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ACCOUNTING PROFESSION TRANSFORMATION AS PERCEIVED BY STUDENTS – RESULTS OF A PILOT STUDY

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Purpose: The article aims to explore last-year accounting students' knowledge and awareness of the changing role of accountants in the wake of digitalization.
Design/methodology/approach: A literature review was carried out, and a pilot survey was conducted among final-semester graduate students in Poland and Romania, assessing their knowledge and awareness of the changing role of accountants due to digitalization.
Findings: The pilot study revealed that students are aware of the changing role of accountants in the wake of digitalization. They recognize the need to possess and advance technological competencies, rating such expertise currently at a medium to moderately high level. They simultaneously regard as impossible that, given the rise of digitalization, accounting positions will be filled by individuals without area-specific education, and that RPA and AI will replace professional judgment. The students are also familiar with digitalization tools, although to a significantly varying degree. They also do identify both the benefits of as well as the barriers to implementing digitalization.
Research limitations/implications: The empirical survey employed the method of selection by convenience, therefore the results obtained cannot be generalized onto the entire population.
Practical implications: The article reveals that students are aware of the changing role of accountants on the one hand, and of the utmost importance of technological competencies in the profession on the other.
Originality/value: The article partly fills the research gap in empirical studies on the changing role of accountants due to digitalization. It also provides the basis for the subsequent in-depth stage of the empirical research on the awareness of the students of applicable majors regarding the changing role of accountants and the profession in the wake of digitalization.
Keywords: digitalization, accounting profession, education.
Category of the paper: Research paper.

1. Introduction

In today's world, virtually or nearly everything people do in their private and professional lives is assisted, in some way, by a variety of digital technologies (ACCA, 2020). Digitalization within the field of accounting has been progressing for at least the past two decades. Initially, active in this respect were entities seeking solutions to facilitate accounting. Later on, however, the need for changes was also recognised by public administration bodies. Businesses began to be obliged to utilise a wide range of digitalization tools through the introduction of various legal regulations, including tax and accounting provisions. The first changes concerned e-invoicing, followed by the introduction of mandatory reporting in the form of SAF-T files (Marcinkowska, 2021). In 2018, the obligation to compile financial statements in an electronic form of a specific structure and format came into force, with the requirement to include a qualified electronic signature, a personal signature or a trusted signature (art. 45, para. 1f of The Act on Accounting). The changes in data reporting methods, albeit bringing undoubted benefits, posed a major challenge for companies. Fairly common was the view that they were implemented too rapidly, preventing proper preparedness. Moreover, entities compiling their financial statements electronically faced many technical problems in registering or digitally signing the reports (Bucior, Jaworska, 2023).

In January of 2024, the Ministry of Finance was encouraging the public to become familiar with the report on the review of the Accounting Act, share their experience and submit comments (MF, 2024). The report featured, inter alia, suggestions to rewrite art. 25(1) of the Act on Accounting pertaining to manual bookkeeping, which is practically obsolete nowadays, or to fill the gap in the obligation to maintain records of documents using electronic document circulation. (Reform, 2023). In January 2024, a pre-consultation on the regulation of the accounting profession was recapitulated as well. The regulation would aim to include the profession in the catalog of regulated professions and provide regulations on reserved activities (Pre-consultations, 2024). All of the above will certainly affect the accounting profession.

In 2019, the International Federation of Accountants (IFAC) defined seven new functions of the accounting profession: a co-pilot, a navigator, a brand protector, a storyteller, a digital and technology enabler, a process and control expert, a trusted professional (International Federation of Accountants, 2019; Wojtas, 2022). It thus has indicated the directions in which the accounting profession will evolve in the future and the changes in the responsibilities accountants will have to meet. As such, digitalization does, on the one hand, signal possible changes in the profession, yet it comes with risks to the profession itself, on the other. The accounting profession is in fact ranked among the professions most threatened by the rise of robotization and artificial intelligence, as Personnel Service experts underline (Jarco, 2023).

According to Arkadiusz Lewandowski – the managing director of Altera sp. z o.o., in the near future the work of an accountant will involve analyzing, advising and suggesting lines of optimization within a company, rather than simply documenting accounting events (Lewandowski, 2021). In similar vein, Małgorzata Ściślak - a marketing and product strategy expert at Symfonia[1], indicates that dedicated systems will be used for such repetitive tasks as entry of invoice data into records, and thereby the role of an accountant will be limited to analysis, verification and conclusion drawing. Accordingly, accountants will then become business advisors (Digitalization, 2022).

