 60,000 guarantees were granted, worth 33 billion RON, which supported loans of 40 billion ron, the value of the state aid registering 1.4 billion RON. As a result of this injection of capital into the economy, one million jobs were saved. Most of the guarantees were accessed by micro and small enterprises in the fields of road freight transport, constructions, wholesale of timber, building materials and sanitary equipment and trade in cars and other vehicles.

The National Credit Guarantee Funds for Small and Medium Enterprises (FNGCIMM SA-IFN) is a non-banking financial institution with venture capital, established with the purpose of supporting the lending of SMEs, by providing guarantees for financing instruments contracted from commercial banks or other sources. FNGCIMM instruments governmental programs aimed at economic recovery, business environment development, as well as job creation and support.

SMEs eligible for the program must meet the eligibility criteria of the financing institution and, cumulatively, the following mandatory criteria:

- a. It is not in dispute, as a defendant, with the Romanian state and/or the credit institution;
- b. It does not appear with overdue appropriations;
- c. Is not prohibited from issuing cheques on the date of approval of the loan and does not appear with major incidents with promissory notes in the last six months prior to the date of requesting the state guarantee in the database of the Payment Incidents Central;
- d. Presents to the credit institution collateral guarantees which, in the case of investment loans together with the state guarantee and the legal mortgage on real estate and/or furnishings on the assets financed from the loan, cover 100% of the amount of financing, proportionally to the percentage of guarantee. For loans/credit lines intended to finance working capital, a legal mortgage is established on the credit balances of all accounts opened by the beneficiary of the programme with the financing credit institution, proportionally to the percentage of guarantee;
- e. It is not in insolvency;
- f. Companies in the sectors/fields of: financial intermediation and insurance, real estate transactions, gambling and betting activities, production or sale of weapons, ammunition, explosives, tobacco, alcohol, substances under national control, plants, narcotic and psychotropic substances and preparations, rental and leasing activities, are not eligible for guarantees under the program, investigation and protection activities.

The maximum duration of financing is 120 months, in the case of investment loans, and 24 months in the case of loans/lines of credit for working capital. The credit lines may be extended by a maximum of 24 months, and in the last year of extension they will be reimbursed under the conditions established by the methodological norms of FNGCIMM.

The granting and development of state guarantees is carried out on the basis of agreements for guaranteeing and paying grants concluded between FNGCIMM and the credit institutions participating in the program.

In order to access state guarantee financing under the SME Invest programme, companies must follow **the following steps**:

a. Phase I consists of registering the company on the [www.imminvest.ro](http://www.imminvest.ro) website. During this stage, the SMEs must upload on the website three mandatory documents, namely: the company's registration certificate, the SME declaration and the identity card of the administrator. These three documents are preliminary analyzed by FNGCIMM and are then sent to the bank.

b. In the second phase, the SMEs addresses the bank with which it wants to collaborate. Here is drawn up the credit file with documents specific to each financier. The credit institution submits to FNGCIMM, directly or through its territorial units, the request regarding the granting of the State guarantee, after the approval of the loan by its competent structures, through the internal working application between the banks and FNGCIMM.

c. The guarantee request shall be submitted through the working application of the credit institution to FNGCIMM together with the following documents:

- declarations required for the granting of State aid;
- declaration on the beneficiary's own responsibility regarding the classification in the SME category;
- declaration on own responsibility of the beneficiary of the guaranteed financing, showing the fulfillment of the eligibility criteria;

- the outcome of the consultation of the Central Credit Risk Office showing that the SME does not appear with major incidents with promissory notes in the last six months prior to the date of the state guarantee claim;
  - the agreement of the beneficiary of the financing to consult the database of the MFP.
- d. After analyzing the file and granting the financing, during the third stage, the documents are sent to FNGCMM by the financier for the granting of the guarantee. FNGCMM analyzes the guarantee request together with the mandatory documents sent by the credit institution in order to meet the eligibility conditions mentioned above, as follows:
- the result of consulting the National Trade Register Office materialized in the extract of the certificate obtained from RECOM
  - the result of the consultation of the Insolvency Bulletin
  - financial data related to the last two completed fiscal years, obtained from a provider of integrated financial data with which FNGCMM has concluded a contract for the provision of financial services.

If the applicant registers overdue tax liabilities and/ or other budgetary claims administered by the central tax body, he undertakes to pay them from the credit / credit line for financing the working capital granted under the program.

After verifying the documents and information mentioned above, FNGCMM communicates to the credit institution its decision within 5 working days from the date of correct and complete transmission of the documents. FNGCMM transmits to the credit institution the guarantee contract and the financing agreement for signature, in at least four original copies, depending on the number of signatories.

e. During the fourth, final stage, the enterprise together with the bank signs the contracts and effectively transfers the loan based on the supporting documents submitted by the SME to the bank.

## **2.2. SMEs Invest Plus program**

Recently launched towards the end of 2022, by the Romanian Government together with the European Union, the SMEs Invest Plus program aims to support SMEs affected by Russia's invasion of Ukraine. The program contains 6 components, namely: SMEs Invest, Agro SMEs, Prod SMEs, Garant Construct, Innovation and Rural Invest, through which state aid can be accessed in the form of guarantees for loans and in the form of grants. Through the implementation of the state aid scheme, it is estimated that state aid is granted to a maximum of 24,786 beneficiaries.

Under the State aid scheme, the following categories of State aid are granted:

a. State aid in the form of loan guarantees - State guarantees, up to a maximum of 90% of the amount of financing, excluding interest, commissions and bank charges related to the guaranteed loan, for one or more loans for the realization of investments and/or one or more loans/credit lines for financing working capital.

The maximum value of each financing granted to an SME cannot exceed 5,000,000 RON for loans/credit lines for financing working capital, respectively 10,000,000 RON for investment loans. The maximum cumulative value of the state-guaranteed financing that can be granted to a beneficiary under the program cannot exceed 10,000,000 RON, respectively 5,000,000 RON for beneficiaries in the field of primary agriculture, aquaculture and fish farming.

b. State aid in the form of a grant consists in the granting of a grant within the limit of the cumulation resulting from the amount of the risk fee, the management fee, related to the guarantee granted, throughout the period of validity of the guarantee granted, and the interest on the loans/credit lines, granted for a maximum period of 12 months.

The grant granted to a beneficiary cannot exceed the equivalent in lei of the amount of: 500,000 euro / enterprise / ATU, 62,000 euro / enterprise in the case of beneficiaries in the field of primary production of agricultural products and 75,000 euro for beneficiaries in the field of aquaculture and fisheries.

The way of accessing financing through an SMEs Invest Plus component, as well as the eligibility conditions of the companies, are similar to those of the SMEs Invest Romania program.

### 3. Research methodology

The analysis of this study takes into account information from several sources (see the bibliography) regarding the situation of SMEs in Romania, as well as legislative information regarding the guarantee programs initiated by the government in times of crisis, namely the Covid-19 pandemic and the war in Ukraine. Based on them, the results and conclusions below are summarized and stated.

### 4. Findings

During two years of implementation, SMEs INVEST registered 60,000 guarantees granted, amounting to 33 billion RON, which supported loans of 40 billion RON. The value of state aid amounted to 1.4 billion RON. As a result of this injection of capital into the economy, one million jobs were saved. Most of the guarantees were accessed by road freight transport contractors, followed by those in construction, wholesale of timber, building materials and sanitary equipment, retail and trade in cars and motor vehicles. Most of the companies that have turned to the program are microenterprises and small enterprises.

### 5. Conclusions

The programs SMEs Invest Romania and SMEs Invest Plus represent the largest financial support approved at European level, which has as main objective the support of SMEs. The use of financial instruments such as state guarantees related to the SMEs Invest program proved to be the most successful measures to support the entrepreneurial environment in times of crisis. The above-mentioned results, as well as the success of the program SMEs Invest among the Romanian entrepreneurs attest to the importance of state intervention in supporting the business environment, especially in times of crisis.

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- \* \* \* Methodological norms for the application of Government Emergency Ordinance no. 110/2017 on the Program for supporting small and medium-sized enterprises - SME Invest ROMANIA
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## Considerations Regarding the Substantiation of Financial Instruments' Accounting

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### Abstract

*The purpose of this work consists in the schematic scoring of the reflection in the accounting of the options for instrumenting the financing systems. The rapid progress of electronic processing systems, in real time, of accounting data opens new opportunities in the accounting implementation of financial instruments in the exploitation activities of various entities. The use of tools - computer applications of artificial intelligence allows a diversified exploitation of financing systems in the accounting of entities from various fields. Decentralized systems for processing accounting data regarding the financing of entities allow a superior use of new options for financing economic activities. The use of financial instruments in the accounting of entities opens new ways of instrumentalization in accounting of these types of operations. Current developments allow new developments in the accounting system to capture the variety of financial instruments available to entities.*

**Key words:** financial solutions, accounting, technologies

**J.E.L. classification:** M41, G32

### 1. Introduction

There are a multitude of financial instruments to suit the needs of an investor or speculator, depending on one's goals. For example, some investors prefer to settle for lower but safer returns and invest in government bonds. (Nicolae, 2010)

Bonds will usually yield lower returns than equity investments. The advantage here is that bonds are less risky and safer. Most of the time they have government guarantees.

Investing in equity markets may seem more interesting from the point of view of an investor with a higher appetite for risk. For taking this risk, the investor will be rewarded with higher returns, but there are no guarantees. (Nicolae, 2010)

The decision to invest in equity or debt markets has a lot to do with managing the risks associated with a portfolio. (Nicolae, 2010)

When it comes to the forex markets, again it all comes down to the choice and purpose of the investor or speculator. An exporting company will be more interested in investing in the foreign exchange market to cover its risks related to the currencies in which it operates, rather than investing in the stock market, for example. (Nicolae, 2010)

In other words, a person interested in saving for retirement will probably be more interested in bonds and stocks than investing in the foreign exchange markets.

When you intend to invest in financial instruments, you should evaluate those financial instruments in terms of the following parameters: (Nicolae, 2010)

- yield – the ratio between the result obtained and the effort made to obtain that result
- net profit – the difference between the amount of money received from the transaction and the amount of money spent to carry it out
- risk – financial instruments can present different degrees of risk, from losing all or part of the invested amount to obtaining profits below expectations
- liquidity – is the ability of a financial instrument to be converted into liquid money without losing its value.

As a result, each investor can choose the financial instruments that suit him according to his appetite for risk:

- bank financial instruments such as bank deposit correspond to very low-risk investments with very low returns and are preferred by defensive investors with a very low risk appetite,
- bonds and government securities are financial instruments with a slightly higher risk and with a corresponding potential return. They are preferred by conservative investors who prefer fixed, guaranteed income and low risk.
- stocks and mutual funds are preferred by balanced investors who are comfortable with a higher degree of risk and commensurate potential gain,
- financial derivatives and speculation on the Forex market are the preference of aggressive investors, who prefer high gains also associated with high risks.

It is essential for the investor to know as many types of financial instruments as possible and how they work in order to maximize the efficiency of your investments.

Diversification is the foundation of a balanced portfolio that aims to minimize risks while maintaining the potential for profits as high as possible. So, it is recommended to invest in a varied range of financial instruments, depending on the risk profile of the investor.

Market participants must invest in financial instruments with which they are familiar and whose operation they understand. This is essential for the long-term profitability of capital market participants' investments. (Nicolae, 2010)

## 2. Theoretical background

Year-end reporting is a good time for entities that prepare financial statements in accordance with International Financial Reporting Standards (IFRS) to review their accounting policies and disclosures about financial instruments in their financial statements. (IASB, 2018)

Accounting policies sometimes include non-discounted categories of financial instruments such as loans and receivables, available-for-sale assets or held-to-maturity assets. There are also situations where the categories in the statement of financial position are in accordance with IFRS 9, while other parts of the financial statements still refer to the categories in IAS 39, for example in the fair value note or in the explanatory notes to individual elements of the global result statement. It is worth noting that the term loans and receivables can still be seen. Some entities explain that it is not a category in IAS 39, but a class of financial instruments that entities can define. Such an approach may be justified in some cases, but is difficult to justify when the entity has no outstanding loans – so it is simply a policy left over from IAS 39 that needs to be changed.

Options are traded on both organized and over-the-counter markets. There are two main types of options: (Nicolae, 2010)

- call options that give the holder the right to buy the underlying asset at maturity at a pre-determined price
- put options give the holder the right to sell the underlying asset at maturity at a predetermined price.

The price in the contract is known as the strike price or exercise price.

Also, options can be American, in which case they can be exercised at any time until the expiration of the contract, and European, if they can only be exercised at maturity.

Most traded options are of the American type, and in the case of the stock derivatives market, an options contract is generally a commitment to buy or sell 100 shares. (Nicolae, 2010)

It should be emphasized that an option gives the holder the right to exercise a certain action, he is not obliged to exercise it. This differentiates options from forward and futures contracts, contracts in which the holder is obliged to buy or sell the underlying asset at maturity. At the same time, if in the case of forward and futures contracts the costs of holding them are zero, in the case of options there is a cost to hold them. (IASB, 2018)

In fact, options trades are risk buy/sell operations.

The buyer of the option is cautious about the risk and sells it, and the seller of the option instead has a preference for risk and buys it. (Nicolae, 2010)



The buyer of the option cannot lose more than the premium, and the seller of the option cannot gain more than the premium. To protect themselves, stock exchange clearinghouses ask option sellers to open an initial deposit (also called margin) and, every day, a variable deposit.

The own values of the options are: the intrinsic value, the time value and the premium.

If the option to buy or sell the underlying asset is exercised at a price better than the market price, the option is said to have an intrinsic value. Instead, the premium includes a value over time, which decreases as the expiration date approaches. What is quoted on the stock exchange is the premium of the option. In parallel, the price of the underlying asset is quoted. It serves only as a comparison term for exercising the option. (IASB, 2018)

Trading the option will be more profitable than exercising it if the option has time value. A small percentage change in the asset price leads to a larger percentage change in the premium. This is the leverage, the gearing effect. The establishment of the premium is based on the previous performance of the price of the underlying asset. The more volatile the performance, the higher the premium level.

Options that are realized at a better price than the market price are sub-par or in-the-money options. If the price is less favorable than the market price, we have over-parity or out-of-the-money options, and if the price is identical to the market price, then we have at-parity or out-of-the-money options.

There are options for stocks, stock indices, bonds, currencies, interest rates and commodities and even combined options positions, so-called options strategies.

The types of options trades in the secondary market are:

- buying a call option;
- buying a put option;
- selling a call option;
- selling a put option.

### **3. Research methodology**

The research methodology used in this article consists of the empirical research of a data set available on the Internet and the construction of models of accounting records.

The investment funds industry, especially funds with a focus on sustainability, can play an important role in financing the transition to a greener economy and avoiding the dangerous effects of climate change, according to analysis included in the latest edition of the International Monetary Fund's Financial Stability Report - IMF. (www.ziare.com) The positive role of investment funds results from their ability to influence the corporate sector. Through stewardship, which includes direct involvement within the firm and remote voting, investment funds can effect change in companies' sustainability practices. For example, earlier this year, activist investors won seats on oil company boards as part of their efforts to change the company's climate strategy. However, even if sustainability is at the forefront of investment strategies, sustainable investment funds still represent only a small part of the investment funds sector (7% of all investment funds). In this context, the IMF's recommendations include: strengthening the global climate information architecture, which includes data, information and classifications; establishing adequate oversight to prevent greenwashing; and developing tools to channel savings to investment funds that drive the green transition. (www.ziare.com)

### **4. Findings**

#### **4.1. Survey on the evolution of the use of financial instruments in the accounting of financing activities of national entities**

IFRS 9 introduced the requirement to measure investments in equity instruments at fair value. According to IAS 39, these investments could be valued at cost. In IFRS 9, there is no longer any such exemption for holdings of unlisted equity instruments. (IASB, 2018)

The seller's reasoning in the sale of an option is as follows: (Nicolae, 2010)

- sells the right to buy or sell an asset on a specified date and at a predetermined price;
- sell calls when he appreciates a decrease in the price of the underlying asset;

- sell put when he appreciates an increase in the price of the underlying asset;
- assumes the obligation to deliver the asset on the date of exercise of the call option and to buy the asset on the date of exercise of the put option.

The buyer's reasoning in an option purchase transaction is as follows: (Nicolae, 2010)

- buys the right to buy or sell an asset on a specified date and at a predetermined price;
- buy call when he appreciates an increase in the price of the underlying asset;
- buys a put when he appreciates a decrease in the price of the underlying asset and cedes the option premium to the seller who is also the issuer of the security;
- can choose to keep the option until maturity or can trade the option on the secondary market.

The component elements of an option are both contractual and non-contractual, i.e. external to the regulations specific to the optional contract.

These elements are: (Nicolae, 2010)

- the premium paid when buying an option is a contractual element. During the validity of the option, this premium represents the price of the option and may have a higher or lower market value, depending on the interest in holding the option. The price of the option changes during the validity period of the option as a result of the evolution of the price risk of the underlying asset and as a result of the offer-demand ratio of the option;
- the course (market price) of the underlying asset at the time of the optional contract and throughout its validity, including at maturity. This is obviously a non-contractual element;
- the variability of this rate (market price) defines a non-contractual element of the option, namely the risk of the underlying asset;
- the validity period of the optional contract, from the moment of signing the contract until its final maturity. It is a contractual element that is expressed in the form of fractions of a calendar year;
- the predetermined exercise price at the time of concluding the optional contract for the purchase/sale of the underlying asset. It is a contractual element;
- a non-contractual element is the risk-free interest rate at which it is assumed that an investor can borrow to buy options.

All these component elements highlight the complex determination of the value of an option as a function of the factors listed above. (Nicolae, 2010)

After the purchase, the option can be the subject of successive sales - purchase operations, depending on the investors' interest in owning it. This interest is linked to the perspective that the price of the underlying asset will evolve in the direction desired by the investor (increase in the stock price for calls and decrease in the stock price for puts). Hence the concern for the value of the option that depends on or is related to the price of the underlying asset. The multitude of elements determining the value of an option make it the most complex financial asset. These qualities recommend the option evaluation model for the evaluation of the company, of investment projects, for portfolio management, for explaining the term structure of interest rates, etc. The determining factors of the value of an option are of two categories: determining factors of their own contractual and non-contractual elements; and, factors determined by the characteristics of the underlying asset and the financial market. (Nicolae, 2010)

#### **4.2. The observation of the accounting issues associated with financial instruments used in accounting for the financing sector of the entities**

The financial assets and financial liabilities given by real and monetary flows, generated by the trading and exercise of call and put options through the clearing house, within a stock exchange<sup>1</sup>, are presented as follows: (Nicolae, 2010)

The buyer pays the clearing house the premium, in exchange for the purchased options, and the seller collects the premium from the clearing house in exchange for the underlying assets deposited. The option exercise order is addressed to the clearing house by the buyer, together with the amount of money for the purchase of the underlying assets, in the case of CALL, or with the underlying assets, in the case of PUT, of their sale. (Nicolae, 2010)

The clearinghouse transfers the underlying assets to the buyer at the predetermined exercise price, in the case of the CALL exercise, or the amount of money from the sale of the underlying assets, in the case of the PUT, without asking for the seller's consent (this is understood to be implicit).

At the same time, the clearing house transfers to the seller the amount of money, in the case of CALL exercise, or the amount of supporting assets, in the case of PUT exercise. In this way, financial assets and, respectively, financial liabilities are generated in the accounting of the buyer and the seller.

The problem that arises is whether the seller firmly commits to the delivery or purchase of the underlying asset, for which he wrote the option, or whether he does not commit until exercise.

We consider that the appropriate accounting treatment is to register in the accounting of the two partners on the date of the transaction only the premium which, in fact, represents the price of the transaction. For the open commitment to buy with the buyer and the firm commitment to sell with the seller, as well as the open commitment to sell with the buyer and the firm commitment to buy with the seller (in the case of the PUT option), it is highlighted only on the settlement date (date of exercise of the option). buyer, the first one generates an expense, the seller generates an income. (Nicolae, 2010)

Another solution could be to register the premium on the transaction date for both the buyer and the seller, and the open commitment of the buyer as well as the firm commitment of the seller to be kept out of the financial position until exercise.

The accounting solution for these operations differs from one accounting concept to another, from one accounting model to another, depending on the accounting normalization. The differences appear due to the specificity of the buyer's open, non-firm commitment. (Nicolae, 2010)

Thus, according to the principles and rules required by IAS 32 and IAS 39, for derivative financial instruments, the recognition of options in accounting is carried out as follows:

- on the date of the transaction, only the premium is recognized, which is the price paid/collected for the option, thus

- at the company that buys options, the premium can be recorded as financial expenses in the debit of the Other financial expenses account, in relation to the affected treasury account, given that the speculative or hedging operation through the use of options, does not form the current activity of the company;

- for the company that sells options, the premium is recorded as financial income in the credit of the account Other financial income in relation to the affected treasury account, given that the speculative or hedging operation through the use of options, does not form the current activity of the company;

- on the date of exercise, options are recognized as financial assets purchased or sold as follows:

- at the company that bought CALL options, the options are recorded as financial assets (shares, bonds, other short-term financial investments), either held until maturity, in the debit of the Short-term financial investments - or Other short-term financial investments account and assimilated receivables, either held for trading in the debit of the Other securities account, through the credit of the treasury account affected by the settlement of the counter value of the purchased financial instruments;

- at the company that sold CALL options, the reduction from the management of the financial assets supporting the options is recorded, by crediting the Short-term financial investments - or Other short-term financial investments and assimilated receivables account, either if they were held for trading, in the credit of the Other securities account, through the debit of the treasury account affected by the collection of the consideration of the sold financial instruments;

- at the company that bought PUT options, the decrease from the management of the financial assets supporting the options is recorded, through the credit of the Short-term financial investments account - or Other short-term financial investments and assimilated receivables, either held for trading in the debit of the Other securities account of placement, through the credit of the treasury account affected by the settlement of the counter value of the financial instruments sold;

- at the company that sold PUT options, the options are recorded as financial assets (shares, bonds, other short-term financial investments) either held until maturity, in the debit of the Short-term financial investments - or Other short-term financial investments account and assimilated receivables, or held for trading, in the debit of the Other securities account, through the credit of the

treasury account affected by the settlement of the counter value of the purchased financial instruments. (Nicolae, 2010)

According to American practices, given that the accounting reporting standards for many hedging transactions are not sufficiently developed, and the fair value is not used instead of the historical cost, the technique of recording them outside the financial position is used. Since the increase in market value is only recognized when the asset is sold, the accounting balance sheet based on historical cost often undervalues the company's equity. Also, given that the historical cost accounting balance sheet recognizes the loss, but not the gain, of a hedging transaction, there is little reason for an on-balance sheet entry when there is an off-balance-sheet alternative.

## 5. A case study of the accounting records for financial instruments

*Table no. 1 Table of transactions related to the case study for financial instruments*

Transactions	Textual description of the transactions
January 1, 2022	The Special775 entity bought on 01.01.2022 a standardized package of call options on quoted shares, subscribed by the Vast445 entity as the seller. (Nicolae, 2010).
	The transaction is a hedging for the seller, where the hedged element is the market risk and the financial instrument designated for hedging is the options contract
	For the buyer, the transaction is only a speculation of the favorable price, whether he will decide to exercise or whether he will trade the option package as a security.
	The securities that constitute the underlying asset of the options are issued by a third company that does not intervene in this mechanism.
	The Special775 company hopes that the market price of the shares in question will increase, while the Vast445 company hopes that the market price of the shares in question will decrease. Each predicts a gain by preserving the share price, but only one of the parties will win. So each hopes to transfer the market risk to the partner, in case of exercise of the option by the buyer.
	The premium representing the right to buy the option package price is 20,000 monetary units (mu).
	The exercise price is 440,000 mu.
	The value of the shares held (8,000 titles) by the company Vast445 is 400,000 mu with a nominal value of 50 mu.
	The stock price of the shares on the exercise date is 70 mu.

*Source:* Case study data proposed by the author

### Accounting data

(Making entries by the author)

The following operations take place in the buyer's accounting:

If he intends and decides to hold the options package until maturity, then he will record only the premium paid on the transaction date, following that at maturity he will exercise the purchase option (obviously if the price of the shares on the market will increase).

*Table no. 2 Registration of recognition of the premium on the date of the transaction, the buyer of the options will recognize the paid premium of 20,000 mu in financial expenses*

Account - Debit	Account - Credit	Amount
Other financial expenses	Bank accounts	20,000

*Source:* Calculations and records made by the author

*Table no. 3 On the exercise date, recognition of the options package as a security independent of the underlying asset, if the market price of the shares is favorable - higher than the contracted one - at the level of the exercise price of the call option*

Account - Debit	Account - Credit	Amount
Quoted shares	Bank accounts	440,000

*Source:* Calculations and records made by the author

The gain appears indirectly, as an economy compared to the value of the shares at the stock exchange rate and is not highlighted in accounting.

*Table no. 4 If the standardized package of options is traded, as a security, then the premium paid = entry cost of this security, on the date of the transaction we have the registration*

Account - Debit	Account - Credit	Amount
Other investment securities	Bank accounts	20,000

Source: Calculations and records made by the author

*Table no. 5 At the moment when the value of the standardized option package has intrinsic value (market price higher than the premium of 30,000 mu), the buyer will decide to sell the short-term financial investment at the level of the stock exchange rate, which is composed for the company of the value of the premium (20,000 mu) and the difference up to the stock exchange rate (1000 mu):*

Account- Debit	Account - Credit	Amount
Bank accounts	Other securities	20,000
Bank accounts	Income from short-term financial investments	1,000

Source: Calculations and records made by the author

If the price of the shares on the market does not increase until maturity, the Special775 company will not exercise the call option to purchase the underlying asset, recording only a financial loss caused by the procurement of the options contract of 20,000 mu.

The following operations take place in the seller's accounting:

*Table no. 6 The recording of the premium of 1000 mu collected for the issuance of the options and for the company Vast445 to firmly commit to deliver the underlying securities at maturity, in case the buyer decides to exercise the call option, a delivery commitment is highlighted outside the financial position statement:*

Account - Debit	Account - Credit	Amount
Bank accounts	Other financial revenues	20,000

Source: Calculations and records made by the author

*Table no. 7. In the situation in which the company Special775 decides to exercise the call option, then the seller is obliged to deliver the underlying securities at the predetermined exercise price and the corresponding collection of the difference:*

Account- Debit	Account - Credit	Amount
Bank accounts	Quoted shares	400,000
Bank accounts	Revenues from ceded financial investments	400,000

Source: Calculations and records made by the author

Respecting the symmetry of the registrations made by the company Special775, the exercise means for the seller an indirect loss of 120,000 mu, equal to the unrealized gain, which is not shown in the accounting. It follows that the hedging operation initiated by the seller failed due to the evolution of the price of the underlying asset, contrary to expectations.

When implemented in practice, entities may also consider other accounting records alternatives as long as there is a fair presentation of the results in profit and loss statement.

## 6. Conclusions

In my opinion, there are multiple elements that allow a positive forecast on the development of the accounting instrumentation of financial instruments.

Consideration should be given to developing and implementing a complex and flexible legislative, fiscal framework that allows and stimulates at the same time the concrete applicability of the various embodiments of financial instruments for financing economic activities. The provisions of the legal acts must be issued in a context adapted to the European legislation, simultaneously with the establishment of the concrete modalities of implementation, adapted to Romania.

There is a significant impact of the changes in the financial markets globally, which puts its mark on the expansion of the use of financial instruments in the current and future activities of economic entities in Romania. It is noted, in the conditions of a tightening of the possibilities of access to the financing resources for the Romanian companies, the need for a flexibility of the opportunities for application of the financial instruments.

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## Reflections on the Digitalization of the Accounting System

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### Abstract

*The purpose of this paper is the issue of the new paradigms applicable to the digitization of accounting. Accounting as an academic discipline and practice of records, with millennial existence, is in full process of re-construction of its founding paradigms. The impact of new technologies - the use of Information Technology (IT) tools, the expansion of applications based on artificial intelligence, radically changes the way the accounting system is thought and developed. The transformations generated by the emergence of new technologies in economic activities, the new business models constitute as many challenges to the science of accounting and the practical techniques of organizing the accounting of entities.*

**Key words:** accountings paradigms, new technology

**J.E.L. classification:** M41, F60

### 1. Introduction

Digitization and very large volumes of data offer a significant opportunity in the multivalent development of processed accounting information. ([www.hyperledger.org](http://www.hyperledger.org))

Information technologies that include blockchain, big data, artificial intelligence are pressing the imminence of digital technologies in the economy and in emerging industries, thus requiring accountants an abundance of tasks that can lead to a contribution with more added value within companies. ([www.hyperledger.org](http://www.hyperledger.org))

At the forefront of technological development lies the great advantage of undertaking and manipulating massive amounts of data, generating immense opportunity for companies to use it to make the best decisions. This workflow of collection, manipulation, analysis, until the formulation of decisions is in the hands of accounting professionals.

Technological developments are transforming into a spectrum of digital workforce tools that are made available to companies to automate their business processes. On one side of the labor spectrum is core automation, which uses technology to manipulate existing software to automate the processes of running economic - financial transactions. On the other side of the spectrum is artificial intelligence, which is a tool that will perform tasks by using existing data and then refining future performances. ([www.hyperledger.org](http://www.hyperledger.org))

For the purpose of this paper, only specific technologies were selected based on the relevance of process automation within a company's accounting functions. The selection was made based on the ability to directly connect a technology to the automation of a specific process.

### 2. Theoretical background

Digitization and the existence of multiple capitals pose a challenge to the traditional approach to entity accounting. ([www.hyperledger.org](http://www.hyperledger.org))

The big players in the market are already using the potential of artificial intelligence in their daily operations, understanding that a hybrid working model is the future business model. Teams of machines and humans enhance each other's capabilities. It states that while the impact of such changes is only just beginning, it estimates that 70% of current operations can be directly automated through current technologies, with an estimated 25% more to be covered by technologies future. ([www.hyperledger.org](http://www.hyperledger.org))

The looming challenge in accounting is clear and adaptation is imperative. How professionals should respond to change will determine their fate. Accounting professionals currently in the working age are beginning to understand the fluctuating role of their profession. Depending on the work environment, the degree to which this is recognized differs (IASB, 2018).

The IFRS interpretation commission claims that two standards can be applied to virtual currencies, depending on their holding period: IAS 2 Inventories when they are held for resale during the financial year or IAS 38 Intangible Assets when IAS 2 cannot be applied.

According to IAS 38 Intangible Assets, an intangible asset is an identifiable, non-monetary asset without physical substance, controlled by the entity, and from which future economic benefits are expected to be generated. Identifiable means two aspects: the asset is separable, that is, it can be detached from the entity and be sold, transferred, rented or exchanged; arising from contractual rights or other legal rights. (IASB, 2018)

Virtual currencies, as intangible assets, have an indefinite life, so they are not subject to depreciation. According to IAS 38, the value can be determined using two methods: the cost model and the revaluation model. In order for the asset to be revalued, it must have an active market on which to determine the real value of the asset. (Nicolae, 2010)

This means that cryptocurrencies will be recognized in the statement of financial position at acquisition cost and the book value will be revalued at market price at certain time intervals. If the revaluation results in a lower book value, the difference is recorded as an expense. If the revaluation results in a higher book value, the difference is recorded as income until it offsets the accrued expenses for the same asset, after which it is no longer recorded as income, but is recorded directly in equity as a revaluation reserve and recognized in other items of the overall result. Reserves from the revaluation of cryptocurrencies will be transferred to the result related to their sale. (Nicolae, 2010)

In the related protocols, virtual currencies are described as an electronic version of money. Virtual currencies may be classified in accounting as Cash or Cash Equivalents. According to the definitions provided by IAS 7 Statement of cash flows, liquidity refers to cash availability and demand deposits, and cash equivalents are short-term investments with a high degree of liquidity, which can be easily converted into known amounts and with an insignificant risk of value fluctuation. (Nicolae, 2010)

### 3. Research methodology

The research methodology used in this article consists of empirically researching a data set available on the Internet and building models of accounting records. ([www.hyperledger.org](http://www.hyperledger.org))

Enterprise resource planning (ERP) refers to a type of software that organizations use to manage day-to-day business activities such as accounting, procurement, project management, risk management, and supply chain operations. A complete ERP suite also includes enterprise performance management, software that helps you plan, budget, forecast, and report on an organization's financial results. ([www.hyperledger.org](http://www.hyperledger.org))

ERP systems unite a multitude of business processes and enable the flow of data between them. By collecting an organization's shared transactional data from multiple sources, ERP systems eliminate data duplication and provide data integrity through a single source of truth. ([www.hyperledger.org](http://www.hyperledger.org))

Today, ERP systems are essential for managing thousands of businesses of all sizes, in all industries. For these companies, ERP is as indispensable as electricity is for lighting.

The term IERP (Intelligent Enterprise Resource Planning) refers to an intelligent company resource management system.

Until now, business intelligence solutions have been viewed as separate systems that add to transaction management systems and separately analyze aggregated business information.

