
A Qualitative Approach Regarding the Impact of Digitalization and Automation on the Accounting and Auditing Profession

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Abstract

In recent years, companies worldwide have faced a rapid pace of digitization and automation, which has led to change and adaptation of business models. From this point of view, new technologies have revolutionized the field of accounting and auditing, having both positive and negative effects on companies and employees. This paper highlights how changes brought about by technological progress influence the accounting and auditing profession and the role of other factors in this direction, using a qualitative method based on semi-structured interviews. The study results show that the benefits are visible at the company level. However, certain obstacles still exist, such as employees' resistance to change, the size of the initial costs or the systems used. On the other hand, professionals expect some entry-level jobs to disappear. Instead, other opportunities will be available for practitioners in the field. In this sense, universities will have a unique role in training the new generations by developing skills for the digital age. The present study may be of interest to researchers examining related issues. From a practical point of view, this paper could be helpful to professionals as it highlights several current needs of the business environment due to the impact of technological innovations.

Key words: digitalization; automation; accounting profession; auditing; impact;

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Introduction

With the advent of the fourth industrial revolution, there have been many changes in the accounting and auditing profession regarding adopting and using new technologies (Qasim and Kharbat, 2020). Thus, using automation and digitization tools represents one of the biggest challenges among accounting professionals considering their complex requirements (Salijeni Samsonova-Taddei and Turley, 2019). Although technological progress creates uncertainty about jobs in the financial accounting field (Kokina and Blanchette, 2019), it also brings new opportunities. Previous studies have highlighted the benefits of using new technologies within consulting companies or accounting departments. The emergence of new business models (Kohtamäki et al., 2020), cost optimization or improved reporting quality (Kokina and Blanchette, 2019) are just a few examples. On the other hand, companies that do not keep up with technology could be threatened or even eliminated (Jylhä and Syyrimaa, 2019).

Having the results from the specialized literature, the main objective of this study is to identify the impact of digitization and automation on the accounting and auditing profession in Romania using a qualitative method based on semi-structured interviews. Previous research has also used this method to highlight how different technologies affect the profession, but they have focused on other countries and contexts. For example, the study conducted by Jylhä and Syyrimaa (2019) used as respondents professionals from the largest companies in Finland, while Kokina et al. (2021) investigated the influence of robots on the changing tasks of accountants at the level of companies in different industries. On the other hand, Cooper et al. (2022) conducted a similar study at the level of Big 4 companies. However, similar studies at the level of consulting companies in Romania are limited.

This study aims to identify how consulting companies and employees in our country are affected by the digitization and automation of the profession. On the other hand, this research identifies the factors that contribute to the digitization and automation of the profession, starting from the opinion of business professionals. In this sense, this paper contributes to the specialized literature through a series of elements. First, the results show that, at the level of accounting and auditing profession, large companies have made significant progress in using new technologies. For this reason, the place Romania occupies in the DESI

report (2022) regarding digitization might not be valid at the level of the accounting profession. Second, the research raises the alarm among existing and future employees to comply with the new demands of the labor market by developing primary skills and accepting the changes brought by new technologies. Finally, the results show that in addition to companies and employees, universities, the state, clients and accounting systems are the main factors contributing to the automation and digitization of processes, and the pandemic period has revolutionized the way the accounting profession is carried out today.

The paper is structured as follows. The first section presents the main results from the specialized literature regarding the impact of digitization and automation on consulting companies and employees in the field but also highlights the factors that contribute to technological progress. The second section discusses the background, methodology, data collection and analysis. The results are presented in the third section, followed by the main conclusions, theoretical and practical implications, limitations of the study, and future research directions.

1. Literature review

1.1. Digitalization and automation impact on companies

For companies to be able to continue to maintain their level of competition at high rates, to be able to respond to the needs of clients and to reduce their costs for the effective achievement of defined objectives, digitalization requires continuous communication with stakeholders (Monterio, 2016). In this sense, companies are challenged to make decisions about introducing new technologies and digitized business processes (Appelfeller and Feldmann, 2022). However, digitization has yet to develop significantly within audit firms, given the complexity of audit tasks, availability of client data, requirements for professional judgment and IT training (Cohen and Rozario, 2019). Also, at the administrative, accounting, and financial services levels, projects that use robots or artificial intelligence are still in their infancy. Still, companies using these resources could achieve considerable standardization and optimization of processes (Kokina and Blanchette, 2019).

Researchers have highlighted the benefits of digitizing and automating processes in consulting companies in recent years. For example, Kokina and Blanchette (2019)

concluded that firms that use bots to automate processes enjoy lower costs and error rates and improve their reporting quality. On the other hand, digitization leads to innovation (Papadopoulos et al., 2021) and new business opportunities (Kohtamäki et al., 2020). Moreover, the use of new technologies can contribute to improving employees' productivity in accounting and auditing, thus leading to positive effects in terms of the financial performance of companies (Zhou et al., 2021).

