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A BRIEF INCURSION INTO THE DRIVERS OF THE ADOPTION BEHAVIOR OF DIGITAL TOOLS BY ACCOUNTING PROFESSIONALS

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Abstract:
Nowadays, among the key elements that contribute to a company's success is its digitization strategy, which is closely linked to its ability to innovate. As technology has developed over time, the accountancy profession has benefited from the opportunities it offers in terms of simplifying the work it does and making the system of economic and commercial relations more efficient and reliable. In this context, this paper is focused on identifying and centralizing, through a literature review, those factors that influence in a positive or negative way the willingness of accounting professionals to adopt digital technologies. The article can serve as a reference for current and future researchers, providing a well-founded theoretical framework for those interested in advancing research on the digitization of the accounting profession.

Key words: digitization; accounting profession; ethical perspectives; behavioural concerns; regulatory policies; perceived effects

JEL Classification: M41

1. INTRODUCTION

The current health crisis, overlapped with the economic and energy crisis, has made us realise that we are living in a period characterised by a massive increase in the use of digital technologies, which will lead in the near future to the automatic integration of every element of the existing social and economic ecosystem into the digital perimeter. The transition to a new digital era will lead to radical changes both at the individual level and at the level of economic entities that will be forced to rethink their business and communication models with stakeholders in mind (Cosmulese & Socoliuc, 2019). Clearly, the Fourth Industrial Revolution, triggered by the spread of digital technology today, has brought and continues to bring unprecedented changes to the economy and society due to the degree of development in related fields such as artificial intelligence (AI), robotics, autonomous devices, 3D printing, nanotechnology and machine learning (Vlad & Vlad, 2021). All these changes will be felt especially in the accounting profession as a result of changing business practices, physical money replacing cryptocurrencies and old data security policies replacing cyber security policies. Under these circumstances, we should ask ourselves whether the profession will continue to exist, whether it will disappear completely, or whether it will transform into a completely different profession.

It should be emphasized that technological evolution is a rapid and disruptive process that is changing and transforming all industries and business models. Therefore, since accounting is essential for all businesses, it is important to manage these changes from the perspective of symbiosis between accounting and economic actors, regardless of the sector in which these businesses operate (ECLAC, 2021). This suggests that the real challenge for companies is to understand how they can use digital technologies to create more value and how the introduction of these technologies will change existing business models that need to be redesigned to meet the demands and interests of stakeholders (Cosmulese, 2022). Businesses recognize that investing in technology is not enough, they need to have professional staff willing to continuously develop new skills (Jackson et al., 2020). In this context, it has become necessary to train both digital skills and

operational management in the new uses of these technology tools. The digital transformation we are witnessing makes it increasingly clear that training activities need to be expanded to support managers, such as accounting professionals and auditors, to manage IT tools in an informed and efficient way. Thanks to digitalization, accounting has benefited from valuable assistance in terms of managing mechanical activities, such as speeding up transactions, cataloging and archiving documents that are more accurate and always accessible to everyone involved, analyzing and reading data more efficiently and faster, and reducing errors. Furthermore, artificial intelligence (AI) has been introduced to support these activities to optimize them (Farcane & Deliu, 2020).

The following section presents a review of the literature on the impact of digitalization on the accounting profession, the challenges and opportunities that arise with the adoption of digital technologies, and the threats that the accounting profession will face in the next five to ten years. The next section aims to provide a critical analysis based on the literature of the factors influencing the accounting profession's willingness to adopt digital tools, through which conclusions and relevant implications will be presented.

2. LITERATURE REVIEW

The digitalization of accounting is a topical issue whose effects started to emerge between 2010 and 2015 and reached a new dimension, both professionally and technically, after the emergence of the health and economic crisis. Another function of digitalization involves its impact on the economics of assets: According to Bhimani (2020), digitalization has a significant impact on digital accounting, communicating with the digital economy and generating different methodologies for the development prospects offered by the online space. The digital economy needs to translate sustainability criteria (Socoliuc et al., 2020) and in this context, risks and vulnerabilities need to be identified and translated into ongoing monitoring programs. In the same sense, Lohapan (2021) shows in his study that the digitalization of accounting has a significant positive impact on the level of audit performance in all its aspects. The essence of the concept of 'digital accounting' can be seen as a historical dependency between accounting and information technology, e-commerce and the Internet of Things (IoT) (Brukhansky & Spilnyk, 2021). The evolution of the digital economy and digital accounting has paralleled the evolution of the Internet, and the size and scope of the recent e-commerce phenomenon has led to the emergence of digital commerce as an area where digital accounting rules should be predominantly applied (Grosu et al., 2022).

