

The Digital Economy - A Challenge for Fiscality

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Abstract

The world has changed significantly in recent decades. In addition to globalization, new technologies have facilitated new business models that have put pressure on existing international tax rules. Current economic conditions have prompted many companies to migrate to Internet-based systems to increase efficiency, reduce operating costs, and the ability to operate in real-time between different platforms. Because of this, many companies redesign the main business processes, through investments in technologies, IT systems for economic analysis and decision support, as well as social networks. In this context, the paper aims to provide an overview of the digital economy by highlighting various aspects of the effects of digitalization and the Digital Economy and Society Index (DESI).

Key words: digital economy, the effects of digitization, DESI
J.E.L. classification: H21, L86, O1, G30

1. Introduction

The digital economy raises new plan information, focusing on ensuring transparency and processes for decision making.

New digital technologies are making accessing, storing, and transmitting information increasingly easier and more accessible. With digital information, it can be transformed into new economic and social values, creating huge opportunities for the development of new products and services. Information is becoming the key resource for the digital economy.

As a result, we are currently witnessing the emergence of entirely new markets, industries, enterprises, and work practices, which form a digital economy.

The digital economy will help increase access to education, jobs, and finance. One of Romania's advantages in the transition to the digital economy is represented by the IT sector which is relatively developed. Romania's gap in the digital economy generates several significant opportunities, represented by the digitization of public services that lead to a more efficient administration, the improvement of the collection of taxes, the simplification of the interaction between the public administration and taxpayers; integration of digital technologies in economic processes with a direct impact on increasing the competitiveness and productivity of the Romanian economy.

2. Literature review

Currently, one of the most significant business phenomena is related to digital transformation, reflecting the changes in the economy due to the development of digital technologies (Gapsalamov, 2020; Minakhmetova, 2020).

A group of German scientists (Bloching, B., Leutiger, P., Oltmanns, T., Rossbach, C., Schlick, T., Remane, G., Quick, P. & Shafranyuk, O, 2015) understands through a digital transformation of the continuous interaction of all business sectors, ensuring the adaptation to the requirements of the digital economy.

The concept of the digital economy includes some modern transformations of economic activities, which are a consequence of the use of digital technologies (Țurcan V., Gribincea A., Bîrcă I).

Digitization leads to large-scale changes in the business environment and society, which become permanent (Belk, 2013).

The digital economy has had an impact on all sectors of the economy, for example, retail, transport, financial services, production, education, health care, and others (Duhăneanu M., Marin F., 2014).

The digital economy advantages are: it offers the population easy access to education through the development of information and communication infrastructure; contributes to increasing competitiveness, creating new products and services. The disadvantages of technological globalization are the increase in economic crime.

The Organization for Economic Co-operation and Development (OECD) has already acknowledged in its action report, published in 2015 in the OECD / G20 project on the erosion of the tax base and the transfer of profits (BEPS), that digitization presents difficulties for international taxation. The BEPS project showed that some of the problematic behaviors, specific to BEPS, were exacerbated by the rapid and continuous evolution of digital technologies - the digitization process. As part of the work of Action 1 of the OECD / G20 BEPS project, it was recognized that, due to the general nature of digitization, it would be difficult, if not impossible, to isolate the digital economy.

In addition to the BEPS issues, the 2015 Action Report 1 also concluded that digitization generated some broader fiscal challenges. Of course, it is always a challenge for policymakers to be one step ahead of the latest developments, which is especially true in the context of digitalization.

The favorable framework for OECD / G20 inclusion on BEPS agreed to continue its work in the field of taxation and digitalization, to draw up a final report in 2020. In March 2017, the G20 requested the OECD to draw up an interim report in 2018. The interim report on fiscal challenges posed by digitalization was presented to the G20 in March 2018. It identifies the country's divergent views on how to address the fiscal challenges posed by digitalization and paves the way for further efforts to find a long-term solution based on consensus.

It is also recognized that, in the meantime, technology offers opportunities as well as new challenges for BEPS and fiscal policy and administration.

The most pressing challenge for the pro-inclusion framework - and the international tax community in general - is how to bridge the gap between different points of view to maintain the coherence of the international tax system.

3. Research methodology

The research methodology is based on descriptive statistical techniques. Moreover, this article provides a comprehensive picture of the digital economy and its various implications, both at the national and EU level. It is relevant for the research to point out that the Organization for Economic Co-operation and Development has made significant contributions. The OECD and G20 general framework provided an action plan focusing on 15 actions on financial planning strategies, the first of which was to address the fiscal challenges of the digital economy.