Previous studies have shown that consulting firms that do not use technology or do not have the willingness to invest in this direction could be eliminated from the market (Jylhä and Syyrimaa, 2019). Thus, the implementation of new technologies does not only positively influence companies; they are expensive in some cases, and the return on investment and the development of skills and competencies require a long time (Wamba et al., 2017). From another perspective, automation can be associated with employee resistance to change, system dependency and cyber risk (Attard, 2023). User adoption of new technologies can sometimes be problematic for companies. Without proper training, employees in the field will be reluctant to use technological resources, thus leading to investments that will not result in the desired return (Eiße, Torrini, & Böhm, 2020). Given the mixed results in the literature, we formulate the first research question: *How do automation and digitization influence consulting firms, and what is the role of companies in this direction?*

1.2. Digitalization and automation impact on employees

New technologies are not only influencing companies but also accounting employees and beyond. Recently, more and more studies have discussed the replacement of accounting practitioners with robots for specific tasks and the disappearance of jobs in this field (Kokina and Blanchette, 2019). In this sense, businessmen like Elon Musk highlight the extent of the changes caused by artificial intelligence and believe that it will take over a large part of jobs (Leetaru, 2016). According to a study by Grace et al. (2018), it is predicted that artificial intelligence could outperform humans by 50% in 45 years and ultimately replace human labor in about 120 years.

However, activities related to exception analysis, development, support, and testing of robot-based systems cannot be replaced (Kokina & Blanchette, 2019; Tsoraya, Asbari, & Novitasari, 2023). Moreover, human labor will still be required to manage, correct and clean data (Holmes and Douglass, 2021). From this point of view, accounting

practitioners can play an essential role in the design process of technology implementations, as they are the primary holders of critical business knowledge (Knudsen, 2020). On the other hand, data analysis and interpretation, as well as creativity or imagination, are difficult to replace (Jamal Mohammad et al., 2020). Also, previous studies have shown that digitization encourages the emergence of new services at the level of audit firms (Manita et al., 2020). Given that many of the activities within the accountancy profession will be automated and taken over by artificial intelligence, practitioners will have a strategic and management-oriented role (Smith, 2018). In this regard, the roles of accountants will consist of activities such as cost control and process improvement, capital optimization, things that require analytical skills, decision making and problem-solving (Huerta and Jensen, 2017). On the other hand, auditors' roles will be related to critical evaluations and key judgments (Kend and Nguyen, 2020).

Starting from the functions that accounting practitioners will hold due to the digitization and automation of the profession, new skills and abilities will be required. From this point of view, Ballou Heitger and Stoel (2018) consider holistic business skills and knowledge, research skills, knowledge related to data analysis, tools and technology, and unstructured problem-solving, writing and communication skills essential for developing a scientific-methodical mentality. Also, the authors of the study believe that there is no alignment between the perspectives of the academic environment and the requirements of professional accountants regarding allocating skills and knowledge. Analyzing the discrepancies between the skills that students obtain and employers' expectations, Laziková et al. (2022) identified some of the significant differences. From their point of view, soft skills such as presentation skills, creative thinking, working under pressure, written and oral communication, and adaptability are just a few examples. Considering the results from the specialized literature, we formulate the second research question: *How do automation and digitization influence accounting and auditing employees, and what will their role be in the coming years?*

1.3. The role of other factors on the digitization and automation of the profession

To prepare future employees with the skills and competencies needed to use new technologies, universities play an essential role (Jackson, Michelson,

& Munir, 2023). In this sense, it is necessary to identify and introduce new approaches, technologies and tools in the university education system to improve the learning process's effectiveness (Comoli, Tettamanzi and Murgolo, 2023). Considering the need to update education curriculum with a specific frequency to respond to the needs of the labor market (Mantai and Calma, 2022), universities must request the opinion of professionals in practice (Sarfraz, Khawaja and Ivascu, 2022). From this point of view, it is essential to identify the requirements of the business environment regarding the new generations of professionals.

Another factor that has a significant role in the digitization of the accounting profession is the Covid-19 pandemic. In this regard, previous studies have demonstrated that the pandemic has been instrumental in the diffusion and improvement of digital solutions across all industries and workplaces, including education (Sollosy and McInerney, 2022). The revolution during the Covid-19 pandemic had significant effects on the way companies and employees work (Ancillo del Val Núñez and Gavrilă, 2021), facilitating digital transformation at an unprecedented level and making remote work possible (Mutlu, Açıkğöz and Dalkılıç, 2022). Another study related to the effects of the Covid-19 pandemic on digitization shows that it can be considered a "catalyst" for the use of new technologies, such as 5G networks, cloud computing, artificial intelligence and machine learning (Amankwah-Amoah et al., 2021).

In addition to the abovementioned factors, the state plays a vital role in digitizing and automating the accounting profession. For example, at the level of Romania, introducing new regulations regarding the standard audit file for tax (SAF-T) forces companies to go digital. The primary role of this reporting is to standardize the transfer of information from taxpayers to tax authorities, which is impossible to do manually. SAF-T reporting is considered easy for tax authorities to review companies' transactions (PwC, 2021). Also, introducing the mandatory electronic invoice (RO e-invoice) represents another essential element in this direction. According to EY (2022) communication, this approach will contribute to the digitization of the public sector, increase financial transparency, and promote sustainable development.