Business intelligence solutions have evolved from unwieldy analytics tools to easy-to-use, attractive, web-based, mobile-friendly centralized dashboard software, to responsive, easy-to-use interfaces or systems BI with collaboration support – generation 3 (Business Intelligence). All this time, the ERP remained unchanged, and the analysis of data from separate databases in the ERP remained the prerogative of the leaders. ([www.hyperledger.org](http://www.hyperledger.org))



Within the approaches in the banking services market, aspects related to the types of applications, technologies used in the current activity of banks, the types of IT solutions, algorithms, data (structured, unstructured) used, data sources (internal, external), the value of the investments of the last 5 years, made for the development of solutions, IT applications, the benefits obtained from the implementation and by the suppliers, the developers of the solutions, the monitoring tools of the social platforms used, etc. The details of IT technologies concern the following types of activities: risk management (credit risk); detection. fraud management; resource planning; the decision-making process; simplifying work processes; real-time monitoring of transactions; behavioral, predictive and optimization analyses; personalized offers; Internet banking and mobile access; identifying customer spending patterns; customer segmentation by category; reporting or statistics; real-time monitoring of social networks; security.

BigData - BD solutions are little used in the Romanian banking sector, only 10% of banks currently use them. These solutions were developed and implemented, mainly, at the banking group level. Some banks have BD technologies partially developed at national level, complementary to those developed at group level and implemented at bank level.

Complex data analysis solutions are used by about 20% of the actors in the banking sector, who analyze the databases, collected and processed by DataWarehouse - DW solutions, with complex analysis techniques BigData Analytics - BDA.

The types of data used in BDA analyzes are structured and mostly come from internal sources. For banks that also collect data from external sources, these come from social networks - Facebook, Instagram, Twitter, Youtube, media sources, etc.

From the point of view of the types of algorithms used in analyses, most banks that use BDA-type analyzes use only static algorithms, generally for: aggregating data by customer groups, products, segments, periods; creation of customer groups, based on various criteria (e.g. transaction volume/value, balance level); customer grouping, on various types of criteria (e.g. product types, scoring, collection stage); pre-termination calculation according to product categories; automatic marking of accounts, depending on the configured business characteristics.

Few banks reported the use of dynamic Machine Learning -ML algorithms, generally for: automatic screening of transactions; creating alerts, based on the transactional behavioral profile of customers and compared with risk indicators; tracking the performance of your own social media channels vs. of competitors; optimizing the performance of the content of the own social media channel; operational efficiency; the development of statistical models, used in the decision-making process of granting credits.

#### 4. Findings

BigData (BD) represents the technology to process and analyze huge, very large volumes of data. ([www.hyperledger.org](http://www.hyperledger.org))

Blockchain, translated from English chain of blocks, is a distributed database, which is shared between the nodes of a computer network. That is, compared to the bank that is the sole holder of the transaction ledger, in Bitcoin the ledger is distributed to all members of the system in the form of a block, and each confirmed transaction contributes to the creation of a new block which, in turn, is connected to the previous block, hence the name blockchain. ([www.hyperledger.org](http://www.hyperledger.org)) To make a transaction, users use a private key, which provides mathematical proof that it comes from the wallet holder. The signature also prevents someone else from tampering with the transaction after it has been issued. All transactions are issued between users and usually begin to be confirmed by the network within the next 10 minutes through a process called mining. Mining is a distributed consensus system used to confirm pending transactions by including them in the block chain.

Most cryptocurrencies, including Bitcoin, have much higher divisibility, usually up to eight decimal places. This fact gives cryptocurrencies greater flexibility in dividing assets into smaller and more accurate values. Thanks to blockchain technology, transaction participants no longer need to entrust their money to a third party to carry out the transaction, and at the same time, their identity remains anonymous. Also, holding or transferring them from one wallet to another does not require additional expenses, such as fees for account maintenance services or for making a transfer. ([www.hyperledger.org](http://www.hyperledger.org))

However, one of the main reasons why this market attracts the interest of people, companies, and even governments is the appreciation of cryptocurrencies over time. Thus, they perfectly fulfill the function of being a means of accumulation, thanks to the limited reserve. Since the number of cryptocurrencies of a kind is known in advance, in the case of Bitcoin - 21 million, and which cannot be changed, its price obviously increases due to supply and demand. An extraordinarily high growth is observed, with its price being \$145 at the beginning of 2013, reaching over \$67,000 in April 2021, an increase of over 46,000%. ([www.bnr.ro](http://www.bnr.ro))

With all the benefits and innovations that cryptocurrencies come with, they also have some limitations. As I mentioned in the paragraph about the technology behind Bitcoin, confirming transactions on the network requires computational power that consumes electricity. In January 2022, the cumulative electricity consumption to power the Bitcoin network reached 310.8 TWh (terawatt-hours)<sup>1</sup>, with monthly consumption of 10.95 TWh. To better understand the enormity of these figures, the annual electricity required to power the grid is greater than the annual consumption of the vast majority of countries, including: Ukraine, Norway, Sweden, Argentina, United Arab Emirates, Austria, etc., and the consumption Romania's annual electricity supply represents only 40.14% of that required for the Bitcoin network. According to data from the reports, 42 million tons of carbon dioxide would have been emitted in 2021 due to the Bitcoin network. This value represents about 0.08% of the global CO<sub>2</sub> emission, which is extremely high for an ecosystem that is not yet widely accepted. ([www.ziare.ro](http://www.ziare.ro))

In June 2019, the IFRS interpretation committee published its decision on how cryptocurrencies should be interpreted, based on already existing standards. In the decision, cryptocurrencies refer to cryptoassets that have the following characteristics: they are digital or virtual currencies, registered in a distributed ledger, that use cryptography for security; are not issued by a jurisdictional authority or other party; do not give rise to a contract between the holder and the other party. (IASB, 2018)

Using BigData BD technologies and BigData Analytics BDA-type analyses, statistical models used in the decision-making process for granting loans were developed, using static or machine learning (ML) credit scoring calculation algorithms, such as, for example, for: classifying clients by risk category; the allocation of a risk degree based on the risk criteria established according to the internal customer due diligence regulations, in order to prevent money laundering, terrorist financing, etc., with the aim of applying customer due diligence measures and a monitoring adapted to the risk profile; credit flow control, decision automation based on indicators/scoring; the analysis regarding the automatic approval of certain types of credit for retail customers. ([www.bnr.ro](http://www.bnr.ro))

Using BDA-type technologies, statistical models were developed used to frame credit applications on the applicable granting process, including: reports for portfolio monitoring; monitoring card or Internet banking transactions to identify fraudulent operations; monitoring and reporting of fraudulent customers, analyzing trends and new fraud methods based on the reports; identifying, monitoring, allocating the delinquent portfolio, as well as recording the recovery actions undertaken by the collectors. ([www.bnr.ro](http://www.bnr.ro))

BDA type solutions and analyzes are used to determine the number of employees needed to carry out specific daily activities, thus optimizing the allocation of personnel and activities. BDA technologies are used to aggregate and centralize data from several sources, thus obtaining integrated data on customer groups, products, segments, time intervals, periods, etc. By applying complex algorithmic methods, analytical support is obtained in the decision-making process of: launching new products, understanding trends; performance evaluation versus objectives; optimizing the budget and the number of employees needed. ([www.ziare.ro](http://www.ziare.ro))

BD technologies and BDA-type analyzes are used for the efficiency of operational processes, investigation monitoring, faster retrieval of data from source systems, reduction of customer request resolution time (for example, online credit granting) and improvement of the level of communication with them. ([www.ziare.ro](http://www.ziare.ro))

BDA-type solutions are used for real-time monitoring of transactions, ensuring the bank's compliance with anti-money laundering regulations, implementation of international sanctions.

Based on the established thresholds, the price of all recorded transactions is compared with the market data. If a recorded price is above the set threshold, an alert is triggered to be investigated. Thus, they can: analyze transactions in an automatic way. Based on the established thresholds, the price of all recorded transactions is compared with the market data. If a recorded price is above the

set threshold, an alert is triggered to be investigated. It is also possible to: monitor customer transactions post-processing, in order to identify possible suspicious money laundering activities; improve the process of detecting potential circumvention activities, through machine learning - ML algorithms ([www.ziare.ro](http://www.ziare.ro)); determine the risk of internal fraud, by analyzing the behavior of operators, based on predefined scenarios; determine the degree of risk of some transactions, based on some ML algorithms; evaluate the transactional behavioral profile of customers and compare it with the risk indicators (scenarios), BD solutions having the possibility of creating an automatic alert system; obtain an automatic screening - the automatic and real-time verification of cross-border transactions, in the sanctions lists (fuzzy search for checking customer data with the data from the sanctions lists and politically exposed persons); monitor communication channels to detect inappropriate behavior or potential cases of market abuse by checking conversations based on keyword lists, in multiple languages and in real time (machine learning ML algorithms).

BigData - BD solutions and BigData Analytics - BDA-type analyzes are used, through machine learning ML - classification and regression or data mining algorithms, for ([www.ziare.ro](http://www.ziare.ro)): analysis of investigations carried out by categories of clients, types of requests, duration. and possible optimization actions; grouping customers by various categories - products, scoring, etc.; aggregation of debits by customers, depending on the type of debits or other information; generation of action lists (user work lists, SMS, email, letters, automatic markings), depending on the characteristics of the credits; assigning clients to responsible persons, depending on the client's characteristics; automatic marking of accounts with special flags, depending on the configured business characteristics; the pre-termination calculation, depending on the product categories; customer marking, depending on the collection stage; allocation of recovery officers based on demographics; analysis of current/future manual processing volumes and possible optimization solutions.

BD solutions and BDA type analyzes are used in the development of personalized offers, based on the knowledge of frequent operations and the financial behavior of the client, for: selection of eligible clients, programming of campaigns at fixed times/dates, storage of data relating to the addressed clients (contact history ); establishing priorities at the client level - based on business rules, accessibility to aggregated databases, demographic and transactional indicators, the client's financial and user behavior in the application (number of accesses, views, booking offers), for to decide the text of the communication, to which client and through which channel the personalized offer is sent; creation of customer groups, according to different criteria - level of balances, transactions, etc.; transmission of offers from merchant partners, customized according to the customer's demographic profile, transactional behavior and in-app behavior (viewing offers, booking offers). ([www.ziare.ro](http://www.ziare.ro))

BDA-type analysis solutions are used to segment and identify eligible customers for specific offers, to give the customer greater visibility over expenses and help them manage their budget. ([www.ziare.ro](http://www.ziare.ro))

BDA type solutions are used for customer segmentation, using sorting algorithms, depending on the major categories of customers (e.g. natural persons, legal entities) and their characteristics (depending on the products owned or financial, transactional performance), on based on certain criteria, such as: country of birth, country of residence, customer's opening channel, turnover, group membership, typology. ([www.ziare.ro](http://www.ziare.ro))

## 5. A case study of the accounting of set of transactions

*Table no. 1 Table of transactions related to the case study*

Transactions	Textual description of the transactions
01.01.2022	The Astra9 company purchases 100 virtual currencies on 01.01.2022, at the price of 50,000 monetary units (m.u.). (Nicolae, 2010).
December 31, 2022	On 31.12.2022 the re-estimation is done and it is found that the price of a virtual currency has dropped to 40,000 m.u.
December 31, 2023	On 31.12.2023, the re-estimation is done again, the virtual currency reaching the price of 47,000 mu
December 31, 2024	On 31.10.2024 the company sells the virtual currency at the price of 55,000 m.u.

*Source:* Case study data proposed by the author

**Accounting data**  
(Making entries by the author)

*Table no. 2 Calculations at 01.01.2022*

<b>Calculations</b>
Purchase cost: $100 \text{ VrCu} \times 50,000 \text{ um} = 5,000,000 \text{ um}$

Source: Calculations made by the author

*Table no. 3 Purchase of virtual currencies (VrCu) at 01.01.2022*

<b>Account - Debit</b>	<b>Account - Credit</b>	<b>Amount</b>
Cash equivalents – VrCu	Bank accounts	5,000,000

Source: Calculations and records made by the author

*Table no. 4 Calculations at 31.12.2022*

<b>Calculations</b>
Cost of re-estimation = $100 \text{ VrCu} \times (50,000 - 40,000) = 1,000,000 \text{ um}$

Source: Calculations made by the author

*Table no. 5 Re-estimation of virtual currencies (VrCu) at 31.12.2022*

<b>Account - Debit</b>	<b>Account - Credit</b>	<b>Amount</b>
Other financial expenses	Cash equivalents – VrCu	1,000,000

Source: Calculations and records made by the author

*Table no. 6 Calculations at 31.12.2023*

<b>Calculations</b>
Revenue from VrCu re-estimation = $100 \text{ VrCu} \times (47,000 - 40,000) = 700,000 \text{ mu}$

Source: Calculations made by the author

*Table no. 7 Re-estimation of virtual currencies (VrCu) at 31.12.2023*

<b>Account - Debit</b>	<b>Account - Credit</b>	<b>Amount</b>
Cash equivalents – VrCu	Other financial revenues	700,000

Source: Calculations and records made by the author

*Table no. 8 Calculations at 31.12.2024*

<b>Calculations</b>
Downloading the book value of Cash equivalents – VrCu = $100 \text{ VrCu} \times 47,000 = 4,700,000 \text{ mu}$
Financial income = $100 \text{ VrCu} \times (55,000 - 47,000) = 800,000 \text{ mu}$
Total amount collected = $100 \text{ VrCu} \times 55,000 = 5,500,000 \text{ mu}$

Source: Calculations made by the author

*Table no. 9 Virtual currency sale (VrCu) at 31.12.2024*

<b>Account - Debit</b>	<b>Account - Credit</b>	<b>Amount</b>
Bank accounts	Cash equivalents – VrCu	4,700,000
Bank accounts	Other financial revenues	800,000

Source: Calculations and records made by the author

## 6. Conclusions

In my opinion, the application of new, innovative tools and techniques, which appeared as a result of the development of the informational capabilities of information technology (IT), provides the necessary foundation for a paradigm shift in the processing of accounting information, the development of new ways of thinking and practice in the activity financial accounting of the entities.

The widespread global use of information technology tools – smart phones, tablets, laptops, wireless accounting information transmission devices and 5G/6G, all of which open up new opportunities in processing large volumes of accounting data in real time.

Financial reporting - annual financial statements in the classic sense - are about to be transformed and incorporated into a system of integrated financial reporting. Integrated financial reporting allows multi-dimensional and multi-criteria treatment of financial-accounting information. It improves, dramatically reduces the time required to transmit accounting information generated by entities to users.

A little-studied aspect refers to the energy consumption generated by the use of smartphones, tablets, laptops, 5G/6G devices, etc., much higher consumption compared to the traditional paper-based processing of accounting data.

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- [www.cdep.ro](http://www.cdep.ro)
- [www.ccr.ro](http://www.ccr.ro)
- <https://eba.europa.eu>
- [www.insse.ro](http://www.insse.ro)

## Cryptocurrency Trading - Way to Invest in the Short Term

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### Abstract

*This paper, entitled "Cryptocurrency Trading", is a research study covering theoretical and practical notions about cryptocurrencies and their trading in financial markets.*

*We chose this topic because cryptocurrencies and the technology behind them have revolutionised the financial sector and even now, after a period of time since their emergence and a period of time in which they have been used, cryptocurrencies raise some questions.*

*The main objective of this paper is to show that, in the financial markets, cryptocurrencies are assets that promise a high return, i.e. a good short-term investment. The specific objectives have been highlighted by elaborating a study presenting the ways in which cryptocurrencies are traded in the financial markets and by conducting an analysis on them.*

*The aim of this paper is to show that cryptocurrencies Bitcoin, Ethereum and ADA are the most popular and show functionality and market capitalization.*

**Key words:** cryptocurrencies, financial markets, financial assets and investment

**J.E.L. classification:** E2, E22

### 1. Introduction

Given that the world wants a more digitalised life, it is no surprise that the financial system has followed suit. The transition that banks have made from an exclusively cash-based system to electronic banking using cards has served as a basis, but has been limited by the impossibility of securing a fully online banking system.

The innovative development of cryptocurrencies based on blockchain technology has given society the ability to transact directly and securely without the need for a trusted third party (Goodman, 2019).

The advantages of cryptocurrencies include (John and Law, 2021):

1. Protection against payment fraud. Bitcoins are digital currencies. They use a cryptographic algorithm and protocols. This makes them impossible to counterfeit (Keenan, 2018).
2. Reduced possibility of identity theft. Bitcoin transactions are completely anonymous. Bitcoin transactions require no personal details or sensitive information from the sender or receiver.
3. Direct Transfer. Transactions take place directly between users, i.e. sender and receiver. No third party is involved. This eliminates fees for involving an intermediary.
4. Higher liquidity. While converting to other real currencies, bitcoin retains most of its value, while other currencies have lost value.
5. International transactions. Bitcoin is the easiest way to initiate an international transaction. It charges no additional fees and is paid immediately to a recipient.
6. Blockchain. Bitcoin transactions are tamper-proof thanks to the Blockchain.

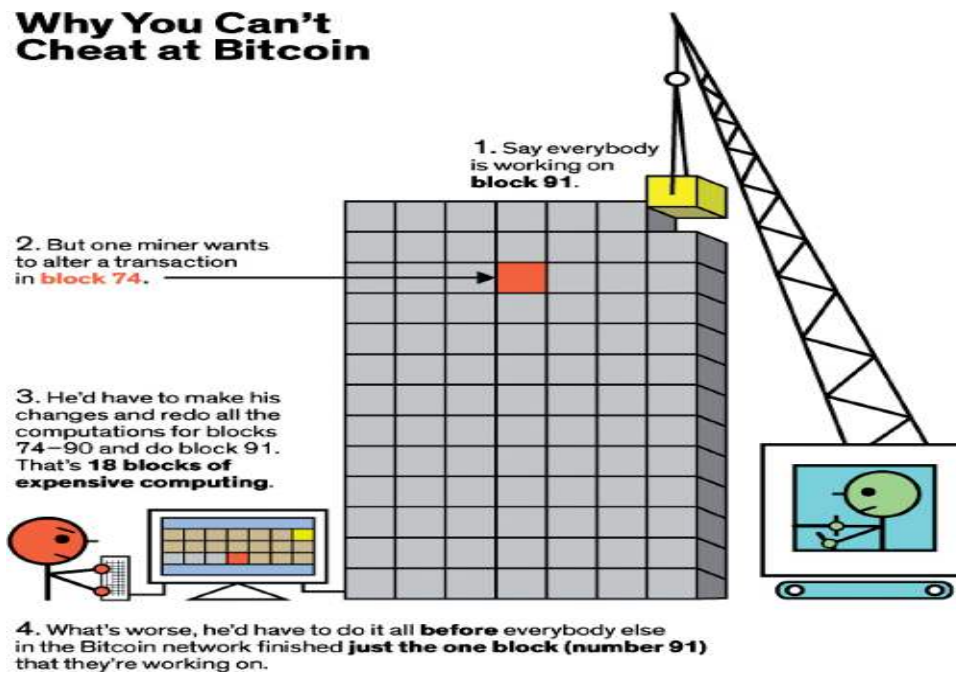


## 2. Literature review

It is worth noting that Bitcoin (and all other cryptocurrencies) could not exist without blockchain technology, which in the simplest way involves creating unalterable data structures (Kratter, 2019).

Blockchain is the technology that secures the storage of cryptocurrencies, their transactions and the information relationships between them (Linton, 2020).

Figure no. 1 How the Blockchain technology behind cryptocurrencies works



Source: Own processing based on information from (Yermack, 2015, p. 46)

According to Figure no. 1, once new blocks are attached to previous ones, transaction information within them can be traced back to the first block created, making the system "incorruptible" due to the fact that all previous blocks must be modified to make a change in the registry, limiting attempts by malicious people to attack the system (Mishkin F., 2018).

This first block (which resulted in the mining of 50 bitcoins) is now referred to as the Genesis Block. Bitcoin had virtually no value at this point, as well as in its first few months of existence. Six months after bitcoin became tradable, in April 2010, the value of a BTC was just under 14 cents. In early November, the price rose to 36 cents.

## 3. Research methodology

As with any financial instrument traded in the financial market and with cryptocurrencies, short, medium and long term trends can be found in any technical analysis study, i.e. chart analysis of the evolution of the financial instrument to be traded (Snow, 2018).

The first step in cryptocurrency trading is to determine the trend, which can be upward, downward or sideways. A market trend can be identified by drawing a support line (the bottom one) and a resistance line (the top one) on the chart, forming a trend channel.

Investors and analysts use a variety of technical indicators to identify trends in the market, anticipate potential changes in trading and ultimately either trade successfully themselves or provide advice to clients so they can trade successfully.

In the case of trade management, its purpose is to ensure that with a winning trade you always allow yourself to lose 3. You can do this by setting stop loss (the trade stops automatically when a certain amount is lost) and take profit (the trade stops automatically when a certain amount is won).

#### 4. Findings

According to Figure 2, the Ethereum cryptocurrency has followed the same market movement as the Bitcoin cryptocurrency and is currently in a downtrend position as well.

The historical high of Ethereum cryptocurrency was recorded in November 2021 when it registered around 4800 USD and currently, on 29.08.2022, the buying price is 1479 USD.

Figure no. 2 Ethereum cryptocurrency trend today



Source: Own processing based on information from etoro.com

Figure no. 3 Using the MACD oscillator on the chart of bitcoin evolution from the present



Source: Own processing based on information from etoro.com



Figure no. 3 shows a week-by-week chart of the evolution of the Bitcoin cryptocurrency at present and the MACD oscillator at the bottom.

According to the chart the bitcoin price has formed a downtrend but according to the MACD oscillator, due to the fact that the black line intersects the red one from bottom to top and both lines are positioned below the center line (0 line), the price is expected to rise to the resistance line.

In this context, in this case study we can make a Bitcoin cryptocurrency purchase trade.

Figure no. 4 Transaction management in case of ADA cryptocurrency



Source: Own processing based on information from etoro.com

In Figure no. 4, a purchase transaction of ADA at the current value of USD 0.4 was proposed, setting the stop loss at USD 0.15 (respectively 62.5%) and the take profit at USD 1.7 (respectively 325%). Thus, for 1.3 USD profit, 0.25 USD is risked, so a winning trade allows the loss of at least four trades.

## 5. Conclusions

The innovative development of cryptocurrencies based on blockchain technology has given society the ability to transact directly and securely without the need for a trusted third party.

Bitcoin is the leader of the crypto sector. It is also the first cryptocurrency to appear and was created and launched in the year 2009 by a person (or possibly a group) who goes by the pseudonym Satoshi Nakamoto. Almost a thousand new bitcoins are mined (digitally mined) every day, bringing Bitcoin closer and closer to its finite maximum number.

Ethereum (ETH) is the second most popular cryptocurrency after Bitcoin. Founded by Vitalik Buterin and Gavin Wood in 2015.

The Cardano platform can handle all types of transactions, but the real goal is to create an ecosystem that enables seamless interchangeability between different blockchains.

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## Financial Education - Strategy to Combat Tax Evasion

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### Abstract

*In most countries, one of the reasons for economic problems is the extent of tax evasion in its various forms. Tax evasion is the way in which economic agents respond to tax pressure when they exceed a certain threshold necessary for starting, maintaining and developing their business or any other gainful activity and in relation to their current wealth or income.*

*Tax evasion can be said to be a social phenomenon with financial implications, including the partial or total use of legislative loopholes or the use of financial strategies or engineering to evade tax obligations.*

*The main aim of this research was to check the tax education of both firms and employees.*

*The specific objectives of this work are to present the factors and methods of combating tax evasion, the underground economy and the phenomenon of corruption, as well as the possibilities of reducing and keeping tax evasion under control.*

**Key words:** tax evasion, public finance, corruption, tax fraud

**J.E.L. classification:** H2, H26

### 1. Introduction

In the field of legislation, preventive measures are diverse and involve the development of comprehensive and clear tax legislation that is sustainable and stable in space and time. At the same time, exemptions, deductions and certain interpretations should be eliminated or reduced as much as possible, which has led to multiple interpretations by the competent authorities and taxpayers, as well as complaints from those who have not benefited. The new methods of tax evasion require the tax and judicial authorities to have access to the information needed to correctly resolve the cases entrusted to them; the legal framework must oblige third parties to declare certain elements of the taxpayer's situation in order to be able to verify their declarations (Collier, 2020).

The scope of the obligations must include: the deduction of bank accounts and income from clients' movable property, the deduction of commissions and taxes paid by payers, the deduction of salaries paid by employers, as the criminal and financial penalties must be extremely severe, but at the same time in line with the legal provisions and effective implementation. This information is more necessary, but at the same time fair and impartial (Beckett, 2017). The legislative framework must ensure the possibility of enforcing financial obligations through tax forfeiture (Ene-Corbeanu, 2020).

## 2. Literature review

There is a mutually limiting relationship between tax evasion and corruption. Corruption facilitates the emergence of tax evasion, or rather the spread of tax evasion, while the latter supports and encourages corruption. Of course, by "agreeing" with the tax inspector, the possibility of evading taxes and penalties is open to corruption, both because of low wages, lack of professional integrity and dignity, and poor tax education, which is increasing significantly (Haslehner, Pantazatou, Kofler & Rust (Eds.), 2020).

Tax evasion and corruption are states of economic and social behaviour of economies. At the level of the individual taxpayer, they often escape public disapproval or are ignored for pragmatic reasons (Tatoiu, 2020). The 'underground economy' and the 'surface economy' are separated by a set of regulations and prohibitions; it can be seen that what once constituted the underground economy may later become the surface economy.

The underground economy manifests itself in the context of the prohibition of economic activity - the production and sale of drugs, prostitution, some gambling - by the state or by the protagonists of the economy outside of restrictions or laws.

The controls imposed by the Economic, Financial and Fiscal Control Agency make it possible to identify a number of factors that encourage taxpayers to evade and commit fraud (Turksen, 2021). According to the analysis of the Ministry of Public Finance and Anti-Fraud, the factors that lead to tax evasion and fraud are as follows:

- Engaging in illegal activities (obtaining a business license or complying with the declared object of activity) ;
- Intentional evasion or willful non-compliance with tax legislation for the purpose of evading obligations to the state ;
- Delaying or refusing actual payment of duly determined financial obligations;
- Incorrect or incomplete management of records to determine the elements of the financial obligation.

## 3. Research methodology

The main purpose of this research was to verify the tax education of both firms and employees. From the results we found that the majority of employees did not face a control from the tax authorities and also tax education is lacking given their answers to certain questions.

In this questionnaire we wanted to analyze some questions, namely the type of company , profession and field of activity, age and year of establishment of the company.

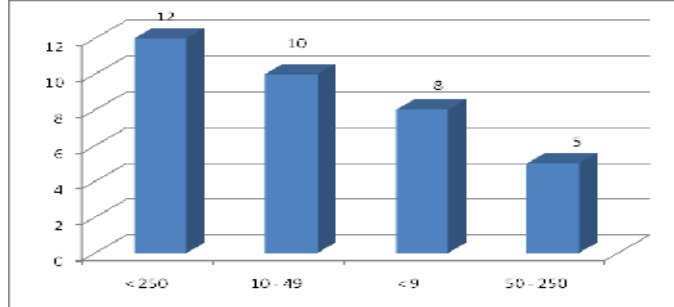
The main objective of the research approach was to identify the knowledge about the tax side of the company in which the employees work and their opinion about the importance of paying taxes, especially after the post COVID 19 period. As the questionnaire was conducted in a period when inflation increased a lot there were also questions about sales fluctuations and how the business environment was affected.

In the development of the questionnaire we used the application "Survio" , and we chose social media distribution to complete the questionnaire. The questionnaire includes questions related to age, type of company, profession and field of activity, as well as questions related to the topic of the undergraduate thesis, such as questions related to the relationship of companies with public institutions and public officials, opinions on bribery in relation to tax authorities, financial controls and fines, and how people who work in companies or own their own business see tax evasion.

## 4. Findings

From this questionnaire we received 35 responses, of which the surveyed colectvity is comprised of people aged 18-25 and 7 people aged 30-40.

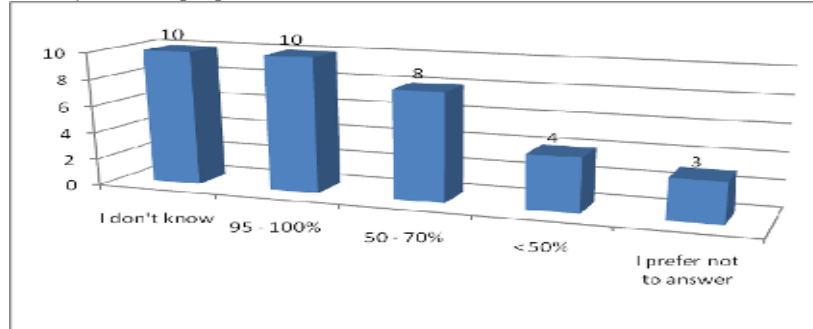
Figure no. 1 How many employees work in the company?



Source: personal processing and interpretation of data obtained from the questionnaire

Following your analysis of the question: *Given the difficulties Romanian companies face in paying taxes and complying with tax regulations, can you estimate what percentage of total annual sales are reported by companies in your industry. For tax purposes?*, we can observe that:

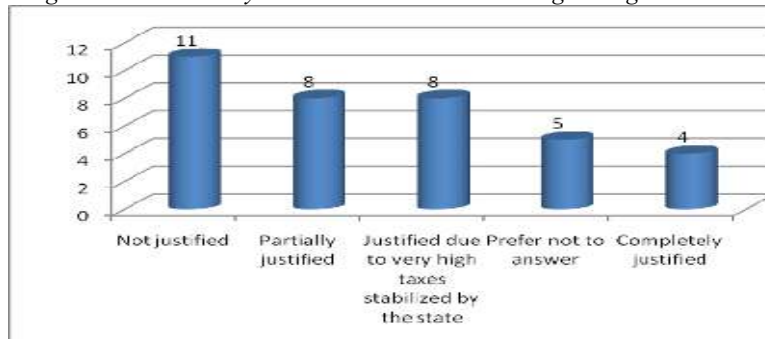
Figure no. 2 Given the difficulties Romanian companies face in paying taxes and complying with tax regulations, can you estimate what percentage of total annual sales are reported by companies in your industry. For tax purposes?



Source: personal processing and interpretation of data obtained from the questionnaire

10 / 35 people are unaware of the compliance and payment of taxes by the company they work for. It should be noted that some taxpayers do not communicate enough with their employees, which is a matter of the tax education of each employee. The other majority who completed the questionnaire are informed about paying taxes or in some cases, when we are talking about people in managerial positions, they are in charge of these payments themselves.

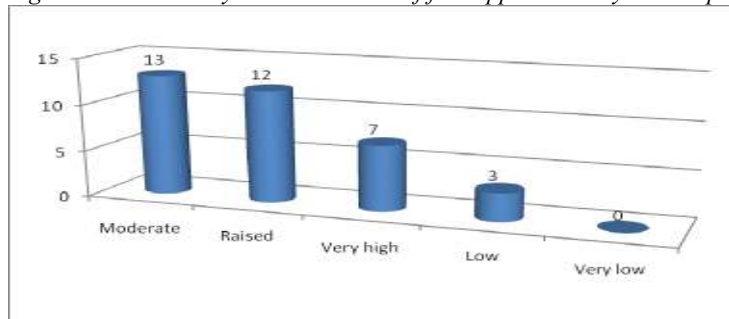
Figure no. 3 How do you see tax evasion considering the legislative environment after COVID 19?



Source: personal processing and interpretation of data obtained from the questionnaire

It is also not news that the Romanian legislative environment changes quite often, especially after the COVID 19 period when inflation suddenly increased. Due to major changes in tax legislation, many taxpayers tend towards tax evasion as a method to solve problems.

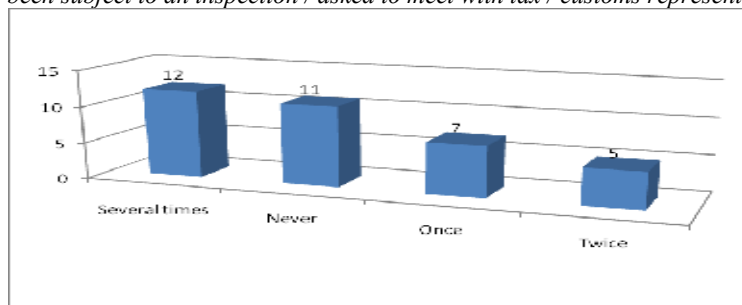
Figure no. 4 How do you rate the level of fees applicable to your company? (tax burden)



Source: personal processing and interpretation of data obtained from the questionnaire

The tax burden can be of a greater or lesser magnitude. It is also important to know that a lower tax burden does not mean higher or lower taxes are paid, if taxes increase, then the tax burden will increase.

Figure no. 5 Can you please tell me, during COVID 19, how many times the company you represent has been subject to an inspection / asked to meet with tax / customs representatives?