4. Findings

4.1. The effects of digitization

In the analysis of digitalization as a complex global phenomenon, three types of effects can be distinguished (Ciobanu G, Ghinăraru C, Crețu A, Davidescu A, Chiriac B– *Aspecte ale dezvoltării economiei digitale în România*, Editura Universitară, București, 2015):

- Economic effects
- Social effects

➤ Effects on employment

This means that digitalization can also have political effects, as it relates to globalization, and digitalization is also present in the analysis of global governance, which is in fact the main means by which globalization has its effects on companies.

1. Economic effects. Digitization covered all sectors of economic activity. The effect of digitization in general is represented by an overall increase in economic efficiency, although it is important to take into account its different territorial impact, depending on the areas of the world and the degree of development of their economies, their productive specialization and technological capacity. Smaller economies are generally marginalized more and more in value-added chains, being affected by significant losses of skilled labor. The growth that these economies make from a structure oriented towards the primary sectors directly to an economy focused on tertiary sectors, makes them vulnerable.

Digitization has a precise effect in terms of the forms and models of companies' organization, with greater possibilities to decentralize their activities at the same time, to organize in a network. Digitization affects products, services but especially production processes leading to the creation of global value-added chains and increasing the degree of interdependence between national economies. This effect, is one of the main effects of the emergence of a global market with trading possibilities impossible to imagine in the past, is in fact at the origin of the manifestations that are manifesting today.

The polarization of the workforce based on knowledge and access to new technologies is increasing and there is a transfer of work from low-productivity sectors to high-productivity sectors, but only partially. In many economies, the transfer takes place from productive sectors that are automated and no longer labor-intensive to the service sectors. Finally, in general, the qualifications required are lower and the actual productiveness is quite difficult to assess. At the emerging economies level, this type of effect is very pronounced, being one of the causes of the tendency to divide into rival economic blocs as well as the tendency to create international financial mechanisms and bodies parallel to those resulting from the Bretton Woods agreements more than seven decades ago.

2. Social effects. Opportunities are highlighted by how the digital economy can speed the daily lives of citizens. Risks from the perspective of citizens' rights arise, in terms of protection of privacy, especially the disappearance of the distinction between standard working time and free time, as rest time, to restore the work capacity of the worker. In the absence of this time, the worker's productivity decreases, and his active life may be marked by interruptions due to the deterioration of his health, due to the lack of possibility to restore work capacity, both physical and intellectual.

When we analyze the social relevance of the digital economy, the problem of modernizing public administrations arises. The application of digital techniques can favor efficiency in the functioning of the Administrations in the relations with the citizens. And beyond the administrative field, there are also possibilities for more participatory governance formulas.

3. Effects on employment. The digital economy affects employment, employment volume, and job types. In the case of the volume employment impact, the estimates vary widely, showing that the loss of jobs is overestimated.

There are undoubted effects on the type of jobs to be created, with a general tendency to increase digitally skilled jobs and reduce manual jobs. The most obvious risk is job polarization which can harm already growing inequalities. The risks may arise mainly due to the difficulties of finding jobs for people without digital qualifications, but also due to the precariousness of working conditions in those vulnerable segments of the labor supply.

It should be borne in mind that, due to the relationship between employment and social protection systems, these changes in employment and labor will have an impact on these systems, for example in terms of their financing.

Table no.1. Objectives to be achieved in the economic, social and employment fields

1. Objectives to be achieved in the economic field
<ul style="list-style-type: none">➤ allocation of funds and access to initiation programs;➤ providing support for innovative enterprises;➤ modernization of telecommunications infrastructure;➤ platforms must communicate their activities and declare the workforce;➤ preservation of traditional forms of the economy;➤ global estimate of the number of jobs that could be lost/gained as a result of digitization;
2. Objectives to be achieved in the social field
<ul style="list-style-type: none">➤ creating mechanisms for the right of the worker within the platforms;➤ improving the dialogue between the platform and the workers;➤ active attitudes are needed, anticipating the study of the effects of digitization;➤ equal treatment for all workers;➤ promoting trust and social dialogue;➤ promoting social dialogue at all levels;➤ the need for new requirements for computer security;➤ improving responses to citizens' needs;
3. Objectives to be achieved in the field of employment
<ul style="list-style-type: none">➤ labor market regulation must adapt to new patterns of employment and changing working conditions, effectively promote the rights of individual and collective workers and promote the adaptability of workers;➤ establishing a working group to design future qualifications;➤ reorientation of qualifications;➤ creating programs for the technical field;➤ encouraging digital talents;➤ new professions for management positions;➤ development of training programs for trainers in the field of digitization