On the other hand, previous research has demonstrated that the high level of competence in

business processes, the faster pace of innovation, new types of cooperation, and client involvement are important factors that lead to digitalization (Rachinger et al., 2018; Adomako et al., 2021). Last but not least, computer systems are considered critical factors in automating the accounting and auditing profession. For example, implementing cloud-based IT systems can influence accounting configurations by offering a platform where the client and the accounting firm can work simultaneously, thus allowing new types of work organizations in a service outsourcing relationship (Asatiani et al., 2019).

Based on the results from the specialized literature, we formulate the third research question: How do different factors (the university, tax authorities, the state, clients and IT systems) contribute to the automation of the accounting profession in Romania, and what is their role?

2. Research methodology

2.1. Context and participants

Romania has the lowest level of digitization in Europe, with a score of 30.6 points compared to the European average of 52.3 points, especially regarding the integration of digital technologies, according to the DESI report (2022). However, according to the published strategy, the tax authorities in our country are trying to increase the level of digitization to facilitate the interaction between the state and companies (ANAF, n.d.). This forces companies to digitize themselves to comply with the legislation. At the level of the accounting profession in Romania, companies face numerous challenges in digitization and automation. In this sense, the perception of professionals regarding the impact of technologization is the fundamental interest of this study.

To gain a deeper understanding of the impact of digitization and automation on the accounting profession, we selected a qualitative method based on semi-structured interviews. Previous studies have used this method to analyze the effects of digitization and automation on this field. For example, Kokina et al. (2021) investigated how process automation robots could change the tasks of accountants. Similarly, Cooper et al. (2022) focused on this innovation and how it affects the experience of

leaders and employees at the level of Big 4 companies. Another study highlighted the impact of digitization and automation on organizations, business structures, tasks and employees within the largest consulting companies in Finland (Jylhä and Syyrimaa, 2019). At the level of Romania, Anton (2023) analyzed the opinion of managers from accounting companies in Braşov about the digitization of the profession.

The companies interviewed were selected based on the non-probability sampling method to include the largest consulting firms in the country, Big 4 and Non-Big 4. All contacted companies accepted the study invitation. **Table no. 1** presents information

about the participants and other details regarding the conduct of the discussions. Ten interviews were conducted with partners, directors, managers or seniors in the accounting and audit departments and with partners or managers in the automation department. One or two people participated in each of the interviews. The duration of the interviews was about an hour, except for one of them. The discussions took place face-to-face, by phone or through the Zoom, Google Meets and Microsoft Teams platforms between May 2022 and February 2023. The interviews were not recorded, but notes were taken during the discussion and transcribed at the end to avoid losing sight of certain aspects.

Table no. 1. Interview details

Abbreviation	Company type	Position	Duration	Platform
I1	Non-Big 4	Automation partner	1h	Microsoft Teams
I2	Non-Big 4	Accounting partner	2h	In person
I3	Big 4	Accounting director	1h	Microsoft Teams
I4	Big 4	Accounting manager	1h	By phone
I5	Big 4	Accounting director Automation manager	1h	Microsoft Teams
I6	Non-Big 4	Automation manager	1h	Zoom
I7	Big 4	Auditing director	1h	Google Meets
I8	Non-Big 4	Accounting director	1h	Microsoft Teams
I9	Non-Big 4	Accounting manager x 2	1h	Microsoft Teams
I10	Non-Big 4	Senior accountant	1h	Microsoft Teams

Source: *Autors*

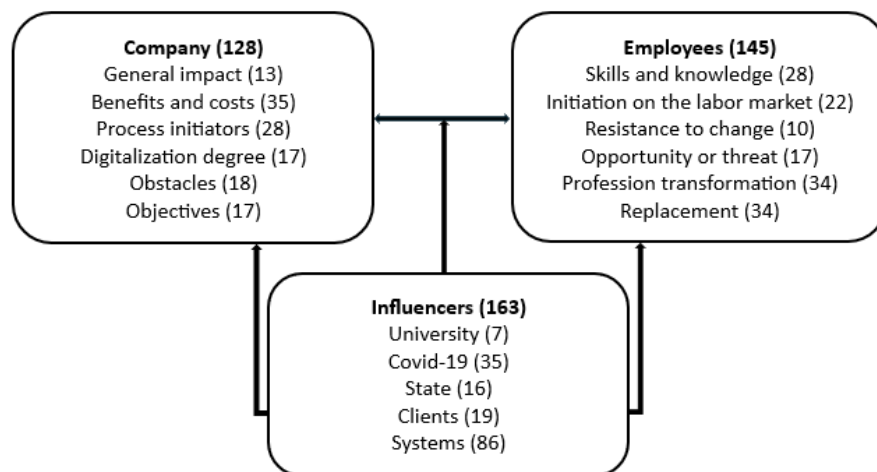
2.2. Data analysis

Thematic analysis was used to code the interviews (Naeem et al., 2023). This involves going through 6 steps to identify and report patterns in a data set, which are then interpreted (Braun and Clarke, 2006).

