Accounting Informational System – Directions, Challenges, Risks and Opportunities

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Abstract

The paper studies, through specialized literature, the performance of the accounting information system (AIS) in its capacity as the main provider of the necessary information for various interested categories in synchronisation with modern information technology resources. But all this digitization is a double-edged sword for stakeholders, the role of active mediators in finding and identifying the most suitable AIS, returning to accounting professionals alongside information technology (IT) experts. The motivation for choosing this issue is justified in terms of the complex dynamics of AIS in recent years, while information quality, as a resource of organizations, represents a topic of maximum interest.

Key words: Accounting Informational System, Information technology, AIS opportunities and risks, Integrated reporting,
J.E.L. classification: M41

1. Introduction

People's preoccupation in keeping records and providing information about various activities carried out dates back to the beginnings of civilization (differently coloured and knotted strings in the case of the Greeks, Persians and Incas, stones in the case of the Romans, wet clay tablets in Mesopotamia or papyrus in Egypt). In line with the increasingly complex development of economic relations, these accounts took the form of codes, norms and regulations, turned into a complex systems and became the prerogative of a distinct activity within organizations with the role of tracking and reporting the way that activities are carried out and results are generated. Among the many meanings of accounting, we find the one given by Esnault (1994) according to which it represents a quantitative technique for collecting, processing and analysing information on economic and legal processes within entities. Currently, the accounting information system is seen as being represented by all the means, procedures, methods, human, capital and informational resources within an entity whose purpose is data collecting, recording and processing and such as the transmission, use and storage useful information for stakeholders.

Any economic activity is based on information and the opportunity, accuracy, intelligibility, relevance, credibility, comparability and continuity represent the basic requirements of accounting information systems (AIS) while the evolution of accounting information technology has an impact on all economic activity and, implicitly, on AIS, as the same way as the impact that the industrial revolution had on economic life worldwide (Moscove et al., 2002). Elliot (1998) considers that the greatest impact that IT has had on service industries has been on public accounting, once a

conservative branch and with a slow pace of development. On top of this extraordinary evolution of AIS triggered, for the most part, by rapid changes in the socio-economic environment, two major trends prevail: the globalization of economic activities and an increased interest in ensuring the environment - especially in highly industrialized and developed states (Mansour & Spătariu, 2023).

The paper aims to study, through the analysis of specialized literature, the influence of success and effectiveness factors that act on AIS, factors that have determined the directions and development opportunities of AIS over time, but also the risks generated within this complex process.

The intra- and inter-organizational information provided by AIS represents a permanent flow that must correspond in terms of quality and opportunities without allowing the interpretation by the decision-makers and the standardization of the specific reports represents of one of the necessary requirements in order to assure the interoperability for different sources data's (Mansour et al., 2023).

The motivation underlying the choice of the present research topic has in mind the intention to contribute to the expansion of the AIS study through the prism of risks and opportunities arising in the organizations economic and financial life, accentuated by the requirements of the standards implementation of integrated reporting for financial and non-financial information in standardized digital formats. AIS is viewed on the one hand as the main financial information provider of the organization but also as a determining means of improving the stakeholder communication process. These aspects represent the basis of the motivation for study AIS as a dynamic process, in continuous development both at the level of specialized literature and at the level of international regulation or in the entities practice.

The relevance of the chosen theme is determined by the AIS performance and their permanent evolution determined in turn by the speed of changes that take place on an economic-social plan, at an international level but also at the level of regulatory frameworks. Companies' financial and non-financial reporting obligations are also subject to permanent changes (IIRC, 2013, European Parliament, 2022, IFRS Foundation, 2020) and the activity of regulatory authorities in the financial field tends to exceed the limits of determining legal norms (Albu et al., 2022).

The purpose of this work is represented by the definition and analysis of AIS features, the factors that can influence the AIS performance in ensuring quality financial-accounting information, as well as the risks that can affect them.

In order to achieve this goal, we systematized and analysed relevant works from the specialized literature and we identified two *objectives:*

Objective no. 1 aims to define and to critically analyse the AIS features through the specialized literature.

Objective no. 2. Aims to identify the factors that can improve AIS but also the risks to which it is subject.

To achieve the objectives, we studied the specialized literature from which results that AIS, supported by IT, has the ability to manage tangible and intangible organization aspects, including risk assessment, activities' control and coordination.