Accounting in the digital economy has taken over traditional perceptions of financial reporting and disclosure and created new ways to scientifically program and report accounting information (Troshani & Rowbottom, 2021). Digital accounting is the creation, representation, and transmission of financial-accounting information electronically, and all accounting transactions take place digitally instead of using traditional paper (Phornlaphatrachakorn & Na Kalasindhu, 2021). In this context, we believe that digitalization can also be a driving force in the evolution of accounting reporting towards digital standardization and the potential for integrated digital reporting. As financial and accounting information has been digitized and the process of grouping and classifying information according to increasingly specific information technology standards has begun, the methods used have been successively transformed. The experience of digitalization also means understanding the changing business environment and confronting a set of attitudes regarding professional training at the conceptual level, where technological innovation enhances all the classic functions of dealing with accounting information, and where these functions are further complemented by a set of opportunities that combine new changes and the analytical and selective qualities of the information operator, which are much more advanced than traditional accounting. According to Troshani et al. (2019), standardization of digital accounting requires digital infrastructure and digital corporate reporting based on IFRS taxonomy. Therefore, the authors propose the Actor Network Theory, a transnational model that analyzes the IFRS taxonomy in terms of the IFRS taxonomy. The same authors argue that both IFRS standards and business behaviors are changing in the digital age and need to be realigned with the values and practices of

the digital economy. These issues also arise from stakeholder pressure on reporting companies and the desire to improve the quality of reporting. This desire has been partially realized through integrated reporting, but we agree with other authors in the literature who argue that the future belongs to the digitalization of corporate reporting.

Cann (2018) predicts that around 75 million jobs will be threatened by the digital transformation and 133 million new roles will emerge that will fit the new division of labor between humans, machines and various algorithms. Therefore, important aspects of digital accounting will not be removed from the accounting context in terms of their importance and usefulness, although their roles and tasks will radically change in the context of digitalization, they will continue to exist, but only through optimal collaboration or coexistence with AI (Leitner- Hanetseder et al., 2021), which is also given by human resources (Evstafyeva et al., 2019). Therefore, human resources need to respond to the new requirements of operationalizing digital accounting information and improve the effectiveness of reporting in a relevant manner that meets stakeholder requirements (Ciubotariu et al., 2021). Kruskopf et al. (2020), in their research, identified a set of new skills required to meet the new requirements of fintech. Software knowledge, coding basics, ERP experience, knowledge of international standards and industry-specific regulations, customer service orientation, and risk management skills are among the many new skills accounting professionals need to meet the new challenges of digitalization. Therefore, we have shown that there are some obstacles to the realization of contemporary demands in terms of intellectual capital, such as resistance to change, organizational culture or costs (Gonçalves et al., 2022) and a new trend towards the introduction of performance limits to increase the efficiency and operability of human resources.

HR challenges include building trust and traceability in operations, leading to the conclusion that a blockchain accounting conceptual framework can better track and evaluate inventory management and movements (Centobelli et al., 2021), eliminate human error, promote efficiency, and increase transparency and reliability in accounting transactions (Abad-Segura et al., 2021). The trust and transparency provided by blockchain technology and other features can be used in many effective ways in financial accounting to provide a methodology with guaranteed platform security (Wu et al., 2019). Platform security is necessary in all aspects of digital accounting, but one aspect in particular is the land segment. From a financial perspective, accounting is undergoing a difficult transformation, to say the least, in the current digital economy, namely the transition from financial transactions mediated by financial institutions to digital financial transactions backed by cryptocurrencies instead of traditional currencies (Moll & Yigitbasioglu, 2019). International practices on the use of cryptocurrencies show that developed countries tend to accept cryptocurrency transactions more readily than developing countries, instead introducing methodologies for recording and managing transactions (transactions) that generate economic growth and normalize transaction taxation (Sokolenko et al., 2019).

In this context, the accounting of cryptocurrency transactions faces new challenges in terms of electronic currencies, billing systems, and tracking records related to these cryptocurrency transactions (Cosmulese, 2021). Thus, in the current context of prominent digital typologies, accounting faces challenges at the methodological level (foreseeing new digital operability rules), at the normative level (correlation with IFRS) and at the human resources level (inadequate training and adaptation to the new requirements of digital information-based transactions). Without being limitative, we appreciate the existence of a triangle between needs, resources and opportunities that allows the transposition of the results of the digital economy into digital accounting with respect for the requirements of traceability and quality of information. Following the study of the literature flow mentioned in this section of the paper, we find that technology has consistently influenced the work of accountants, its use to simplify accounting processes and reduce accountant effort starting more than 140 years ago, according to Jasim & Raewf (2020). Certainly the new digitisation process will continue to innovate the profession, changing the way and type of work, as the application of cloud-based solutions have reduced a significant amount of material, financial and human resources. At the same time, they have made accountants' work more efficient in terms of

time management, with stakeholders benefiting from online accessibility to firms' financial-accounting data in a much more optimal way.