The first step in a thematic analysis is transcription, familiarization with the data and quote selection. Based on these, the second step was to identify keywords from the selected quotes. Afterwards, the data was imported into NVivo for coding. For each quote, at least one code was assigned based on the previously obtained keywords. This step simplifies the text-type data by transforming it into a theoretical form to identify the elements that are

the object of the research (Naeem et al., 2023). The fourth stage involves developing themes by organizing codes to identify patterns and relationships between them. In this sense, each code was placed in a subcategory assigned to a category. There were 847 references and 436 codes, grouped into 7 categories and 25 subcategories. In the fifth step, to align the data to the research questions, the categories were abstracted into three dimensions: *Company*, *Employees*, and *Influencers*, and the subcategories were narrowed to divide the data set as evenly as possible. The last step consisted of developing the conceptual model presented in **Figure no. 1**. Also, the elements analyzed on each dimension and the corresponding number of codes are given.

Figure no. 1. Conceptual model



Source: Authors

3. Results and discussion

3.1. Digitalization and automation impact on companies

3.1.1. General impact, costs and benefits

In recent years, consulting companies in Romania have turned their attention to digitalizing and automating processes for several reasons. Some examples are simplifying employees' work and compliance, gaining a competitive advantage or reducing long-term costs. However, digitization and automation can positively and negatively affect accounting and auditing companies. When asked what the impact of digitization and automation is at the level of the company he works for, one of the professionals answered:

The impact is, in principle, very good: it reduces time and processing costs, streamlines automation processes, improves data security, and reduces the risk of error (13).

As can be seen, the benefits can already be felt within organizations. In addition to those mentioned above, the level of flexibility or the quality of work represents other essential elements, according to the paragraphs below:

If accounting had been based on physical documents for many years, we have noticed great flexibility now. We now use electronic copies rather than physical transmission, which gives us a lot of

flexibility. In short, we no longer depend on direct contact for the transfer of documents [...] (14).

I believe that automation is beneficial in making work time more efficient and improving the quality of work (19).

Moreover, digitalization gives companies an advantage in relation with companies in the same sector of activity, as presented by one of the participants:

Work should be done in this direction. It is observed that all companies that have invested massively have a higher reaction speed in cases of market difficulty. They anticipate much better than others [...] (14).

On the other hand, the negative effects at the level of companies refer, in particular, to the costs related to the initial investment, which is also one of the reasons why certain companies do not evolve from the point of view of digitization and automation. However, the fact that in the long term, costs will decrease motivates companies to mobilize in this direction, as shown below:

From the perspective of costs, here we can discuss an increase in the short term aimed at an infusion of necessary expenses to obtain such (automation) tools. However, in the long term, these costs are more limited than in the case of manual processing (110).

Summarizing the results of the study regarding the impact, costs and benefits of digitization and automation at the level of consulting companies in Romania, professionals are generally satisfied with the effects. Moreover, companies currently enjoy benefits such as reduced processing time and costs, efficiency, data security, reduced risk of error, flexibility, and increased work quality or reaction speed, as mentioned by previous research (Kokina and Blanchette, 2019). On the other hand, the initial investment is difficult for some companies to bear. However, with all these benefits in front of them, many companies have chosen to move in this direction.

3.1.2. Process initiators and digitalization degree

Digitization and automation processes are often challenging to implement and require the involvement of people from different departments and at various levels. However, it is interesting to see who the initiators of the process are at the level of the largest consulting firms and their role in this direction. Thus, one of the respondents explained:

Everything related to ERP (Enterprise Resource Planning) starts with the group, but the employees are very involved in automation because, in addition to accounting, we have conversions and analyses where a lot of Excel files are processed. Processors are eager to automate through macros, chatbots, and RPA (Robotic Process Automation). So basically, everyone is involved (13).

Thus, the need to simplify work and to do things in the shortest possible time leads employees to look for new solutions. If, in some companies, the initiators of the process do not refer only to employees at a high hierarchical level, in other companies, the automation is managed by the management of the department, as presented by one of the participants:

In our company, automation is managed by the management of each service line. For example, there is a dedicated team dealing with automation for the outsourcing department, reporting to the head of outsourcing (16).

However, digitization and automation involve changes in the internal processes and business models of companies, as detailed below:

Automation often means changing internal processes. Sometimes, this can be done by a mixed team. When you call an external supplier, you must explain things more. The in-house team knows our business better (11).

Given the rather complicated procedures of some companies, implementing automation tools is a long-term process. For this reason, some professionals believe that automation has not yet reached its maturity level, although things have been going quite well lately:

All in all, there has been some progress at a faster-than-normal speed, but there is still room to move things at a much faster speed. The benefits are significant, and the costs are low (11).

In addition to company procedures, the degree of digitalization and automation also depends on many other aspects, such as the company's size, the involvement of employees and clients, or the services offered. In this regard, one participant mentioned:

From my point of view, a 100% degree of automation cannot be achieved because it is information that must be analyzed and framed according to professional judgment. We do not only accounting but also other types of assignments. Verification missions cannot replace human intervention in researching the correct framing of a transaction (12).

On the other hand, from the perspective of audit services, companies seem to be making efforts to simplify work and increase the degree of digitization and automation, as one interviewee mentions:

We try to eliminate as many redundant tasks as possible to ease the audit mission so that they come to us (employees) with a certain solution, such as closing the balance sheet or other tasks (15).