The methodology used to achieve the objectives consisted in the systematization and analysis of the most important articles from the specialized literature with the aim of synthesizing the results of previous research in this area of interest, this being the method most approached by researchers in the AIS analysis (Mansour et al., 2022). The work aims to be useful to the business environment and accounting professionals in understanding the need for rapid AIS adaptation to the transformations imposed by IT technologies and by the socio-economic demands.

The work is divided into 5 chapters. The first of these summarizes a short introduction accompanied by the motivation of the chosen theme. In the second chapter, the specialists' interest regarding the AIS development importance and their multiple implications within organizations is presented. Section number three presents the research methodology. The fourth section provides main features, risks and opportunities identified in the specialized literature regarding AIS and the IT implications. The last of the sections expose a synthesis of the results as well as opportunities for future research.

2. Literature review

Accounting Information Systems (AIS) represents the intersection point of two disciplines: accounting and information systems, so that the study of AIS is often seen as the study of computerized accounting systems. Simkin (2012) approaches AIS as a data collection and processing procedures that generate to stakeholders' useful information.

Accounting information provided to stakeholders influences their behaviour and decisions, so AIS must be able to provide end users relevant, timely and accurate information on which to base the best decisions. Various stakeholders may have competing objectives, which may sometimes be mutually exclusive, based on incompatible interests, and may request conflicting information from the AIS. To ensure this requirement, the system must record in monetary terms every financial or non-financial action (physical resources, financial resources, reputation, partners, human resources) that could affect the entity's income or financial position (Neogy, 2014), AIS efficiency also having implications on the organization performance (Suzan et al., 2019). To the extent that an AIS fails in recording and reporingt relevant information on any of these resources, it may be considered inadequate as a source of information/control and decision support.

Internal and external decisions of a financial or managerial nature are based on the information provided by accounting. Hodget et al. (2015) defines accounting as being the process of identifying, measuring, recording and communication of economic and financial information that allows well-documented judgment and decision-making, in a word "reporting". "To report" comes from the Latin "reportare" which means "to bring back", "to give an account", "to submit a formal report" to give an account of a observed phenomenon, heard, realized or investigated (Oxford University Dictionary, 2014), including here the financial or non-financial reports offered by AIS, regardless of which users category they are addressed to. Freeman's innovative theory (Freeman, 1984) directs reporting strategies to all stakeholders in the disadvantages of the "Shareholder primacy" theory, thus balancing all informational interests, a theory that led to the redefinition of the AIS nature and performance in the stakeholder communication process (Jensen, 2001) but also as a tool to achieve investors' objectives (Asher et al., 2005; Balmer et al., 2007).

Brown (2009) proposes an AIS conceptual framework based on the political philosophy of agonistic democracy according to which when consensus is not possible, pluralistic engagement is called for that facilitates dialogue and that respects different competing perspectives. Its purpose is not immutable consensus, but understanding, learning and progress. The same agonistic theory in the AIS approach is also proposed by Dillard& Yuthas (2013) with the aim of facilitating pluralism in addressing the needs of traditional and non-traditional businesses and different stakeholders´ categories. We are witnessing a continuous process of transforming the entire society into a true "information society", where access to knowledge has become a basic economic resource and AIS identifies itself as the synergy between the four dimensions of the organization that lead it to sustainable development: people, data, processes, technology (Mansour et al., 2022).

The IT introduction at the level of reporting provided by AIS had the immediate effect the reducing of the time and of the information transmitting costs to the capital markets, the increasing the comparability, transparency and quality of information and creates the opportunity for its to be integrated within multiple information systems, facilitating quick reactions from users (Mansour et al. 2023).

3. Research methodology

Following previous studies, the present paper is based on the relevant specialized literature review in the AIS field, published in the period 2000-2023 (articles, books, doctoral theses, national, European and international legislative sources, websites of international professional bodies) identified in databases Elsevier, Emerald, Scopus, SpringerLink, WoS,. The selected articles, using the searching keys "Accounting informational system" and "Challenges"/ "Risks"/ "Opportunities". Those were then coded according to their content and to their research methodologies and results.

In order to achieve the established objective, we considered it appropriate to channel AIS studies in three directions: challenges, risks and opportunities. Following this analysis, a series of characteristics, risks and opportunities of AIS in the last decade resulted, but also the broad spectrum

of relations between the AIS component elements as well as the multitude of interactions with the organizational environment.

