EXPLORING THE DIGITAL LANDSCAPE: STUDENT PERSPECTIVES ON THE FUTURE OF ACCOUNTING

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Abstract: The goal of this paper is to better comprehend the importance of digitalisation related to Romanian accounting profession. In this regard we started by reviewing the scientific papers approaching the digitalisation and artificial intelligence topic in accounting field. Then we conducted an empirical study that analyses students' behavior when dealing with digitalisation in accounting field, having as main objective to illustrate both the positive and negative aspects perceived by students regarding the digitalisation of the financial-accounting field, especially the accounting profession. The empirical research was carried out between April 2023 and May 2023, and the research method used was the survey, the instrument used being the questionnaire. This has been fulfilled by 118 *at the bachelor level* students in the accounting field from the Faculties of Economics, within the University of Oradea. This paper is going to validate the different importance given to digitalisation, by accounting professionals in Romania. The research questions that this study aims to answer are: *How necessary do they consider specialized courses in digitalizing accounting to prepare them for the changes brought about by this process? What are their preferences regarding teaching methods in accounting digitalisation courses: online, onsite, or in a hybrid format?* A significant part of those surveyed considers that *the positive effects of digitalisation in accounting include reducing waiting times, increasing work efficiency, facilitating access to information, and reducing paper consumption. However, there are also negative aspects, such as the risk of data loss due to technical issues or security breaches. To maximize the benefits and minimize the risks, it is essential for accountants to understand and apply accounting principles and standards correctly. Digitalisation should complement, not replace, professional judgment.*

Keywords: accounting, digitalisation, accounting software, technology

JEL Classification: *M41, M49, Q55*

1. Introduction

Will human work be replaceable by a robot? Starting from this question, we aim to analyze how the accounting profession will evolve in the context of the new challenges posed by digitalisation. In this regard, by the end of the research, we aim

to achieve the following objectives: to gain an overview of how the accounting profession can be affected by digitalisation, to explore how artificial intelligence can be utilized in accounting, to present the programs and systems used in the accounting of small, medium, and large entities, to analyze students' perception of digitalisation in the accounting profession, and to determine the main challenges and opportunities encountered by accounting professionals following the process of professional digitalisation.

The paper is organized in the following manner: the initial section focuses on specialized literature, the viewpoints, and findings of both Romanian and international authors, with the aim of establishing a comprehensive theoretical foundation pertaining to the subject matter. The study proceeds with the presentation of the employed methodology and the description of the analyzed sample. The results are both presented and deliberated upon within the third section. The closing section provides a concise summary of the primary conclusions drawn

2. Literature review

Over time, global changes have underscored the necessity of maintaining accounting records. Whether upheld through traditional means or in a digital format, accounting serves as an indispensable source when it comes to decision-making within an entity (Boghian and Socoliuc, 2020). According to the insights of Melega et all (2021) the present era necessitates the digitalisation of accounting and its smooth integration into an enterprise's information system. This transformative information system aims to augment the enterprise's performance, bolster its competitive edge, and redefine accounting as the 'art' that is integral to securing the enterprise's success. A pivotal facet of accounting digitalisation involves consolidating accounting data within a unified information system, seamlessly intertwined with real-world operations.

Artificial Intelligence (AI) comes to the aid of accounting professionals, relieving them from routine tasks such as invoice and receipt processing, centralizing numbering processes, providing insights into expenditures, revenues, and much more. This transformation redefines the accountant's role, shifting them from mere book-keeping to a decision-making consultant for their clients (Johnson, 2023).

Artificial intelligence is the scholarly discipline focused on the technical expertise required to develop computers and software that exhibit intelligent and superior capabilities compared to humans (Elaine, 2020).

Organizations have undergone a transformation in their managerial processes, the industrial sector has witnessed the modernization of production methods, and individuals have evolved in their modes of interaction, purchasing, negotiation, and engagement with technology. Accounting, when viewed from an integrated standpoint, functions as an integral element within an organizational information system. Present-day information systems represent the culmination of years of technological and procedural advancement. Guerrero and Sierra (2018) have delineated six tiers of information system evolution:

Level 1—Transactional—Summary reports, ERPs

Level 2—Tactical—Consolidated Reports, Excel, Access
Level 3—Analytical—Analytical Tools, KPIs, Datamart, User access
Level 4—Strategic—Predictive modelling, Dashboards, Data governance, Wide user access
Level 5—Advanced—Real-time, Advanced analysis, Scorecards, Automation, Forecast, Decision X, Events, Corporate DW, Corporate KPIs, Business, Government
Level 6—Innovative—Globalised corporate process, Analytical services, Enterprise data warehouse, Collaborative asset.