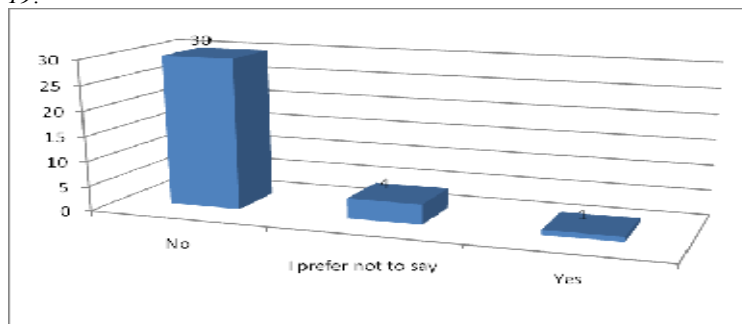


Source: personal processing and interpretation of data obtained from the questionnaire

It is well known that the COVID 19 period also meant the cessation of many economic activities, but this did not stop the tax authorities from doing their job immediately after the resumption of economic activities or even during the pandemic.

The pandemic apparently did not stop tax evasion, on the contrary, because it was the period of wearing masks and gloves, tax authorities had to collect more than 13,500 protective masks and 11,000 pairs of gloves.

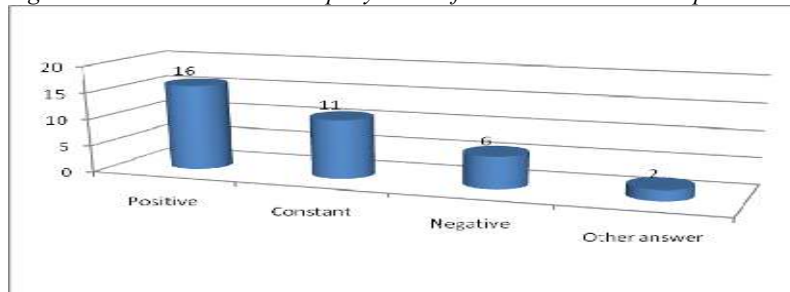
Figure no. 6 Can you please indicate whether your company was subject to any tax fines during COVID 19?



Source: personal processing and interpretation of data obtained from the questionnaire

30/35 people say they were not subject to a tax fine during COVID 19, also due to the fact that most economic activities did not operate.

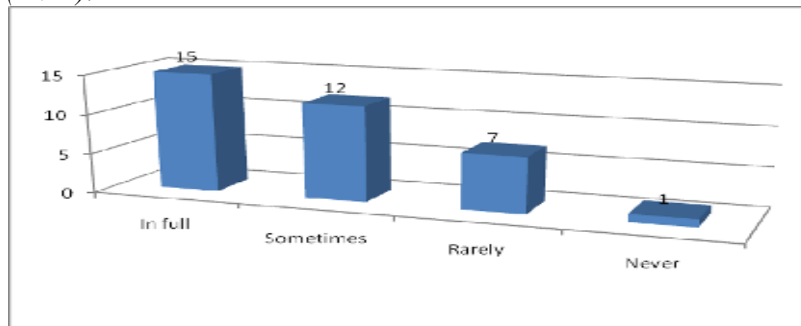
Figure no. 7 What was the company's sales fluctuation in 2021 compared to 2019?



Source: personal processing and interpretation of data obtained from the questionnaire

It is clear that 2021 has meant a rebound in sales compared to 2019, of course not in all cases, as 6/35 people say the fluctuation is negative.

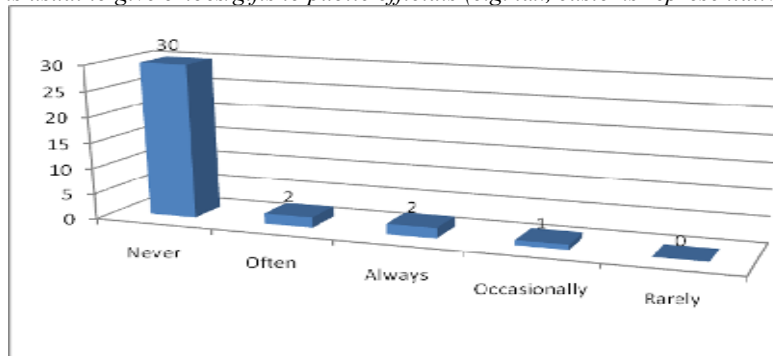
Figure no. 8 From your point of view, to what extent does business cooperate with the tax authorities (ANAF)?



Source: personal processing and interpretation of data obtained from the questionnaire

Cooperation with the tax authorities is in the companies' interest, the more they communicate, the more companies will be up to date with the new legislative regulations and thus avoid tax evasion attempts.

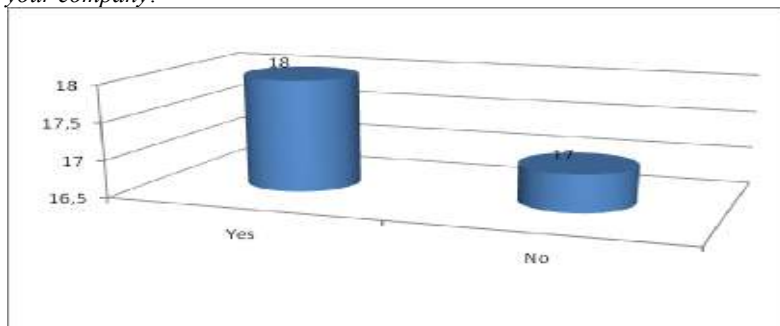
Figure no. 9 By an exercise of imagination, thinking of a company similar to yours, would you say that it is usual to give bribes/gifts to public officials (e.g. tax, customs representatives)?



Source: personal processing and interpretation of data obtained from the questionnaire

Bribes/gifts to public officials have often been a highly publicised topic. Very often economic agents prefer to evade paying taxes by various methods, and bribery is one of them.

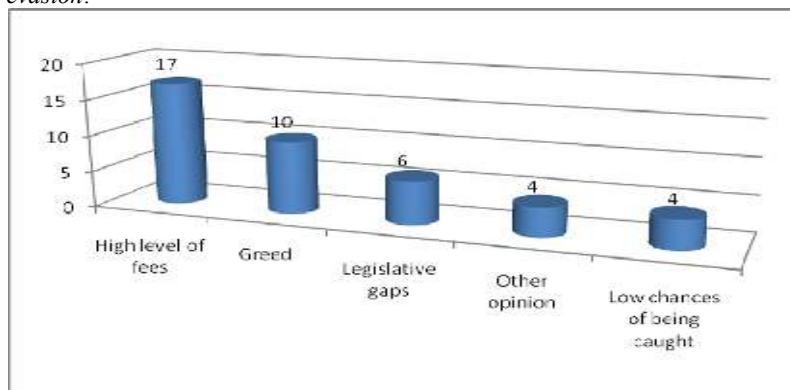
*Figure no. 10 Do you consider that you spend a significant amount of time each month interacting with public officials/public institutions in order to understand and interpret laws and regulations applicable to your company?*



Source: personal processing and interpretation of data obtained from the questionnaire

Most economic agents prefer not to seek help from public institutions, which is why there are problems in paying and filing tax returns on time.

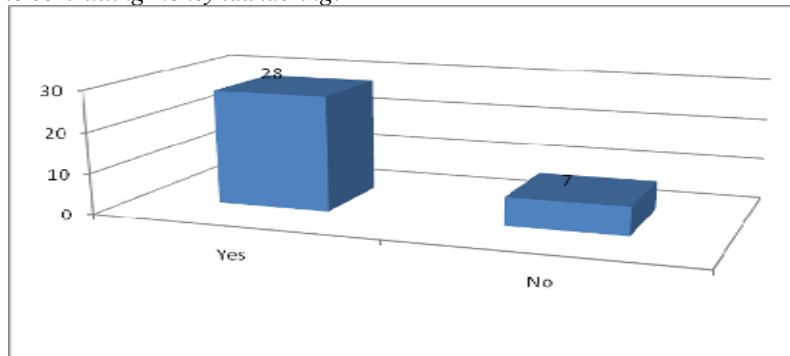
*Figure no. 11 - In your opinion, what are the main factors that lead companies in Romania to commit tax evasion?*



Source: personal processing and interpretation of data obtained from the questionnaire

High taxes are a major reason why taxpayers evade taxes, but greed is often a reason too. Most businesses take the risk of evading tax in the belief that they will not be caught, which is one of the signs of greed.

*Figure no. 12 - Do you consider that individuals/companies committing tax evasion are also susceptible to committing money laundering?*



Source: personal processing and interpretation of data obtained from the questionnaire



Money laundering means: transferring or exchanging property in order to conceal its origin, helping a person who has committed a crime to evade prosecution, concealing the means of origin of property which may be tangible or intangible, movable or immovable, possessing and obtaining property resulting from the commission of crimes.

## 5. Conclusions

Two categories of conclusions resulted from the completion of the research work: the conclusions of the theoretical part and the conclusions of the questionnaire.

### *A. Conclusions of the theoretical part*

In the first part of the study we focused on the study of legal and illegal tax evasion, its causes and effects.

A first conclusion refers to the lack of clear legal provisions in the tax legislation, which allow individual and legal taxpayers to evade taxes within the legal limits, and the state cannot protect itself without significant improvement. Legislation and procedure must be designed to prevent circumvention of the law. One of the major factors in favour of tax evasion is corruption coupled with the lack of professional competence of those in charge of financial control, which means that any tax evasion goes undetected. The main practices identified as most commonly used in the legal practice of evasion are reinvestment of assets.

If we are talking about taxpayers' creativity, it is very high in terms of extracting legal claims, and it cannot be stopped without researching and completing the existing tax provisions. The main culprit for the existence of tax evasion is the legislative body itself, which is taking a motivated passive stance with regard to the much clearer regulation of this area.

There are a number of mathematical methods for quantifying the impact of tax evasion, starting with a classical economic utility function that characterises the maximisation of the revenue that a tax evader wishes to earn. An equation can also be generated to estimate the likelihood of tax evasion in relation to various variables such as tax levels and their impact, the likelihood of tax audits, changes in penalty levels or corruption of tax authorities. Depending on the evasion model applied and its constraints, the conclusions drawn differ significantly. Excessive taxation could lead to an increase in undeclared work, or an increase in penalties could lead to a decrease in tax evasion.

### *B. Findings from the questionnaire*

Following the case study in the field of taxation, we identified several methods to combat EU fraud, namely :

- a detailed analysis of the risks associated with Community fraud;
- the use of risk assessment tools;
- identification of specific audit trails for each stage of the funding project;
- identification of the internal controls required to implement effective strategies to combat Community fraud.

For the improvement of fraud risk management we suggest :

- Implementation of regular fraud risk verification procedures, which clearly refer to the time period in which these verifications should be carried out
- Developing a general framework for fraud detection policies detailing each existing policy, how it is implemented and monitored;
- Continuously and regularly inform employees of the results of anti-fraud policies and educate employees on the effective implementation of these policies;
- Ongoing monitoring of control processes.
- In this way, the probationary period, which can now be extended by several years, would be greatly shortened and the state would benefit from more rapid collection of the budget revenue stolen by tax evasion.
- Legislative shortcomings can also be addressed operationally and corrected in a timely manner. Weaknesses in tax agencies are seen as one of the reasons for fuelling and increasing tax evasion, mainly due to misapplication and inadequate enforcement of the

laws adopted in this area, leading to an overall increase in the level of crime, even if this reduces tax pressure.

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## The Financial-Accounting Audit in Pre-University Educational Institutions in Romania

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### Abstract

*The purpose of the research is to identify the specific elements of the audit carried out in educational institutions in Romania. The objectives of the research are to offer some practical suggestions for carrying out an audit process in the school and to identify the steps followed in a financial-accounting audit mission. The audit carried out in pre-university education institutions in Romania aims to improve management, by providing assurance services, which represent objective examinations of evidence, establishing whether they operate economically, effectively and efficiently, to identify deficiencies and formulate recommendations for their correction.*

**Key words:** audit, pre-university education institutions, control

**J.E.L. classification:** I21, I25, M42

### 1. Introduction

"AUDIT - professional examination of information for the purpose of expressing a responsible and independent opinion in relation to a particular standard." (Explanatory dictionary of the Romanian language, 2009).

Auditing is a process by which data collected within a public or private entity is evaluated. This process is carried out periodically and from an objective perspective. Within the pre-university education institutions in Romania, several types of audit are carried out, as follows:

**a. System audit** – detailed assessment of management and internal control systems, with the aim of establishing whether they are functioning properly (economically, effectively and efficiently) and formulating correction recommendations in case deficiencies have been identified;

**b. Performance audit** – examination of the established criteria for the implementation of the objectives and tasks of the educational unit; correlation with the evaluation of the results and assessment of whether the results are in line with the objectives;

**c. Regularity audit** – examination of actions on the financial effects on account of public funds or public patrimony, in terms of compliance with all the principles, procedural and methodological rules that are applicable to them.

Financial reporting by companies is strengthened with auditors report where they opine whether or not the financial statements give a 'true and fair view'. 'True and fair view' is in existence since a very long time as compared to various other terms. Since its introduction, 'true and fair view' had faced a number of criticisms. Past researchers had tried to explore this concept. None of them managed to give any additional information than was traditionally available in the books (Evans, 1996).

According to the provisions of the Education Law, pre-university education units are financed by several main credit authorities, namely the Ministry of Education and the town halls of communes, cities and municipalities, county councils, the General City Hall of the City of Bucharest and the town halls of the sectors of the City of Bucharest.

## 2. Theoretical background

Most of the information about auditing in Romanian schools can be found on the page of the Ministry of Education. The management accounting field is just slightly covered by the studies conducted in Romania. Most of the published papers are oriented towards the identification of the existing management accounting tools and techniques and their use in practice. None of these papers approaches the behavior of the accounting information providers and users (Grosu, 2014, p.15).

Considering this specificity, in pre-university education units the right to carry out audit activities belongs to the internal public audit departments within the Ministry of Education, the town halls, the county school inspectorates and the School Inspectorate of the Municipality of Bucharest, as well as the public audit departments internal of the pre-university education units, as the case may be.

County school inspectorates are secondary credit orders, whose main credit orders is the Ministry of Education. With regard to the units subordinated to the school inspectorate, which do not have an internal public audit department, the audit will be ensured by the internal public audit department of the credit orders with the immediately higher rank, respectively the school inspectorate. The internal auditors within the school inspectorates audit both their own activity and that of the pre-university education units, for the public funds whose main orders of credits is the Ministry of Education.

International accounting research revolves around two major models: a) the eminently conceptual research or on the theoretical content of Accounting, known also as "a priori" research; b) empirical research that includes studies of different material content, all having as a common denominator the testing of a series of hypotheses by actually observing the behaviors or gathering opinions from the users of the information, using quantitative analysis techniques, to conclude the type of accounting information most suitable for the decision-making process (Garcia, 2012).

## 3. Research methodology

For the realization of this work, observational research methods were used, in which the researcher does not intervene at all (observation, study of official documents, biographies). Within the pre-university educational institutions whose main credit orders are the mayors of the communes, cities, municipalities or sectors of the Bucharest municipality, the internal auditors from the county school inspectorates will carry out the following internal public audit and control activities:

- **Evaluation of the activity of the leaders** of educational units from the point of view of financial and human resources management;
- **Thematic checks** based on notifications received at the county school inspectorates or at the request of the Ministry of Education and other bodies empowered to request these checks;
- **Verifying the objectives and activities** financed from the state budget, in accordance with the legal provisions, as follows:
  - the inclusion in the funds allocated by the Ministry of Education regarding the development of reform projects co-financed by the Government of Romania and international financial bodies, the repayment of external loans, according to the program established by the projects, the interest payments and commissions on the external loans related to these projects;
  - the legality of granting scholarships for students from the Republic of Moldova, foreign students and ethnic Romanians abroad, according to the legal provisions in force;
  - the legality of making expenses related to the organization of exams, contests, national olympiads;
  - the legality regarding the record and realization of expenses related to the activity of improving the professional training of teaching staff;
  - the reality of school units' reports regarding the number of students/preschoolers by education profile, number of classes, etc., in order to establish the indicative average costs per student/preschooler;
  - approving the budget projects of the school units, according to the methodological norms in force;
  - the legality of financing school textbooks, in accordance with the methodology developed by the Ministry of Education;

- fulfilling the obligations regarding the transmission of reports regarding the quarterly and annual budget execution, according to annexes no. 2 and 3 of the Methodological Norms for the financing of state pre-university education (Ministry of Education).

The internal auditors from the internal public audit departments within the county school inspectorates have the right to exercise the audit activity, including the certification of the accounting balance sheet and the budget execution account of the educational units, based on written decisions of the mayors, but also with the agreement of the heads of the county school inspectorates.

In order to carry out the tasks assigned to the internal public audit departments, the county school inspectorates can request, during the year and especially during the accounting balance certification periods, internal auditors assigned to the subordinate educational units.

At the level of state pre-university education units and related units, internal auditors may or may not be employed. The internal public audit departments established at pre-university education units carry out audit tasks for the economic-financial activity of the respective unit and of the district units, as the case may be, regardless of the source of funding - state budget, local budget, own revenues, etc. Internal auditors from these departments can carry out internal public audit activities or thematic checks in other educational units as well, at the request of the county school inspectorates or the mayor. Regardless of the institution where they are employed, these internal auditors exercise their legal duties based on joint written decisions of the mayors and the heads of the county school inspectorates.

#### 4. Findings

The audit aims to collect and evaluate some evidence regarding the information, in order to determine and report the degree of compliance of the respective information with a series of predetermined criteria. This activity must be performed by a competent and independent person (Bunget, 2010, p.7).

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Next, we will present specific aspects of the financial-accounting audit process carried out in pre-university educational institutions in Romania. Financial accounting audit is the analysis of the accounts and finances of an institution. In its case, the data from which the analysis starts are those on the cash flow and on the capital structure. A thorough financial audit will ensure that all processes are consistent. The financial audit represents:

- a. **Statutory audit** - an audit of individual or consolidated annual financial statements, carried out by an external and independent (statutory) auditor;
- b. **Formulating an opinion on the financial statements** or some of their components.

The roles of the financial accounting audit in a school are as follows:

- Identifying errors in accounting documents;
- Verification of compliance with the legislation within the audited school;
- Finding possible fraud;
- Calculation of the solvency rate of a school;

- Review of cash flows;
- Examining how working capital is managed.

The role and mission of the financial accounting audit is to create a clear and coherent picture of the accounting situation and the performances of the audited school institution. This process is carried out to find financial-accounting measures in order to achieve the institution's goals.

The financial audit involves the examination carried out by a competent and independent accounting professional on the financial statements of an educational institution, in order to express a professional opinion of the financial situation as well as the results/performances obtained by this educational unit.

The financial audit is carried out by financial auditors, natural or legal persons, who have acquired this quality and are members of the Romanian Chamber of Financial Auditors. The purpose of the financial audit is to express an objective and independent opinion regarding compliance with generally accepted accounting regulations. The internal financial audit is an internal control and accounting system, intended to predict and avoid the possible risks to which the educational institution is exposed in terms of its own operation.

The audit missions carried out within the state school institutions on the subject of financial-accounting activity, aim, as a rule, to provide independent assurance to the management regarding the functionality of the internal control system attached to the audited activity, as well as formulating recommendations for its improvement. This type of audit is compliance/regularity audit.

The purpose of the audit action in an educational institution consists in:

- The completeness and correctness of the management of the accounting registers;
- Compliance with the general accounting principles;
- Compliance with the rules for evaluating assets and liabilities;
- Compliance with accounting regulations in accordance with European directives.

The objectives of the audit action can be diverse (Figure no.1).

Figure no. 1. The objectives of the audit action



Source: Own contribution

The main activities carried out within the institution are the following: organization of accounting registers; accounting management; managing the financial activity; preparation of the accounting balance sheet; preparation of the budget execution account; organization of the reporting system; organization and performance of preventive financial control; the reliability of the IT system; organization of document archiving.

**Internal audit techniques** that can be used within an educational institution. The verification is carried out in order to ensure the validity, reality and accuracy of the accounting records of the documents and the agreement with the laws and regulations in force, as well as the effectiveness of the internal control through the following verification techniques:

- comparison: to confirm the identity of some information, after obtaining it from two or more different sources;
  - examination: to detect errors and/or irregularities;
  - recalculation: verification of calculation algorithms and mathematical calculations;
  - agreement: to carry out the process of matching two categories
- different registrations;
- confirmation: for requesting information from several sources independently for the purpose of validating them;
  - the guarantee: to verify the reality of the transactions registered starting from when examining records for supporting documents;
  - follow-up: to verify the procedures from the supporting documents to the registered article in order to establish the reality of the registration in totality of transactions.

**Other audit techniques:**

- Physical observation: in order to form an own opinion regarding the way of drawing up and issuing documents;
- The interview, notes of relations: it is carried out by the internal auditors by interviewing the audited, involved and interested persons and the information received, which must be supported by documents. For any additional explanations, written correspondence notes are requested.
- Analysis: consists in decomposing an entity into elements, which can be isolated, identified, quantified and measured separately.

The following *internal audit tools* can be used in carrying out the auditing process within educational institutions:

- *Acquaintance questionnaire*: to obtain information about the socio-economic context, internal organization, functioning of the audited school/structure;
- *Internal control questionnaire*: guides internal auditors in the activity of objective identification of dysfunctions and their real causes;
- *Checklist*: used to establish the regularity conditions that each auditable field must meet. It includes a set of operations to be completed by the auditor to analyze the internal control activities incorporated in the procedures, the existence of responsibilities for their performance and allows the establishment of compliance tests when various dysfunctions are reported.

The information necessary to audit the financial-accounting activity can be collected with the help of tools such as: the legal and regulatory framework applicable to the financial-accounting field; organizational chart of the educational institution; the organization and operation regulations of the educational institution; job descriptions; the written procedures that describe the activities carried out within the department; previous internal audit reports; other previous reports, notes, files that relate to this topic.

*The auditable objects* in the case of the audit of a pre-university education institution can be the following: Journal-register, Inventory-register, Ledger, Accounting of fixed assets and investments, Accounting of materials and materials, including those of the nature of inventory objects, Accounting of debts and receivables, Treasury accounting, Personnel expense accounting, Subsidy accounting, Transfer accounting, Inventory results accounting, preparation of trial balances, technical-operational records, payment/collection of debts, respectively receivables, activity of establishing and reporting taxes and fees owed to the state, the activity of obtaining extra-budgetary income, etc.

*In terms of risk analysis, several possible risks can be generated for each auditable object.* For the *Journal-Register*, these could be: the non-existence of written procedures/monographs on how to draw up the Journal-Register, failure to update the Journal-Register, erroneous completion of the Journal-Register with the help of computer systems for automatic data processing. For the *inventory-register*, the risks can be: the absence of written procedures/monographs on how to draw up the inventory-register, failure to designate the person responsible for managing the inventory-register, incorrect completion of the inventory-register, failure to systematically update the inventory-register.



*The risks attributed to the Big Book can be:* the incorrect completion of the Big Book register, the non-existence of written procedures/monographs on how to draw up the Big Book register, the non-designation of the person responsible for managing the Big Book register. A risk for the accounting of fixed assets and investments within the school unit could be the lack of written procedures/monographs regarding the accounting records of fixed assets and investments. *Other risks may be the following:* the procedures/monograph regarding the accounting record of fixed assets and investments is not known by the assigned personnel; not designating the persons responsible for managing the accounting records of fixed assets and investments; the erroneous highlighting of payments/expenditures made with the acquisition of fixed assets or the construction of objectives (custody, partial and final receipts, etc.).

***The accounting of subjects, materials including those of the nature of inventory objects within the educational institution can generate risks such as:*** the absence of written procedures/monographs regarding the accounting records of subjects, materials including those of the nature of inventory objects; the procedures/monograph regarding the accounting record of materials, materials including those of the nature of inventory objects is not known to the designated personnel; not designating the persons responsible for managing the accounting records of materials, materials including those of the nature of inventory objects; the erroneous highlighting of payments/expenditures made with the acquisition of materials, including those of the nature of inventory items; the erroneous highlighting of acquisition costs, processing and output value, by not respecting the principle of permanence of evaluation methods.

***Regarding the accounting of debts and receivables of a school, the associated risks may be the following:*** the absence of written procedures/monographs regarding the accounting record of debts and receivables; the procedures/monograph regarding the accounting record of debts and receivables is not known by the personnel assigned to its management; not designating the persons responsible for managing the accounting records of debts and receivables; failure to update amounts owed or to be collected; erroneous registration in accounts other than those related to the nature of these operations.

Treasury accounting can generate risks such as: the lack of written procedures/monographs regarding the organization and operation of the cash register; the non-existence of written procedures/monographs regarding the accounting records of cash and bank operations; the procedures/monograph regarding the accounting record of cash and bank operations is not known by the staff assigned to its management; not designating the persons responsible for managing the accounting records of cash and bank operations; the erroneous registration in other accounts of the amounts processed through the treasury, banks or cashiers; lack of supporting documents attached to account statements or to the cash register tab; not appointing the persons responsible for the systematic control of the cashier's activity; failure to ensure the security of the cashier's space (Financial Audit Manual).

***Regarding the accounting of expenses with teaching, auxiliary teaching and non-teaching staff,*** we can list the following risks: the absence of written procedures/monographs regarding the accounting record of staff expenses; the procedures/monograph regarding the accounting record of personnel expenses is not known to the personnel assigned to its management; not designating the persons responsible for managing the accounting record of personnel expenses; erroneous recording in the accounting of personnel expenses, etc.

***The risks associated with the accounting of subsidies of an educational institution*** can be: the absence of written procedures/monographs regarding the accounting records of subsidies; the procedures/monograph regarding the accounting record of the subsidies is not known by the staff assigned to its management; not designating the persons responsible for managing the accounting records of the subsidies; erroneous registration of the subsidy received; the lack of supporting documents for the registration of subsidies in the accounting.

***The accounting of transfers*** made in an educational institution can generate risks such as: the absence of written procedures/monographs regarding the accounting records of transfers; the procedures/monograph regarding the accounting record of transfers is not known to the assigned personnel; not designating the persons responsible for managing the accounting record of transfers; erroneous registration of the amounts transferred, differences between the amounts transferred and those highlighted; lack of supporting documents regarding the transfers. The information provided



by management accounting is intended, as a rule, for the management of patrimonial units, from different ones organizational levels, for making decisions that allow adaptability of patrimonial units to competitive market conditions (Feleagă, 1997).

**For the accounting of the inventory results, there are risks such as:** the lack of written procedures/monographs regarding the accounting records of the inventory results; the procedures/monograph regarding the accounting record of the inventory results is not known to the designated personnel; not designating the persons responsible for managing the accounting records of the inventory results; the erroneous highlighting of the differences resulting from the inventory, of the balances of the inventoried accounts in the Inventory Register; erroneous establishment of the balances of the inventoried accounts in the Inventory-Register; non-transmission to debtors of account statements regarding the amounts owed, etc.

According to Romanian legislation, diminishing **balance method and accelerated method** are regulated by the Resolution no. 909/1997 approving the Methodological Norms for applying Law no. 15/1994 regarding the depreciation of fixed tangible and intangible assets amended by Government Ordinance no. 54/1997 and Fiscal Code and are exemplified in the Methodological Norms of the Fiscal Code. Fiscal Code allows the use of accelerated method only for technological equipment, respectively machines, tools and plants, as well as computers and their peripheral equipment, for building is available only the straight line method and for the rest of the PPE there is the possibility to chose between straight line method and diminishing balance method - Law 571/2003 in conjunction with the HG 44/2004 regarding the Fiscal Code and Implementing Rules (Buculescu, 2014, pp. 774-799).

**The establishment of the risk level and the total risk score** is carried out on the basis of the information and documents found within the pre-university education institution in the management, accounting, administration and secretarial departments, as well as the personal expertise of the auditors in the field and information from the mass media or from the Internet. At the same time, internal auditors, depending on the number of people assigned to the mission, as well as the time, can establish the total score of the risks of the respective operation/activity, based on the calculation formula (Figure no.1).

Figure no. 1. Risk calculation formula

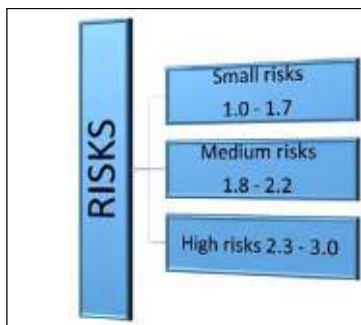
$$P_t = \sum_{i=1}^n N_i \times P_i$$

$P_t$  – total score;  
 $N_i$  = risk level for each criterion used;  
 $P_i$  – weight of risk criteria.

Source: Own contribution

Risks can also be grouped into three categories (Figure no.2).

Figure no. 2. Risks categories



Source: Own contribution

The development of the document regarding the establishment of the risk level and the risk score in a school presents a relatively high degree of subjectivity and for this reason internal auditors can make changes throughout the audit mission, especially during the on-site intervention stage, according to the information on who collects them. As a rule, the weight of medium risks should be below 10%, because this denotes a choice on the part of the auditors, regarding the category of risks in which to include them, considering that the audit will include high and medium risks as significant risks.

Next, it is necessary to prepare the document regarding the ranking of operations according to *the risk analysis*, which divides the risks, grouped by auditable objects and objectives, into 3 risk categories, small, medium and large, established in the previous phases of the Risk Analysis procedure. Small risks will be eliminated from the audit, and large and medium risks, considered significant risks, will enter the risk ranking phase and will be taken over in the strengths and weaknesses table.

In the phase of ranking the operations according to risks, in which only the significant risks will enter, the document Table of strengths and weaknesses will be developed, through which auditable objects will be identified, evaluated as strengths, which will be eliminated from the audit, and the other auditable objects considered to be weak points will still remain in the audit (Financial Audit Magazine).

The evaluation of the operations identified as strong points is carried out by assessing the functionality of the internal control system of the audited activities, which thus limits the effect of the risks associated with them. Next, we will present a model of the structure of the Table of strengths and weaknesses (table no. 1).

*Table no. 1 Table of strengths and weaknesses*

No.	Objectives	Auditable objects	Significant risks	Points	Consequence of internal control functioning-non-functioning	Degree of trust of the internal auditor in internal control	Remarks
1.	ORGANIZATION OF ACCOUNTING REGISTERS						

*Source:* Own contribution

## 5. Conclusions

Carrying out a financial-accounting audit within a pre-university education institution will provide a summary of all the institution's activities, being of great help to the management in detecting possible errors in the accounting registers. In many situations, such an audit reveals irregularities that are difficult to identify by other methods. Carrying out a financial-accounting audit in a school unit has a significant contribution to institutional development, adding value to the entire activity carried out. The information obtained from this audit is the basis for decisions regarding the correct and balanced development of the school's financial plan. In other words, the financial-accounting audit represents the main pillar in the adoption of institutional development strategies by the management department.

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# The Interdependence of the Stock Markets Developed in Central and Eastern- European Stock Markets - Represented by the Stock Indices

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## Abstract

*In our research, we looked at how the interdependence of stock markets has changed over time. For this, we looked at three stock markets in Europe: one in Western Europe that is well-developed, one in Central Europe that is medium-sized, and one in Eastern Europe that is less well-developed. In the analysis, stock indices from these markets were used. For the western market, we examined the indices KAK40 for the French stock market, DAX for the German stock market, and FTSE100 for the British stock market. The PX index in the Czech Republic and the BUX index on the Hungarian stock exchange were examined for the average market in Central Europe, and the BET index in Romania and the LJSEX index in Slovenia were examined for the less developed market. The linear and nonlinear Granger tests conducted on the closing rates of the corresponding stock exchanges were correlated without the use of the conditionality clause. The first three stock markets (Germany, France, and Great Britain) were found to be more interdependent than the Romanian and Slovenian markets, which displayed a weaker connection. The Granger tests were used to come to the conclusion that there are various statistically calculated levels of stock market returns that result from the interdependencies between the three types of financial markets examined.*

**Key words:** stock markets, global crisis, stock market return, correlation, Granger causality

**J.E.L. classification:** F21, F36, G11, G15

## 1. Introduction

The capital markets in Slovenia, the Czech Republic, and Hungary have some things in common: a recent post-communist history; a small market capitalization; and a small percentage of listed companies are owned by joint holding companies (together with the Vienna Stock Exchange, these three CEE stock exchanges form the CEE Stock Exchange Group).

These stock markets have been similarly impacted by the global pandemic crisis in terms of declining stock market liquidity, rising price volatility, and declining stock market investors. Additionally, there are a few significant variations between them: The Slovenian market has attracted fewer foreign investors than the Czech and Hungarian stock markets, which also have lower turnover and liquidity than their post-communist counterparts (Caporale and Spagnolo, 2010).

The integration of the stock market, the co-movement, and the spread of profitability between developed and developing stock markets (CEE markets) are very important to international investors. Greater stock market co-movement may not be advantageous for globally diversified investment portfolios (Ling in Dhesi, 2010). Additionally, if profitability series spillovers are discovered, then it may be possible to exploit the strategy's profits, which is unfavorable to market efficiency criteria (Harris in Pisedtasalasai, 2005).