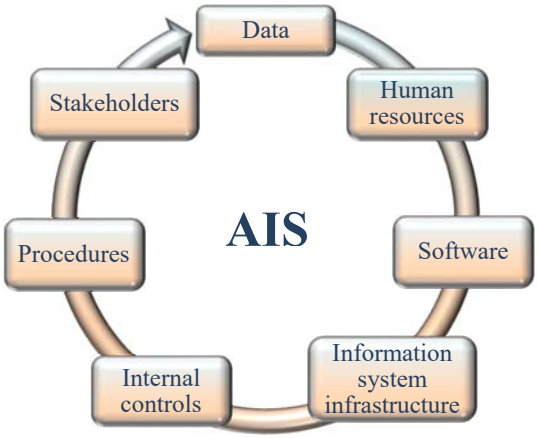
The limitations of this paper are mainly related to the general way of presenting the concepts, the high degree of theorizing without having an empirical study to identify the features of AIS at the organizations level.

4. Findings. AIS Challenges, opportunities and risks and the response of Information Technology on modern accounting system

Information as a product of AIS has a double role: both as a regulatory factor (a factor that highlighting a state of affairs) but also as a catalyst factor (concentrates a series of data that outline a certain evolution in the future). The AIS features and the complex role at the level of different organizational structures confer it relevance within the global economic system. Stakeholders´ efficient decisions are based on the information multidimensional character, which is essential to generate a synthetic but at the same time an integral image over the analysed phenomenon. AIS are subordinated to the same characteristics and they provide analysis or diagnostic accounting information that has the effect of formulating working or strategic hypotheses. Neglecting these information systems requirements generates negative effects on economic processes. At the basis of the working hypotheses formulation and well-defined strategic objectives is a well-designed AIS, focused on the exact knowledge of the analysed phenomenon, on the objective examination of the facts, on the presentation of all the phenomenon essential aspects and on the explanation of the possible causes that may affect the phenomenon but also of the expected trends in its evolution.

The proper management of all information, regardless of the organizational level involved, is the essential condition for success in developing a strategy. This information management involves a series of complex actions related to the administration of databases with the help of information technology means, from their generation through storage on different technical devices to exploitation. From the accounting point of view, information can be considered patrimonial asset, respectively intangible asset, this resulting from the contribution that it makes to the patrimony development and from the information´ ability to generate future economic benefits. Regarding the information features, as an entity assets, they are common to other fixed assets, with a predominant focus on moral wear and tear against the background of constant advances in technology and business models. The advantage in the struggle for development belongs to the holder of timely, clear, correct, relevant and sufficient information.

Figure no. 1. Components of Accounting informational system



Source: Authors' contribution

Although raw data may be of interest to some information users, most need processed data on which to validate their decisions and their actions. Modern AIS leverages and integrates information technology in all processes (input, storage, processing, transmission). The structure of an accounting information system is presented in 'Figure no.1.

Abutaber (2014) presents a series of essential features of an efficient and reliable accounting information system: accuracy of information, timeliness, internal and external control of the information process, the planning process, flexibility and the ability to adapt to the fluctuations determined by the organization's internal and external environment.

Accounting software packages´ implementation adopted by companies led to improved transaction processing capabilities (Booth et al., 2000), reduced data processing costs (Dillard & Yuthas, 2013; Scapens & Jazayeri, 2003), facilitated the generation of various financial reports (Chapman & Chua, 2005), improved financial control (Wagner & Newell, 2006) and influenced the accounting information quality and business strategy (Puspitawati, 2021).

Soudani (2012) found that AIS positively influenced the organizational performance of listed companies, while Sari et al. (2019) demonstrated that the quality of accounting information depends on the quality of AIS (including financial accounting, management accounting and sustainable accounting) with direct influence on managerial decisions (O'Connor & Martinsons, 2006) better planning of activities (Sari et al., 2019) and the quality of financial reporting as well as that of the internal control system is directly dependent on the quality of AIS (Monteiro et al., 2019). The ability to adapt to the environmental changes and manage competitiveness are the direct benefits of the optimal use of AIS (Soudani, 2012).