The progressive digitalization and digital transformation affecting the accounting profession have given rise to research on the changing role of accountants and the educational needs of future accounting adepts.

The main purpose of the article is to survey the knowledge and awareness of graduate students of accounting regarding the change in the role of accountants in the wake of digitalization. To achieve the objective, the following research questions were posed:

- Are the students aware of the changing role of an accountant?
- Do the students possess digital skills and are they aware of the demand for such skills within the realm of accounting?

For the purpose of the article, a literature review was carried out using the Scopus and Web of Science databases, both of which were searched for positions describing digitalization in accounting, including the aspects related to academic education in this area. The methodology of the planned empirical research has been outlined. A pilot survey was conducted among the last-semester students of adequate master's degree programs in Poland and Romania, with a focus on their knowledge and awareness of the changing role of accountants in the wake of digitalization.

2. Literature review

The literature review was carried out between November 24th and December 20th, 2022, drawing on an Internet search of two electronic databases: Scopus and Web of Science. The main objective of the preliminary literature review was to search for positions describing digitalization in accounting and the empirical research undertaken in this area. Two groups of keywords were used:

- digitalization, RPA, cloud computing, UiPath,
- accounting profession.

[1] Symfonia – a business management software provider.

Individual search queries involved simultaneous use of keywords from both groups. A total of 81 articles were targeted. Given the thematic focus on academic accounting education and the challenges inherent in digitalization, 12 articles from the Scopus database and 4 articles from the Web of Science database were selected for further study. A further supplemental review was carried out on January 10, 2024, yielding additional new positions addressing the aforementioned aspects of education. The same keywords were used. Three articles from the Scopus database and two articles from the Web of Science database were selected for further analysis. In each category, the Authors identified the conclusions and main research areas common to the papers reviewed (Table 1).

Table 1.
Primary research area and conclusions - literature review

Main research areas	Conclusions /Authors	Number of publications
Digital technology tools in academic education	- suggestions to introduce more courses on such subjects as Big Data, cloud computing and information security, to equip future accountants with solid IT knowledge – Stanciu, Rindasu, 2017 - courses relevant to data analytics, blockchain technology, artificial intelligence and cloud computing – Moore, Felo, 2022 - implementation of new technologies – RPA, cloud accounting – Iordan et al., 2022 - according to the authors, certain technologies, such as blockchain, are not covered in education, while others - Big Data, AI - are approached informatively and fail to provide students with the necessary digital competencies – Guşe, Mangiuc, 2022 - Master's-level advanced data analysis courses covering RPA and AI – Ng, 2023 - a set of three practicals designed to familiarise students with the application of RPA in accounting, implemented as part of practical classes - Keys, Zhang, 2020 - an accounting education path based on the DES model – emphasis on accounting skills in the areas of Big Data, Intelligentization (the use of artificial intelligence for decision-making), mobile Internet and Cloud Computing - Xuxin, 2022 - the accounting profession needs to keep abreast of the digitalization-related changes, thus it is vital to equip accounting students with state-of-the-art technology and encourage the use of accounting-relevant digital technology tools in education - Berikol, Killi, 2021	8
Changes in academic education	- alignment of student competencies with the current needs of the economic environment – Stanciu, Rindasu, 2017; Moore, Felo, 2022 - business organizations such as NASBA, AICPA, AACSB provide the impetus to revise curricula, through professional certifications and standards – Moore, Felo, 2022 - correlation of modern technology aspects with the academic accounting education domain to the needs of the digitalized business environment – Guşe, Mangiuc, 2022 - the need for further development and refinement of accounting curricula has been identified – Suarta et al., 2023 - accounting curricula must include RPA education – the article proposes a course on accounting process automation which could be incorporated into accounting curriculum - Vincent et al., 2020 - the teaching of accounting should go hand in hand with technological changes, in response to the challenges of the 4.0 revolution - Bastos et al., 2022 - an initiative for higher education institutions to integrate data analytics into their accounting curricula - SzeKee et al., 2023	8

cont. Table 1.