According to Ling and Dhesi (2010), a symmetrical, linear dependency metric called linear correlation, also known as Pearson's correlation coefficient, is the most popular way to assess stock market movements. It can be used to assess dependence in multivariate normal distributions (Embrechts et al., 1999). Although they can change over time, correlations are not always nonlinear (Ling and Dhesi, 2010; Egert and Koenda, 2010). Additionally, the dependence between

two stock markets may differ from the dependence when the market declines ( Necula , 2010). The interdependencies of the stock market may be better understood by using econometric techniques. For this purpose, the VAR (Vector AutoRegression) method is frequently used (eg, Malliaris and Urrutia, 1992; Gilmore and McManus, 2002; Tudor, 2010).

Our goal is to examine the degree of co-movements and the return distribution between the developed European stock markets and the CEE stock markets, which are less developed. LJSEX, PX, and BUX stock indices from Eastern and Central Europe, as well as ATX, CAC40, DAX, and FTSE stock indices from Western Europe, were examined. The daily profitability series was examined using Granger unconditional correlation analysis and causality tests (based on VAR models) from 1 April 1997 to 12 May 2010. Three sub-periods were established, namely the pre-accession period to the European Union, the accession period , and the pandemic crisis period, in order to track changes in co-movements and spillovers throughout the investigation period.

## 2. Literature review

Greater interdependence between CEE stock exchanges and more developed European stock markets should result from the ongoing integration of CEE nations into the economic ideals of the European Union and from the globalization of global financial markets. Correlation analysis, Granger's causality testing mechanism, and cointegration analysis are frequently used in the more recent empirical literature that discusses the interdependence between CEE stock markets and more developed stock markets.

In their 2005 study, Serwa and Bohl examined the interdependence of 17 European financial markets, specifically those in Central and Eastern Europe (Czech Republic, Poland, and Hungary), while also examining the market's seven periods of financial stress between 1997 and 2002. To assess interdependence and breakdowns in stock market relationships, use correlation coefficients. After the crisis, there has been a significant amount of market link instability. The authors came to the conclusion that stock markets in Western and Eastern Europe are equally susceptible to contagion.

Syllingnakis and Kouretas conducted studies on medium- and long-term interdependence in countries in Central and Eastern Europe and on the German and American advanced financial markets, respectively (2006). There were frequent analyzes of patterns in the weekly yields of representative stock indices between January 1995 and December 2005. The findings show that stock markets are only partially integrated because they share more long-term trends than short-term ones. We can also demonstrate that the German and American stock exchanges, along with the five stock markets in CEE (the Czech Republic, Hungary, Poland, Slovenia, and Slovakia), have a significant common permanent component that drives this stock market system on a long - term.

Before, during, and after significant emerging market crises, Patev et al. (2006) looked into the CEE equity market co-movements (the 1997 Asian crisis, the 1998 Russian crisis and the 1999 Brazilian crisis). The idea of co-integration serves as the study's foundation. Three CEE stock markets—the Czech Republic, Hungary, and Poland—as well as the Russian and American stock markets are included in the study. The monthly returns span the months of August 1996 through August 2001. According to the findings of cointegration analysis (Johansen test), there is no long-term correlation between the US stock market and the four stock markets in Central Europe. The authors discovered a feedback effect and causality in one direction both during and after the crisis period by employing the Granger causality test. In times of crisis, portfolio benefits are reduced; however, in times of recovery, they have increased.

Three measures were developed as a result of Harrison and Moore's (2009) analysis of the level of interdependence between stock exchanges in CEE countries and those in Western European markets (UK and Germany). The measurements, which used unit root tests with temporal variation and recursive cointegration statistics, covered the years 1990 to 2006 and were based on daily yield series. With the exception of the Czech Republic, Hungary, and Poland, where the correlation was average, there was little correlation between the daily yields in CEE nations and those in Western Europe.

The connection between the stock exchanges in these financial markets can be regarded as consolidated even in these circumstances. According to research, stock markets experience comparable shocks and, implicitly, experience comparable daily return fluctuations. However, it has also been discovered that stock prices do not always tend to maximize Western European stock prices.

Horobet and Lupu (2009) conducted research on the integration of five Eastern European markets (Czech Republic, Poland, Romania, and Hungary) in comparison to the Russian market and the developed financial markets in the EU in the period from 2013 to 2017. According to research, there is good market integration in terms of reaction times. Given that information flows in both directions, from developed markets to emerging markets and vice versa, this research, which used Granger cointegration and causality tests, came to the conclusion that markets respond quite well to the information contained in the yields of other markets.

Allen et al. (2010) examined the effects on these investors of the expansion of European financial markets to young financial markets in Eastern Europe. Data from two sub-periods, pre- and post-crisis, covering the period from January 2020 to September 2021, were examined for 12 countries in Central and Eastern Europe. According to the correlation study, the financial markets in Hungary, Poland, and the Czech Republic were much better correlated with each other than other markets in Eastern Europe during the pre- and post-crisis periods.

Between January 2020 and March 2021, an estimate was made using the "VAR-GARCH-on average" model (Corporal and Spanish, 2020) using weekly yield data to determine the correlations of volatility between the financial markets of three CEE nations. Poland, Hungary, and the Czech Republic), as well as the Moscow and London stock exchanges. According to the empirical research, regional ties have gotten stronger, and using the Markowich model to diversify a portfolio has turned into an investment strategy with lower returns. Given these facts, we can say that the financial markets in CEE and Western European nations have become more integrated.

Analysis of intraday correlations between the DAX, CAC40, and FTSE100 indices in Western Europe and the BET and SOFIX indices in Eastern Europe by Égert and Koenda (2007) and the three Central European stock markets (BUX, PX, and WIG20 indices, respectively). For the time frame of June 2013 to February 2016, five-minute intervals were used. No significant cointegration relationship was discovered for any of the stock index pairs as a result of this research.

Eastern European stock market indices have a lower correlation coefficient (around 0.2), while Central and Western European stock markets have a slightly higher correlation coefficient (around 0.3), and Western European stock markets have much stronger correlation coefficients between the indices DAX, CAC, and FTSE (approx. 0.8-0.9). Through the Grange model, our research has also discovered important causal relationships: stock returns in Frankfurt, London, and Paris have a predictive power for the profitability of stocks in the three CEE countries. While the profitability of the stock markets in Central and Eastern Europe is influenced by one another, it is similar to the return on shares in the design of the DAX, FTSE, and CAC stock market indices.

Using yield data from January 2016 to March 2019, Tudor (2010) examined the causal link between Central and Eastern European stock markets (Czech Republic, Hungary, Bulgaria, Poland, Russia, and Romania) and US stock markets. Specifically between those markets with a lower degree of interconnection prior to the crisis (Bulgaria, Romania), it was noted that the effects of the financial crisis increased interconnections between the analyzed markets. However, the opposite was also discovered. The Granger causation test was also used to confirm the findings regarding the rise in interconnection following the financial crisis.

### **3. Research methodology**

Our study is based on the analysis of correlations and causal relationships between the US financial market and six CEE financial markets (the Czech Republic, Hungary, Bulgaria, Poland, Russia, and Romania), using daily yield data from January 2016 to March 2019. We discovered that the financial crisis resulted in a confirmation of the connections between the observed markets, particularly between the less connected markets (Bulgaria and Romania), while the opposite was discovered for the stock exchanges in the Czech Republic and Hungary. The findings of increased interconnection following the financial crisis were confirmed using a Granger causality test.

In developed markets like the DAX, FTSE, and ATX, as well as MSCI indices and European EAFE and EMEE indices, closing weekly prices were applied. The use of weekly closing prices in Hungary, the Czech Republic, Poland, and Romania was necessary for the analysis of the dynamics of CEE nations. The data were pulled from DataStream between July 2020 and June 2021 since Romania joined later.

The developed capital markets were also represented by the EAFE index. The data for the weekly macroeconomic indicators, including the price of oil (WTI), the price of gold on the London Metal Exchange, the interest rate for 3-month TBILL bonds (TB3M) and 10-year maturity bonds (DG10Y), and the euro/USD exchange rate, were provided by the FRED bases.

#### 4. Findings

Granger's unconditional correlation and causality tests for logarithmic daily closing price differences for stock indices, including the LJSEX (Slovenia), PX (Czech Republic), BUX (Hungary), ATX (Austria), CAC40 (France), DAX (Germany), and FTSE100, served as the foundation for our study (UK). indicators recorded from April 1997 to May 2020. The analysis period's days without trading were excluded. 3060 days in total were examined. The ATX, CAC40, DAX, and FTSE100 indices' data were retrieved from Yahoo Finance, whereas the LJSEX, PX, and BUX indices' data were obtained from the relevant stock exchanges.

From the analysis of the descriptive statistics, a higher spread was observed between the maximum and minimum daily yields at the PX and BUX indices, as well as at the other indices. The lowest standard deviation in daily yields was recorded in the LJSEX index.

It is useless to alter the normal distribution or any other perfectly symmetrical distribution. The distribution of the data is more to the left than to the right of the average if the statistical result is negative. The data dissipates further to the right in the case of positive asymmetry.

Kurtosis: The normal distribution's kurtosis is 3. When a distribution's kurtosis is greater than 3, it has a fat tail; when it's lower than 3, it's less likely to have values that deviate from the norm.

Jarque-Bera test: the alternative is that the sample data do not come from a normal distribution, while the null hypothesis is that they do come from a normal distribution with an unknown mean and variance.

Statistics from Jarque-Bera: The null hypothesis (of a normal distribution) is rejected at a significance level of 1% (the null hypothesis is also rejected at a significance level of 5 % and 10%, respectively).

Stock index yields' unconditional correlation coefficients - the entire observation period (1.4.2020 - 12.5.2021)

We should note that all correlation coefficients have a significant difference from zero to a variation of 1%.

The CAC40, FTSE100, and DAX stock indices have the highest correlation rates. According to the empirical literature that has already been published (such as Serwa and Bohl (2005) and Harrison and Moore (2009)), the financial markets for these indices are most effectively integrated. The most interconnected indices were the CAC40 and FTSE100, with a correlation coefficient of 0.871. LJSEX, PX, and BUX exhibit less co-movement with the other developed European financial markets and EEC financial markets. According to our research, the Jarque-Bera test disproves the idea that a time series observed with a normal distribution because all indices are distributed asymmetrically (to the left) around the sample mean and the kurtosis is higher than it would be for a time series with a normal distribution.

With ATX, BUX, and FTSE100, the PX index is highly mobile. Compared to PX, BUX is marginally less linked to the measured stock indices. The strongest ties are with PX, DAX, and ATX. The Austrian stock exchange has a lower connecting power than the major European markets but is more connected to global markets than the EEC markets (CAC40, DAX and FTSE100).

The interdependencies between all stock market pairs were lower in the first sub-period than in the second. In all three subperiods , the Slovenian stock market underperformed other markets. In the second subperiod , the dynamics of Czech stock market returns with the development of the European markets were higher than in the Hungarian one, suggesting that the Czech stock exchange may be more closely connected to the European stock markets than the Hungarian stock

exchange. The interdependence of CEE has increased as a result of European integration, and financial markets have grown. For developed markets, this analysis supports the findings of Bessler and Yang (2003), as well as Syllignakis and Kouretas (2006), Harrison and Moore (2009), and Allen et al. (2010) for EEC observed markets. Unconditional correlation coefficients of stock market index yields from the time CEE countries joined the EU until the start of the global pandemic crisis (1 May 2020 - 15 September 2021).

According to the analysis, stock market interdependence grew during a crisis. This finding applies to the most recent global financial crisis, which we can confirm. The interdependence of stock markets has grown since the start of the global pandemic crisis. Higher correlation coefficients than in the previous two periods can be found for all index yield pairs. The advantages of portfolio diversification in these markets have been lessened by a strengthening of interdependence.

## 5. Conclusions

The size of the financial markets in Western Europe and Central and Eastern Europe was examined in our research. Using stock indices, yield distribution and profitability spreads were examined. Four stock indices from developed stock markets (ATX, CAC40, DAX, and FTSE) and three EEC stock indices (LJSEX, PX, and BUX) were also used. The daily return series between April 2020 and May 2021, which was split into three subperiods: the pre-accession period, the accession period, and the period of the global pandemic crisis, was subjected to the Granger unconditional correlation study and causality tests (based on Vector AutoRegression models).

The following conclusions were reached:

- i) The stock exchanges that are best interconnected are CAC40, FTSE100 and DAX. The stock exchanges in France, Great Britain and Germany seem to be the most connected, a fact often observed in the existing literature;
- ii) CEE financial markets have shown a low degree of connection with other CEE and developed European financial markets;
- iii) Of the stock market indices analyzed, the Slovenian stock exchange was the least correlated with other stock markets;
- iv) It is not only the stock market returns in the developed stock markets of Austria, France, Germany and the United Kingdom that Granger causes stock returns in the three CEE markets - the stock market return in the CEE also influences the performance of the shares in developed markets;
- v) European integration and the global pandemic crisis seem to have strengthened the interdependence between CEE and developed stock markets (measured by correlation coefficients and the strength and number of causal links Granger).

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## The Analysis of Equity Capital of an Economic Entity in Romania

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### Abstract

*Regarding the complexity of the problems that society is facing today, the need for some ways to approach and analyse the phenomena, capable of ensuring a dynamic between micro and macro societal level interests, as well as the need for operational action solutions, based on a well-founded management on sustainable development models, able to face the new demands imposed by the competition of innovative economies led us this research. The current dimensions of the equity sources and its impact on enterprises acquire new values in their sustainable operation, and the assessment of own capital serves as the basis for calculating the indicators that characterize the financial state of enterprises. Therefore, the authors intend to develop an equity analysis on the example of S.C. AS Construct SRL Ilfov S.R.L, using both the 2019-2021 financial statements and the comparative analysis. The paper ends with the authors' conclusions regarding the possibilities of increasing the efficiency of the use of own capital by economic entities.*

**Key words:** analysis of the financial-property situation, equity, economic entity

**J.E.L. classification:** M21, M49

### 1. Introduction

The evolution of today's society is characterized by a new visionary context, promoting ideas aimed at shaping a more attractive future, in which people move from the current mentality to a social, economic, cultural, spiritual, and technological evolution - aimed at converging towards well-being population and the health of the planet. In recent years, economic entities have constituted the basic pillar of the economy for EU member states, representing the key sector for the country's economic growth and sustainable development. As a result of the restructuring of the economy, economic entities contributed to the absorption and creation of a considerable number of jobs, generating a strong impact on the process of adapting production to the new market requirements.

Without the existence of resources and the means that generate the resources, the efficient and systematic operation of an economic entity is unlikely. For its financial sustainability, the essential element is capital. The concept of capital, along with the development of economic thinking, was assigned concrete meanings and approaches, corresponding to the dominant paradigms of economic analysis in the development of society.

In the market economy, the company's financial policy is the key to increasing its financial potential, the indicators characterizing its financial condition being based on the valuation of its equity. (Dura et al., 2012, p.73). Equity analysis is the basis for identifying the primary components and determining the consequences of their changes on the company's financial stability. The dynamics of changes in equity determine the volume of borrowed and attracted capital.

The problem that must be identified with priority by an economic entity is the source of monetary capital for financial activities, ensuring the circulation of money and creating the conditions for its economic growth. In the process of economic activity, there is a constant rotation of capital through the prism of the fact that, successively, the monetary form changes into the material one, which in turn changes by taking various forms, according to the conditions of production and the activity carried out by each individual economic entity, so that in the end, the capital turns back into money.

Therefore, capital is the means owned by an economic entity to carry out economic activities, with the obvious purpose of obtaining profit.

Any investor, regardless of the activity he carries out or the form of ownership, aims to obtain the highest possible profits and to keep the economic entity on the market for as long as possible (Stancu *et al*, 2020, p.59). For having a clear picture of the value of the economic entity, it is absolutely necessary to draw up annual financial statements and periodic accounting reports. To identify the most significant indicators that characterize the financial activity of an economic entity, the data from the accounting balance are used.

Based on the elaborated reports, certain indicators can be determined, the structure ratios can be calculated, and the financial-property structure of the respective entity can be determined, highlighting its state of financial balance (Răscolean, 2014, p.112). The optimal financial structure reflects that composition of capitals, which allows economic entities to achieve the established objectives, in accordance with market requirements and to maximize market value. The financial base of an economic entity consists of its equity.

At the base of the management of the company's equity is the management of the formation of its own financial resources (Stancu, 2022, p.56). For ensuring the efficiency of the administration of this process, the economic entity develops a financial policy aimed at attracting financial resources from various sources, in accordance with the needs of its development, from the next period.

## 2. Theoretical background

Over time, within the economy, the nature and importance of enterprises has been the object of study of numerous specialized works, and the changes and evolutions of the concepts related to the equity of an economic entity can be traced over time. The term *capital* comes from the Latin language, from *capita* (Stancu, *et al*, 2012, p.133). In ancient times, livestock owners would lend a number of cattle "heads". The loan, at first, had to be repaid exactly in the borrowed amount, and later, with a surplus with an interest. The capital is therefore the good that multiplies the initial wealth many times more than any other known good or action. The first theoretical approaches regarding the content of capital appeared since antiquity, in the work of Aristotel (384-322 BC) in the form of the notion of wealth. Analytical spirit, Aristotle distinguished between the direct exchange between products or goods for goods (M-M), which existed before the appearance of money, and the mediated exchange of money. Aristotle's logic regarding the prehistory of the economic theory of capital was the starting point for the classics of political economy and for K. Marx.

The term capital was introduced into the economic language since the XI-XII centuries. Initially, this term was assigned the meanings of: fund, stock of goods, clod for a business, income-generating money (interest). In the XIII-XIV centuries, the term capital begins to be used with the meaning of wealth, monetary assets, value, funds, self-valued value, patrimony. For the first time, Quesnay suggests the idea of dividing the capital into: initial advances (fixed capital) and annual advances (circulating capital), depending on how it is allocated (at the beginning of the agricultural activity or during the development of the agricultural activity). The modern meaning of the notion of capital was consecrated by economic theory at the end of the 18th century by the French physiocrat A.R.J. Turgot, (1727-1781) who, as early as 1770, wrote "capital no longer means only money, but more, participation in the production of values and profit". The peak moment of classical economic liberalism was the works of Adam Smith and David Ricardo. Such simplistic approaches, at first sight, have their origins in economic scientific works published over time. Therefore, an elaborate analysis of the origin, division and circulation of capital is as interesting as the analysis of the nature and importance of economic entities in society.

From a theoretical point of view, reference publications, both by national and foreign authors, were used as the basis for the elaboration of this work, the annual financial statements and accounting reports being used as an informative basis.

### **3. Research methodology**

During the research, the authors respected the specific rules of the research methodology, such as: reviewing the specialized literature, collecting, and processing conclusive data and information and synthesizing the theoretical aspects. Among the specific research methods, the authors focused on observation, statistical grouping, deductive research, comparison, and case study including the economic analysis of the main economic-financial indicators and finally, the interpretation of the obtained results. The theoretical research focused on the analysis and description of the current state of knowledge as a result of the documentation from a theoretical point of view, and the empirical research complemented the theoretical research with the translation into practice of information regarding the analysis of economic-financial indicators and the degree of financial use of resources within an economic entity. The entire research process was subject to rules regarding the rigor of the research, its objectivity and probity, in order to obtain valid and reproducible results.

### **4. Findings**

#### **4.1. The Role of Analysing the Financial-Patrimonial Structure of an Economic Entity**

The elaboration of the financial and accounting statements of the economic entity, at the end of each financial year, are the basic source of the economist in the financial analysis. The analysis of the financial-patrimonial structure carried out for each individual year will present us, through the obtained indicators, the economic reality of the entity and its mode of operation during the analysed period.

The calculation of these indicators has the role of helping the business environment and enables investors to intervene by applying decisions where the entity registers structural rates with unprofitable indicators by remedying them. The financial indicators allow us, through the obtained results, to hold stocks of information about the economic performance of the entity, but also about its market ranking position in the field of activity (Răscolean *et al*, 2021, p.79).

Also, the analysis of the financial-patrimonial structure allows a comparison, between the basic entity and the association with other competitive entities that have the same field of activity, and which are assets on the Romanian market at the time of the comparison.

At the same time, in the analysis of the structure of assets and liabilities, the economic indicators can be calculated, the working capital, the working capital requirement and the net treasury can be determined, using the information that was detailed in the financial statements, by the responsible person within the entity/company, at the end of each calendar year. The role of preparing financial statements is, among other things, their transmission to third parties and to satisfy the need of all users interested in the financial status of the economic entity and its patrimony.

All analysis models of the financial-property structure are calculated in percentages, in days or in absolute values depending on the indicators required by the users interested in the functioning of the entities. The role of this analysis of the financial-patrimonial structure is to allow a wider knowledge of the entity's patrimonial situation and to achieve and exceed the estimated financial profitability in the medium and long term (Stancu *et al*, 2015, p.133).

#### **4.2. The Analysis of the Financial and Patrimonial Structure at S.C. AS Construct S.R.L. Ilfov**

The analysis of the financial-patrimonial structure based on the balance sheet aims to analyse the stage in which the economic entity is, the financial balance, the financial potential in the future, the realization of profit or loss, the total assets, the equity capital and the market competition. Having a great importance in the evaluation of the entity, is the net result of the exercise resulting from the analysed financial statements, for the fiscal period of the years under study 2019-2021 and especially the second part of the accounting balance sheet, where the evolution of equity from the analysed period can be observed.

From the annual financial statements, respectively the abbreviated balance sheet and the primary record documents that reflect the means and sources of financing, as a result of the analysis for the financial-property structure, it will be possible to know: the level of the investment made, the size of

the expenses and the degree of the capital use. From the analysis of the asset and liability structure ratios, the evolution of the economic entity's patrimony and the level of liquidity for the period 2019 – 2021, the following data, which are contained in table no.1, resulted.

Table no. 1. The Financial-Equity Capital Analysis Structured by Asset and Liability Elements at S.C.AS Construct SRL Ilfov

- lei -

Assets/Liabilities Element Name	Year 2019	Year 2020	Year 2021
<b>Fixed Assets - Total, of which:</b>	<b>267.040</b>	<b>47.433</b>	<b>32.801</b>
Intangible Assets	2.209	2.209	2.209
Tangible Assets	170.565	45.224	30592
Financial Assets	94.267	-	-
<b>Current Assets - Total, of which:</b>	<b>1.615.560</b>	<b>1.559.833</b>	<b>1.367.574</b>
Inventories	1.022.606	988.297	1.091.273
Claims	347.141	247.917	119.805
Available	245.813	323.619	156.496
Prepayments	-	217.643	-
<b>Total Assets</b>	<b>1.882.500</b>	<b>1.607.266</b>	<b>1.400.375</b>
<b>Total Equity, of which:</b>	<b>1.365.738</b>	<b>1.025.990</b>	<b>939.369</b>
Social Capital	440	440	440
Legal Reserves	88	88	88
Reported Result	1.067.667	981.775	823.232
Exercise Result	297.631	43.686	115.609
Profit Distribution	88	-	-
<b>Total Debts, of which:</b>	<b>516.863</b>	<b>798.919</b>	<b>461.006</b>
Debts < 1 year	468.181	757.463	205.836
Debts > 1 year	48.682	47.456	255.170
Revenue Recorded in Advance	-	-	-
<b>Total Liabilities</b>	<b>1.882.601</b>	<b>1.824.909</b>	<b>1.400.375</b>

Source: authors' processing

The following can be seen from the data presented in the table: the sales in 2020 increased, which caused a decrease in the outstanding debts; the stock is kept relatively constant, following the buyers' requirements more closely; the amount of 217,643 lei recorded in advance expenses in 2020 which represents the rent paid in advance for the commercial space.

#### 4.3. The Analysis of the Indicators that Characterize the Equity Capital of S.C. AS Construct S.R.L. Ilfov

Using the information summarized in the annual financial statements of the analysed economic entity, a series of financial indicators can be calculated that allow, through the results provided, a pertinent analysis of the economic performance, and a ranking of it within the field of activity.

##### 4.3.1. The Analysis of Equity Capital Utilization Indicators in Relation to Total Assets

$$K = \frac{\text{Equity Capital}}{\text{Assets Total}} \times 100$$

Table no. 2. The Equity Capital Utilization Ratio Relative to Assets

- lei -

Element name	Year 2019	Year 2020	Year 2021
Equity Capital	1.365.738	1.025.990	939.369
Total Assets	1.882.500	1.607.266	1.400.375
K (coefficient)	72,55%	63,83%	67,085

Source: authors' processing

This indicator shows to what extent the economic entity uses its equity capital in relation to its assets, an improvement can be observed in 2020 and 2021 compared to 2019, in percentage of 8.72% in 2020 and 5.47% respectively in the year 2021.

#### 4.3.2. The Global Financial Autonomy Ratio (R<sub>afg</sub>) or Patrimonial Solvency

$$R_{afg} = \frac{\text{Equity Capital}}{\text{Liabilities Total}} \times 100$$

Table no. 3. The Global Financial Autonomy Ratio

- lei -

Denumire element	Year 2019	Year 2020	Year 2021
Equity Capital	1.365.738	1.025.990	939.369
Total Liabilities	1.882.601	1.824.909	1.400.375
R <sub>afg</sub>	72,55%	56,22%	67,08%

Source: authors' processing

The analysis of this indicator shows that the share of equity capital in liabilities total decreased in 2020 and 2021 compared to 2019, by 16.33% and 5.47%, respectively, which indicates that the entity resorted to new loans, as no new ones were recommended loans.

#### 4.3.3. The Term Financial Autonomy Ratio

$$R_{atf} = \frac{\text{Equity Capital}}{\text{medium and long term debt}} \times 100$$

Table no. 4. The Term Financial Autonomy Ratio

- lei -

Element name	Year 2019	Year 2020	Year 2021
Equity Capital	1.365.738	1.025.990	939.369
Medium and Long Term Debts	48.682	47.456	255.170
R <sub>atf</sub>	2805,43%	2161,98%	368,13%

Source: authors' processing

As a result of the profitable development of the activity, the own capital is sufficient for the full coverage of the debts of more than one year, the financial autonomy in the term presenting values much higher than the minimum threshold allowed throughout the analysed period. The negative variation of this indicator is due in 2020 and 2021, respectively, to the increase in the level of medium and long-term debt.

#### 4.3.4. The Global Debt Ratio (R<sub>ig</sub>)

$$R_{ig} = \frac{\text{Total Debt}}{\text{Equity Capital}} \times 100$$

Table no. 5. The Global Debt Ratio

- lei -

Element Name	Year 2019	Year 2020	Year 2021
Equity Capital	1.365.738	1.025.990	939.369
Total Debts	516.863	798.919	461.006
R <sub>ig</sub>	37,84%	77,87%	49,08%

Source: authors' processing

The global indebtedness rate increases in 2020 and 2021, respectively, compared to 2019, as a result of debts to the state budget and the increase in the number of personnel. However, the value of this indicator does not exceed the 200% threshold, although the variation over time is negative.

#### 4.3.5. The Term debt rate (R<sub>it</sub>)

$$R_{it} = \frac{\text{Medium and Long Term Debts}}{\text{Equity Capital}} \times 100$$

Table no. 6. The Term Debts Ratio

- lei -

Element Name	Year 2019	Year 2020	Year 2021
Equity Capital	1.365.738	1.025.990	939.369
Medium and Long Term Debts	48.682	47.456	255.170
R <sub>ig</sub>	3,56%	4,63%	27,16%

Source: authors' processing

Although there is a negative increase in the term debt ratio, from 3.56% in 2019, to 4.63% and 27.16%, respectively, the economic entity presents this indicator below the maximum allowed level of 100%.

#### 4.3.6. The Financial Return (ROE)

$$ROE = \frac{\text{Net Profit}}{\text{Equity Capital}} \times 100$$

Table no. 7. The Financial Return (ROE)

- lei -

Element Name	Year 2019	Year 2020	Year 2021
Equity Capital	1.365.738	1.025.990	939.369
Net Profit	- 69.026	27.392	63.026
ROE	- 5,05%	2,67%	6,71%

Source: authors' processing

This is one of the most important indicators for measuring the performance of an entity, it basically represents the contribution of associates to the financing of the business.

#### 4.3.7. The Equity Capital to Operating Cash Flow Coverage Ratio (RCFNO)

$$RCFNO = \frac{\text{Operating Cash Flow}}{\text{Equity Capital}} \times 100$$

Table no. 8. The Equity Capital to Operating Cash Flow Coverage Ratio (RCFNO)

- lei -

Element Name	Year 2019	Year 2020	Year 2021
Equity Capital	1.365.738	1.025.990	939.369
Operating Cash Flow	59.491	- 32.195	64.360
RCFNO	4,35%	-3,13	6,85%

Source: authors' processing

The Equity Capital to Operating Cash Flow Coverage Ratio in 2020 decreases compared to 2019, reaching -3.13%, the value of operational payments exceeding the value of sales receipts and other additional receipts, but the situation recovers starting from 2021, when the RCFNO rate recorded positive values, namely a percentage of 6.85%.

#### 4.3.8. The Analysis of the Entity's Patrimonial Financial Balance

The correlation between the working capital, the working capital requirement and the cash flow was analysed, the working capital representing the safety reserve of the economic entity. The patrimonial situation of the assets and liabilities at the end of the financial years are presented in table no. 9.

Table no. 9. The Financial Balance of the Entity

lei-

Explications		31.12.2019	31.12.2020	31.12.2021
Fixed Assets		267.040	47.433	32.801
Current Assets		1.615.560	1.559.833	1.367.574
<b>Total Assets</b>		<b>1.882.500</b>	<b>1.607.266</b>	<b>1.400.375</b>
Equity Capital		1.365.738	1.025.990	939.369
Medium and Long Term Debts		48.682	47.456	255.170
<b>Total Permanent Capital</b>		<b>1.414.420</b>	<b>1.659.008</b>	<b>1.273.068</b>
Short Term Debts		468.181	757.463	205.836
<b>Total Liabilities</b>		<b>1.882.601</b>	<b>1.824.909</b>	<b>1.400.375</b>

Source: authors' processing

#### 4.3.9. Working capital is the indicator that shows the long-term balance of the entity but allows a quick estimate of the entity's risk.

variant 1 FR = permanent capital - fixed assets

$$FR_{2019} = 1.414.420 - 267.040 = 1.147.380$$

$$FR_{2020} = 1.659.008 - 47.433 = 1.611.575$$

$$FR_{2021} = 1.273.068 - 32.801 = 1.240.267$$

The high value of the working capital indicates that the economic entity has sufficient liquidity for the full payment of debts in a relatively short term.

variant 2 FR = current assets - short-term liabilities

$$FR_{2019} = 1.615.560 - 461.181 = 1.154.379$$

$$FR_{2020} = 1.559.833 - 757.463 = 802.370$$

$$FR_{2021} = 1.367.574 - 205.836 = 1.161.738$$

As a result of the analysis of liquidity flows and payables for the period 2019 - 2021, a positive working capital resulted, which denotes the fact that the analysed economic entity presents financial balance, even having a liquidity surplus useful for covering long-term financing needs.

#### 4.3.10. Working Capital Requirement

This is an indicator that expresses the need for financing of the analysed entity, being determined as follows:

NFR = current assets (inventories + receivables) - current liabilities (operating)

$$NFR_{2019} = (1.022.606 + 347.141) - 468.181 = 901.566$$

$$NFR_{2020} = (988.297 + 247.917) - 751.463 = 484.751$$

$$NFR_{2021} = (1.091.273 + 119.805) - 205.836 = 1.005.243$$

The year 2020 saw the lowest working capital requirement, noting that the debts increased with the year 2020, a fact that led the entity to take certain measures in the pace and quantity of supplies and merchandise stock.



#### 4.4. Discussion

The financial-property activity of the entity under analysis, in the period 2019-2021, achieved positive financial results, managing to register a profit every year. During the analysis undertaken, the authors found that in the analysed period there was an accumulation of equity capital from as a result of the capital increase based on the profit of the management period.

Although at the beginning of the management period the return on capital registered a negative value as a result of the loss, ROE being -5.5%, the result of financial expenses and financial investments, the efficiency in the use of equity at the end of the analysed period increased, the profitability being 6.71% in 2021.

In addition to all these, through the financial-property analysis, it can be observed that the economic entity presents a financial stability as a result of the fact that the capital value provides approximately 90% of the asset value, which indicates that the company will not resort to additional loans.

#### 5. Conclusions

Financial situations are those that help the administrator of an economic entity to prevent possible risks. The financial status represents one of the most important characteristics of the financial activity, it determines the degree of competitiveness of the economic entity and its potential in business, being the practical guarantor of the implementation of the common interests of all participants in financial relations. The entity's stable financial position is the result of good financial management, as well as the economic factors that determine the company's results. Equity capital, as a source of income and the main source of development, contributes to the achievement of the purpose of any business, namely profit and prosperity.