As predicted by the results of the specialized literature, the level of digitization and automation of the profession, it is still at the beginning (Cohen and Rozario, 2019; Kokina and Blanchette, 2019), and the results of the present research also confirm this. However, considering the services offered, a maximum limit cannot be discussed, because services provided by professional accountants often depend on professional judgment. Both employees and the management team understand the need for new tools to simplify routine tasks and work together to achieve their goals.

3.1.3. Obstacles and objectives

Obviously, in the attempt to digitize and automate specific processes, companies can encounter difficulties that are not only related to the company itself but also to other

factors. One of them is employee reluctance, as mentioned below:

The main obstacle is people's reluctance to change and their tendency to abandon the automation solution if they do not notice the benefits after the first use (12).

People's reluctance can be understood through change management theory, which presents its reasons. According to the work done by Burdus, Caprarescu and Androniceanu (2000), memory and selective attention are the main factors. Starting from these two elements, people tend to only partially take the information related to the change, filtering out specific elements that force them to leave their comfort zone. Because of this, employees only partially see the change process and do not understand its benefits.

On the other hand, clients are seen as another obstacle in process automation. In this regard, one of the interviewees explained:

Clients would be the main obstacle. We have a reluctance regarding budgets. They must bear the costs. Even if it pays off over time, there is an initial effort, and then, depending on the company, they are not willing to invest, and we must see how we go about implementing the processes (14).

Companies' investments in automation tools are often shared with clients. However, there are cases in which clients do not want or cannot afford to allocate costs, which represents barriers to consulting firms' evolution in this direction.

Also, some professionals believe that the accounting systems used would represent an impediment to automation:

The main obstacle is the accounting system, which is not primarily designed for automation (19).

Changing the accounting system is a substantial effort in a large company and customizing it for automation could involve relatively high costs. Despite such obstacles, companies are optimistic and set long-term digitalization and automation goals. Thus, one of the respondents specified:

We want to try to free people's time for quality things and leave the volume and hard work for the computer. This automatically leads to more excellent client care, and by freeing up people's time, the quality of services can only increase (18).

Other professionals consider sustainable development to be a significant factor in digitization, as one interviewee noted:

We have sustainability objectives related to digitization (carbon-free until 2030), and here we digitize to stop printing; to reduce the consumption of paper... It is a mix between business digitization and the sustainability trend (17).

On the other hand, the target of different companies is to increase the degree of digitization and automation to remain competitive:

We intend to expand digitization and automation; otherwise, we will be left behind (19).

The impact of digitization and automation at the level of consulting companies can be viewed from several perspectives. Although the benefits are visible, there are also some obstacles. Employee reluctance, client acceptance, and systems used are just some of those mentioned by study participants. These things have the effect of delaying the process but not stopping it. Companies are moving in this direction to keep up with technology, free people from repetitive tasks, provide excellent client care by increasing quality, and be sustainable.

3.2. Digitalization and automation impact on employees

3.2.1. Skills and knowledge for initiating in the labor market

Technological advancement has changed the skill set that a professional accountant should possess today. If knowledge related to accounting was the most critical competence in the past, nowadays, you cannot work in this field without IT knowledge. In this sense, one of the respondents mentioned:

They will need to have digital skills. Their role will consist of advisory before and after (12).

As professional accountants' roles will no longer consist of repetitive tasks, they will also need to develop other skills, such as critical thinking. From this point of view, one of the interviewees explained:

I expect a person to have excellent critical analysis skills. By critical analysis, I mean the logic of deducing a fourth piece of information from the first three and the power of synthesis. One of the problems that a person has is the feeling that he has a new problem every day. The solutions to our problems are not so varied. You can't have a new

problem every day. You need a synthesis question. The problem is a particular case of a general issue. Problem must be identified (I1).

Moreover, professionals consider communication and openness to newness other essential elements for this field:

We, accountants, are said to be gatekeepers and introverts in general. This perception needs to be changed, and at the same time, the skills behind it. Analysis and experience will be required. There is a need for openness and acceptance, communication, and a desire to be part of several projects. You cannot be introverted; you must be pleasant and visible (I3).

In addition to these, the business environment expects young practitioners to have a desire for professional development and knowledge of a foreign language:

I would say that, before technical knowledge, two essential things are necessary: firstly, a foreign language; if you want to break through today, you must be able to work with foreigners. If you don't know English, you're doomed. After which the attitude matters, to want to grow, to develop yourself, and not to enjoy a significant immediate gain (I8).

Given that the input part of documents will be taken over by artificial intelligence, and young people will no longer have direct contact with primary documents and will start directly with data analysis, the question that arises is: How will young graduates be able to understand specific correlations without going through a first stage? From this point of view, one of the participants explained:

I don't think this part of registering the primary documents will completely disappear, only that those very easy to register, such as expense reports and bank statements, will be automated. However, there will remain those transactions that require more time, and the new joiner will have to learn to analyze a contract, accounting, and tax legislation (I4).

Professionals again bring up the analysis part, a primordial element in the accounting profession. However, the link with primary documents should not be lost either, as one interviewee noted:

Moreover, to help future professionals, it is necessary to maintain the connection with the primary documents. This could be done in the form

of tests with limited data volumes so that the necessary correlations can be identified for processing and validation by the new accountants (I10).