3. RESEARCH METHODOLOGY

In order to achieve the aim of the research the relevant academic and professional literature was studied and reviewed. Academic literature was obtained from a search of the database - Google Schoolar. The following search topic was used - accounting profession digitalization, changes and trends in the accounting profession accounting digitalization readiness, accounting profession digitalization availability, emerging technologies. The most relevant articles (for the topic of this paper) were selected which were written in English and for which the full article version was available (see Table no. 1). The research included topics in the field of digitisation and its effect on the accounting profession. The selected academic and professional papers were analysed using scientific research methods such as induction and deduction method, analysis and synthesis method, generalisation method and abstraction method. Predominantly those studies where the questionnaire-based quantitative method was used.

Table no. 1. The synthesis of the main impact studies on the researched field

Author, year	Studied phenomenon	Aim	Results/Impact	Type of research
Matthysen & Harris, 2018	Readiness to change and work engagement	Investigate the relationship between engagement in accounting firms.	This study finds that high levels of work engagement produce high levels of readiness for change. Readiness for change is also influenced by employee work engagement and organizational change processes.	Quantitative research
Gulin et al., 2019	Profession accounting challenges	Analyzes and systematizes the main challenges that digitalization brings to the accounting profession.	As a result, it becomes clear that the accounting profession faces a number of challenges in the age of digitalization	Qualitative research based on professional and academic literature
Fettry et al., 2019	Digital era and the accountancy profession	The purpose of this study is to investigate accountants' perceptions of the digital age and to identify some of the main impacts of digitalization on the accounting profession..	The results of this study show that digitalization has changed attitudes and practices in the accounting sector.	Combination of qualitative and quantitative methods
David & Cernușca, 2020	Accounting profession in the digital era	The perceptions of professional accountants in Arad County towards this phenomenon were investigated through descriptive and cross-sectional studies using questionnaires.	The results suggest that the professionals surveyed are aware and open in in terms of the efforts they have to make to adapt to the challenges of the profession in the digital age.	Quantitative research based on questionnaire
Knudsen, 2020	Knowledge production digitalization in accounting	Provides a comprehensive synthesis of existing academic research on digitalization in the accounting literature.	The results show that the literature on digitization of accounting is not yet mature and suggest potential for future research.	Mixed methods
Awang et al., 2021	Technology knowledge and readiness	Examining gender differences in technological knowledge and technological readiness for digitalization among future accountants.	No significant difference was found between male and female respondents in terms of technological knowledge and readiness. This result may reflect the fact that the current	A quantitative approach based on questionnaire

			group of future accountants belongs to Generation Z, which has significant exposure to technology, greater exposure to technology	
Kroon et al., 2021	Emerging technologies on accountants' role and skills	It focuses on emerging technologies identified in the skills of accountants. It also investigates whether open innovation is a factor influencing this relationship.	An integrated understanding of the impact of recent technological developments on the role and skills of accountants.	Qualitative research based on a systematic literature review
Abd Razak et al., 2021	Factors affecting digital transformation	Addresses the changing role of accountants, the barriers to change and the factors affecting the readiness of professional accountants to enter the digital economy era.	The results revealed that one of the challenges affecting the adoption of digitalization is the lack of awareness of IR4.0 and its benefits, which is a challenge facing the industry in implementing the digital age.	Qualitative research
Sabuncu, 2022	Digital transformation process	To explore what the future of the profession and its needs are in relation to the digital transformation of accounting	The survey asks a series of questions about what self-employed accountants and accounting professionals think about the future, challenges and requirements of digital transformation in accounting.	Qualitative research
Taib et al., 2022	Technology knowledge and readiness of future accountants	This study aims to investigate the relationship between the technological knowledge of future accountants and the technological readiness of the accounting profession for digitalization.	This study aims to investigate the relationship between the technological knowledge of future accountants and the technological readiness of the accounting profession for digitalization.	A quantitative approach based on questionnaire
Awang et al., 2022	Digitalization of accounting profession	Both the perceived opportunities and risks of digitalization in the accounting profession and the effect of gender on these perceptions were examined.	The study found that the digitalization of the accountancy profession presents both significant opportunities and risks for future accountants, but that there are no significant differences in these perceptions by gender.	A quantitative approach based on questionnaire
Noor et al., 2022	Readiness to embrace the digital transformation	It examines the readiness of Malaysian accountants to adopt digitalization using theories of institutional change readiness.	The results proved that change valence, task knowledge and resource availability are positively and significantly related to change efficace.	A quantitative approach based on a self-administered questionnaire
Mohd Faizal et al., 2022	Adoption and readiness of digital technologies	The study aims to assess accountants' acceptance of digital technology.	The results of the study show that factors such as performance expectations, social influence and optimism influence the willingness to adopt digitization.	A quantitative approach based on a questionnaire
Fülöp et al., 2022	FinTech accounting and Industry 4.0	This study describes the current state and differences regarding the digitalization of accounting as well as the impact of image on the digitalization of accounting.	The results show that users collect and trust digital services usability information	A quantitative approach based on a questionnaire