The financial stability analysis showed that the company has a stable financial position, as the capital value covers approximately 90% of the assets value and therefore the company will not resort to other loans. Evaluating the company's performance is a complex activity that cannot be guaranteed on the basis of a single indicator, especially in the case of the analysis of indicators related to the evolution of equity.

As a result of this study, the economic entity can increase its performance by: increasing the volume of production as a result of the full use of the production capacity; efficient use of labour and material resources, can lead to increased production volume; the reduction of financial expenses and the optimization of those related to the stocks held and the services procured; the systematic financial analysis of the factors that negatively affect the financial and economic performance of the entity, in particular the availability and liabilities in an inflationary environment; expanding the market by providing new services and selling new products; developing a set of indicators and analysing them based on a tested model; market analysis of that largest competitor; establishing a decision-making process based on performance indicators and their adaptation to market conditions.

From the perspective of finance, the economic entity aims to consolidate market activity and strategic development based on the study and analysis of profitability indicators.

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# The Importance and Necessity of Heritage Evaluation

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## Abstract

*Valuation in accounting has gained considerable importance lately due to the fact that the value obtained as a result of this assessment can be the basis for positive results in the financial statements, which can lead to dividends or the sale of the company to potential investors. For this, the measurement obtained must be a present value or fair value, a market value of the company's assets. Although there are still some companies that value assets at a historical cost, many other companies prepare a fair value measurement, as the legislation allows for the existence of a mix of methods for valuing assets. We cannot say that the valuation at fair value is the best accounting method but it is increasingly accepted because, after the economic crisis of 2007-2008 as well as the Sars COV-2 pandemic, it reflects a value close to current reality.*

**Key words:** valuation, assets, historical cost, current cost, fair value

**J.E.L. classification:** D24, G32, M41

## 1. Introduction

The issue of valuation is a controversial topic in accounting. Valuation is the basis for determining the value, at a given date, preferably at the date of the financial statements preparation, of all assets, liabilities, equity, income, expenses, and financial results. Furthermore, it can be said that the valuation of assets in the accounts is carried out both when the items are entered in the accounts and at the time of the inventory, which is usually carried out at year-end, as well as when the assets are removed from the accounts.

The more assets and liabilities are valued at fair value, the more viable the company becomes, and the more attractive it is to investors, being that many companies that reach a certain value become attractive even to competitors.

The need for valuation of the assets is dictated by the fact that these items appear in the accounts in different units of measurement (hours worked, kg, m<sup>2</sup>, m<sup>3</sup>, etc.), the only common ground being their monetary value. Therefore, a periodical evaluation or even re-evaluation of the assets is advisable.

Being that the value of these assets represents the basis for the calculation of the economic and financial indicators of the company's performance, it is all the more important to value these assets.

## 2. Theoretical background

The legislation requires that valuation bases are chosen for the assessment of items in the financial statements, which can be used in various combinations. These bases may be the historical cost, current cost, disposable value and present value, or fair market value in the case of certain assets. (Aivaz, 2021, p. 19)

These assessment bases, if compared, can be explained as follows: the historical cost refers to the input (original) value of the assets and liabilities, while the current cost refers to the amount of money that would be payable if a particular asset were acquired on current terms or if a liability were settled on current terms; the disposable value refers to the cash that would be obtained on current terms as a result of the valuation of the assets, and the present value (fair or market value) is that value that can be included in future cash flows arising in the normal course of business.

The most widely used valuation basis is the historical cost or entry cost, which can be combined with other valuation bases, however, in recent years, and because of changes in legislation, the present value basis is gaining ground through the re-evaluation of assets to real, market values. (Munteanu and Aivaz, 2017, p. 440)

As mentioned in the introductory part, the valuation of assets and liabilities can be done at any time throughout the "life" of an economic entity. Thus, at the time of entry into the assets and liabilities there is a valuation at the purchase price, at the time of the inventory at the end of the financial year there is another valuation of the assets and liabilities, and in some cases, there is a valuation at the time of disposal from the assets and liabilities.

The initial valuation takes place when the assets or liabilities enter the structure of the economic entity's patrimony, as well as the formation of equity, the establishment of revenue, expenses, and the determination of the financial result. This valuation is based on the documents through which the assets are acquired, and which establish their historical cost value. This acquisition value, which represents the historical cost, is retained until the asset in question is used, revalued, or leaves the company's assets. (Mazzanti, 2003, p. 597)

It should be noted that, in the case of assets created by the company's own efforts, the actual consumption associated with the creation of these assets, such as direct consumption of materials, direct consumption attributed to labour compensation, and indirect consumption regarding the production process, must be considered and included in the establishment of the input value. The actual amount of consumption incurred (actual cost) serves as the basis for the initial valuation of the production in progress, finished products, semi-finished (blank) products, tools, and other own-manufactured assets. (Hooper *et al.*, 2005, p. 429)

Assets received free of charge as well as assets received as a contribution to share capital or as an increase in share capital are valued separately. These assets must be valued by ANEVAR-certified independent valuers to establish their value for management purposes.

Valuation at the time of the inventory represents the main valuation form, since the inventory is usually carried out at the end of the financial year, and if the situation so requires, any necessary adjustments following the inventory are made in accordance with legislative provisions and are made before the end of the financial year. (Rus, 2016, p. 190)

In accordance with National Accounting Standards, tangible and intangible long-lived assets are reflected in the financial statements using one of the following methods: at their input cost less the accumulated depreciation or at the revalued amount. Goods and materials, except for short-lived and low value items, are stated at the lower of actual cost and net realisable value. (Biondi *et al.*, 2021, p. 547)

The net realisable value is the expected selling price of the goods and materials less the evaluated costs of realising them. Goods and materials are valued at net realisable value when this is lower than their cost when they become obsolete, deteriorate or are written down. Foreign currency receivables and liabilities outstanding are stated at the official exchange rate reported by the NBR at the date of the financial statements.

The work of inventorying and, therefore, valuing the balances in the balance sheet is carried out on all the balances in the balance sheet, both assets and liabilities. Even customer records must be checked at the time of the inventory, especially as differences may arise and adjustments may be made after the inventory has been completed.

A special place in accounting valuation for financial statements is reserved for the valuation of fixed assets. Periodically it is advisable to evaluate them and establish their present value (in fact, a market value) since in the face of increasing inflation there is a risk that these assets will remain at low values because of depreciation, which has the effect of reducing the capital and thus the capital of the company concerned. In case the company has contracted loans secured by these assets, then it is in the company's interest that these assets are valued as close as possible to the market value so that no additional funds are needed to cover the loans and the interest generated by these loans.

Valuation on disposal is done using three methods: the weighted average cost (WAC) method, the FIFO method, and the LIFO method. (Aversano *et al.*, 2020, p. 311)

Valuation by the weighted average cost method requires goods and materials to be reflected in the accounts at an average value of stocks available at that time.

The FIFO method involves valuing stocks at the prices of the first purchases. According to this method, stocks will be written off at the purchase prices of the respective batches in chronological order as they are received, according to the "first in - first out" rule.

The LIFO method, on the other hand, stipulates those stocks, as opposed to the FIFO method, must be unloaded from management at prices starting with the last batch of goods and materials purchased, in the "last in - first out" order.

### 3. Research methodology

In our scientific approach, the analytical research method was used.

The main objective of the analytical method is to discover relevant information on a topic. To achieve this, available data on the subject was first collected; and once collected, they were examined to test a hypothesis or support a particular idea.

The analytical method was used primarily to find evidence to support ongoing research, to make it more reliable, or to form new ideas about the topic.

As part of this research methodology, I resorted to reviewing the existing literature on this topic. Thus, to achieve this, I reviewed the previously collected data regarding the studied subject.

One of the most important things to consider about the analytical research method is that its results are always open to change if new data is obtained or data that forms the basis of new research. This happens to a greater or lesser extent with all scientific methods, but especially with this one.

The problem is that while with other tools, such as the experimental method, it is possible to assert causality and therefore obtain solid evidence of what causes a phenomenon, the analytical method does not allow this. No matter how much data we have about the subject of study, it will always be incomplete.

### 4. Findings

Therefore, valuation in accounting results in establishing a fair value of a company's assets. The higher the capital, the more valuable the company is. A decapitalisation of the company can only have negative effects on employees, owners, and some investors. (Ashrafi *et al*, 2022, p. 9)

At the same time, more and more international accounting standards consider fair value as the basis for valuation. Specifically, the international accounting standards that refer to fair value for the assessment of financial statements and the requirements in this regard are structured in Table 1:

Table no. 1 Summary of fair value requirements in IAS/IFRS

IAS/IFRS	Fair value requirements
IAS 16 „Property, Plant and Equipment”	The fixed asset revaluation model assumes that fixed assets are measured at their then fair value less accumulated subsequent depreciation and any accumulated impairment losses.
IAS 18 „Revenue”	Revenue arising from the ordinary operating activities of an entity is measured at the fair value of the consideration received or receivable.
IAS 19 „Employee Benefits”	Pension Plans must be valued in the financial statements on the basis of the estimated discounted present value of pension liabilities less the fair value of any assets held at the balance sheet date.
IAS 36 „Impairment of Assets”	Assets should be stated at recoverable amount, which is determined whenever an asset is deemed to be impaired, and impairment should be determined at each reporting date. Recoverable amount is the higher of fair value (less costs to sell) and value in use.
IAS 38 „Intangible Assets”	An intangible asset may be measured at cost less impairment or at fair value where there is an active market.
IAS 39 „Financial Instruments: Recognition and Measurement”	Financial assets and liabilities are initially recognised at fair value and, if held for trading or classified as available-for-sale, subsequent measurements are also made at fair value.

<i>IAS 40 „Investment Property"</i>	Investment property may be measured at carrying amount less impairment or at fair value with changes in fair value recognised immediately in the income statement.
<i>IAS 41 „Agriculture"</i>	Biological assets are initially recognised at a carrying amount equal to fair value less costs to sell and changes in fair value are included in the income statement.
<i>IFRS 2 „Share-based Payment"</i>	Equity-settled share-based payments and cash-settled transactions shall be measured at fair value. Any changes in fair value shall be recognised in the income statement.
<i>IFRS 3 „Business Combinations"</i>	The acquirer will value the cost of business combinations as an aggregate amount of: - the exchange-date fair values of assets, liabilities and equity instruments issued by the acquirer to obtain control of the acquiree; - any costs directly attributable to the business combination.

Source: (Berheci, 2010)

## 5. Conclusions

In this scientific paper I have aimed to present the best valuation method for accounting and in the literature, there are proponents of using historical cost, as well as proponents of using fair value. Each has advantages and disadvantages. Thus, historical cost looks at the past of a company and investors are interested in the prospects of that company. It should not be forgotten that in the case of valuation at historical cost, several corrections have been made such as depreciation and adjustments for impairment, as well as adjustment for inflation, all of which are introduced to reduce the cost in accordance with the principle of prudence. (Jianu, 2007, p. 39)

It is to be considered that the financial statements should represent a potential carrying value and a sale of the company, then fair value "wins" this dispute because it reflects the reality of the company being more capitalized than the company valued at historical cost, and this is also beneficial to shareholders and potential investors. (Rus, 2013, p. 945)

But we must be realistic that at the moment there is a mix of historical cost and fair value because there are companies that, due to their object of activity, prefer to do the annual valuation at historical cost, while others do it at fair value, as long as the legislation allows it.

Table no. 2 Proponents and opponents of fair value

<b>Proponents fair value</b>	<b>Opponents of fair value</b>
<ul style="list-style-type: none"> <li>-allows for more reliable financial statements;</li> <li>-provides an economic view of the entity's assets and liabilities;</li> <li>-allows an easy valuation of the business;</li> <li>-reduces the difference between book value and market value;</li> <li>-the result would be measured by the change in assets and liabilities, distinguishing between the accounting result and the economic result (if this basis of valuation was generalised).</li> </ul>	<ul style="list-style-type: none"> <li>- it is difficult to be calculate by the entity's staff without the input of a valuation expert, especially in the case of unlisted companies;</li> <li>- creates difficulties in determining the distributable result, as the new values of assets and liabilities are potential, latent values; in addition, market values (fair value materialisation) are volatile;</li> <li>- does not allow the value of intangible assets to be reflected, which have not been recorded in the accounts, but which make a significant contribution to the overall value of the business.</li> </ul>

Source: (Berheci, 2010)

In conclusion, fair value can form the basis of a new model of accounting representation, a model that can embody the foundation of the economic and financial decisions that can be taken in a company.

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## The Impact of Funding R & D Activity in Economy

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### Abstract

*In any economy, research activity is seen as a 'driver' of the economy. Despite the fact that the 2020-2021 time period has been considered a pandemic period due to the SARS Cov-2 outbreak, many economic entities in the world's major economies have continued to invest considerable amounts in Research and Development (R&D) funding knowing that this epidemic would pass, as have other epidemics in the course of the world's evolution. Even if the funds invested are not comparable to those allocated before the pandemic, it should be noted that the large economic entities have tried not to reduce the number of employees, although they have received state aid from governments for this purpose. Our study follows the evolution of these fundings over the period 2014-2020 for the main European "players" in the funding of R&D.*

**Key words:** research and development, funding, activity, economy, private society

**J.E.L. classification:** B26, E32, G53

### 1. Introduction

The economic crisis of 2007-2008 was a wake-up call for all economies, especially as the crisis in the construction sector worked like a snowball, one by one, affecting all sectors of the economy. Research has not been spared either, especially as most of the companies that had invested large amounts of money have had to cut back.

However, a revival of the economy was observed after 2010 and, slowly, the funds allocated to research and development began to be consistent again, so that new models appeared in the automobile industry, new models of telephones, televisions, etc., even in the medical field a revival could be observed, with the introduction of new medicines, new treatments, etc. (Rus, 2016, p. 190)

Unfortunately, the SARS Cov-2 pandemic has caused a reprioritization of these businesses. Our scientific research follows, through the data available, the evolution of this part of the R&D funding in the top 10 economic companies of Europe and, as it will be noticeable, the amount allocated to this activity has had a predictable but also interesting evolution in terms of the other indicators present in this scientific research.

### 2. Theoretical background

Research and development have emerged throughout history mainly because, with the development of a competitive market, every manufacturer and trader wanted to make as much profit as possible. As consumer demands grew and diversified, they had to come up with new products, and to do so they had to make investments which, over time, led to the emergence of the R&D activity, and at the beginning of the 20th century to the emergence of the innovation activity.

If we refer to the economic companies that are the subject of our scientific approach, it can be observed that among them, five are automotive and parts industry producers, four are drugs producers in the pharmaceutical industry and one carries out its activity in the electrical and electronic components area. (Aivaz, 2021, p. 9)

Somehow this distribution of the fundings allocated to R&D is to be expected, since having high sales revenue has allowed the economic companies to allocate large amounts of fundings to this activity. And the results in these areas are visible: new car models, more reliable, more fuel-



efficient, or electrically adapted, new medicines to treat serious illnesses or those that occur cyclically in everyday life, electrical and electronic components that lead to a longer life of electrical and electronic equipment, etc.

### 3. Research methodology

From the outset, this paper was intended to approach the matter from a qualitative point of view. Throughout the study, the need to extend the research with elements of quantitative data, designed to give greater relevance to the research findings and at the same time to eliminate subjective factors, became more and more pressing. The topic of this paper can be analyzed from several angles. However, to understand the diversity of all the meanings that can be associated with research and development, it is important to have an adequate knowledge of the concept, its origins, and its usefulness both in theory and in practice. (Bloch and Sørensen, 2015, p. 33)

The choice of the quantitative method was determined by reference to the fact that this method allowed the selection and analysis of a comprehensive bibliographical material, both national and international, represented both by scientific articles and international databases, books and legislation, as well as the websites of various national and international bodies in the field of development research. (Micu *et al.*, 2021, p. 140)

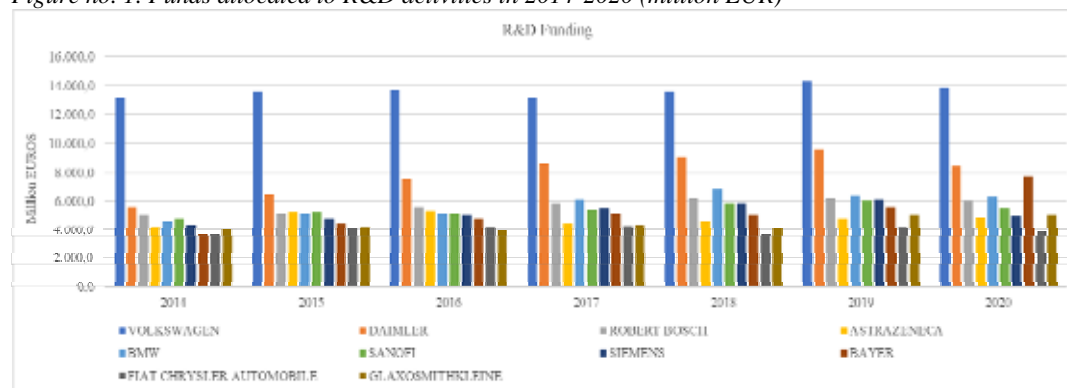
A comparative analysis of the underlying elements was used to carry out this scientific approach. Thus, the information used covers a period of seven years, more precisely the period between 2014 and 2020, to highlight the variation of four indicators: the amount allocated to R&D activity, sales value, operating profit, and number of employees.

### 4. Findings

As previously mentioned, we will present a detailed evolution of four company indicators, for the top 10 companies in Europe according to the amount of money spent on R&D. These companies are Volkswagen (DE), Daimler (DE), Robert Bosch (DE), AstraZeneca (UK), BMW (DE), Sanofi (FR), Siemens (DE), Bayer (DE), Fiat Chrysler Automobile (NET) and GlaxoSmithKline (UK).

The Appendix presents the data on which the following figures are based.

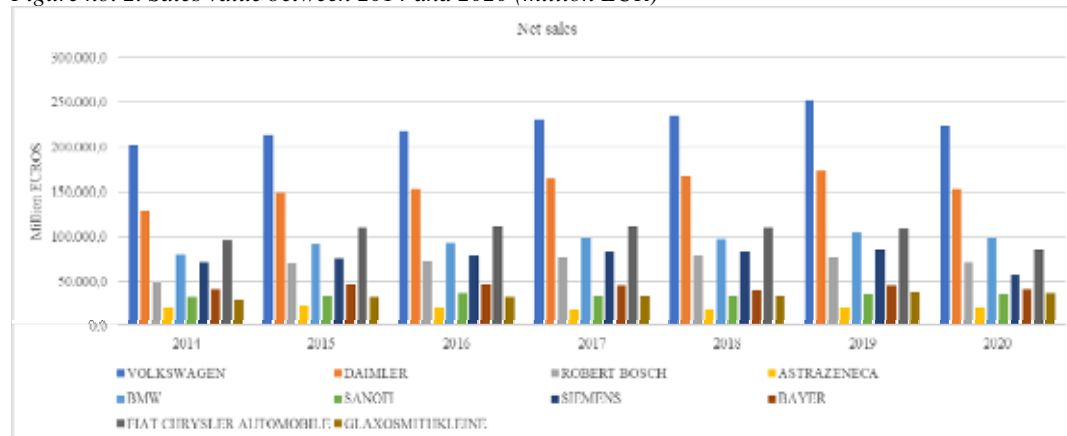
Figure no. 1. Funds allocated to R&D activities in 2014-2020 (million EUR)



Source: Author's compilation

As it can be observed, the fundings allocated for research and development activities showed mainly an upward trend for all companies until 2018, for some even in 2019, but in 2020, with the SARS Cov-2 pandemic outburst, the amounts were decreased, with the exception of Bayer, which increased the amount allocated by 36.9%, due to the search for a vaccine to eradicate the pandemic.

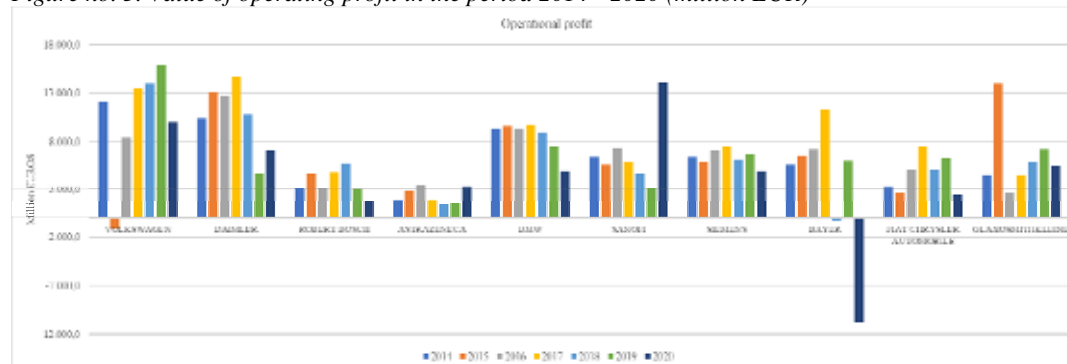
Figure no. 2. Sales value between 2014 and 2020 (million EUR)



Source: Author's compilation

As expected, in 2020, with two exceptions, all producers suffered decreases in turnover, some of them very large: Siemens had the largest decrease in sales, 34.2%, followed by Fiat Chrysler with 21.1%, Volkswagen with 11.8%, Daimler with 10.7%, Bayer with 8.1%, Robert Bosch with 8%, BMW with 5% and Sanofi with a small decrease of 0.2% and the other two drug manufacturers had, sales increases, AstraZeneca of 9.2% and GlaxoSmithKline of 1%.

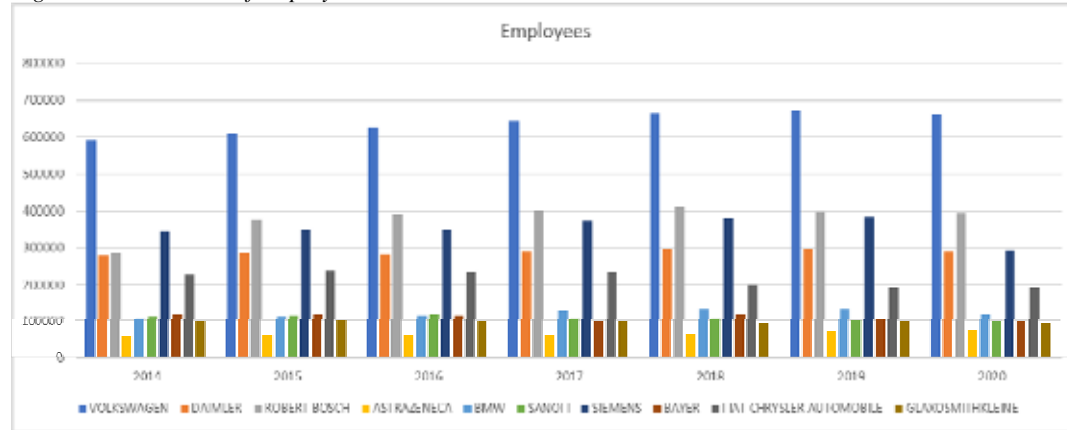
Figure no. 3. Value of operating profit in the period 2014 - 2020 (million EUR)



Source: Author's compilation

The outlook on the operational profit is not good either. During the period under review, in addition to the fact that all the manufacturers had fluctuations, Bayer's profit was negative in 2020, probably due to the social protection measures taken by the German manufacturer for its employees (teleworking conditions, inactivity due to the pandemic, etc.).

Figure no. 4. Number of employees between 2014 and 2020



Source: Author's compilation

Regarding the number of employees, it is worth noting that while some manufacturers reached their "peak" in 2017 (Fiat Chrysler Automobile), 2018 (Robert Bosch, BMW, etc.) or 2019 (Volkswagen), unfortunately, in 2020 all of them have reduced their number of employees due to the pandemic. As it is known, 2020 was a year of global recession, which led to a global decrease in the number of employees.

## 5. Conclusions

Following the economic crisis of 2007-2008, national economies had recovered and were on an upward trend so that the achievements generated by R&D were also present in everyday life.

At the same time, the welfare level of the population was increasingly visible, and the conditions for the creation of a truly healthy middle class, which could capture more and more of the lower-class population in the years to come were established. The conditions were created for a knowledge-based, digitalized, and computerized society. (Rus, 2013, p. 945)

However, the SARS Cov-2 outbreak required a reset of the world's economy, in some countries starting from a very low base, with enormous expenditure, primarily to protect the population both from the outbreak and from the economic crisis, which has not yet been tackled to any great extent. To all this is the Ukrainian war added its own contribution, not allowing the world economy to recover any faster. (McManus and Baeta Neves, 2021, p. 822)

Let's be optimistic that the war will pass and the forthcoming study on research and development funding in the post-pandemic era will have some encouraging information for us.

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## APPENDIX

*Fundings earmarked for research and development activities in 2014-2020 (million EUR)*

	2014	2015	2016	2017	2018	2019	2020
VOLKSWAGEN	13.120,0	13.612,0	13.672,0	13.135,0	13.640,0	14.306,0	13.885,0
DAIMLER	5.650,0	6.529,0	7.536,0	8.663,0	9.041,0	9.630,0	8.441,0
ROBERT BOSCH	5.042,0	5.202,0	5.587,0	5.934,0	6.189,0	6.229,0	6.044,0
ASTRAZENECA	4.164,4	5.217,2	5.358,1	4.512,6	4.631,4	4.795,3	4.896,1
BMW	4.566,0	5.169,0	5.164,0	6.108,0	6.890,0	6.419,0	6.279,0
SANOFI	4.812,0	5.246,0	5.156,0	5.450,0	5.890,0	6.015,0	5.527,0
SIEMENS	4.377,0	4.820,0	5.056,0	5.538,0	5.909,0	6.086,0	5.020,0
BAYER	3.689,0	4.436,0	4.774,0	5.162,0	5.109,0	5.628,0	7.704,0
FIAT CHRYSLER AUTOMOBILE	3.665,0	4.108,0	4.219,0	4.282,0	3.683,0	4.194,0	3.866,0
GLAXOSMITHKLEINE	4.002,0	4.214,2	3.952,8	4.351,0	4.141,3	5.068,0	5.034,0

*Sales value between 2014 - 2020 (million EUR)*

	2014	2015	2016	2017	2018	2019	2020
VOLKSWAGEN	202.458,0	213.292,0	217.267,0	230.682,0	235.849,0	252.632,0	222.884,0
DAIMLER	129.872,0	149.467,0	153.261,0	164.330,0	167.362,0	172.745,0	154.309,0
ROBERT BOSCH	48.951,0	70.607,0	73.129,0	78.066,0	78.465,0	77.721,0	71.494,0
ASTRAZENECA	21.493,3	22.695,0	21.821,5	18.731,8	19.292,6	21.705,5	21.691,0
BMW	80.401,0	92.175,0	94.163,0	98.678,0	97.480,0	104.210,0	98.990,0
SANOFI	33.770,0	34.542,0	36.529,0	35.055,0	34.463,0	36.126,0	36.041,0
SIEMENS	71.920,0	75.636,0	79.644,0	83.049,0	83.044,0	86.849,0	57.139,0
BAYER	42.239,0	47.271,0	47.537,0	46.072,0	39.586,0	46.287,0	42.550,0
FIAT CHRYSLER AUTOMOBILE	96.090,0	110.595,0	111.018,0	110.934,0	110.412,0	109.844,0	86.676,0
GLAXOSMITHKLEINE	29.575,6	32.563,2	32.548,2	34.008,0	34.173,6	39.425,2	37.291,9

*Value of operating profit between 2014 - 2020 (million EUR)*

	2014	2015	2016	2017	2018	2019	2020
VOLKSWAGEN	12.139,0	-1.228,0	8.344,0	13.458,0	13.982,0	15.861,0	9.962,0
DAIMLER	10.342,0	13.088,0	12.702,0	14.631,0	10.873,0	4.680,0	7.086,0
ROBERT BOSCH	3.032,0	4.663,0	3.125,0	4.824,0	5.741,0	2.903,0	1.657,0
ASTRAZENECA	1.760,2	2.818,0	3.522,4	1.786,0	1.318,8	1.515,0	3.346,9
BMW	9.290,0	9.623,0	9.327,0	9.764,0	8.975,0	7.403,0	4.877,0
SANOFI	6.446,0	5.571,0	7.347,0	5.803,0	4.767,0	3.125,0	14.141,0
SIEMENS	6.373,0	5.809,0	7.141,0	7.516,0	6.083,0	6.742,0	4.991,0
BAYER	5.571,0	6.578,0	7.237,0	11.366,0	-361,0	5.960,0	-10.821,0
FIAT CHRYSLER AUTOMOBILE	3.343,0	2.625,0	5.109,0	7.554,0	5.032,0	6.323,0	2.418,0
GLAXOSMITHKLEINE	4.601,0	13.996,9	2.525,5	4.609,0	5.868,8	7.198,5	5.520,7

*Number of employees between 2014 – 2020*

	2014	2015	2016	2017	2018	2019	2020
VOLKSWAGEN	592.586	610.076	626.700	642.300	664.500	671.205	662.575
DAIMLER	279.972	284.015	282.500	289.321	298.683	298.655	288.481
ROBERT BOSCH	286.084	374.778	389.300	402.166	409.881	398.150	395.000
ASTRAZENECA	57.500	61.500	59.700	61.000	64.400	70.600	76.100
BMW	105.743	111.905	115.800	129.932	134.682	133.778	120.726
SANOFI	113.496	115.631	121.800	106.566	104.226	100.409	99.412
SIEMENS	344.400	348.000	351.000	372.000	379.000	385.000	293.000
BAYER	118.900	116.800	115.200	99.820	116.998	103.824	99.538
FIAT CHRYSLER AUTOMOBILE	228.690	238.162	234.500	235.915	198.545	191.752	191.705
GLAXOSMITHKLEINE	98.702	101.192	99.300	98.462	95.490	99.437	94.066

## The Role of the Forensic Accounting Expert in the Prevention of Combating Corruption and Economic Crime

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### Abstract

*Crime and the institutional management of crime has become a leading topic in research, practice and education. According to various studies, detection of crimes happens by accident almost every year. Systematic detection is obviously still lacking considerably.*

*The effectiveness of the fight against money laundering depends to a large extent on the organization of the problem of the system of collection, processing and use of information in the sphere of monitoring activities, which are necessary for detection, prevention of financial crime.*

*The purpose of this article is to highlight the need to expand the accountant's area of competence by combining accounting and forensic investigation techniques, which will be a prerequisite in discovering and combating tax fraud.*

*The essence of financial investigations as a practical activity consists in the application of a complex of knowledge of applied economics for the identification and elimination of different types of crimes.*

**Key words:** the accounting expert, investigation, economic crime, tax fraud

**J.E.L. classification:** F01, F02, F6, H26

### 1. Introduction

"Considering how fast our world is passing through a period of great transit from the traditional accounting to a creative accounting with developed ramifications into computerized and cloud accounting lots of countries should consider make immediate steps to catch up." (Radu, 2018, p.258).

Forensic accounting is the specialty that investigates whether companies commit accounting irregularities. Forensic accountants use a number of skills and methods to determine whether a financial reporting misstatement has occurred.

Financial forensic engagements can fall into several categories, for example: the calculation of economic losses, regardless of whether it is a tort or a breach of contract; post-purchase disputes, such as revenue or breach of warranty; bankruptcy, insolvency and reorganization; real estate fraud; fiscal fraud; money laundering; business evaluation, etc.

Forensic accountants can be involved in both litigation support and investigative accounting, such as investigating illegal activities. Large accounting firms often have a forensic accounting department. Within these departments there may be additional sub-specializations: some forensic accountants, for example, may specialize only in insurance claims, personal injury claims, fraud, money laundering, financial auditing and others. Forensic accounting used in large corporations is sometimes referred to as financial forensics.

"Accounting, in weak regulatory economies, has been the main source of corporate failure and financial statement fraud is the most commonly expressed type of fraud risk that many researchers have said companies are prone to and are most concerned about." (Anomah, 2014, p.1).

Forensic accountants combine legal knowledge with their accounting skills. This can help companies prevent corruption, fraud, embezzlement, etc. An accountant performing an audit should remain neutral. They often assist in malpractice claims when they rate and comment on the work of other professionals.

In addition to their quality as experts, their duties also include the translation of complex financial transactions and numerical data into terms that everyone can understand. This is necessary for the moment when misunderstandings regarding fraud reach the courts, and the judges need clear explanations in solving the cases.

Experts use an understanding of economic theories, financial reporting systems, accounting standards and procedures, data management and e-discovery, data analysis techniques for fraud detection, evidence collection and investigative techniques, lawsuits and litigation procedures in conducting their work.

This process may use one or more of the following techniques: examination of public sector records, background investigations, interviews with informed parties, analysis of authentic evidence to identify possible forgeries or alterations of documents, monitoring and inspection of commercial premises, financial analysis, transactions or bank statements and verification of business records, identification of fictitious suppliers, employees or business activities.

Forensic accountants are increasingly playing a proactive role in mitigating risk by designing and conducting advanced investigative procedures, acting as advisors to audit committees, using fraud deterrents, and providing support to investment analysts.