On the other hand, learning by making mistakes is another technique that professionals find helpful:

What I mean is that, in an organization that I dream of you take a person from the school benches and transfer the information you have acquired in this way. He will go directly to analyzing some information that exists, learning from the mistakes of others (I1).

According to the opinions offered by professionals, it is difficult to predict how young people will be initiated into the labor market. Although some of them think that the primary documents will not disappear and we will still have access to the data entry part, others believe that contact with the documents will not be needed if we can transfer the information from one to another. For these reasons, developing a skill set to move directly into the analysis area is essential. Digital knowledge, communication skills, openness to new things, and critical thinking are just some things that business professionals mention. The skills needed by the latest generation of accountants confirm the results of studies in the specialized literature (Laziková et al., 2022; Ballou, Heitger and Stoel, 2018).

3.2.2. Resistance to change, opportunity or threat

If one of the challenges for the employees new to the field is related to how they will come to make analyses and correlations without having contact with primary documents, for employees with seniority, the main challenge is represented by changing the way of working, as stated one of the respondents:

Unfortunately, for the digital transformation that has been talked about for "7 years", we talk a lot but do little; people are not open enough to change how they work. I think it's not because they can't but because of the fear that it fades/dilutes their role once things change. "You can do it without me" (I1).

People also tend not to trust the automation solutions offered, as one interviewee explained:

There is also a lack of trust in the automation solution and the desire for control. We want to check with our own eyes (I2).

Technology acceptance could be explained by the theory of reasoned action (Fishbein and Ajzen, 1977). According to this theory, the best predictor of a person's behavior is their intention, which is best predicted by subjective attitudes and norms. Attitude is the positive or negative feeling about the manifestation of the behavior. On the other hand, subjective norms refer to the perception of other close people around to manifest or not that behavior. Thus, the fear that their work will no longer be relevant with the advent of technology could cause people to show negative behavior towards changes, and the attitude of those around them could be an influence.

On the other hand, the lack of time is another reason that influences people's resistance to change. From this point of view, one of the respondents specified:

[...] These automation procedures go where there is a large volume of repetitive data, but they can also be used for less large clients. This is where the human factor comes into play. Rather than doing it automatically and correcting, they'd do it manually (15).

Change can happen if people understand the importance and the good things that digitization brings to this field. Some professionals believe that the changes brought by new technologies represent opportunities for accounting practitioners, thus:

I see it as an opportunity. We abandon repetitive work and focus on adding value for clients, which can only bring long-term benefits (14).

Another interviewee expressed a similar opinion:

At first, everything was perceived as a threat, from the pen to the computer, from the cart to the car. However, I see it as a great opportunity to free yourself from certain tasks that do not bring you any value and to focus on what you do best (15).

However, some professionals believe that digitization can be seen as a threat:

Digitization can pose a threat to the labor market (10).

The fear of the new or the fear of losing their jobs makes it hard for accounting practitioners to accept the changes brought by automation and digitization. However, those who understand the long-term benefits, not only to the company but also to their professional development, will have opportunities that will pave the way to success.

3.2.3. Profession transformation and replacement

Opportunities will arise as the profession transforms if accounting practitioners are open to and involved in change. Business professionals believe that the profession is undergoing a reformation as specified below:

I see it as a reformation of the profession. People will still be needed. We need to reinvent ourselves a little to cooperate. After all, we train them (the programs), and the employee checks sets and changes. The program knows how to do what you tell it to do. We must focus on services that bring value (15).

As the quote above states, accounting practitioners must focus on value-added tasks. They will also be more involved in business decisions, as one interviewee noted:

There is a massive demand in the sector for information and management support. In the accounting department, the stage must be reached where they (accountants) are put at the same table (with management) and are part of business decisions and not providers of reports for the state or other departments (14).

In other words, the jobs of accountants will not disappear, but there will be some changes regarding their duties. For example, related to junior-level employment, one of the respondents mentioned:

If, in the past, entry-level jobs in accounting involved analyzing primary documents and manually recording transactions in ERP, in the future, entry-level jobs will consist of validating transactions recorded by robots (16).

Another interviewee supported a similar point of view:

I think those people who do accounting will supervise and check the work of the robots and contribute to the field in this way (17).

The impact of digitization and automation on employees in this field can be viewed from several points of view. First, the business environment demands a set of skills aligned with current needs. To meet the challenges, they must have IT, communication, analytical, and critical thinking skills. It also requires a greater openness to the new desire for professional and linguistic development. As presented to us by the interviewees, resistance to change can be a factor that negatively affects employees due to the digitization and automation of the profession.

Accepting new technologies gives people opportunities,

while non-acceptance can lead to threats, resulting in job loss. As technology develops, the roles of accountants will also change. They will no longer be data processors. Instead, they will validate the work of artificial intelligence and significantly contribute to the business.