Modern forms of teaching	- online, hybrid courses – Iordan et al., 2022, Bastos et al., 2022 - a practical case study on the processes of digitalization – Gușe, Mangiuc, 2022 - the use of video lectures, cloud storage, online catalogs, and the blending of e-learning with traditional methods, best develops the skills students are in need of to pursue an accounting career – Volokhin et al., 2022 - the use of digital technologies represents a vital mechanism in improving the effectiveness of accounting teaching – Thomas, 2021	5
Analysis of syllabuses and curricula	- an empirical study analyzing the current accounting curricula of 21 Romanian universities, covering a total of 67 study programs – Stanciu, Rindasu, 2017 - 185 accounting school websites, curricula, course descriptions, syllabi, and learning outcomes were analysed to determine whether and how accounting departments incorporate data analytics into their curricula – Moore, Felo, 2022 - analysis of undergraduate Accounting and Management Information System (CIG) programs, in four major university cities in Romania – the Bucharest University of Economic Studies – ASE, Babeș-Bolyai University of Cluj-Napoca – UBB (Faculty of Economics and Business Administration), 'Alexandru Ioan Cuza' University of Iași – UAIC (Faculty of Economics and Business Administration) and West University of Timișoara – UVT (Faculty of Economics and Business Administration) – Gușe, Mangiuc, 2022	3
Accountant skills in the modern world	- advanced spreadsheet skills and the ability to operate accounting software, including enterprise resource planning and cloud accounting systems, are in demand on the accounting labor market – Suarta et al. 2023 - technical skills should be incorporated into the accountant's arsenal of tools – Stanciu, Rindasu, 2017; Moore, Felo, 2022; Gușe, Mangiuc, 2022; Ng, 2023 - *"It is important for professional accountants to understand that they influence digital technologies even when they are not involved, as they allow other professional categories to forward own agenda"* – Gușe, Mangiuc, 2022 - ICT competence is one of the core technical skills required of accounting graduates - Berikol, Killi, 2021 - a survey of digital competence levels among postgraduate students of accounting - Taib et al., 2023; Awang et al., 2023	9
RPA in education	- the use of RPA in the process of analyzing students' exam performance - Patil et al., 2019	1

Source: own elaboration.

The literature review carried out allowed the ordering of the positions within the field of accounting profession digitalization with respect to academic education. The publications were divided into six research areas. The first, consisting of eight positions, covered the subject of digital technology tools utilized in academic education. Suggestions were put forward in these studies to introduce more courses on Big Data, cloud computing, blockchain technology or data analytics, also incorporating RPA and AI. Another theme that emerged pertained to the need for changes in academic education. Eight publications advocated tailoring of accounting students' competencies to the needs arising from the digitalization of the accounting profession, including modification of the curriculum, which should factor in the ongoing technological changes as well as incorporate in-depth data analysis and RPA education. Incentives for the revision of accounting curricula can be provided by such certifications and business

organization standards as NASBA, AICPA, AACSB. Modern forms of teaching comprised the subject of yet another research area, which encompassed five articles on online and hybrid courses, video lectures as well as case studies on digitalization processes. A conclusion emerged from those publications that the use of digital technologies will prove vital in the efforts to improve the efficiency of accounting teaching. The topic of accounting-related academic syllabus and curriculum analysis was explored in three articles. Nine publications, in turn, focused on research carried out in specific countries, inclusing Romania (Stanciu, Rindasu, 2017; Moore, Felo, 2022; Iordana et al., 2022; Guşe, Mangiuc, 2022), the United States (Ng, 2023), China (Xuxin, 2022), Malaysia (Taib et al., 2023; Awang et al., 2023) as well as Brazil and Portugal (Bastos et al., 2022). Contemporary accounting skills were covered by nine articles. The conclusion drawn was that a demand for technological competencies has arisen within the accounting profession. Accountants should be proficient in the use of spreadsheets and accounting software, including cloud accounting. Noted has also been the fact that ICT competencies are required of accounting and related studies graduates. Research was also undertaken to determine the level of digital competence among postgraduate accounting students at the University of Malaysia, finding, inter alia, a strong positive correlation between information literacy, ICT literacy as well as digital literacy, and digitalization. The last research thread identified indicated that RPA can also be utilized in the process of student exam performance analysis.

The literature review revealed a research gap in empirical investigations assessing last-year accounting students' knowledge and awareness of the changing role of accountants in the wake of digitalization. The authors of the present article aim to partially fill this gap.

3. Empirical research methodology

The literature review carried out, the analysis of the legal acts in force in Poland, and the empirical survey conducted (on February 9, 2023) with the owner of an accounting office by means of a semi-structured interview indicated ample research opportunities within the area of digitalization in accounting (Kotowska, Sikorska, 2023a). The owner of the respondent office additionally emphasized during the survey that accountants need to be IT literate and familiar with technological innovations. A study consulted by ACCA (2020) also confirms the above – 89% of the respondents indicated that digital skills are of considerable or utmost significance in the accounting profession, and 68% of the surveyees utilize these skills continuously in their work. This prompted the authors of the present article to plan a study of previously unaddressed areas. The research has been planned to be implemented in three stages, divided into ten phases (Table 2).