## **2. Literature review**

"Being under permanent changes to keep pace with modifications that occur all the time in any plan of economic and social activities, informational systems, in the context of globalization, are perhaps more concerned in terms of adaptability to new requirements of this process." (Radu, 2012, p.495).

The term financial investigations is described as the process of identifying financial transactions related to violations of the law or crimes, understood as illegal acts aimed at obtaining or using the financial resources of some entities or the state.

The essence of financial investigations as a practical activity consists in the application of a complex of knowledge of applied economics for the identification and elimination of various types of crimes related to financial transactions and other types of illegal transactions.

Economic crimes are one of the main concerns of today's organizations, they reflect some individuals in a society who aim to obtain an economic status in an easy way, regardless of the ethical and moral values they have to resort to. In recent times, countless acts of corruption have been triggered that caused the embezzlement of funds both within private organizations and within public entities.

One of the advantages of accounting analysts is that any information obtained can be used to combat economic crime. This information must be relevant for the entire process of combating crime or for one of its components, be specific, sufficiently complete and above all reliable.

The process of combating money laundering includes the selection of the most important data, interconnected, whose volume and content allow the characterization of the perpetrators of the crimes, as well as the identification of the facts of money laundering.

The discovery of the information necessary to carry out a financial investigation is based on the application of the laws of logical reasoning, such as its techniques and procedures, analysis and synthesis, deduction and induction, abstraction, generalization, analogy and syllogism.

Of great importance in financial investigations are the data sets that characterize the criminals, the legalization facts themselves and the related objects, events, phenomena and processes. The generalization and systematization of available data makes it possible to establish relationships between them and draw conclusions or hypotheses.

The forensic accountant is a witness, an expert in the field who is trained in investigating financial crimes, collects the evidence leading to the determination of the causes of the facts of the people who participated in an act of corruption, so that a judge investigating the case can use the opinion the accountant to make a correct judicial decision.

As a forensic accountant, through his expert opinion, he facilitates the judge to make the best decisions in court rulings, on the facts of the investigation, as he offers evidence to the court to be evaluated, and through his opinion he assigns responsibility for the trial in question.

The sophistication and intelligence of economic crime, for the most part, is a characteristic of professional employees, who carefully analyze the weak points of the system and the legislation in force and apply well-studied methods to try to hide the funds acquired with the commission of his crime.

The forensic accountant must be trained in his documentary investigation, that is, in the compilation of documentary evidence, manifests, accounting, financial reports, electronic documents, electronic transactions, the interpretation of balances, passing information with stocks, suppliers, customers and employees, and must be thoroughly prepared in the presentation of his investigation before the court. It is not just about giving a testimony and answering the questions asked by the court, it is necessary to make an analysis and argue the answers to the requested questions, to valorize or delegitimize the evidence and evidence that are presented.

There are a multitude of characteristics or skills that a forensic accountant must cultivate when conducting a financial crime investigation. These refer to acts of corruption, internal fraud, business fraud, illicit or unjust enrichment, money laundering, as well as any other form that the non-violent crime status leads to the illegal transfer of assets from one person to another.

Professional judgment is reflected by the application of relevant training, knowledge and experience in the context of accounting standards and decision-making. It must be exercised with a prudential criterion or approach, which consists in selecting the more conservative option, trying at all times for the decision to be made fairly to the users of the financial information.

In order to preserve the usefulness of the financial information, it must contain explanations on how the prudential criterion was applied, in order to allow the user to form an adequate judgment regarding the facts and circumstances that analyze the analyzed operation.

Professional judgment is commonly used to develop reliable accounting estimates and provisions, determine degrees of uncertainty regarding the possible occurrence of future events, select accounting treatments, choose additional accounting standards to IFRS, when appropriate, implement treatments private accounting and finding the balance between the qualitative characteristics of financial information.

The forensic accountant must apply professional judgment to accomplish the objective of the investigation by planning investigative procedures to collect valuable evidence.

The experience acquired during professional training covers the different activities in which the forensic accountant will develop his work, based on the acquired knowledge. Experience refers to the different types of knowledge gained by the forensic accountant about different academic pursuits that he/she has obtained. Among the types of knowledge, we have the conceptual one, which is the field of the analyzed matter, the procedural one, which is the field of research procedures, and the attitudinal one, which adapts to the management of the people who are part of the investigation.

In order to develop work as a forensic accountant, the investigative professional must have acquired experience in the area where the probable financial crime was generated, it will facilitate the planning of the work, taking into account the techniques, procedures, structuring research programs, drawing up working documents, collecting evidence with probative value and the way to present your report in writing and verbally.

Any professional forensic accountant who intends to carry out investigative activities to combat financial corruption must have those qualities so that his opinion is truthful and trustworthy.

Since the investigation of possible financial crimes can differ from a methodological point of view, the forensic accountant must have native skills, or develop his own personality in approaching them. The skills that a forensic accountant needs to develop in order to carry out an investigation are:

- intellectual skills - usually identified as critical thinking, which is the ability to analyze and interpret information to assess its context and validity;
- technical and functional skills - are the skills and knowledge needed to perform specific tasks. These are practical and often relate to computer skills, mathematics, statistics or scientific work. Technical skills refer to the ability to use technical tools or procedures in a specialized field;



- personal and interpersonal skills - these include the skills or behaviors needed to perform interpersonal tasks competently, such as the ability to communicate, reject, and negotiate.

In conclusion, professional judgment must be used to find a balance between the qualitative characteristics of financial information to provide useful information in decision-making.

Professional skepticism is a behavior that includes the ability to critically evaluate the adequacy and sufficiency of evidence, which includes both information that supports and corroborates claims made and information that contradicts them.

It also adds the ability to identify and respond to indications of material impropriety, draw appropriate conclusions from collected data, and exercise professional responsibility at all times.

On the other hand, professional skepticism is an essential feature that contributes to the independence of the accountant and includes the critical approach and evaluation of the information obtained.

One of the greatest challenges of the forensic accountant is that in addition to identifying and investigating fraud, he can prove whether the act is illegal. If this goal is not achieved, we may face an unsuccessful investigation and the results obtained will not be as expected.

In the mentality of the accountant in general and especially of the forensic accountant, there must be the information that he wants to examine, by all means, and not to show the information that can lead to the detection of fraud.

Professional skepticism also includes a critical evaluation of evidence that contains information that demonstrates financial fraud. This means questioning and considering investigative evidence obtained in relation to the circumstances.

Maintaining professional skepticism requires continually asking whether the information and evidence obtained indicates that a material misstatement due to fraud may exist. Due to the nature of fraud, the accountant's professional skepticism is particularly important when considering risks of material misstatement.

The forensic accountant cannot be restricted regarding the documents he analyzes, because the conclusions must be based on judicial processes established by law. In this sense, it requires creativity, curiosity, perseverance, common sense, business sense and confidentiality. He must be a professional who has developed the art of investigating economic crimes, since with the specialized nature of criminals, an expert is needed in the analysis, evaluation, detection of unusual situations that allow the establishment of abnormal behavior patterns.

In carrying out an investigation, in order to collect evidence that allows a judge to formulate a correct decision, the integrity of the information, the relevance of the investigated fact must be processed, given that the judge could not make a decision if the process did not take into account all relevant documents or information.

With an investigative mindset, the forensic accountant will design procedures for the investigation that will allow us to have an overall picture of how the criminal might have committed the crime.

When dealing with the issue of integrity of information, not only must the evidence provided match the subject matter of the investigation, but the forensic accountant must obtain and evaluate all documents relating to the relevant fact. The accountant should not focus only on figures, estimates or projections, as this would contribute to limited evidence, which cannot be considered conclusive by the competent authority.

Those who commit economic crimes are one step ahead of the investigators, they have hired professional experts who have analyzed different typologies and whose aim is to make it difficult to detect the mechanisms of fraud, as they aimed to hide the way in which the crime was generated and to provide security for illegally obtained funds.

It is important for the accountant to think like the criminal in order to develop methods that allow the collection of evidence, of the investigated fact, trying to identify the pattern that the criminal uses, both to commit the crime and to hide the proceeds of his crime.

### 3. Research methodology

For the writing of this article, several research methods were used, used according to their common characteristics. The theoretical research helped us to gather information about the treated subject, in order to better understand the economic mentality at the global level, the exploratory research was used as a preliminary study for the new attributions of forensic accountants of financial investigation, the quantitative and qualitative research for comparing and analyzing the descriptive data at a global level and finally the inductive research through which we carried out the study at the observational level, designed to obtain generalized results

In the relevant literature, a distinction is made between those who commit tax crimes out of their own greed for profit and those who want to give their organization a decisive advantage. The professional crime and corporate crime approaches best reflect this idea.

### 4. Findings

"For an effective fight in this direction, experienced professionals are needed to look beyond the numbers, to identify the story that the numbers can tell and to discover what the numbers are trying to hide, is the opinion of the president of the Superior Council of CECCAR, accounting expert, university professor Dr. Robert-Aurelian Şova." (Şova, 2022, p.1).

As economic crime causes enormous damage to the global economy, a whole series of measures have been taken from all parts of the world to combat it effectively.

Good theories are more than an explanation of the phenomena in question, they are also useful for forecasting as they hypothetically anticipate future events and developments and offer suggestions for explaining previously unexplored phenomena.

According to the concept of rational choice, perpetrators prepare in advance a precise cost-benefit analysis, based on which they decide for or against the crime.

According to the studied theory, the probability of committing a crime is determined by three factors:

- the perpetrator must have an opportunity
- must be motivated by an incentive or pressure
- must be able to justify his action to himself to compensate his conscience.

Of course, opportunity makes the thief, and so employee delinquency often begins with the chance discovery of risk-free embezzlement opportunities.

Opportunities can also be minimized in a variety of ways within an organization, which is why most compliance programs rely primarily on monitoring and control measures.

These interesting recommendations emerged from Samuel O. Dada study:

- "Anti corruption agencies are should establish a forensic accounting unit where experts are involved in investigation of cases of bribery and other corrupt practices;
- Staff that is involved in investigation of cases of bribery (and other cases of corruption) should be trained in the employment of forensic accounting to carry out its responsibility;
- Where it is not feasible to train its personnel to handle investigation, in the short run, professional accounting firms should be employed to assist in investigation to ensure that adequate evidence is presented to the courts to ensure successful prosecution of cases of bribery." (Dada, 2013, p. 95).

### 5. Conclusions

Perhaps the most tangible way to understand how science and big data analysis can be used to prevent corruption and economic crime is through examples from everyday life.

Fraud is an act of corruption that has gained notoriety today, as a result of the multiple crimes that are committed, especially in the management of public resources. It is necessary to strengthen and evaluate the internal control systems of the institutions regarding the reference to the tightening of the control environment that allows the correct assessment of risks, through control and monitoring activities. This involves promoting the approval of laws, regulations, rules and policies,

which constitute the normative frame of reference for effective action.

It is worth noting the importance of the role that the forensic accountant plays in the detection of fraud, with integrity, objective conduct, discipline and professional competence that determines the accountability of the analysis and evaluation of the objectives and the independence of the preparation of financial reports in order to obtain certainty that the information presented is true, reliable and reasonable.

Every day new and more inventive methods are developed to defraud the global economy, which adapt to the changes and habits of modern society. For this reason, governments around the world have created control agencies and designed action plans to reduce cases of corruption that affect not only administrators or managers of an organization or entity, but also partners, employees, shareholders and the global economy.

In this sense, the action *Plan for fighting corruption and economic crime* was drawn up by the International Federation of Accountants in collaboration with the International BAR Association and with the support of the operative group for the control bodies of the World Economic Forum.

## 6. Acknowledgement

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## The Romanian Banking System - Evolution and Transition After the Crisis Generated by COVID 19 and the War in Ukraine

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### Abstract

*The period of the pandemic has shown that, in times of crisis generated by tensions and shortages, flexibility in decision-making and how to manage resources, It has had the consequence of counteracting the dysfunctions in terms of banks' policies in relations with clients and partners. At the same time, it has increased the effectiveness of bank management efforts in achieving the pre-established objectives. Of the other part, The very uncertain economic context generated by Russia's war against Ukraine and the risk of regional spillovers could affect the financial institutions in the euro area and especially those in Romania. The exclusion of a part of the russian banks in SWIFT and the financial sanctions imposed on the Russian Federation have It has forced banks to be more restrictive in terms of openness to customers who operate with Russia. The scientific research makes an analysis and a comparison of the financial indicators for the banking sector in Romania in the light of the major events that have taken place lately.*

**Key words:** banking institution, the banking financial system, financial ratios, economic crisis, monetary policy

**J.E.L. classification:** E42, G21, G28, M41

### 1. Introduction

Commercial banks are financial intermediation companies and their essential function is to finance activities that economically require support in this regard (Bianchi & Melosi, 2018) . The COVID 19 pandemic, but also the war that is so close to Romania, have brought to light certain behaviors (Haapio & All, 2021) . At the European systemic risk Council (ESRB) meeting held in 2014, it was highlighted that systemic risks are generated by the own conduct of each bank institution.

The world we live in is characterized by disorder and lacks a vision that could order the conduct of the world's states, remarks Henry Kissinger (Daianu, 2015). The war taking place in our immediate vicinity has brought back to the attention of the states the care for stability in the region, the defense of the borders and the status of each nation. Extreme events, referred to by Nassim Taleb as "black swans", are challenging the robustness and resilience of socio-economic systems. The strong financial crisis equates to an economic impact as a war and has required direct intervention by states to limit the consequences (Guda, 2020). There is also a redistribution of economic power around the world, a redistribution that was unthinkable decades ago, when the supremacy of the West was undeniable and it was assumed that no one and nothing would dethrone it (Daianu, 2015). European countries are dealing with a very complicated geopolitical situation due to the conflict in Ukraine. The European continent is facing an extreme and complicated geopolitical situation due to the military conflict between Russia and Ukraine. Thus, the entire economy of Europe is faced with a conglomerate of circumstances that require effective external and internal measures and a very good cooperation between states. Responses to the threats facing the European economy involve means of intervention and protection that adapt to the conditions of conflict that can expand, thus endangering the whole of Europe.

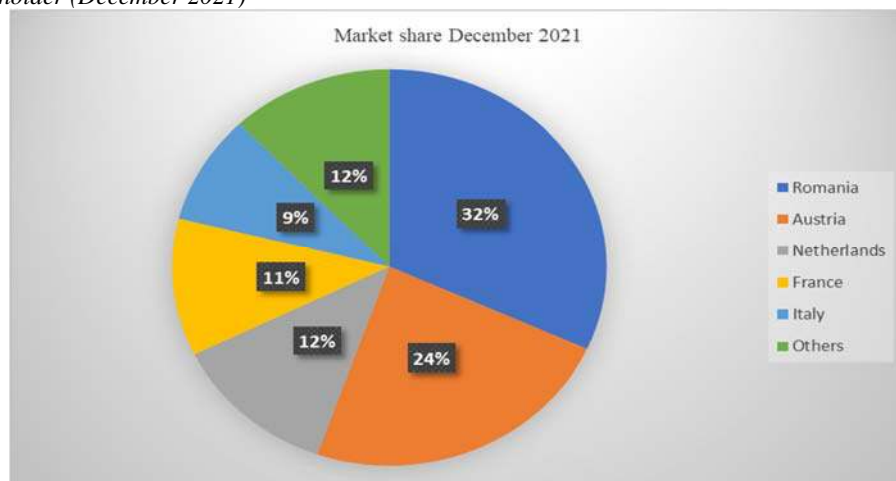
In this economic-social and political context it is necessary to know in depth the economic phenomena, to follow with rigor the indicators that express the state of the economy in general and of the companies in particular.

## 2. Literature review

The literature deals with the current economic crisis from the perspective of the previous crises, so it can be said that in the current period the banking system has demonstrated its resilience, although it was in unprecedented situations of recent history (Hernandez de Cos, 2021). This is due to the measures taken and the implementation of the organizational transformation processes of financial institutions during previous crises (Anghel M.G., 2014). The unprecedented crisis and the uncertain economic situation of the countries of the world have shown how important the role of an operational risk management strategy is, applied before the shock wave preceding the crisis occurs (Pinzaru & Zbucnea, 2021). But in this context, we also find the right environment for cyber-attacks. The increase in these numbers, at the same time as the pandemic (Financial Stability Board, 2021), has developed at an accelerated pace, as uncertainty is a major problem for all sectors of activity. In this nebula, there are three trends that need to be taken into account: The stability of the banking system, systemic risks and the resistance to attacks of computer systems (Deloitte, 2021).

The current legislation is constantly changing, creating a structure with regulatory and supervisory functions "with basic standards that will cause banks to be more ambitious in terms of defense and risk resistance" (Deloitte, 2018).

Figure no. 1: The structure of the Romanian banking sector according to the country of origin of the main shareholder (December 2021)



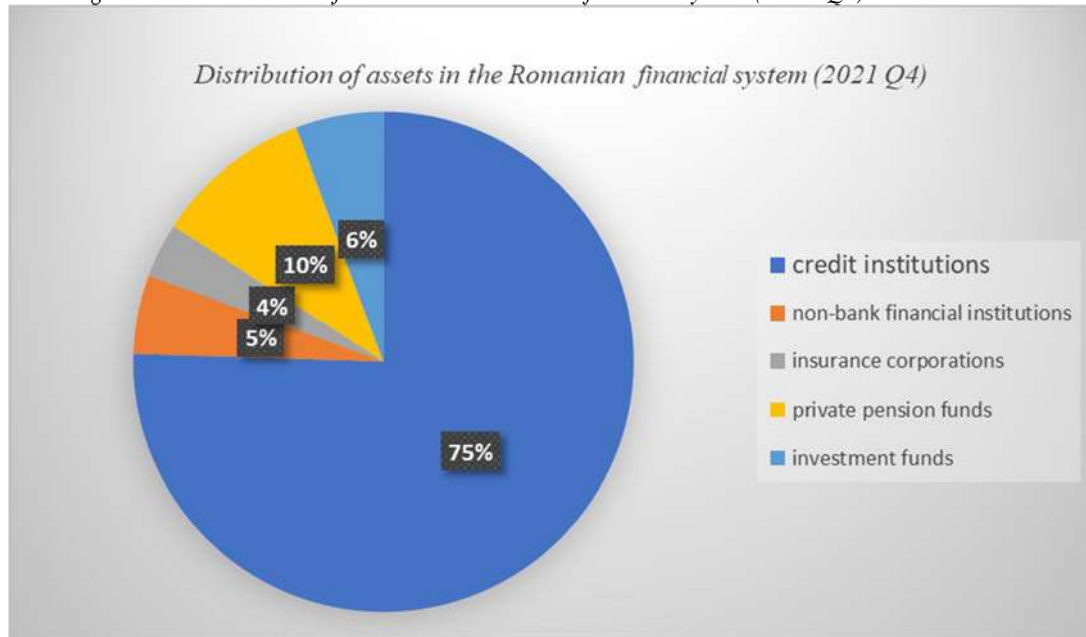
**Note:** others are Greece, Hungary, Cyprus, Ireland, Luxembourg, Germany, Bulgaria, Poland and United Kingdom (each country has under 3 percent of total net assets).

Source: NBR- screening of the author, 2022

The features of the Romanian banking financial system are determined by a number of factors related to the evolution in time of the banking sector, by those who participate in the rotation of the wheels of the mechanism in this sector, by the country of origin of the majority shareholder, the distribution of assets (EY, 2020). A projection of the distribution of the market share according to the country from which the majority shareholder in the financial sector comes as of December 2021 shows that the largest share is held by the Romanian shareholder, with a market share of 32%, followed by Austria 24%, The Netherlands was third with 12%, followed by France 11% and Italy 9%. A market share of 12% is held by other banks that have shareholders in Greece, Hungary, Cyprus, Ireland, Luxembourg, Romania and Romania. The data used to make the graphic distribution were taken from the statistical data sources of the National Bank of Romania and are highlighted in December 2021.

Another feature of the Romanian financial sector is determined by the distribution of assets within the financial system (Anghelache & All, 2009, 2017). On the Romanian financial market, it evolves in addition to commercial banks (credit institutions), non-bank financial institutions, insurance companies, private pension funds and investment funds (Georgescu, 2009). The present scientific research has graphically described the placing on the market of these components in the fourth quarter of 2021. Thus, credit institutions have a majority share in the system 75%, the rest of the participants sharing the market in much smaller shares: Private pension funds 10%, investment funds 6%, non-bank financial institutions 5%, insurance companies 4%.

*Figure no.2 Distribution of assets in the Romanian financial system ( 2021 Q4)*



Source: NBR – screening of the author, 2022

### 3. Research methodology

In order to have an overview of the evolution of the Romanian banking sector and to see what is the impact of the economic crisis generated by the COVID-19 pandemic, but also what are the influences of the Russian-Ukrainian war on banks in Romania, we have conducted analyzes and comparisons of the main financial indicators in the banking system. These analyzes include a centralization of the information contained in the statistical and monetary reports of the National Bank of Romania for the period between 2012 and 2022, taking as the reference month September of each year, this reference is due to the fact that September 2022 is the last month of reporting financial indicators until the moment of this study. The aim was thus to analyze the period of 10 years in which there were periods of economic collapse, periods in which economic growth was recorded on different sectors of activity, as at the end of the analyzed period the strong economic crisis faced by Europe in general and Romania in particular, as well as the war so close to us, to cause distortions in all environments, generating unprecedented reactions from all participants in the economic process.

The sample consists of aggregated indicators on credit institutions, indicators that refer to all credit institutions (banks, foreign banks branches, credit cooperatives). For foreign banks there is an exception, they do not report solvency, own funds and credit classification. The indicators were calculated using the financial reporting of FINREP and COREP of credit institutions. In the calculation of leverage, total assets and equity were used. The ROA and ROE indicators were at average value. The indicators were taken from the statistical data series of the National Bank of Romania. This makes some clarifications on how the indicators were calculated: "Since 2012, the indicators have been calculated according to the reports prepared in accordance with IFRS (for the

indicators having the position "impaired receivables" as numerator, the values of December 2011 were calculated based on the data from the accounting records for the day of 1 Jan. 2012). As of June 2014, the indicators are based on information submitted by banks under Commission Implementing Regulation (EU) No 680/2014 laying down implementing technical standards with regard to supervisory reporting of institutions in accordance with Regulation (EU) No 575/2013 Of the European Parliament and of the Council. With the entry into force of Implementing Regulation (EU) No 680/2014, the leverage ratio is part of the reporting package according to those technical standards and is reported as such by credit institutions. In June 2015, the methodological norms regarding the preparation of FINREP individual situations were amended and they consisted in the inclusion in the reports of non-performing exposures of cash balances and other deposits take into account credit institutions." (European Central Bank, Monetary and financial statistics - aggregated credit institution indicators, data series, 2022).

At the same time, the information regarding the number of credit institutions, the number of foreign branches on the market during the analyzed period was centralized, as well. As well as the total net assets in million lei, these data were presented from the statistical data series of the National Bank of Romania and the analysis was made for a period of ten years (years 2012-2022), in order to highlight the evolution on the Romanian financial market of credit institutions.

The research methodology was qualitative and consisted in synthesizing reports on the evolution of aggregated indices, The study had as a research topic the evolution in time of the banking sector in conditions of deep economic crisis by comparing the data obtained with the data from the pre-crisis periods.

The selection had as basic principles four criteria for approaching the analysis. The scientific research started with a thorough scientific documentation that consisted in studying the reports of the National Bank of Romania and identifying information of interest regarding the evolution in time of the banking sector in a table that reflects the structure and evolution of the banking sector over a period of 10 years (*Table no.1 Structure and evolution of the financial sector*).

At a first analysis of the data, it is noted that during the research period the number of credit institutions oscillated, but not significantly, at the beginning of the research period (September 2012) their number being 41, reaching the end of the research period (September 2022) to 34 operational units. The number of foreign branches operating in Romania during the period under investigation did not have significant oscillations, a higher number, respectively 10 branches being registered in September 2013, so that at the end of the analysis period their number would reach 8.

If in September 2012 the total net assets were 373,540.20 million lei, in September 2022 the total assets reached 679,289.5 million lei, which almost doubled in the ten years analyzed, the total assets reached million lei. this leads us to conclude that financial institutions in the banking sector have strengthened their status, having a robust position in the market at the end of September 2022, even though they are in the midst of the economic crisis. The second criterion of the research approach was the identification of the principal aggregate indicators included in the reports of credit institutions. In this respect, the series of data found in the monetary and financial statistics of the National Bank of Romania were studied and those that were not the object of the study period were eliminated. This made it possible to select the 10-year, centrally reported data to analyze and compare.



Table no. 1 Structure and evolution of the financial sector 2012-2022

Period	Number of credit institution	Branches of foreign banks	Total net assets
September			
2012	41	8	373.540,20
2013	40	10	353.571,40
2014	39	9	351.442,70
2015	37	8	359.597,10
2016	36	8	378.097,10
2017	35	8	406.427,69
2018	34	8	445.198,55
2019	34	7	472.861,88
2020	34	7	533.137,43
2021	34	8	602.675,98
2022	34	8	679.289,58

Source: NBR – screening of the author, 2022

Analyzing the data from the sample, it was observed that in terms of assets of private equity institutions steadily decrease, insignificant, each year with values between one and two percent, at the beginning of the analyzed period (September 2012) they are 90.70%, and in September 2022, reaching 88, 60%, as opposed to the assets of institutions with foreign capital that decrease in a higher proportion, so that since September 2012, when they had a percentage of 81.30%, they reach in September 2022 a percentage of 68%, registering a decrease of 13.3%.

The solvency indicator intersigns an increase of 6.55 percent at the end of the period, compared to the end of the analyzed period, reaching in September 2022 a percentage of 21.52 percent. Solvency in the banking sector registering insignificant variations compared to the last two years analyzed (September 2020 and September 2021 during the pandemic period) even though the economy is facing great difficulties due to the crisis. In 2021, the financing of real economies, especially of non-financial companies, was resumed, thus registering an increase compared to pandemic values.

The leverage ratio did not show significant variations, standing at 8.07% in September 2022.

The rate of return on the core activity recorded an increase from 173.04 at the beginning of the analysis period to 191.23 at the end of the period, as opposed to loans granted/deposits attracted from the client that registered a decrease from 129.69 at the beginning of the period, At 73.40 to September 2022. At the same time impaired receivables/total client portfolio (from 11.66 to 1.06), impaired receivables/total assets (from 6.94 to 0.58), impaired receivables/total liabilities register (from 7.77 to 0.64) The rate of non-performing loans according to the EBA definition has decreased significantly since 2014 from 21.47 to 2.82 in September 2022.

Table no. 2 Aggregate credit institution indicators

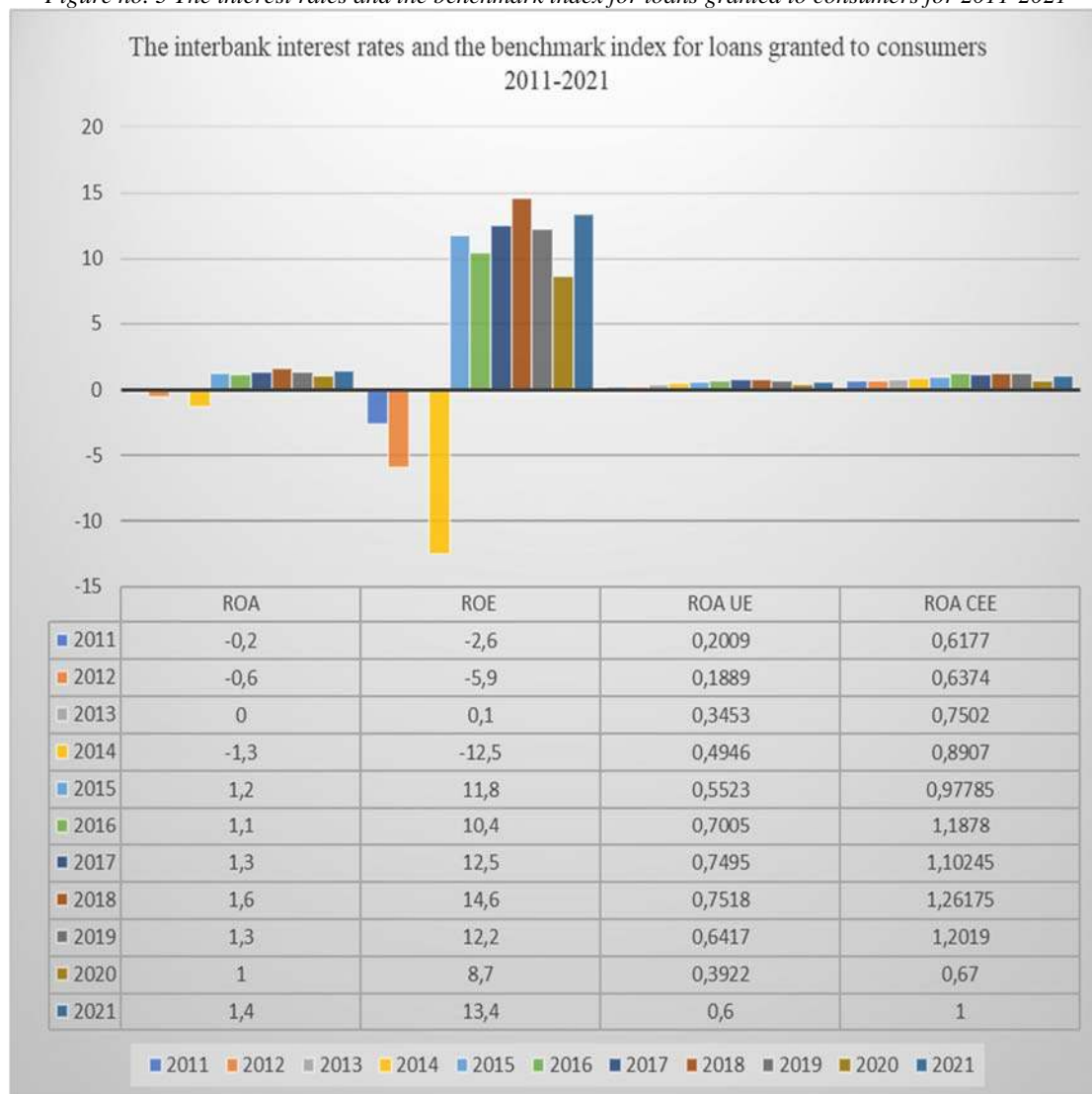
Data	Number of credit institutions	Branches of foreign banks	Total net assets	Assets of private equity institutions	Assets of foreign-owned institutions	Solvency Ratio (>8%)	Leverage	ROA	ROE	The rate of return on the core business	Loans granted/deposits attracted from clients	Impaired receivables/total loan portfolio	Impaired /total assets	Impaired /total liabilities	The non performing credit rate as defined EBA
	(nr.)	(nr.)	(mil. lei)	(% in total active)	(% in total active)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Sep. 2022	34	8	679,289.58	88.60	68.00	21.52	8.07	1.54	16.56	191.23	73.40	1.06	0.58	0.64	2.82
Sep. 2021	34	8	602,675.98	88.90	69.70	23.07	9.45	1.47	13.59	185.76	68.55	1.21	0.63	0.71	3.65
Sep. 2020	34	8	533,137.43	90.00	71.60	22.76	9.76	1.17	10.48	185.58	68.88	1.40	0.73	0.82	4.06
Sep. 2019	34	7	472,861.88	92.00	74.10	19.73	9.40	1.45	13.18	192.64	74.76	1.89	1.06	1.19	4.58
Sep. 2018	35	7	445,198.55	91.90	74.80	19.96	9.05	1.76	16.35	188.33	76.43	2.30	1.28	1.43	5.56
Sep. 2017	36	8	406,427.69	91.60	91.10	18.98	8.90	1.36	12.90	181.20	80.30	3.60	2.04	2.29	7.96
Sep. 2016	37	8	378,097.10	91.60	90.40	18.76	8.61	1.30	12.32	195.86	82.87	5.16	2.90	3.25	10.00
Sep. 2015	39	8	359,597.10	91.40	76.80	18.69	8.34	0.83	7.98	168.05	92.67	7.93	4.46	5.00	15.73
Sep. 2014	40	9	351,442.70	91.70	80.50	17.06	7.63	-0.60	-5.58	181.16	99.65	10.15	5.77	6.44	21.47
Sep. 2013	41	10	353,571.40	92.00	90.60	13.92	7.49	0.55	5.04	177.66	111.50	12.42	7.32	8.21	-
Sep. 2012	41	8	373,540.20	90.70	81.30	14.67	8.30	-0.04	-0.34	173.04	120.69	11.66	6.94	7.77	-

Source: NBR – screening of the author, 2022



The third criterion of approach to the scientific approach carried out a thorough analysis of the ROA and ROE indicators, compare them in evolution with the EU ROA and CEE ROA, where the EU ROA is average from the consolidated data and the CEE ROA is the ROA indicator from Bulgaria, Croatia, Czech Republic, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia, Hungary, Countries of the former communist bloc with a different economic development than other European Union states. The analysis was carried out over a period of 10 years, including 2011 to 2021. The analyzed data were extracted from the data sets of the National Bank of Romania, which in turn took the indicators of the other countries from the statistical data of the European Central Bank. The graphics show the evolution of the ROA for the period described, increasing from -0.2 in 2011, the data of the National Bank of Romania at 1.4. compared to the ROA, the other two EU ROA and CEE ROA indicators show insignificant increases. Instead, the ROE indicator is highlighted by a significant increase, evolving from -2.6 in 2011 to 13.04 in 2021.