3.3. The role of other factors on the digitization and automation of the profession

3.3.1. University

To meet the demands of the business environment in terms of training future professionals with essential skills and competencies, universities play a vital role. Knowledge of accounting is still necessary for this profession. In this sense, one of the interviewees explained:

The school must provide the basic level. You must have a foundation from the school. We prepare solutions and make them more efficient, but it's much easier if you come with a base. It is easier to work if you have completed accounting than to hire someone from cybernetics or polytechnics (15).

Similarly, another respondent specified:

In the digitization stage, with the desire to do everything very quickly, from the employee's perspective, he should come up with some pretty solid foundations so that he can work and make correlations much easier (14).

Thus, so that future employees no longer must start with the essential activity, namely, the registration of primary documents, employers expect universities to prepare them well enough to move directly to data analysis and correlation. Economics universities are trying to change their curricula to meet the business environment (Sarraz, Khawaja and Ivascu, 2022) both from the point of view of essential knowledge and digital knowledge. Critical thinking is another competency that universities have begun to emphasize more and more recently through business simulation games.

3.3.2. Covid-19

As the literature results predict, the pandemic has significantly affected how companies and employees operate (Ancillo, del Val Núñez and Gavrila, 2021). In this regard, one of the interviewees stated:

The pandemic of recent years has revealed that accounting work can be done remotely through

electronic exchanges rather than invoices placed on the table and recorded in the system. We were put in a situation where we no longer saw each other, we no longer physically transmitted the documents, and then we accepted that we could send the documents in electronic format (11).

Similarly, another respondent explained:

It had a decisive role in the digitization process because the situation at that time required remote work (110).

In other words, the pandemic facilitated and accelerated digital transformation, making remote work possible (Mutlu, Açıkgöz, & Dalkılıç, 2022). If, until that moment, people were reluctant towards certain technologies during the pandemic, they were somewhat forced to accept them. They gained confidence in the solutions offered, as mentioned by one of the interviewees:

The pandemic has made people more confident in using electronic media compared to printed papers. Before the pandemic, we had no support from clients, and even employees were printing documents (12).

On the other hand, some professionals argue that it was necessary to rethink the workflows during the pandemic. From this point of view, an interviewee specified:

Mandatory remote work has created the need to redefine workflows and explore new methods or technologies to continue efficiently supporting our clients (16).

The Covid-19 pandemic has positively affected the digitization of the accounting profession, as predicted by the results of this study. Working remotely and using new technologies are just some examples. If the general population looked more at its adverse effects, companies would take advantage of the moment of the pandemic to redefine their flows, recruit valuable resources from other localities and convince clients to use the electronic environment more. On the other hand, the pandemic made the tax authorities digitize themselves and eliminate part of the bureaucracy.

3.3.3. State

In recent years, the tax authorities have set objectives regarding the digitization of processes to meet the business environment's needs and to influence other companies to digitize in their turn. In this regard, one of the interviewees explained:

It also contributed to automation because what we do is linked to the authorities, who were, in turn, forced to accelerate the digitization and automation process (I2).

Similarly, another respondent specified:

I have also noticed this focus at the level of the authorities, in the sense that ANAF (Romanian tax authorities) also has automation and digitization programs and then, to be where we all want to be, we will have to be one step ahead of others, to express myself in this direction, and the focus is relatively high (I4).

On the other hand, new regulations, such as RO e-invoice or SAF-T, will increasingly contribute to the digitization and automation of processes not only in large companies but also in smaller companies, such as one of the interviewees:

We can observe digitization trends not only at the company level but also at the level of public institutions. This aspect strengthens the option of exclusive digitization of all financial accounting documents. An example is the RO e-invoice (I10).

Thus, considering the nature of the accounting profession and the fact that many of its activities are related to the tax authorities, the state plays a vital role in digitizing and automating the field. Not long ago, companies were disappointed by the work system of the tax authorities; today, they are forced to keep up with the digitization of the tax system by complying with the new regulatory requirements at the national level.

3.3.4. Clients

In any field, clients are the most valuable thing for a company. For this reason, companies must pay more attention to their needs. Given that the work performed by accounting practitioners is mainly intended for clients, companies need to discuss with them the eventual possibilities of automation and digitization. There are opinions from the business environment that consider client support to be quite an essential factor in the automation process, as mentioned by one of the participants:

Clients could impede automation. If they do not provide all the correct and complete documents according to the requirements and structure, it will be harder to automate (I2).

On the other hand, the costs of automation solutions, from the client's perspective, could impact the consulting company's digitization and automation of processes. From this point of view, one of the interviewees specified:

The possibility of having an additional initial cost is something that scares the client (I10).

However, some clients want a simplification of processes to reduce costs in the long term, as one respondent explained:

Clients want us to simplify the work to decrease the amount of their bill. Less time means lower costs for them. From this perspective, we have many clients who started doing their primary accounting in Asia, where salaries are lower than in Romania. We take their journals, process them, adjust them, do automatic mappings, and get the journals we need much faster (I8).

There is a trend to recruit cheaper labor from Asia for core finance processes. More and more large companies are opening branches in countries with a low standard of living, such as India, the Philippines, Thailand and others. According to a study by Deloitte (2021), India is one of the preferred countries for Western companies to perform financial services.