Source: Made by the authors according to Study no. 3- Romania and the Digital Single Market of the European Union. Opportunities and challenges

The digitalization of the economy has a variety of effects, with different territorial impacts, depending on certain factors, such as the specialization of the production of different countries and regions within the global economy and different economic, social, and technological development of these regions.

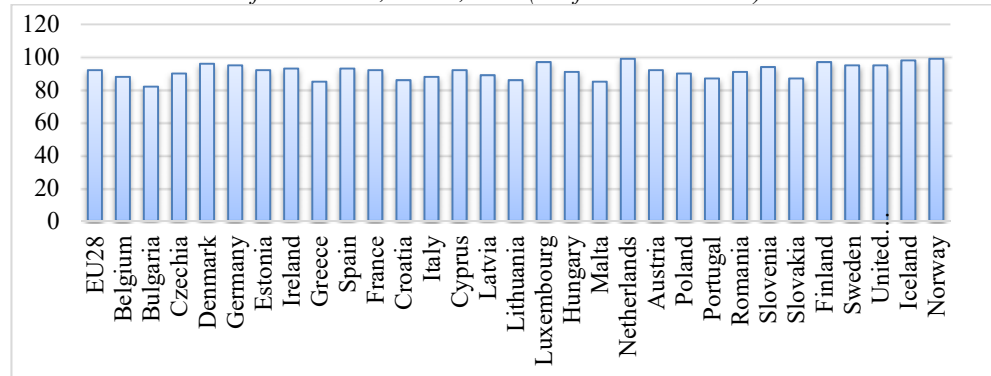
4.2. Index of the digital economy and society

➤ **Population access to the internet.** Current economic conditions have led to many companies migrating to Internet-based systems to improve efficiency, reduce operating costs, and the ability to operate in real-time between different platforms.

Therefore, completely new internet-based products and services have emerged and continue to be developed and can compete with existing ones.

Information and communication technologies have become accessible both in terms of access and cost.

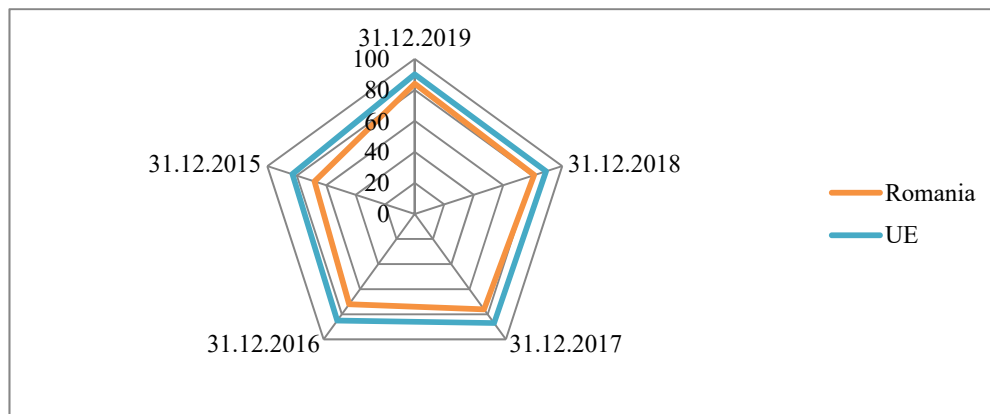
Figure no. 1. Internet access of households, UE-28, 2019 (% of total households)



Source: made by the authors, according to Eurostat ([isoc ci in h](#))

The highest percentage (99%) of households with internet access in 2019 was registered in the Netherlands and Norway. The lowest percentage of internet access in the EU Member States was observed in Bulgaria (82%).