Some study focuses on examining the impact of information about digitalisation provided by companies through their websites on their value. Orens et al. (2009) and Salvi et al. (2020) carried out an assessment of information closely linked to digitalisation, revealing a favorable influence of data pertaining to intellectual capital on a company's value. Recent scholarly research has explored the consequences of digitalisation. In alignment with the goals of this study, the literature review places particular emphasis on the financial ramifications of digitalisation Several studies have indicated that it constitutes a pivotal factor in a firm's performance (Khanom 2017, Bellakhal & Mouelhi, 2020, Junkroski, 2023; Pillans, 2023).

According to Salvi et all 2020, regression analysis conducted on a sample of 114 international companies revealed a positive relationship, suggesting that information about digitalisation can contribute to increasing the value of these companies.

Some studies highlight the pivotal role of digitalisation in shaping organizational performance and social perceptions. Martín-Peña et al. (2019) noted that digitalisation acts as a beneficial mediator in the connection between servitization and firm performance. Meanwhile, Bota et al. (2023) investigates the influence of digitalisation on the perception of corruption. In both scenarios, digitalisation plays a substantial role in the progression of organizations and the attainment of improved outcomes. A study conducted by Ionascu and Anghel in 2020 is centered on the significance of transparency in sustainability reporting for real estate entities and the integration of digital technology. It reveals that transparency is primarily linked to corporate governance, with REITs leading in this aspect. The utilization of digital technology holds the potential to enhance transparency and market efficiency, resulting in reduced transaction costs and advantageous outcomes for investment asset values.

A study addressing the incipient impact of digitalisation on the Romanian accounting profession, conducted by Mălăescu and Avram (2018), highlights the crucial role of technological factors, particularly information and communication technology (ICT), in shaping this profession's transformation. Through our current study, we also aim to capture the importance of digitalisation in the context of the Romanian accounting profession.

3. Research methodology

The primary aim of this study is to investigate the perspectives of undergraduate students at the University of Oradea, Romania, regarding the significance of digitalisation in relation to the Romanian accounting profession. To accomplish this goal, an exploratory research approach was employed, involving a cross-sectional descriptive research design and utilizing a survey as the research method. The

research instrument utilized was a questionnaire, which comprised two distinct categories of inquiries: general questions intended to offer a comprehensive understanding of the personal characteristics of the study's participants, and specific questions focused on the participants' perceptions of digitalisation, with consideration for their professional backgrounds. Our survey was carried out between April-May 2023 and it constitutes the basis for substantiating the scientific approach. Our sample consists of accounting and finance bachelor students' in one of the Romanian representative universities. We will use a descriptive analysis of the answers provided by the sample subjects.

The total population under analysis is represented by the 118 bachelor students the University of Oradea Faculty of Economics.

4. Data analysis

To analyze the responses provided by the students, we constructed one-dimensional tables (based on a single variable) and cross-tabulation tables, where we presented both the absolute and relative frequencies of the answers at the sample level. The survey encompasses two question categories: general inquiries aimed at portraying an accurate depiction of the students' personal profiles, and inquiries pertaining to their perception of the presence and expressions of the digitalisation phenomenon within the Romanian accounting profession. Guided by a meticulous methodological approach, the survey was purposefully designed to navigate two distinct question categories:

Student Profile Overview

The initial overarching point elucidated through the survey questions is the categorization of students based on their gender.

Table 1: Distribution of respondents in the sample of students according to gender

Answer choices	Simple absolute frequencies	Simple relative frequencies
Female	96	81.36%
Male	22	18.64%
Total	118	100%

Source: Own elaboration based on questionnaire responses

Following the analysis of the questionnaire data, it is evident that individuals of the female gender exhibit a significantly higher level of interest in the digitalisation of the financial and accounting domain, with a rate of 81.36%, in contrast to male individuals, who register a rate of only 18.64%. This phenomenon aligns with the trends observed in practical scenarios.

Regarding specialization and year of study, it is observed in the figure 1 that the majority of respondents are enrolled in the CIG study program, comprising 29.66% in the first year, 16.95% in the second year, and 24.58% in the third year. Additionally, students in the FB study program represent the following percentages: 6.78% in the first year, 10.17% in the second year, and 11.86% in the third year.
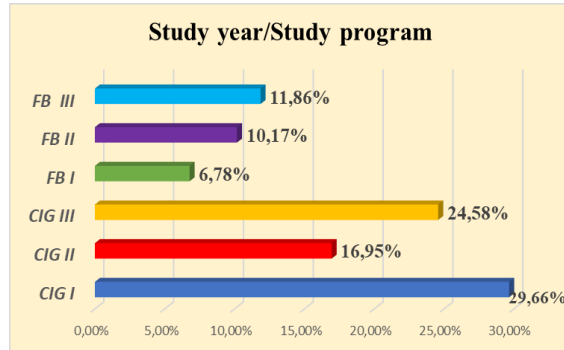
Figure 1: Student Distribution by Program and Year
Source: Own elaboration based on questionnaire responses

Based on empirical research findings, it is noteworthy that only 21,19% of the students are currently employed within the financial accounting field, and these individuals are primarily in their second and third years of study. Consequently, in the subsequent responses, we shall consider both the perspectives of students who are actively working in this domain and those who have not yet entered the labor market.