Thus, clients influence the digitization and automation of processes by their acceptance of a model agreed with the supplier for document transmission, but also from the perspective of costs. Depending on the cost-benefit ratio for the client, this can have a positive or negative impact on the automation and digitization of the accounting profession.

3.3.5. Systems

Lastly, accounting systems can be perceived as influencing factors in the digitization and automation of the accounting profession through their flexibility or rigidity. There are accounting systems that can easily integrate automation modules, as one respondent stated:

Accounting systems help us to automate. All of them aim for digitalization and automation of processes (I2).

Conversely, specific systems cannot be modelled as professionals would like. In this sense, one of the interviewees mentioned:

The main obstacle is the accounting system, which is not primarily designed for automation (I9).

On the other hand, cloud accounting systems are often beneficial for simplifying work, given that both the company and the clients can access them simultaneously. From this point of view, one of the professionals explained:

We have clients for whom we work in a mixed regime. We gave them access to the system to issue invoices with the related mappings (14).

Thus, it is no longer necessary to automate the invoices issued when outsourcing accounting services, considering that the system allows new types of organization (Asatiani et al., 2019).

Regarding audit services, companies have adopted or upgraded their systems to automate and simplify the tasks related to analysis and inventory. Regarding this aspect, one of the respondents specified:

Before, the invoice was entered (in the system) to be audited. Now we have automatic systems, a kind of sniping tool. We also have systems on the phone. Colleagues who do inventory go to the field with tablets (17).

The impact of systems on the automation of the accounting profession can be both positive and negative. Old systems, which are not designed for automation, can negatively affect this process. System change in a consulting company is a high effort, not only in terms of costs but also in terms of employee acceptance. On the other hand, companies that have systems that can be automated and modified enjoy significant progress.

4. Conclusions

The primary purpose of this study was to highlight the impact of digitization and automation on the accounting and auditing profession based on the views of business professionals. In this sense, interviews were conducted with partners, directors, managers and seniors from the accounting, audit and automation departments of the largest consulting companies in Romania.

The results of the study were divided into three sections. First, the impact of new technologies on companies was identified. According to professionals, automation and digitization are still in an early phase, as confirmed by the results of the specialized literature (Cohen and Rozario, 2019). The benefits obtained by consulting firms include reducing work time and processing costs, streamlining processes, data security, reducing the risk of error, and

increasing the quality of work and the reaction speed. Some of these benefits have also been highlighted in previous research (Kokina and Blanchette, 2019). On the other hand, initial costs or other obstacles, such as employee resistance to change, client reluctance regarding costs, or adapting to new ways of working and the systems in use, can negatively affect digitization and automation. Professionals believe that these factors only delay the process. From their point of view, change is happening, but at a lower speed. In consulting companies, employees and the management team are involved in automation and digitization and work together to find the best solutions. However, a 100% degree of automation is out of the question because there are many tasks where human intervention cannot be replaced. Instead, companies would like to increase automation as much as possible to remain competitive and enjoy long-term benefits.

Second, the study results show the impact of digitization and automation on employees. To stay relevant, employees first need to have solid accounting knowledge. On the other hand, digital skills, openness to new things, and critical thinking are other essential elements nowadays. To these, communication skills or knowledge of a foreign language, the desire for development and more are added. Thus, the present study's results confirm previous research on the necessary skills (Lazíková et al., 2022). According to professionals' explanations, digitization represents an opportunity for employees, but there is still a threat regarding job cuts, especially at the entry level. For this reason, some tasks could be taken over by robots, and accountants' roles would change. They would no longer be data processors but would validate artificial intelligence's work and focus on elements that bring added value, both for themselves and for the company. Professionals believe that employees in the field should be part of business decisions and provide advice based on professional judgment.

The last part of the results refers to the factors contributing to the digitization and automation of processes. In this sense, the university is seen as an essential determinant, contributing to young practitioners' development of skills and competencies. Another significant factor contributing to digitization is represented by the Covid-19 pandemic, which had a decisive role, as mentioned by professionals. On the other hand, clients of consulting companies can have both positive and negative impacts. The acceptance of new technologies, as well as the intention to bear the

costs necessary to use new tools, determines the level of automation and digitization. The state is another significant element. The digitization of the tax authorities, for example, and the new regulations regarding SAF-T and e-invoices are causing all companies to digitize themselves to comply with legislative requirements, as the study's results highlight. Moreover, the accounting systems could have positive and negative effects on automation regarding their flexibility or rigidity in integrating automation modules.

The results of this study have both theoretical and practical implications. From a theoretical point of view, they add to the specialized literature new aspects related to the impact of digitization and automation of the accounting and auditing profession both at the level of companies and employees. From a practical point of view, the research results could be of interest to existing and

potential employees, as well as universities and professional bodies, as they highlight the demands of the business environment on young accountants and auditors. Moreover, the study's results could also help other companies increase their degree of digitization and automation, starting from the benefits highlighted by the professionals.

This study also has limitations, mainly related to the number of interviews and participants. Future research could present a similar analysis from the perspective of smaller companies or compare the level of digitization and automation in top companies and companies with lower potential for automation. Also, to look at the impact from a deep perspective, future research could invite participants from other backgrounds to the study, such as academia, professional bodies, or entry-level or mid-level employees.

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