Figure no. 3 The interest rates and the benchmark index for loans granted to consumers for 2011-2021

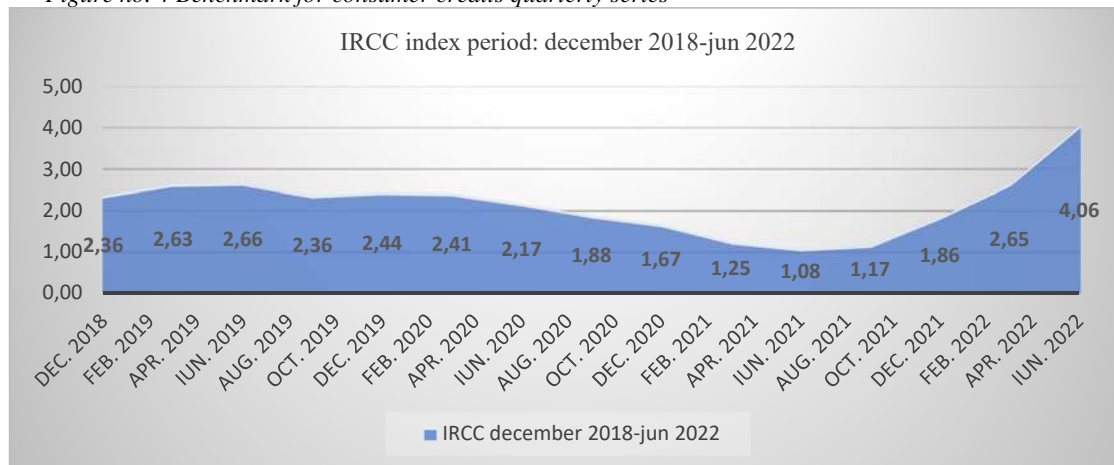


**Note:** ROA, ROE for the Romanian banking sector (individual data) median EU, CEE (consolidated data), 2021 - annualized data CEE-Bulgaria, Croatia, Czech Republic, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia, Hungary

Source: NBR – screening of the author, 2022

The last criterion of the scientific research conducted an analysis of the evolution of the IRCC and ROBOR indices for a period that started in December 2018 and until June 2022, the reference months being February, June, August, October, December of each year, except for the beginning year 2018 where the December data was used and the final year of the research, which includes data until June 2022. For this, data obtained from the data series of the National Bank of Romania were used, the graphics show an evolution of the IRCC over the given period, which recorded a decrease in 2021, but having a steep increase in 2022, recording the highest value since the beginning of the analysis in June 2022. This increase is determined by the economic crisis in which Romania is and which has seriously disrupted all economic activity.

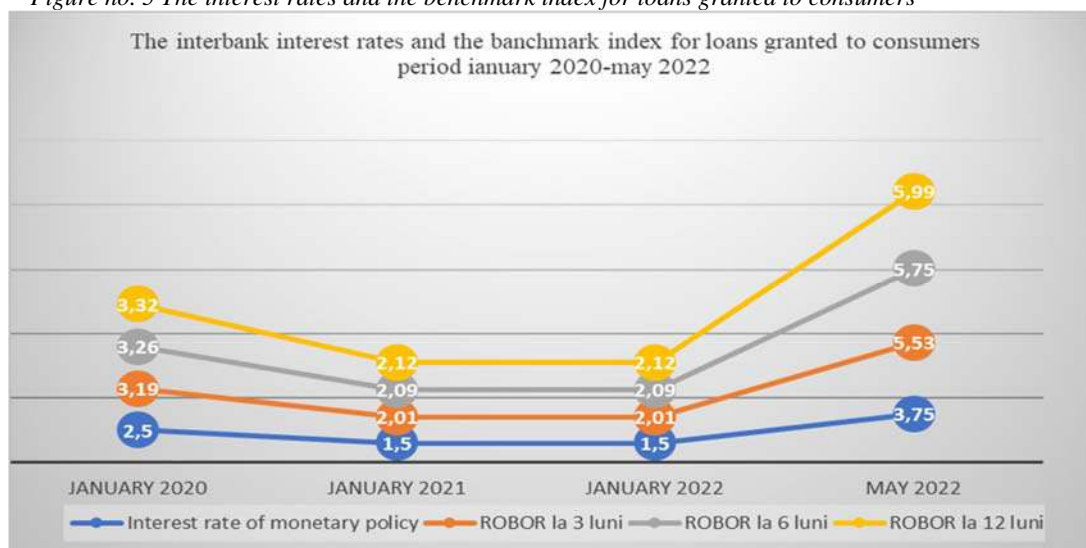
Figure no. 4 Benchmark for consumer credits quarterly series



Source: NBR – screening of the author, 2022

The ROBOR index was analyzed in comparison with the exchange rate of monetary policy, for a period of three years January 2020, 2021, May 2022, at three months, The data used in the analysis were extracted from the data resources of the National Bank of Romania. From the graphic representation it was noted that the ROBOR index and the exchange rate of monetary policy recorded approximately equal increases over the analyzed period. culminating in the highest increase in May 2022.

Figure no. 5 The interest rates and the benchmark index for loans granted to consumers



Source: NBR – screening of the author, 2022

#### 4. Findings

The scientific research has made a comparative analysis of the Romanian banking system during this troubled period. The risks that could affect the financial stability of the banks were maintained at a level that could be managed both during the pandemic and after this period. The situation generated by the pandemic, the electricity crisis that has raised its price to its highest level so far, the sanctions imposed on some Russian banks following the war in Ukraine (mainly the exclusion of Russian banks from SWIFT), the interruption of oil supply from the Russian Federation, The ban on exports and imports of certain products, raw materials and materials from Russia has made the risk of tensions in the case of domestic macroeconomic balances to remain at a severe level, with the prospect of maintaining the alert.

#### 5. Conclusions

The deterioration of the economic situation, especially in 2022, as a result of the conflict between Russia and Ukraine, the disruptions that took place in the supply chain, kept macroeconomic conditions extremely difficult. In this context, banks have come to meet their clients with dedicated support programs for each activity (postponing the payment of credit rates for example). "Risks in terms of global uncertainty, in the context of the energy crisis and the COVID -19 pandemic and the related one the default of loans contracted by the non-governmental sector was at a high level, with prospects constants" (Bulletin of the National Bank of Romania 2021).

The development of the market in terms of financial intermediation in the banking sector could make a particularly important contribution to economic growth, thus ensuring easier access to financial resources. On the other hand, this approach can lead to improved monitoring capacity of funded projects.

In conclusion, the scientific research conducted highlighted the robustness of the Romanian banking system, in harsh economic conditions and in times when uncertainty regarding the future was at very high levels. However, the research has limits consisting of the number of financial indicators analyzed, as well as the fact that the data they were used manually and thus there is the possibility of omitting important data. In view of the research will be extended to other indicators as well as to the ways of granting, distributing and developing loans granted to different non-financial institutions.

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## The Impact of ERP Implementation on Firm Performance

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### Abstract

*Employees in conventional organizations, with traditional information systems that date back to the 1960s and earlier, were concentrated on their distinct functional responsibilities and had only limited access to the information available from their department's information system. The information system for their department only provided limited information. The outdated systems reinforced the conventional vertical paradigm, which was focused toward certain operations such as accounting, commerce, and production. These systems were constructed one at a time, individually, with their own data models and with little to no integration with one another. In addition to having very little integration with the others. The technical solution called for the establishment of an interface whenever interaction between various systems was necessary.*

**Key words:** ERP, financial performance, profitability, productivity

**J.E.L. classification:** M40, M41, M48

### 1. Introduction

The market offers a set of products to optimize business processes through mega information systems that capture, store, process and distribute data and information generated by the different administrative, operational and productive units of the company. Before the appearance of these mega systems, companies had independent systems administered by each function or department to which the system was attached (Laudon, 2018, p.35). The duplicity of data, the difficult access to them, the lack of integrity and the almost null possibility of sharing them online and in real time prevented an adequate and timely knowledge and control of the operations and management of the company. The information was neither precise, timely nor accurate.

The implementation of these systems and the impact on the company has not been studied for national cases. Given the nature of the information needed for a subject with these characteristics, it has been difficult to have information and therefore studies regarding the experience that national companies have had of the benefits of these applications and if the companies have benefited from the general facilities that ERP has to integrate the information of the different foundations of the company and to integrate it with information and communications technology (Xero, 2022)

There is a very strong tradition of data ownership, be it accounting, financial, production, sales, or human resources data. Each entity that generates a particular piece of data has a certain domain and ownership over it and imposes certain restrictions, sometimes informal, so that this data can be known, shared or partially used by another user or another department of the company. Thus, it is not difficult to find companies that have duplicated most of their data, so that maintenance and storage efforts increase.

The objective of this study is first of all to know basically the ERP systems and what has been globally the genesis of these systems and their evolution until their current situation. Secondly to confirm or reject some of the basic hypotheses regarding the results of the implementation, e.g.:

The intrinsic facilities of an ERP type system are exploited by the company by integrating existing technological facilities:

- The functional structure of the company is affected by the implementation of ERP type systems?
- Which are the modules that are used in the ERP system?
- Which are the modules that the company sees as the main ones for the achievement of its mission?
- The benefits observed are those expected by the companies that incorporated an ERP type system?
- Management control improves as a result of the integration of the company's functional areas?

The work presents the following structure of development. In the first part, the most relevant characteristics of ERP systems and the main benefits as well as the main disadvantages of these solutions are presented. Next, the methodology used to achieve the objectives is presented. It continues with the development of the topic, the core of the study, and ends with the conclusions that emerge from the discussion that takes place in the development itself and that are synthesized at the end.

## 2. Literature review

These systems began to be developed in the USA during the Second World War, with the objective of supporting the management of the material resources demanded by the army. They were called MRPS (Material Requirements Planning Systems). In the 1960s, manufacturing companies took up the idea of MRPS in order to manage and rationalize their inventories and plan the use of resources according to the real demand of their products, so MRPS evolved into MRP (Manufacturing Resource Planning). In the 80's, the use of these systems included concepts such as "Just in Time", customer and supplier relationship management, among others, this is how MRP evolved completely to what is known as MRP II.

In the 90's, as a result of globalization, companies began to require systems to support business management, integrate the parts of the business, promote operational efficiency and support critical aspects of management. Thus the software industry initially developed applications to integrate the various MRP I and MRP II systems, which years later became integrated enterprise systems, known today as ERP (Enterprise Resource Planning) or Enterprise Resource Planning Systems (Radu, 2006, p.4).

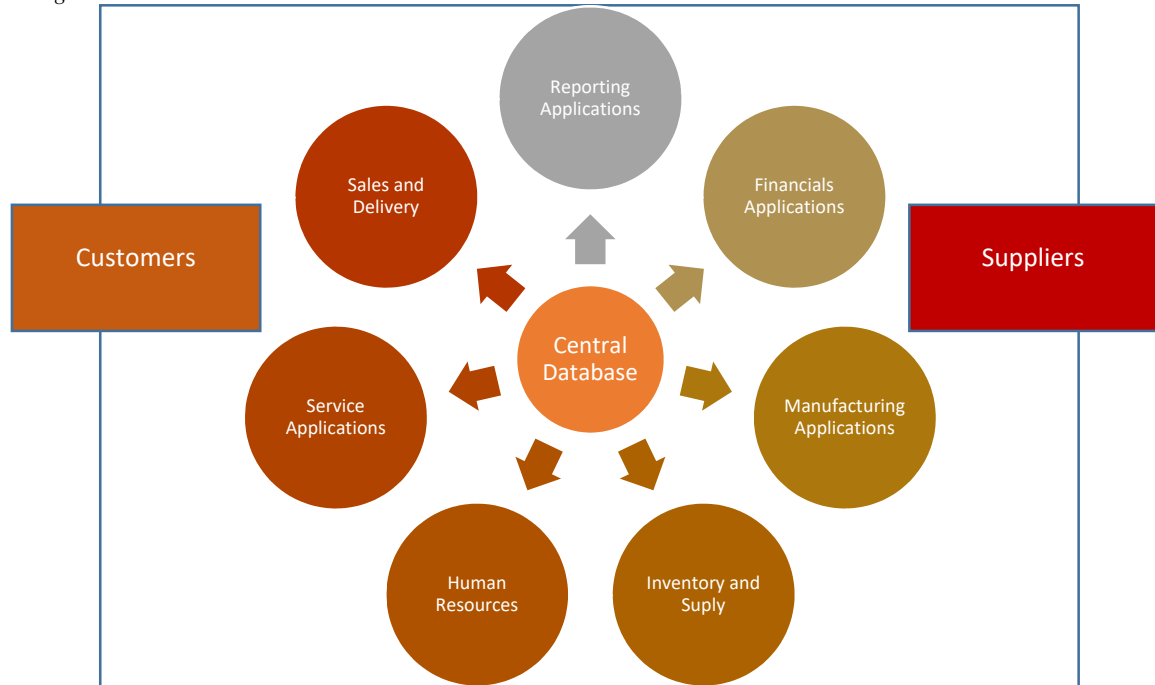
An ERP system is an integrated IT solution made up of interdependent units called Modules: The first and fundamental are the so-called Basic Modules, of compulsory acquisition, and around which are added the other optional modules, which are not compulsorily acquired and are added to incorporate new functions to the ERP system. There are also the so-called vertical modules, which are optional modules specifically designed to solve the functions and business processes of a specific economic sector.

There are several companies in the software industry that design, develop and market these solutions, and although there are differences in the final product, they have certain common characteristics (QBO,2022), these are the following:

- Adaptability. They are systems capable of adapting to any company, regardless of the sector to which they belong and the particularities of the business processes.
- Modularity. ERP systems are made up of a specific number of modules, independent of each other, but at the same time they are connected, which allows a great adaptability to companies according to their size and availability of resources. The main modules of ERP systems are: Financial Accounting, Management Accounting, Project Management, Workflow Management, Logistics, Production, Human Resources, Sales and Marketing.
- Business process orientation. From the point of view of the design of ERP systems, all its reference or high-level description of its functionalities according to the business logic by means of a business process modeling tool.

- Universality: Being a World Class software, an ERP can be used by any organization. However, its suppliers select that there are ERP for some specific industries.

Figure no. 1. ERP architecture



Source: (Ramady, Mohamed, 2016)

### 3. Research methodology

This study is a literature review where the authors gather information and data about ERP systems. The results of this evaluation will be utilized to determine how Enterprise Resource Planning systems implementation may impact a company's performance.

The type of methodology used to write this article is a qualitative description method based on literature reviews from numerous sources.

### 4. Findings

ERP is currently used in almost all industries. Although ERP is expensive and time-consuming, it has many advantages and makes it easy to manage the needs of the company. If a company uses ERP, it doesn't automatically mean that it can run without human supervision; in order to be competitive, a business still needs the support of a strong executive team.

The execution of the planning, organizing, implementing, and supervising tasks is good performance management (Wier et al. 2007). If these duties are performed well, managers can help their firms achieve their goals.

#### 4.1. Advantages and disadvantages of ERP implementation

The implementation of an ERP system, properly performed, provides the following benefits:

- It automates and simplifies processes that are performed manually by imposing a new logical structure, often resulting from reengineering, with the consequent savings in operating time, improved productivity and increased competitiveness of the company.
- It integrates all areas of an organization so that it has more control over its operation, establishing cooperation and coordination links between the different departments, facilitating the control and auditing process. With ERP software, you can instantly



synchronize your data, improve the quality of your data, and instantly see an updated view of your organization. An ERP system makes it simple to create information, combine it, and manage corporate-wide business operations. Accounting data is tracked using integrated financial management modules and shared management tools in accordance with international standards. You can choose a framework in several languages, currencies, businesses, and charts of accounts as a result. With the aid of ERP systems, you may compile financial information from several departments to produce reports like the general ledger and other financial statements. The system effectively integrates all data, making ERP a crucial component of any modern firm.

- It provides an integrated solution for some of the functions of the organization, which ensures the continuous and immediate updating of data in the various geographical areas where the organization is located, thus improving the decision making process.
- A centralized database is created in which all the functions performed in the company are registered, processed, monitored and controlled regardless of the geographical location. Access to information in a single, centralized and integrated database improves the decision making process.
- Often organizations have different types of software integrated within it. An ERP system consolidates all software into a single system.
- GAAP compliant ERP: For the most part, bookkeeping software isn't GAAP compliant, though a full-fledged ERP arrangement regularly is compliant with GAAP. A strong ERP software provides financial reporting in multiple accounting standards.

And some disadvantages of these systems are:

- Costs: This is one of the most important disadvantages that a company faces. In addition to the costs of the product itself, there are costs such as training, implementation, support, configuration, etc.
- Implementation time and complexity: The implementation of an ERP system is a time-intensive process, which can affect the time efficiency of the company's operations.
- Personnel: An ERP system automates many tasks executed by people, if they are not well trained and have no skills to manage the ERP system, the organization will be affected as a whole.
- Complexity to integrate external information: contained in systems external to the ERP: The difficulty in integrating information in the ERP occurs because companies have independent systems from different suppliers whose data structure obeys a data model that is not compatible with that of the ERP.

#### **4.2. Popular software on the market**

Oracle NetSuite ERP is made for contemporary businesses that need mobile tools and cloud access. Companies with various locations will benefit greatly from this because each site may instantly access the same information. Because NetSuite allows you to add or modify features as your business expands, it is made to accommodate growing enterprises.

NetSuite is an example of cloud ERP software that can be licensed as a hosted SaaS solution or hosted internally. Sales representatives, field technicians, and employees on the manufacturing and warehouse floors will all be able to access crucial customer data thanks to cloud access, as well as view information about orders that need to be filled. More open lines of communication between all departments are made possible by it. Accounting, inventory control, supply chain and warehouse management, production management, order management, procurement, human capital management, and e-commerce are just a few of the features that NetSuite provides (NetSuite, 2022).

The number of users, the licensed modules, the support level chosen, the contract duration, the frequency of billing cycles, the configuration and training needs, and promotion eligibility all affect how much NetSuite costs.

Based on review data, 66.5% of the companies that had recently given NetSuite some thought as a prospective purchase option stated that their maximum anticipated investment costs for the next three years would be in the tens of thousands of dollars.



Pricing choices for NetSuite typically start at \$1,000/mo, with extra licensing fees based on module choice, support level, and user needs.

Microsoft's Dynamics 365 Business Central was developed by merging the features of its Dynamics ERP and Dynamics CRM applications. Small and mid-market businesses can utilize Dynamics 365 Business Central, which offers a scalable method to gain the capabilities your company needs to be more lucrative (SoftwareConnect, 2022).

A start-up or small business (SMB) that has outgrown its initial accounting program may consider switching to a small business ERP like Dynamics 365, which will expand with the company as needed. The software can be purchased in modules, allowing you to only buy what you require and having the pricing of the product reflect that. "Business Central Essentials," their entry-level Dynamics 365 bundle, covers financial management, CRM, project management, supply chain management, HR, and warehousing.

Small and mid-size businesses can utilize Sage Intacct, a web-based SaaS accounting and financial management solution. Sage Intacct was created by finance professionals for other finance professionals. It offers multi-dimensional data analysis and strong automation of complicated operations. Sage Intacct, one of the first SaaS accounting solutions, was first introduced in 2000. The application is being actively used by over 10,000 organizations. For companies that need greater functional sophistication than what is offered by entry-level web accounting software, it offers an alternate option. The core market is made up of growth-oriented small and mid-market businesses looking for strong financial management capabilities.

The product was "designed for finance," according to Sage. Sage Intacct is recognized as a "recommended provider of financial management solutions" by the American Institute of CPAs (AICPA). By offering considerable point-and-click configuration possibilities for fields, reports, and workflows without the requirement for code-based adjustments, the solution has increased the program's appeal to financial experts. A variety of third-party add-on programs created to integrate via its Web Services API can enhance its capabilities for organizations looking for functional assistance for business activities outside of the finance and sales divisions (Law C.C., 2007, p. 390).

Pricing for Sage Intacct varies and is offered on a quote basis. The number of users, their level of access, and the number of modules needed all have an impact on subscription prices. The necessity for data migration, the expected configuration services, the specifications for interaction with other business applications, and training expectations can all affect the initial set-up expenses.

Organizational capabilities are a company's capacity to carry out a sequence of activities using its resources. Businesses create organizational-specific competencies to develop and manage organizational capabilities in order to obtain a competitive edge. Continuous use makes capabilities stronger and more challenging to copy for rivals. By increasing information access, quickly and effectively developing new products, streamlining operations, and taking effective steps to change the amounts and timing of cash flows, an investment in information technology enables a company to make its processes more efficient and to achieve operational and financial outcomes (Shang and Seddon, 2002). With the help of the ERP system, company processes may be automated and changed, which has advantages for information access, product diversity, process improvement, and financial flexibility.

## 5. Conclusions

Since its inception, cloud accounting software has advanced significantly. Software that was once thought to be inferior to desktop applications has advanced significantly to become a desktop application replacement. Even though there are still some issues with cloud computing, most of them have been resolved recently. Cloud accounting can be viewed as a cost-effective, convenient, and user-friendly option that is safe on both a digital and physical level. The three companies described in this thesis target SMEs with their whole product, though the user ultimately decides whether to deploy. Today's businesses, in my opinion, stand to gain the most from cloud accounting software. I think the majority of cloud solutions available now don't go as deep as inventory systems.

There are many benefits to utilizing an ERP system for financial management and accounting. A financial director has a better understanding of the organization's capital needs and can manage its accountable activities. The majority of business owners utilize accounting software, but an ERP

system provides a complete solution that includes modules for every department, including finance, production, quality, sales, acquisitions, etc. A factory-specific ERP financial management system offers all the same features as well as functionality tailored to the manufacturing sector.

## 6. Acknowledgement

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## Analysis of The Stock Market and Macroeconomic Indicators for The Emerging Market in Hungary

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### Abstract

*Over the last few decades, Hungary has had a trajectory similar to the other emerging markets of the European Union from a diplomatic and political point of view, with similar prizes of the economic and financial environment. This paper analyzes the most important indicators of the capital market and macroeconomics, in order to study the correlations, but also the differences recorded by them. Through a comparative analysis of the indicators, it is highlighted the decisive moments, as well as the causal factors that determined the inflection points of the studied indicators, identifying their similarities with the behavior of the other European states.*

**Key words:** macroeconomic indicators, capital market indicators, Hungary

**J.E.L. classification:** F30, F40, F63

### 1. Introduction

Hungary is one of the former communist countries whose political, economic and social path after 1989 has followed a similar course. The premises from which Hungary started its integration with the European Union was similar to other former communist states, but over the three decades, the internal decisions and fiscal policies adopted brought differences between these trajectories. In 2004, Hungary officially joined the European Union, and in 2007 they became member of the Schengen area. According to the FTSE Russell classification currently, Hungary is one of Europe's emerging markets, along with Romania, Greece and the Czech Republic.

In the present work it is highlighted by a comparative analysis of the evolution of the Hungarian market both at the macroeconomic level and from the perspective of the capital market, finding common points but also differences between the two advances.

### 2. Literature review

The specialized literature approaches the subject of the interdependence of the capital market and the macroeconomic environment in several aspects, in the context of the phenomena of globalization and deglobalization, which determine the integration of the economic and financial markets.

We note that the academic environment has developed in recent years the studies on this interaction, including in empirical studies indicators such as the system of national accounts, the indicator of real progress, the cost-benefit analysis or the net economic well-being. These adaptations of the specialized literature are due to the degree of complexity of the economic and financial mechanisms, which impose new approaches on statistical calculations and theoretical-conceptual ideas.

These changes, however, do not underestimate the importance of classical indicators, which quantify and analyze capital markets and the macroeconomic environment. We exemplify through recent papers, which base their studies using indices such as GDP (Li and Leung, 2021), consumer price index (Barakat, etc., 2015 and Camilleri, 2019) or market capitalization (Wahba, etc., 2022).

### 3. Research methodology

This paper is a comparative study, in which the stock market and the macroeconomic state of Hungary are analyzed in parallel. In the framework of this descriptive analysis, a series of indicators representative of the two areas studied were selected, that reflect the characteristics of the market (Troto, 2020).

Thus, for the interpretation of the evolution of the stock markets, the following indicators were selected:

- the value of the shares traded
- market capitalization
- number of domestic companies listed on the stock exchange
- shares traded in relation to the turnover of domestic shares

In order to analyses Hungary at its macroeconomic level, the following indices were selected:

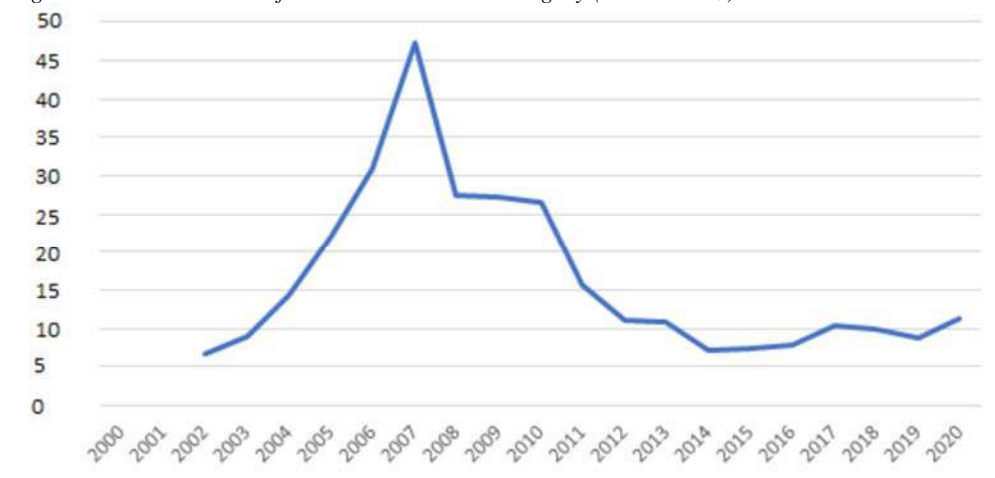
- GDP per Capita
- Evolution of GDP
- Consumer Price Index
- Foreign direct investment, net inflows
- Current account balance

In order to study the evolution of the indicators as a whole and to be able to draw valid conclusions, the paper approaches a long-term vision, taking into account a time interval of twenty years, between 2000-2020.

### 4. Findings

In the analysis of the indicators recorded by Hungary, we note that the period of the years 2004-2007 of the economic boom was clearly reflected in the index of the values of the traded shares.

Figure no. 1. Total value of the shares traded in Hungary (billions US\$)

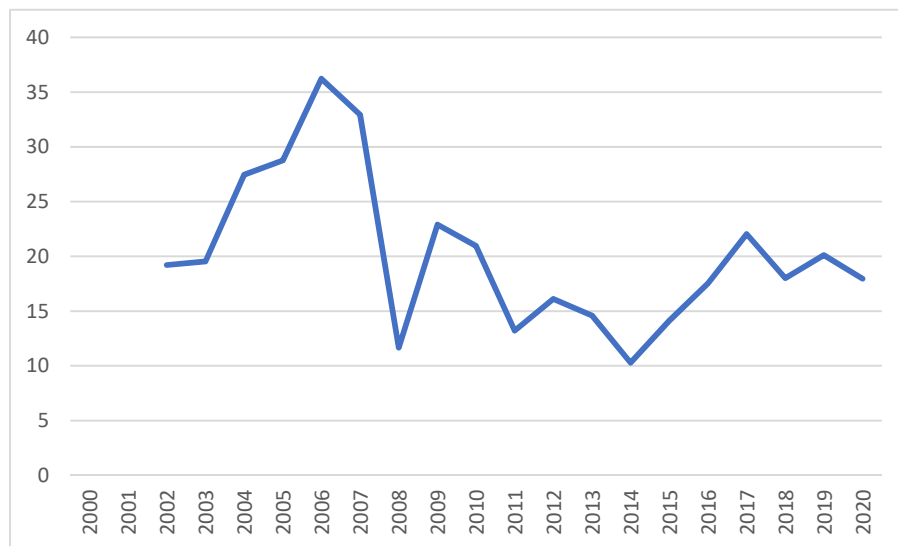


Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)

But the sudden upward evolution, which many analysts considered artificial. As a result, it is not surprising the involution that the index has recorded in the following years.

It is worth mentioning that in the period 2013-2020, the total traded value was relatively constant, in our opinion this development can be explained by the much more cautious behavior of investors, as a result of the experience of the economic crisis, but also by fiscal policies whose role was to stabilize the capital flow and strengthen the financial markets.

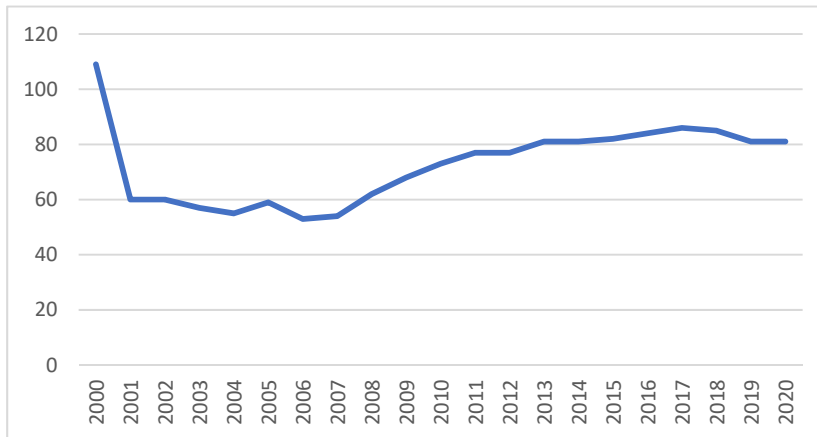
Figure no. 2. Market capitalization of listed Hungarian domestic companies (% of GDP)



Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)

Analyzing the activity of domestic companies on the Hungarian capital market, we can see that their number is relatively constant, even if the capitalization index recorded significant inflections. Even if a sudden decrease was suffered in 2007-2008, the market capitalization of domestic companies registers a significant increase in 2009, which we do not notice in the other stock index indicators analyzed, but this optimistic evolution was not preserved in the following years. The stock market capitalization index stabilized in 2017-2020.

Figure no 3. Local companies in Hungary listed on the stock exchange

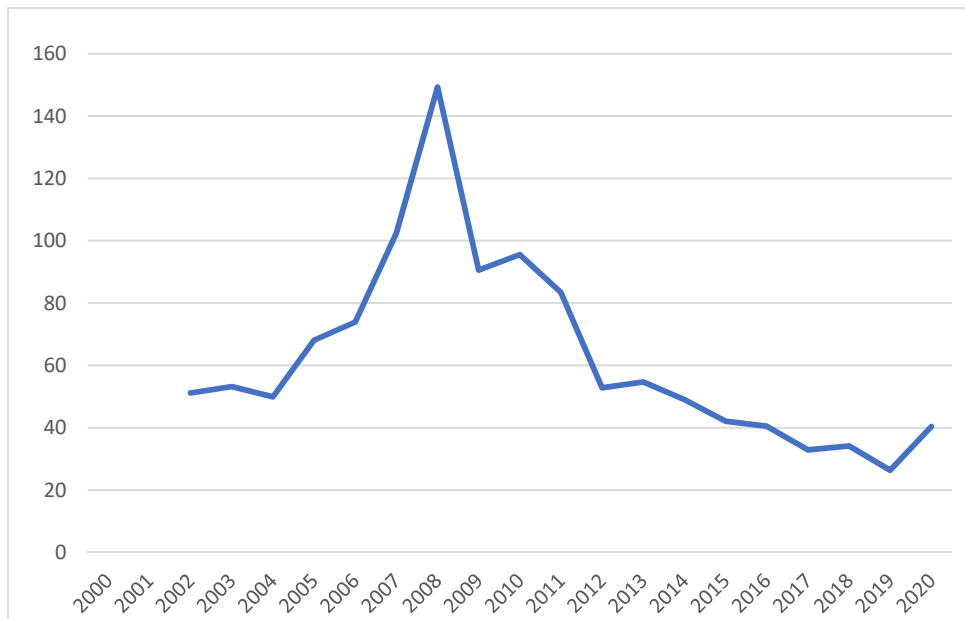


Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)

The percentage index of the shares traded in relation to the turnover of domestic shares in Hungary had a similar evolution to the total value of the shares, from which we conclude that there was a direct correlation between these indicators, demonstrating a balance between the capital market indices.

We can also note that between 2012 and 2019, the report recorded a slight steady decrease. Correlating this fact with the positive evolution of the total value of shares in 2016-2018, we conclude that the turnover of domestic companies had an upward trend.