Figure no.2. Households internet access, Romania (% of total households)

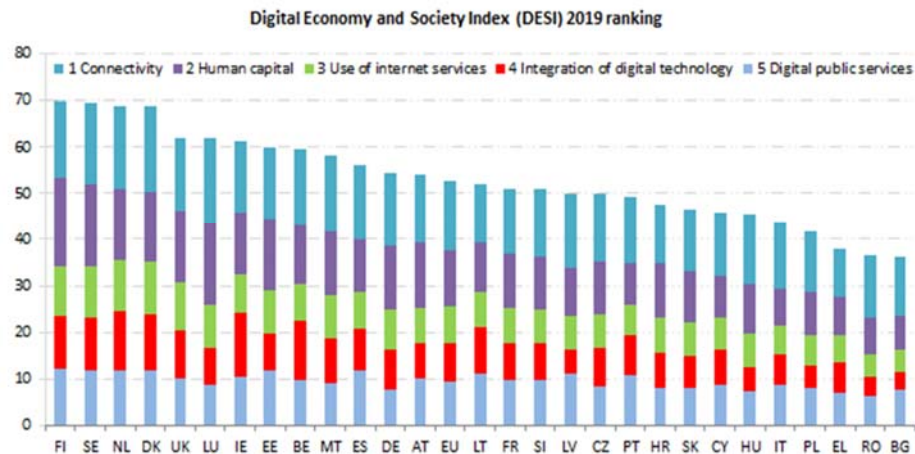


Source: made by the authors, according to Eurostat

In Romania, the internet access of households registered an evolution as follows: it increased by 5.88% in 2016 compared to 2015, it increased by 5.55% in 2017 compared to 2016, it increased by 6.57% in 2018 compared to 2017, and in 2019 it increased by 3.7% compared to 2018.

➤ **Index of the digital economy and society (DESI).** *DESI, index of the digital economy and society* is a composite index that integrates a set of indicators, structured around five dimensions: connectivity, human capital, internet use, integration of digital technologies, and digital public services. DESI combines more than 30 indicators and uses a weighting system to rank each country according to its digital performance. The index is divided into five main dimensions, which in turn are composed of sub-dimensions. The main dimensions are shown in Figure 3.

Figure no. 3. Index of the digital economy and society (DESI) at EU level, in 2019



Source: ec.europa.eu, available at <https://ec.europa.eu/digital-single-market/en/desi>

Romania is on the penultimate place among the 28 EU member states according to the DESI Report 2019 climbing a position compared to 2018 and 2017. In 2019, all countries have improved their digital performance. Finland, the Netherlands, Sweden, and Denmark are among the world leaders in digitalization, scoring the best in DESI 2019. These countries are followed by the United Kingdom, Luxembourg, Ireland, Estonia, and Belgium.

Although Romania shows a slight improvement in performance in almost all dimensions of DESI measured, the place in the ranking remained relatively stable, given that overall progress has been very slow. Romania has the best results in terms of connectivity, thanks to the widespread availability of high-speed and very high-speed fixed broadband networks.

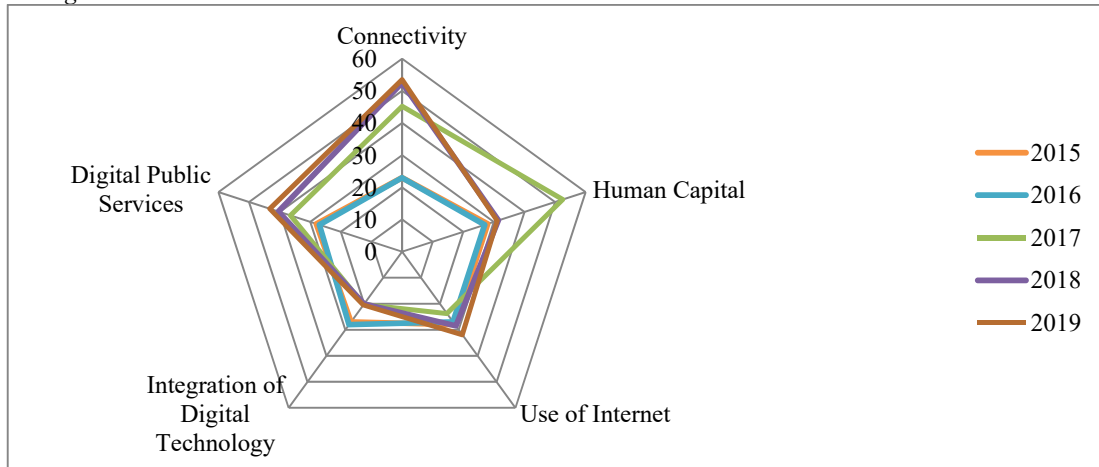
Romania ranks 22nd in terms of connectivity. Denmark, Sweden, and Luxembourg are among the first countries in terms of connectivity size. In 2019 there was an increase of 15.7% compared to the previous year. However, the digital divide between urban and rural areas in Romania is illustrated by the figures for the coverage of very high-speed broadband services, which benefit 39% of rural areas.