Sudaryanto et al., 2023	Technology readiness, digital competence, perceived usefulness	Determines the effect of technology readiness, digital literacy, perceived usefulness, and ease of use on accounting students' adoption of artificial intelligence technology.	Research shows that perceived ease of use and usefulness have a significant impact on the adoption of AI technologies	A quantitative approach based on a questionnaire

Source: Author compilation

The table below provides a critical and constructive analysis of the literature (specifically a number of 15 articles from the last 6 years, period 2018-2023) on the factors that influence in a positive or negative way the willingness of accounting professionals to adopt digital technologies.

4. RESULTS AND DISCUSSION

The study investigates through the literature which are the main factors influencing the willingness of accounting professionals to adopt digital tools. Previous research shows that although digital tools are theoretically known among accounting professionals, they are not widely applied in accounting. In terms of the evolution of this digitisation phenomenon, the survey conducted by Thomson Reuters (2020) shows that 41% of the accounting professionals surveyed considered that the technological progress of artificial intelligence will have a significant impact in terms of changing the role of their profession in the next 10 years. Regarding the advantages and disadvantages of the implementation of digital tools by entities, opinions in academia are divided. Thus, according to the subjects interviewed by Rauramo (2021), automation will indeed streamline the work of accounting professionals in that there will be no recording errors, given that the data has been stored in a digital system available for timely verifiability of information. In contrast, David & Cernusă (2020), state that although at present accounting professionals are well grounded in the economic reality, possessing the necessary knowledge to carry out this profession, they are still unprepared and show some reluctance about the accounting of the future.

According to the study conducted by Fettry, et. al., 2019, training, research and development of products and services, gathering information on technological advancements, and attending conferences and seminars are among the main tools used by accounting professionals to hone and update their skills and knowledge of using new digital technologies. Moreover, it is estimated according to the results of the questionnaire applied by PwC (2018) that an increase in the availability of further training leads to increased accessibility to the profession by 48%, and the full digitization of financial-accounting services generates increased interest in the profession by 13%, with the financial services industry being the leader in the use of blockchain technology which highlights the trend and direction of development of accounting services as well. Gullkvist (2011) considers that the factors hindering the adoption and diffusion of digital practices (such as prevailing differences in regulations, cultures and practices between different countries) are far more numerous than those promoting digital accounting technology internationally.

The main factors influencing the willingness of accounting professionals to adopt emerging technologies (artificial intelligence, cryptocurrencies, blockchain, etc.) from the perspective of challenges and opportunities are presented below in Figure no. 1.