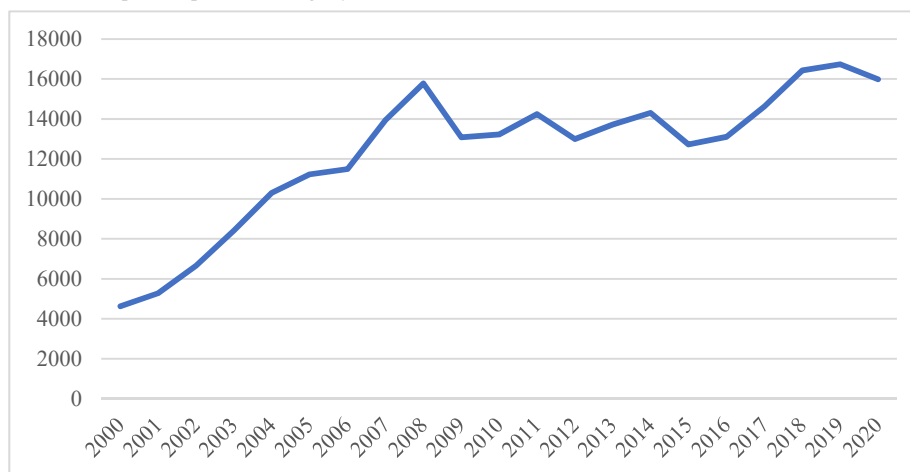
Figure no. 4. Shares traded in Hungary, in relation to the turnover of domestic shares (%)



Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)

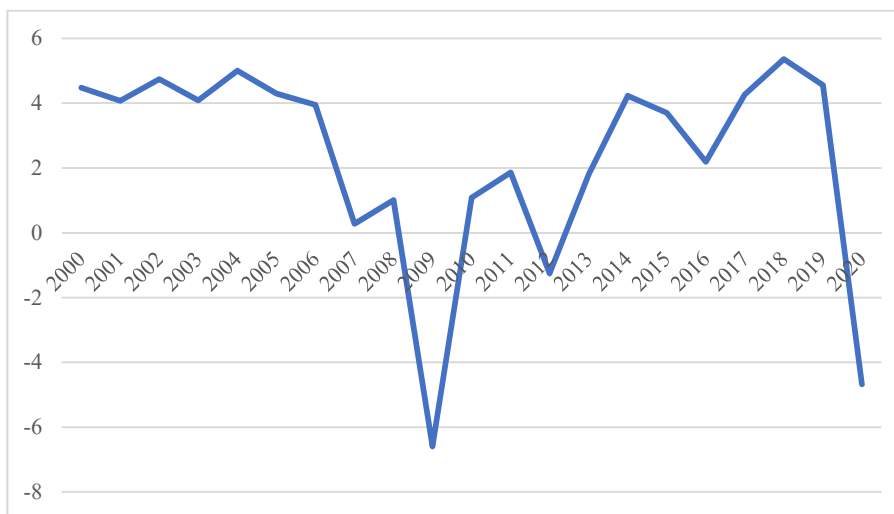
Analyzing the indices of gross domestic product, respectively GDP per capita and the percentage evolution of GDP, we can observe an obvious correlation of them, observing two clear periods of evolution, namely the years 2005-2007 and 2016-2019. We believe that Hungary's macroeconomic indices have been influenced by the economic crisis to a certain extent, but their recovery has not been quick, and the stabilization and re-entry of significant growth can only be noted after 2016.

Figure no. 5. GDP per Capita in Hungary (US\$)



Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)

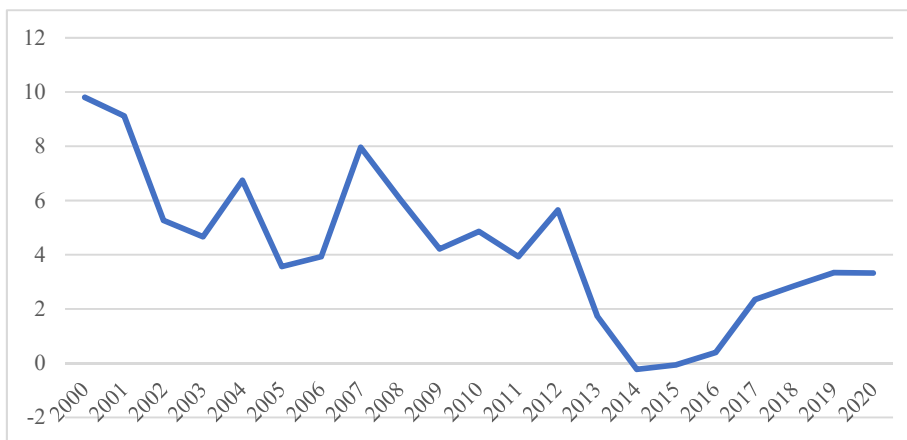
Figure no. 6. Evolution of GDP in Hungary (% annually)



Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)

We also consider that this upward trend can also be explained by the increase in inflation of the aforementioned period, which makes us to conclude that 2016-2019 was a period clearly favorable to the standard of living and the development of the business environment. Analyzing the consumer price index in the period 2000-2020, we note that it recorded uneven values, between -0.2% and 9.8%. We also note that the general trend was downwards in the period 2000-2014, followed by a linear upward evolution.

Figure no. 7. Hungarian consumer price index (% yearly)

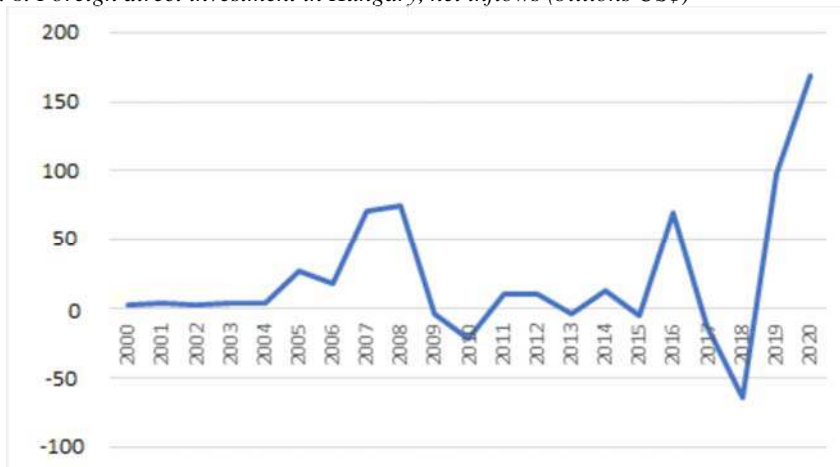


Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)

From our point of view, it should be noted the atypical evolution of the index that culminates in the recording of sudden inflation before the financial crisis, following that the price of the consumer index in the years of crisis will remain high, but below the critical level reached in 2007. In the context of the present work, the purpose of which is to correlate several macroeconomic indicators, we consider it necessary to justify these deviant values that can generate anomalies.

Deepening the evolution of this indicator, we can see that Hungary's inflation was very volatile in the period 2002-2007 and mainly reflected the evolution of food and fuel prices, amplified also by changes in fiscal policies, which changed the level of taxes. As a result, the depreciation of the forint has led to a rapid increase in inflation since the second quarter of 2006. Higher food price inflation has led to a new rise in inflation since the last quarter of 2007, reaching an average annual value of 7.9%.

Figure no. 8. Foreign direct investment in Hungary, net inflows (billions US\$)

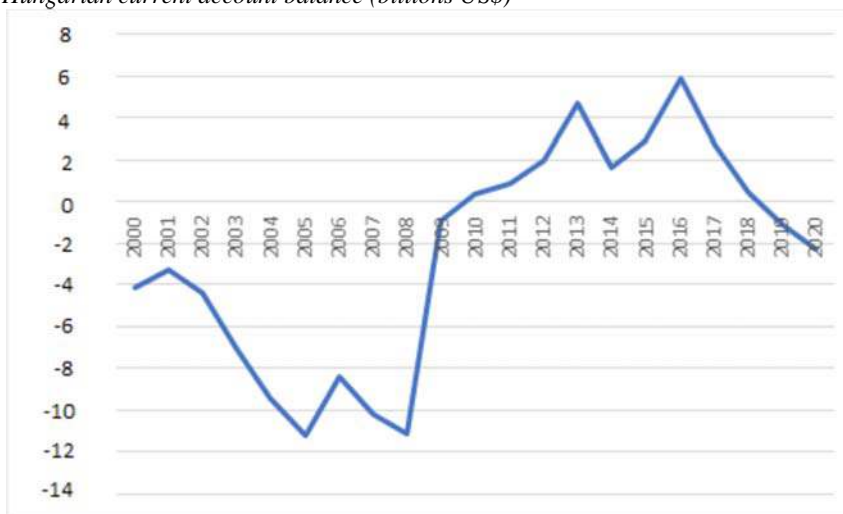


Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)

Foreign direct investment experienced a relatively equal evolution in the period 2000-2007, having an important inflection point in the period 2007-2008, which from this point of view had a favorable trend, despite the economic crisis. In the last four years under review, this indicator has had significant fluctuations. We note that, once again, during the Covid-19 crisis, this indicator did not suffer, on the contrary, 2018-2020 were years when direct investments in Hungary recorded a special ascent. In my view, this behavior of the international investment market is due to government intervention.

In our opinion, the evolution of stock indices was influenced by the establishment in 2008 of the Keler Group, which played a decisive role in the evolution of the monetary and capital markets in Hungary, its purpose being to outsource the activity of clearing the risks and implicitly of protecting the National Bank and the Budapest Stock Exchange. Moreover, Keler CCP was involved in 2016 in compensation services for gas transactions in Romania as well, renewing the financial guarantee system and alignment with European standards. Thus, we believe that the integration of the Keler Group into the zonal economy of South-Eastern Europe has played an important role in the stability and correlation of economies, as well as in the integration of the regional market.

Figure 9. Hungarian current account balance (billions US\$)



Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)



Hungary's current account balance recorded a period of deficit between 2000 and 2009, with the post-crisis recovery bringing the indicator to positive values. Analyzing the evolution of this indicator, we conclude that we cannot notice an obvious link between the evolution of the current account and the capital market indicators. We note, however, that after a decade in which Hungary recorded a surplus, in 2020 the indicator registers a negative value. In our opinion, this deficit cannot be justified strictly in the light of the health crisis, noting that the downward trend started in 2016.

## 5. Conclusions

As a result of the study above, we find that the major international events that have influenced the economy at global and regional level have also affected Hungary, but the level of impact and the recovery period differ from one indicator to another. In arguing this observation, we exemplify by the financial crisis of 2008, at which time Hungary recorded decreasing values of the analyzed indicators, having the same behavior as the other European markets, but there were also inflections of the indicators that depended on the internal context. Thus, in our opinion, the emerging markets of the European Union have had an independent evolution, without being able to notice some clear patterns of behavior of the indicators. On the other hand, we note that this market has been influenced by the overall course of the developed markets of the European Union, as well as by the policies implemented at EU level.

As far as the stock markets are concerned, we conclude that the Hungarian stock market is characterized by a high level of volatility, being influenced by internal factors independent of the evolution of the stock exchange. However, we note that in the long run, the capital market was severely affected by the 2008 crisis, its recovery capacity not being sufficiently viable to bring back the value of the traded shares or the market capitalization to the level recorded in 2006-2007.

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# Study on The Evolution of Stock Market Capitalization and Gross Domestic Product in The Emerging Countries of The European Union

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## Abstract

*This paper includes an analysis of the economic and financial markets of the emerging countries of the European Union. The evolution of these markets is captured primarily in the context of the phenomena of globalization and deglobalization, but also in view of the economic, social and political conjunctures that these countries have experienced during the twenty years of transition from border markets to economies integrated with the European market. The study includes a descriptive analysis applied to the selected markets over a period of twenty years, based on the selected methodology. Analyzing on a long-term the evolution of the markets of Romania, Hungary, Poland and Greece through a comparative approach, the paper highlights similarities and differences in the developments of the Emerging European markets, as well as the degree of reaction to the major events that had an impact on the economic and financial environment of the European Union.*

**Key words:** market capitalization, gross domestic product, emerging countries

**J.E.L. classification:** F30, F40, F63

## 1. Introduction

Any national economy is characterized by the functioning of markets specific to economic sectors, where the supply and demand and supply of financial assets meet and balance freely or in a controlled manner, generating the resources necessary for the development of the production of goods and services. Based on this statement, the study aims to analyze the evolution of emerging financial markets in the European Union as an integral part of the European financial market.

The analysis of these indicators will be made in the context in which the level of development of the countries, as well as the degree of integration of these economic and financial markets differ from state to state, according with the level of globalization or deglobalization trend of each country (Troto, 2020). According to Troto, the globalization phenomena is one of the factors that influences the market behaviors, the integration level causing more or less impact. Through this comparative analysis we will highlight both the similarities between the behaviors of these markets in the context of international and regional events, as well as the differences resulting from domestic circumstances.

Thus, we will study the evolution of the financial markets in Romania, Hungary, Poland and Greece through the prism of the most relevant stock and macroeconomic indicators, through a descriptive analysis of the values recorded in the period 2000-2020. The aim of this study is to identify the level of interconnectivity between emerging EU markets, the degree of integration into the European market, as well as the correlations between macroeconomic development and the capital market.

## 2. Literature review

The literature includes comparative studies of general indicators. We recall here the work carried out by Luwihono and others (2021) that refers to the share price, the exchange rate, the interest rate, the long-term consumer price index. In the study conducted for South Africa, Mpofu (2014) notes that the degree of correlation of the two indicators studied, i.e. which analyzes the evolution of gross domestic product and the growth index of the JSE FTSE, is not strong enough to be able to represent a method of financial market prediction. Demir (2019) conducts an empirical study in the case of the Turkish market, concluding with the fact that developing markets need strong national currency, high international capital inflows and low investment costs. The study prepared by MSCI Barra Research in 2010, analyzing the gross domestic product and the net profit per share, confirms that the economic evolution of a country is characterized by cyclicity, this being one of the external factors that influence the interrelationships between the indicators of the economic and financial markets. Other specialized papers also address this topic, which we consider relevant for the theoretical substantiation of this work the studies conducted by Haeck (2021), Muller (2019) and Cristescu (2021) and which represent a benchmark for the results obtained in this study.

## 3. Research methodology

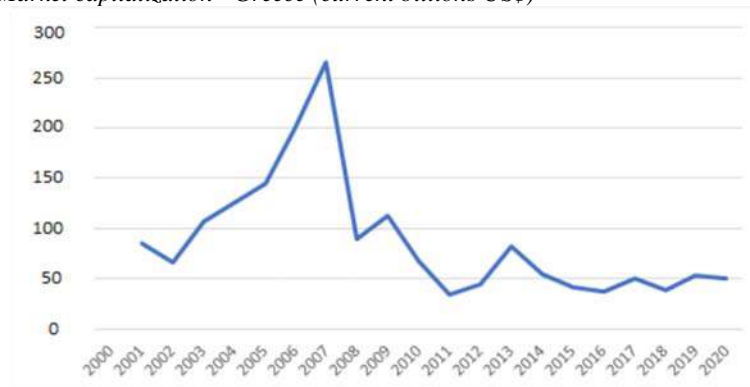
The quantification of the state of evolution of the economic and financial processes, in order to explain the interdependence phenomena that are engaged in the economy, can only be achieved by standardizing the macroeconomic theories and simplified models of analysis. In order to analyze the macroeconomic and stock market evolution, the specialized literature and expertise of the business environment provide a variety of methodologies, but we note that in essence, they are synthesized in the values determined by the main indicators.

From the multitude of quantitative expressions indispensable for the statistical analysis of the financial markets and macroeconomics, we summarize two essential indicators, with which we standardize the information in order to ensure the comparability of indicators over time and between different countries. Thus, the present work includes a descriptive analysis of the evolution of the stock market capitalization and of the gross domestic product (in absolute values).

## 4. Findings

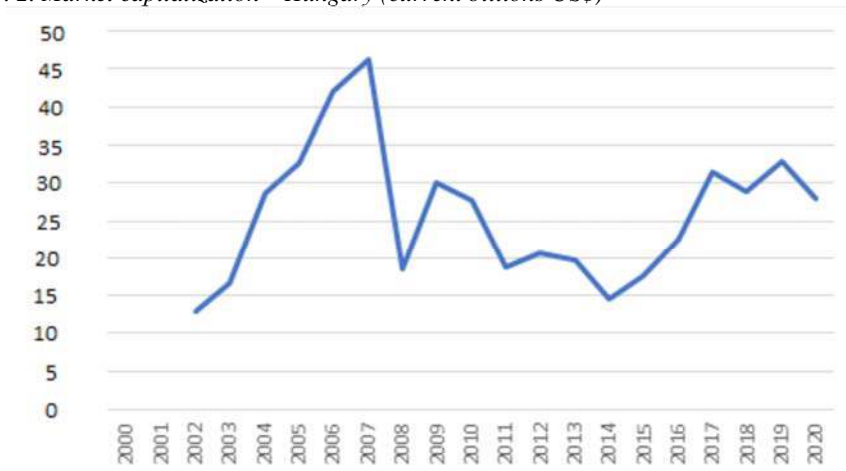
Regarding the market capitalization of Greece between 2000 and 2020, we can see a significant upward trend in the period 2001-2007, this positive evolution being suddenly lost in the coming years. It is worth noting that the values have remained low until now, the indicator remaining relatively constant in the period 2011-2020, below the level of the 2000's.

Figure no. 1. Market capitalization - Greece (current billions US\$)



Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)

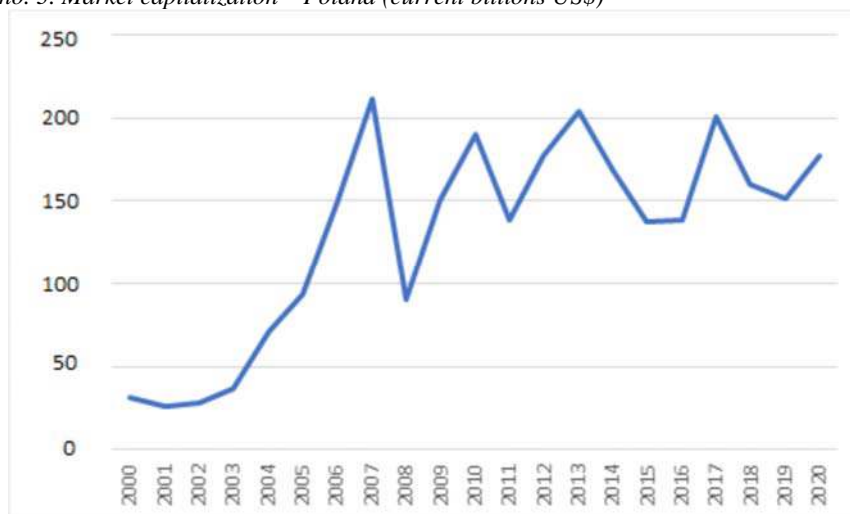
Figure no. 2. Market capitalization – Hungary (current billions US\$)



Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)

In the pre-crisis period, Hungary's market capitalization had a significant ascent, the peak reached in 2007 being four times higher than the value recorded in 2002. The indicator recorded a dramatic decrease during the crisis, after which its evolution was volatile. In the last three years, the indicator stabilizes, but at a level much lower than that recorded in 2007.

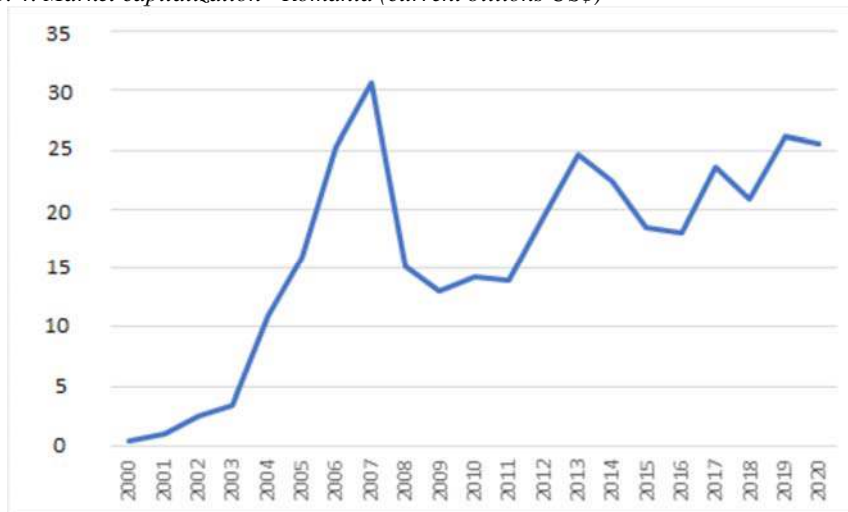
Figure no. 3. Market capitalization – Poland (current billions US\$)



Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)

Like the other emerging countries of Europe, the market capitalization of Poland noted a significant positive trend in the period 2002-2007. In the following years, the market value recorded from year-to-year considerable oscillations, but it is noted that the indicator managed to reach in this post-crisis period values similar to that of 2007. Thus, we can appreciate that the market value in the case of Poland reflects a stable stock market, based on sustainable mechanisms, which supported the economic development of the country.

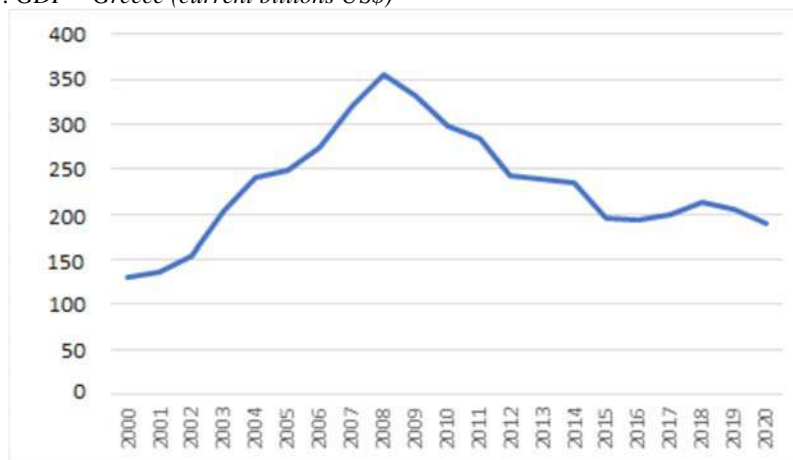
Figure no. 4. Market capitalization - Romania (current billions US\$)



Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)

The market capitalization in the case of Romania recorded in the analyzed period an evolution correlated with the general economic state. The maximum value was recorded in 2007, noting this similarity with the other emerging countries, in an upward trend in the pre-crisis period. After a significant decrease in 2008, the indicator registers a moderate but constant growth. We interpret this evolution as a consolidation of the stock market, but cautious given the experience of 2008 and the geopolitical uncertainty that followed. Between 2008-2010, we are witnessing a minimum level of market value, the stock market environment still managing to alleviate the shock of the economic crisis, stopping the negative evolution. After 2011, the capitalization is supposed to register a positive evolution, but characterized by the same high degree of volatility, specific to the Romanian market but also to the other emerging markets. We also note that the values recorded at the end of the analyzed period do not reach the maximum level of 2007, the investors' sentiment being modified for a long time by the economic crisis of 2008, they acted more circumspectly.

Figure no. 5. GDP – Greece (current billions US\$)

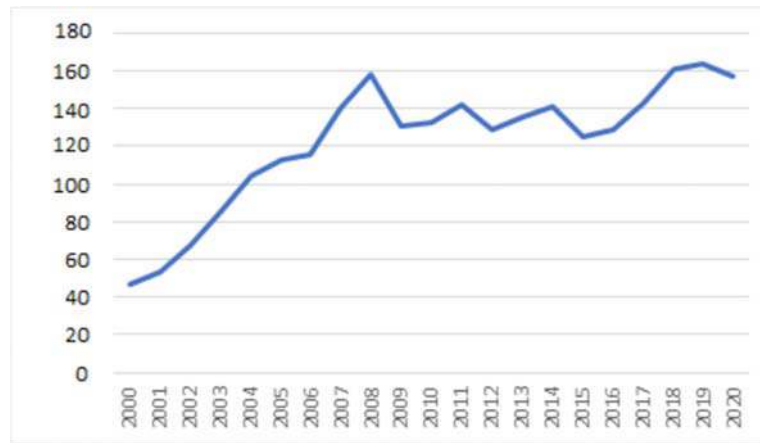


Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)

Analyzing the gross domestic product exchange rate in the case of Greece, we note that its evolution is different from the other emerging markets of Europe. In the situation in which Romania, Greece, and Poland register relatively stable values of GDP after the economic crisis of 2008, Greece is affected dramatically, witnessing a contraction of GDP by 2020.

We notice a period of relative immobility, even a slight increase in the values recorded between 2015-2018, but analyzing the long term, we consider this evolution insignificant. Moreover, speaking of an economy based on tourism services, a decrease in GDP during the pandemic period is justified.

Figure no. 6. GDP – Hungary (current billions US\$)

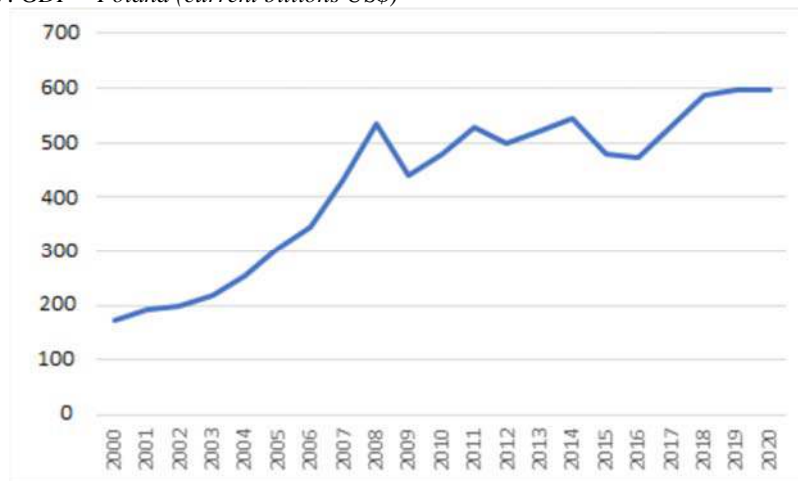


Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)

Hungary's gross domestic product registers a similar evolution to the other markets analyzed. We note, however, that it records absolute values much inferior to Poland and Greece, and since 2010 even below Romania's values. During 2015-2019, a positive evolution of the indicator is noted, reaching in 2019 a maximum within the analyzed period. Hungary's economy is complex, based on exports, this advantage conferring an economic environment that had the capacity to soften the effects of the 2008 crisis.

On the other hand, political decisions and Euroscepticism have created suspicions regarding Hungary's European evolution. From our point of view, these decisions of the political environment have discouraged multinational businesses, created a negative feeling among investors and caused a stagnation of Hungary's economic integration at regional level.

Figure no. 7. GDP – Poland (current billions US\$)

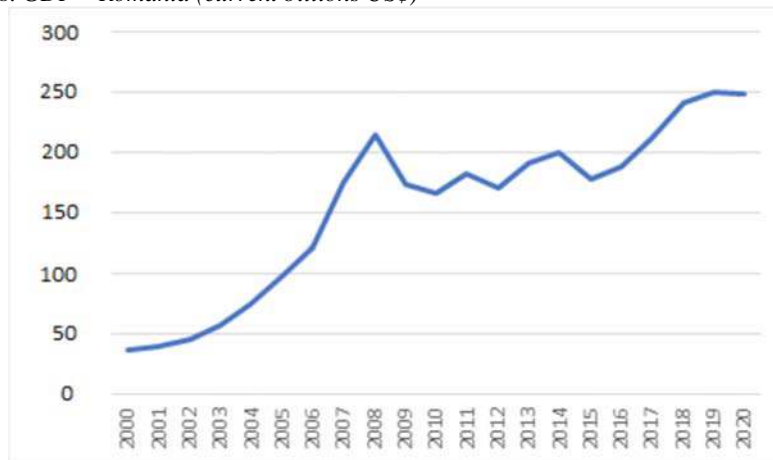


Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)

Poland's gross domestic product is a positive example of the economic development of a state in transition from the emerging market to a developed one. In the period 2000-2008, Poland's GDP experienced a steady ascent, followed by a justified decrease by the crisis of the years 2008-2009 and an immediate recovery in the years 2010-2011. Analyzing this evolution, we express our point of view by saying that Poland was the only European state that managed to avoid a recession.

This success was due to Poland's capacity to absorb European funds, which contributed to the economic and infrastructure development, as well as due to the lending of small and medium-sized enterprises. Thus, we can say that the economic measures taken by Poland during the analyzed period of time have been capitalized by the economic and financial environment, offering a favorable course of development and European integration.

Figure no. 8. GDP – Romania (current billions US\$)



Source: Author processing, data from [www.worldbank.org](http://www.worldbank.org)

In the case of Romania, the gross domestic product in terms of value recorded in the analyzed period figures similar to Hungary, even exceeding them in certain periods of time. Even if Romania's GDP is well below the level of those in Poland, the evolution was favorable. We note that the period 2015-2020 represented a significant jump, in recent years the figures exceeding the level reached in 2008. The involution caused by the financial crisis has been recovered, the Covid-19 crisis not affecting, at least in the short term, the gross domestic product of Romania. We interpret these values as representing the premises for a medium and long-term increase in macroeconomic indices. However, we must mention the precaution under which we state this forecast, based on the inertia of the recorded figures, but without being able to predict the uncertainty of the geopolitical events that will certainly significantly influence the domestic, regional and global economic and financial environment. Summing up to the analyzed interval, 2000-2020, we conclude with the fact that Romania proves to be a feasible economy, with real premises for an ascent to a developed economy, remaining subject to the influence of external factors.

## 5. Conclusions

For an analysis of the capital market and the macroeconomics of the emerging European markets – Romania, Hungary, Poland and Greece, in the time frame 2000-2020, we used two established indicators – market capitalization, respectively gross domestic product. Through their comparative study, the paper researches the correlations between the financial and macroeconomic evolution within the economic and financial mechanisms of these countries, as well as the similarities between the evolutions of the emerging markets of the European region.

A first conclusion we state is that the evolutions of the stock markets, analyzed through the prism of market capitalizations, have a higher degree of volatility than the macroeconomic indicators, and the similarities between the total values cannot be considered strong enough to be able to say that the capital market and the macroeconomic environment are decisively influenced. However, there is an



interdependent evolution in the medium and long term, considering that the mutual influences between the two environments define the general macro-economic trend that the analyzed markets develop. We notice that the inflection points of the indicators, influenced by internal and external factors, such as 2008 marked by the global economic crisis, are found in all the analyzed indicators. We note, however, that the capital market index is much more sensitive, its reaction being faster, and the oscillations recorded being more significant, while the macroeconomic environment reacts more slowly, with smaller inflections, but with longer-term effects.

Regarding the market capitalization, we note that the evolution moments of the indicator are influenced by similar events, on all the analyzed markets. The factors of positive influence differ from one state to another, but in essence we are talking about similar circumstances, such as joining the European market, the privatization process of large state-owned companies, promoting the capital market from a border market to an emerging one (and, in the case of Poland, in 2018, towards a developed market). As the common denominator of the analyzed markets, we notice a period of significant evolution of the indicator in the period 2000-2007, but the trends recorded in the post-crisis period differ from state to state. Thus, in the case of Greece, market capitalization has entered into a constant regression, valid until the end of the period analyzed in the present study. On the other hand, Hungary had a high degree of volatility, while in Poland and Romania, even if the indicator recorded oscillations, in the medium term it had a positive temptation.

As far as gross domestic product is concerned, we note a degree of its stability. Even more, we observe in the macroeconomic statistics indicators a constant and significant increase of the GDP value in the period 2000-2007 in the case of all the analyzed economies. This favorable evolution is justified, given that during this period the entire economy of Europe experienced a period of development. Being economies in transition to the status of capitalist countries, emerging markets had a significant gap with developed markets, capitalizing on this period and thus diminishing the differences between the stages of macroeconomic development of European states. It is thus justified the common moment of 2008 in which all the analyzed states registered an involution, but after which they re-entered a favorable trend. However, the periods and the way of returning differed from state to state, and Greece is in this situation the exception of the present study.

The internal crises that Greece went through during this period reflect on GDP significantly, which makes us express ourselves with caution towards the general evolution of this economic and financial market. Its consistent course within the European Union gives Greece the guarantee of an integrated economy, but the evolution of the statistical indices remains equally important to ensure a favorable evolution towards a developed market. On the other hand, Poland was the least affected by the crisis, thus proving its economic stability. In 2011, Poland's GDP returned to its peak in 2008, and in the following years the evolution was overall positive. A similar course had Romania and Hungary.

Finally, we conclude that the general evolution of the capital markets and of the macroeconomic environment of the analyzed emerging markets support the temptation for financial and macro-economic development, and emerging markets find resources and opportunities to support a long-term development. Both from the point of view of the capital market and of the economic environment, the markets of Romania, Greece and Hungary meet the premises of an evolution towards the status of a developed market, but in our opinion, this process is long-lasting, and the external regional factors, both economic and geopolitical, will have a decisive influence, as this work has shown that they had in the past.

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