Table 2.
Planned empirical studies

Research stage/studies	Task	Study sample	Method
STAGE 1			
1) Preliminary study	Presentation of voluntary digitalization tools, including the associated benefits and barriers	Case study	Semi-structured interview
2) Literature review - preliminary	Scopus, Web of Science	-	Literature analysis
3) Legal regulations	Digitalization obligation under the law	-	Analysis of the law in Poland
STAGE 2			
4) Questionnaire 1	Change in the role of accountatnts due to digitalization	Accounting firm owners	Questionnaire - MsForms
5) Questionnaire 2	Change in the role of accountatnts due to digitalization	Accounting firm employees	Questionnaire - MsForms
6) Result analysis	Study summary and conclusions	-	Synthesis, deduction
STAGE 3			
7) Literature review	**Scopus, Web of Science**	**Literature review has been supplemented with positions published in 2023**	**Literature analysis**
8) Questionnaire 3	**Survey of last-year accounting graduate students' knowledge and awareness of the changing role of accountants in connection with digitalization**	**Students – Poland, Romania – pilot study**	**Questionnaire MsForms**
9) Questionnaire 4	Survey of last-year graduate and undergraduate accounting students' knowledge and awareness of the changing role of accountants in connection with digitalization	Students – Poland - main study	Questionnaire - MsForms
10) Result analysis	Study summary and conclusions	-	Synthesis, deduction

Source: own elaboration.

The first and second stages of the research have been completed. The results are presented in B. Kotowska i M. Sikorska (2023a, 2023b).

The present article highlights the findings of the pilot survey conducted as part of the third stage via a questionnaire tailored for last-year students of accounting. This survey was conducted among the students of the Faculty of Management at the University of Gdansk in Poland and the students of the Faculty of Economic Sciences and Business Administration at Transilvania University of Brasov in Romania.

4. Results of the empirical research

In the summer semester of the 2023/2024 academic year, a pilot survey was conducted among last-year full-time and part-time students of accounting at the University of Gdansk

(Faculty of Management) and the Transilvania University of Brasov (Faculty of Economic Sciences and Business Administration). A total of 63 students participated in the study, in disstribution into three research groups:

- full-time students of the Faculty of Management at the University of Gdansk (24 respondents),
- part-time students of the Faculty of Management at the University of Gdansk (28 respondents),
- full-time students of the Faculty of Economic Sciences and Business Administration at the Transilvania University of Brasov (11 respondents).

The underying purpose of the survey was to assess last-year accounting students' knowledge and awareness of the changing role of accountants under the impact of digitalization. The questionnaire was divided into two parts, intended to provide answers to the following questions:

1. Are the students aware of the changing role of an accountant?
2. Do the students possess digital skills and are they aware of the demand for such skills within the realm of accounting?

Part one opened with four questions through which the students were to provide their responses to the following inquiries:

- Does digitalization change the role of an accountant?
- Is the accounting profession changing as a result of digitalization, in your opinion?
- Do you find it is possible that digitalization will in the future lead to a scenario in which individuals employed as accountants will not be required to hold specialist degrees?
- In your opinion, can RPA or AI technology replace the professional judgment of an accountant?

After aggregating the responses provided by all students, the results were compiled into the following four charts. The first (Figure 1) shows the students' opinions regarding the impact of digitalization on the change in the role of an accountant. The answers to the question were fairly unequivocal. Among the 63 respondents, the vast majority rather agree (20 students) or strongly agree (31 students) that digitization has been changing the role of an accountant. Only nine respondents have no opinion in this regard, and three rather disagree with the statement.

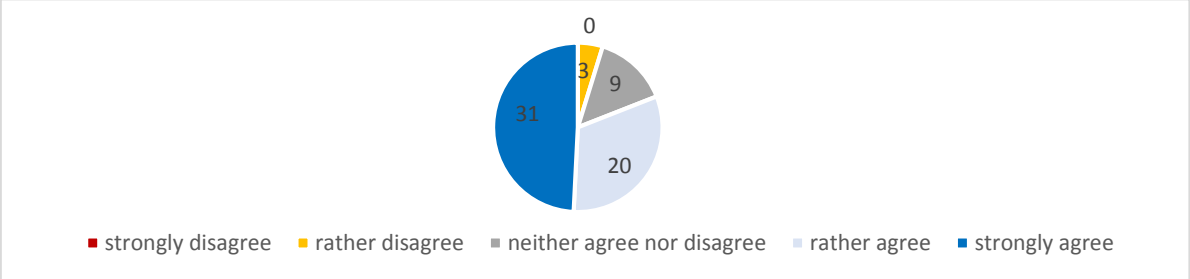


Figure 1. Does digitalization change the role of an accountant?