In terms of the size of human capital, Romania ranks 27th among EU countries, well below the EU average. Finland, Sweden, and Luxembourg are among the first countries in terms of the size of human capital. In Romania, the levels of basic and advanced digital skills remain the lowest among EU member states.

The first countries in terms of Internet usage include the Netherlands, Denmark, Sweden, and Finland. In general, Romania continues to register the lowest level of use of internet services among EU member states. The first countries to use the Internet include the Netherlands, Denmark, Finland, Belgium, and Denmark. Regarding the integration of digital technology by enterprises, Romania ranks 27th among EU countries, well below the EU average. Compared to the last two years, the place occupied by Romania has remained constant in terms of this dimension.

Spain, the Netherlands, Estonia, Finland, Latvia, Lithuania and Ireland are among the first countries in terms of the size of digital public services. In terms of digital public services, Romania is on the last place in the EU ranking. However, the country is performing satisfactorily on certain indicators. Therefore, there is a high level of online interaction between public authorities and citizens, as Romania ranks seventh in terms of e-government users, representing 82% of Internet users, compared to the EU average of 64%.

Figure no.4. DESI – Romania



Source: made by the authors, according to Eurostat

Analyzing Figure no.4. there is an increase in the size of connectivity in 2019 by 1.9% compared to 2018. Regarding the size of human capital, there was a decrease in 2019 by 1.26% compared to 2018. Internet services increased in 2019 by 11.9% compared to 2018. The integration of digital technology increased in 2019 by 1.9% compared to 2018. Digital public services increased in 2019 by 6.9% compared to the year 2018.

Romania, which is on the penultimate position of the DESI ranking in 2019, has an open front of the action, as can be seen in the following table:

Table no.2. The situation in Romania, opportunities-challenges analogy

Opportunities	Challenges
<ul style="list-style-type: none"> ❖ Increasing the quality of education and human resources. ❖ The size of the markets can be considered an opportunity for export, but it can also become a threat for import. ❖ Encouraging the use of new technologies, development of start-ups. ❖ Increasing the quality of life and public services. ❖ Transparency, development of new smart services for the benefit of citizens. ❖ Accessing EU funding for SME development infrastructure and digital services. ❖ Removing legal barriers to cross-border establishment of companies and access to markets. 	<ul style="list-style-type: none"> ❖ The difficulty of reducing dependence on technologies from abroad. ❖ Low competitiveness compared to the big European players. ❖ Adaptation of the regime of sanctions and contraventions for violation of data protection regulations depending on the size and type of an economic operator. ❖ The changeover to the euro will benefit the predominantly European foreign trade with a share of 20% in GDP. ❖ Regulation and operationalization of citizens' access to medical services, personal medical documents available in electronic format. ❖ Jumping over stages and taking over new technologies or services.

Source: made by the authors according to Study no. 3- Romania and the Digital Single Market of the European Union. Opportunities and challenges

5. Conclusions

Digitization has had a major innovative effect and has influenced every sector of the economy. Business models have emerged with common features - mobility, the use of data to generate value, and network effects. These trends show no signs of declining.

Digital technologies will increase competitiveness in the economy; this will be on a global scale as geographical barriers become increasingly irrelevant.

The digital economy has led to the phenomenon of micro-multinational-small companies with global expansion. The conceptual norm of the workplace and the work schedule is changing; people can work from home, with colleagues and collaborators on separate continents.

Both technological and business innovations have led to a reduction in barriers to entry into the Internet sector. As a result, companies that wanted to maintain their market position strived to innovate (products, processes, and business models). As a result, value creation has moved rapidly from one sector to another and from one company to another.

The increasing digitalization of traditional businesses as well as the emergence of purely digital operating companies have an impact on the functioning of national and international tax systems, both directly and indirectly. If the framework conditions are met, ICT could lead to increases in productivity and innovation, contributing to GDP growth in the same way as electrification in the 19th and 20th centuries.

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