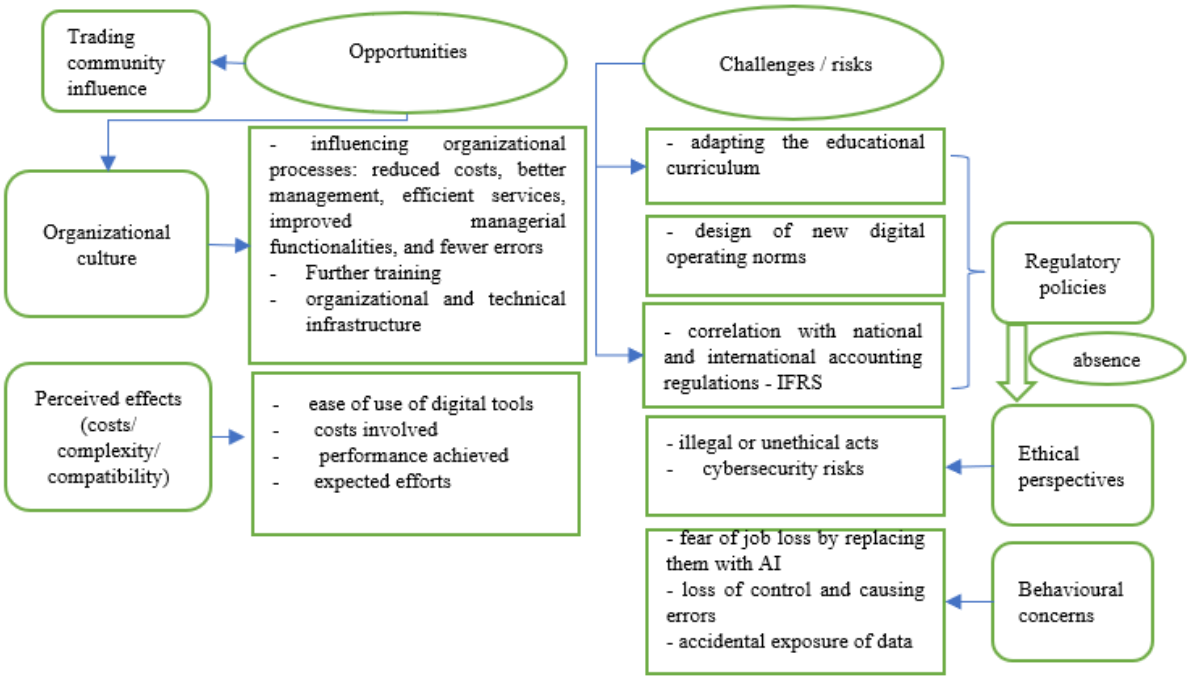

Figure no. 1. Drivers of the determinants of the readiness for further training in the accounting profession

Source: Own elaboration using specialised literature

Previous studies have shown that the determinants of the willingness to upgrade the accounting profession are diverse and are related to the field in which the firm operates and the size of the firm (Feghali et al., 2022). For example, Matthysen & Harris (2018) highlight that high levels of work engagement will also generate high levels of readiness for change. The authors state that readiness to change in turn is influenced by trust in leadership, process of change and work engagement.

In a quantitative study of accounting students' technology readiness and their decision to adopt artificial intelligence (AI) in accounting, Damerji and Salimi (2021) found that perceived ease of use and perceived usefulness are important factors influencing the willingness of these future accountants to adopt new technologies in accounting. Contrary, to these claims Fülöp, et al. (2022), argues that perceived usefulness did not affect participants' attitudes towards digital technology use.

Furthermore, Zhang et al. (2023) claim that the adoption of digital tools by professionals is also influenced by certain ethical risks, the most common risks being security, privacy and misuse of data, accountability, accessibility, benefits and challenges, and transparency and trust in digital technilogy (i.e. artificial intelligence

5. CONCLUSIONS

The study emphasizes the fact that the professional must try to anticipate and understand what new services they need to integrate in order to improve and develop their business. In this respect, it appears that the consultancy business is growing rapidly and that this growth may have a longer development perspective than the traditional business. Another area where the professional can step in is to provide assistance to the taxpayer on how to interact with the tax an exchange of information with clients, overcoming the limits of physical distance. In fact, it is already possible agency for the transmission of digital information flows such as e-invoices and e-receipts. The professional can therefore act as an intermediary between the public administration and the client, providing advice to help the taxpayer implement their system to achieve maximum functionality and, at the same time, audit and verify the processes carried out by the entrepreneur. Innovations such as e-invoicing are methodologies that are still under development and therefore it is reasonable to assume that we will see further developments that will positively change possible future

scenarios. The professional of the near future must pay particular attention to innovative solutions in order to consider the use of these tools as an integral part of their work. The introduction of technological innovation will greatly assist data acquisition procedures that will allow to exchange a large amount of data with customers via cloud sharing.

Furthermore, the study of the literature reveals that emerging technologies such as blockchain, artificial intelligence, cryptocurrency although widely studied and analyzed in the scientific literature by international researchers, in practice is not met with widespread knowledge and massive use.

Therefore, we believe that in the context of profound and inevitable changes in the global economy, the accounting professional will be assigned a central role in the process of harmonization of accounting and tax rules, and it is necessary to smooth the impact of new regulations in terms of compliance costs, as well as in providing for any possible operational problems in the implementation phase.

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