Hla & Teru (2015) identified a series of risks that AIS may be subject to: the internal control system quality, the relationship between the interested parties and the audit activity, respectively the independence of the internal and external audit, the quality of human resources, the quality of information technology (software and hardware) but also of organizational processes. Along with the internal factors that can affect the quality of AIS, there is also pressure from the external environment (Mitnick, 2015), the systems being dependent on its evolution and trends.

Classical information systems focus, in particular, on economic transactions defined by neoclassical economics as "relevant", leaving out social and environmental considerations, an example is that it insufficiently addresses the informational needs associated with the Global Principles of United Nations (2015) for responsible business in the field of human rights, collective bargaining, discriminatory labour practices, etc. All these have become imperatives of the design criteria of the new informational accounting systems. Extending the design requirements may have the effect of increasing costs in the short term, but the management decision will be fundamental based on social and environmental opportunities as well as a much more realistic risk management.

Kumar's study (Kumar et al., 2020) shows that the greatest interest in the AIS study was the emergence of IT technologies within the AIS but also their application for the purpose of growth information quality. Organizations have used the Internet as an effective channel of stakeholders communication, most choosing to publish their reports on their own websites or on those of various international regulatory bodies.

Information technology includes a multitude of processes, software, hardware, information systems, programming languages in different formats (visual, multimedia), but not limited to those listed, tending to expand from individual use or within of some restricted systems to their use in increasingly complex and interdependent networks. The organisation ability to develop and use complex computer systems to track, record, process and transmit various financial transactions represents the most profound impact that the evolution of IT has had on accounting systems. Other advantages of the emergence of IT within AIS are: increased functionality, improved data quality, rapid processing, improved external reporting. Specialized studies in recent years have demonstrated the benefits offered by the expansion of digital reporting, as elements of AIS: reducing debt costs (Kaya & Pronobis, 2016; Laiet al., 2015), timeliness of information transmission (Du & Wu, 2018), reduction of information processing costs (Blankespoor et al., 2020), simplifying the information transfer process (Baldwin et al., 2006), improving the quality of information transmitted and its relevance (Baldwin et al., 2006; Birt et al., 2017), improving reporting transparency (Bartley et al., 2011), all with a positive impact on shareholder wealth (Chen et al., 2018; Kim et al., 2018).

These advantages offered by the technology development are obvious, but along with the technological revolution, a series of problems related to the emergence of technology in information systems were also raised in specialized studies. One of these relates to technology's ability to rapidly deliver large amounts of information, thus becoming a challenge for AIS to process, manage, store and distribute only useful information, avoiding the risk of losing relevant information. Human resources, information and computer technology are currently in an inseparable connection, so to analyse them distinctly, as separate entities, is almost impossible. Even if the human resource manages the whole activity, this inseparable link is real (Orlikovski & Baroudi, 1991). AIS are becoming increasingly important through the prism of transitions between physical and digital realities (Recker et al., 2021). This digitization also brings with it the danger of representing reality, in the sense that computer systems also have the capacity to create rather than to represent reality (Baskerville et al., 2020).

5. Conclusions

Previous studies have shown that the development of AIS had the immediate effect of increasing the performance, profitability, effectiveness and efficiency of the organization, improved the stakeholder communication process, leaving its mark on the organization global value.

The presence of information systems in different forms of presentation can be identified on the development of economic and social life. The revolution in information technology has determined major changes both in the approach, organization and operation of accounting and implicitly in AIS, allowing the circulation of large amounts of a various nature information.

AIS is influenced and in turn influences the organization economic-financial activity and it represents the main source of information. information of AIS, with the increasingly important help of IT. The connection between accounting, as a distinct component of the organization, and the rest of the activities (management, forecasting, marketing, etc.) is achieved through the AIS information function, with the increasingly important help of IT.

Any economic analysis or decision is based on information, seen as a resource, and the power of accounting through the processing of a data large volume makes AIS a basic component of the organizational economic system.

AIS is privileged as an essential working tool, a resource at the management disposal, necessary to obtain sustainable competitive advantages against the background of technological progress, the increase in the information needs from all stakeholders.

Information technology represents the exogenous force of AIS change and its operation is stable when the organization integrates technology within his own activities.

The paper studies aspects and considerations related to the need to implement modern AIS, an aspect that, in view of their complexity, needs to be detailed in the future, including the emergence of new technologies within these systems that support the implementation of real-time accounting reporting.

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