Specific Aspects Regarding Students' Perception of the Challenges and Opportunities of Digitalisation in the Accounting Profession

Regarding students' academic preparation for their future profession, they hold the perception that their university education is considered adequate by 54.24% of them to meet the challenges in their prospective workplaces, while the remaining 45.76% find their academic training to be insufficient. As illustrated in Figure 2, it is evident that the results exhibit closely aligned values.
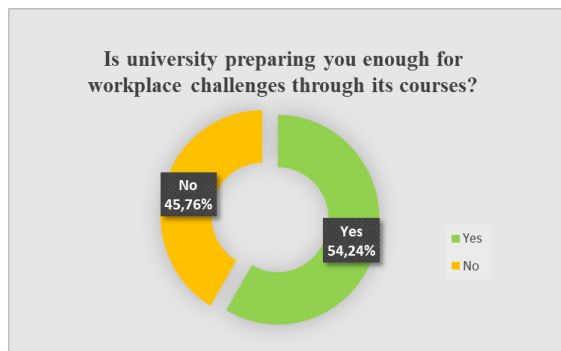

Figure 2: University Preparation for Workplace Challenges
Source: Own elaboration based on questionnaire responses

It is noteworthy that, despite a limited number of students actively working in this field, a substantial 49.15% of them have had exposure to accounting software, as can be observed from Figure 3, either through their workplace or as part of their curriculum within the university.
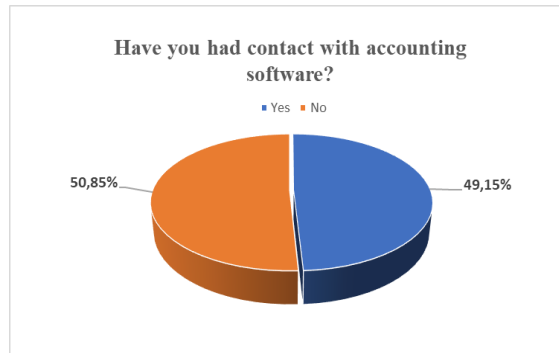
Figure 3: Usage of Accounting Software by Students
Source: Own elaboration based on questionnaire responses

The majority of respondents express concerns regarding the impact of digitalisation on the security and confidentiality of companies. Consequently, digitalisation is seen as advantageous for companies in terms of streamlining their operations, yet complete confidentiality of information cannot be entirely maintained, resulting in a relatively high level of transparency. We assume that those respondents who answered affirmatively (71.19%) to the question presented in the chart above (Fig. 4) believe that small and medium-sized enterprises can adapt to the digitalisation process as easily as larger corporations. On the other hand, those who responded negatively (28.81%) presumably attribute this to factors such as limitations in human, material, and financial resources.
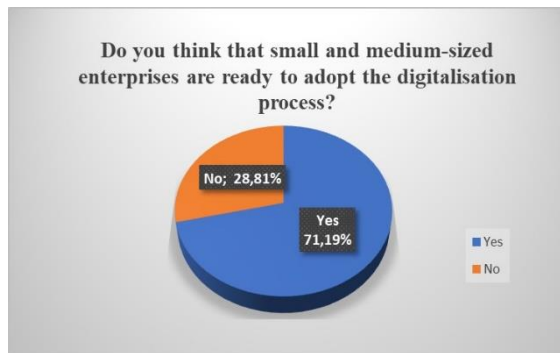

Figure 4: Digitalisation in small/medium-sized companies
Source: Own elaboration based on questionnaire responses

Within the surveyed student population, it is discerned (figure 5) that a majority, comprising 58.47%, regard digitalisation as a formidable challenge confronting contemporary and prospective accounting professionals, with the remaining 41.53% maintaining a contrasting perspective. It is hypothesized that this perceived challenge may be contingent upon the age and adaptive capabilities of the accounting ractitioners.

Figure 5: Digitalisation challenges in accounting profession
Source: Own elaboration based on questionnaire responses

Furthermore, it is noteworthy that digitalisation is credited with a positive impact on the operational sphere of accounting professionals, as reported by 88.14% of the respondents, thereby contributing to the facilitation of their work processes (figure 6).
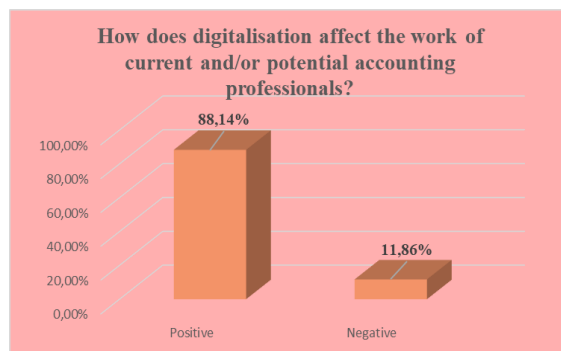

Figure 6: The impact of digitalisation
Source: Own elaboration based on questionnaire responses

In response to the query, "What is your opinion on digitalisation in accounting?" it emerges that a substantial proportion of the survey's participants articulate a multifaceted perspective, embracing both favorable and adverse facets of digitalisation within the realm of accounting. The affirmative stance underscores the benefits of reduced wait times, heightened operational efficiency, enhanced data accessibility, and a diminished reliance on paper-based records. Conversely, the negative stance spotlights concerns regarding potential data loss risks, stemming from either technical intricacies or vulnerabilities in security measures, as well as potential erosion of data confidentiality. Within this context, it becomes imperative for accounting professionals to not only possess a comprehensive grasp of accounting principles and standards but to also apply them judiciously, ensuring that their decisions remain consonant with these foundational precepts. In a broader sense, digitalisation should be envisaged not as a replacement for professional discernment but rather as an adjunct that synergistically reinforces and optimizes it.

Without exception, all survey participants concur on the necessity for supplementary specialization courses in the realm of digitalisation, alongside their scholastic or university-level education. The predominant viewpoint among the respondents favors a blended approach for the delivery of such courses, as can be observed in Figure 7.
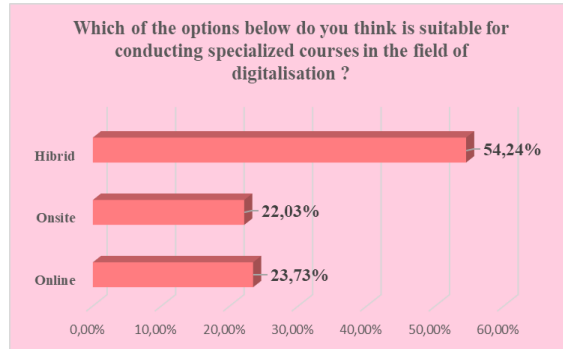

Figure 7: View-points regarding specialized courses regarding digitalisation
Source: Own elaboration based on questionnaire responses

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5. Conclusion

Although one of the undergraduate study programs that accounting professionals should prioritize includes a curriculum closely aligned with the themes discussed in our research, our findings reveal that the overall academic focus on the latest information and communication technologies is somewhat limited. Nonetheless, we maintain our optimism that the necessity of embracing the technologies we have addressed will be swiftly recognized.
The rapidly advancing field of artificial intelligence significantly streamlines the work of accountants, entrusting them with the task of reviewing and interpreting generated operations and documents while ultimately applying professional judgment.
Our research has brought to light a multitude of opportunities in the field of accounting. These opportunities encompass automation, which effectively reduces the time and effort required for repetitive accounting tasks such as invoice recording and account reconciliation. Moreover, information systems excel in accuracy when compared to human data recording and value calculation. Accessibility is vastly improved, enabling financial documents and information to be stored and accessed with ease and efficiency, irrespective of geographical location. In addition, substantial cost reductions are realized, including decreased expenditures related to printing, transportation, document storage, and labor costs.
However, the digitalisation of accounting does present several challenges, such as the need for ongoing updates and training, reliance on technology, and the omnipresent risk of cyber threats. Cybersecurity vulnerabilities emerge, especially when data is stored in cloud-based or software solutions, demanding stringent security measures to shield information from cyber threats.
In alignment with the insights of Khanom (2020), our study's findings concur that digital technology exerts a substantial influence on the accounting profession,

demanding swift adaptation by accounting professionals to maintain their relevance within the industry.

Acknowledging the constraints of our research, which encompass a relatively limited sample size, a brief timeframe for responses, and a restricted number of survey questions, we aim to expand the scope of our inquiry. We intend to expand our research scope to encompass not only master's students at the University of Oradea but also students from other universities offering similar programs in the country. Furthermore, our aim is to extend the research to encompass practicing accounting professionals, with a specific focus on the challenges related to digitalisation and the incorporation of artificial intelligence in the field.

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