Source: own elaboration.

Figure 2 shows the students' responses regarding the change in the accounting profession under the impact of digitalization. The responses indicated clearly that the vast majority rather agree (32 students) or strongly agree (25 students) that the accounting profession has been changing as a result of digitalization. Only four respondents have no opinion in this respect, and two rather disagree with the statement.

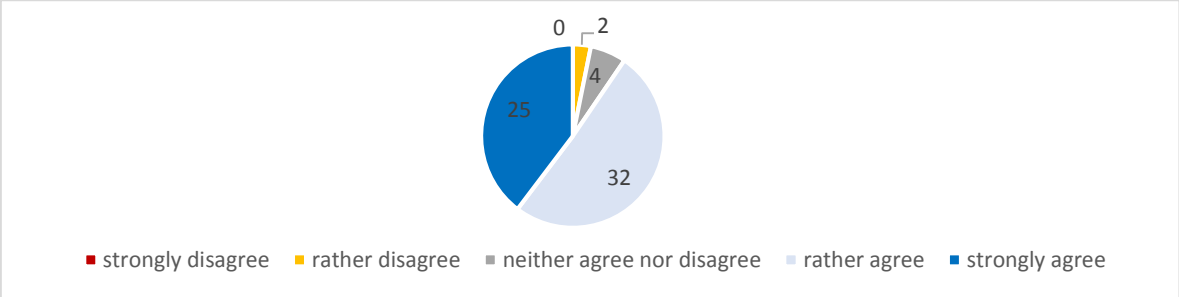


Figure 2. Is the accounting profession changing as a result of digitalization, in your opinion?

Source: own elaboration.

The responses to the question concerning the respondents' views on whether a scenario in which individuals employed as accountants will not be required to hold specialist degrees is possible in the future are illustrated in Figure 3. In this case, the responses were more heterogeneous, compared to the two prior addressed aspects. The majority of the respondents rather disagree (22) or strongly disagree (12) that area-specific education will not be required for the position of an accountant, in the wake of digitalization. Ten respondents expressed no opinion in this regard. Supporting opinions emerged among the respondents, however, that progressive digitalization will lead to a scenario in which accountants will not be in need of specialized knowledge – 15 students rather agree, and four strongly agree with the statement.

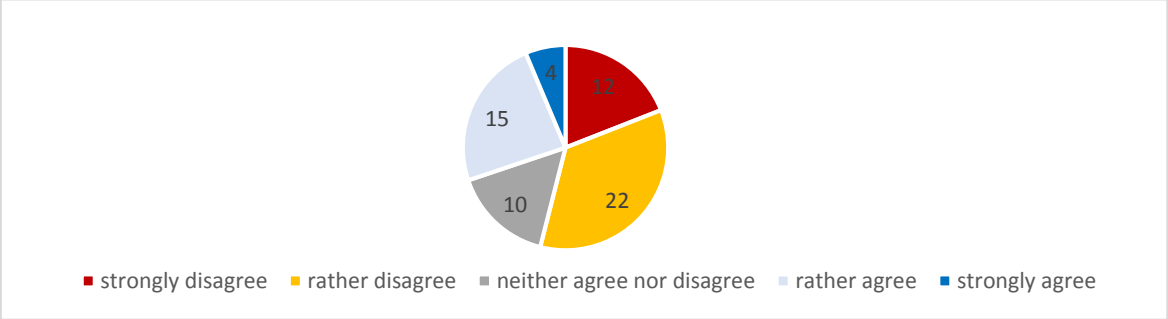


Figure 3. Do you find it possible that digitalization will in the future lead to a scenario in which individuals employed as accountants will not be required to hold specialist degrees?

Source: own elaboration.

The vast majority of the surveyed rather disagree (34 students) or strongly disagree (13 students) that accountants' professional judgment could be replaced by RPA or AI (Figure 4). Only six respondents rather or strongly agree with the statement. Ten respondents expressed no opinion in this respect.

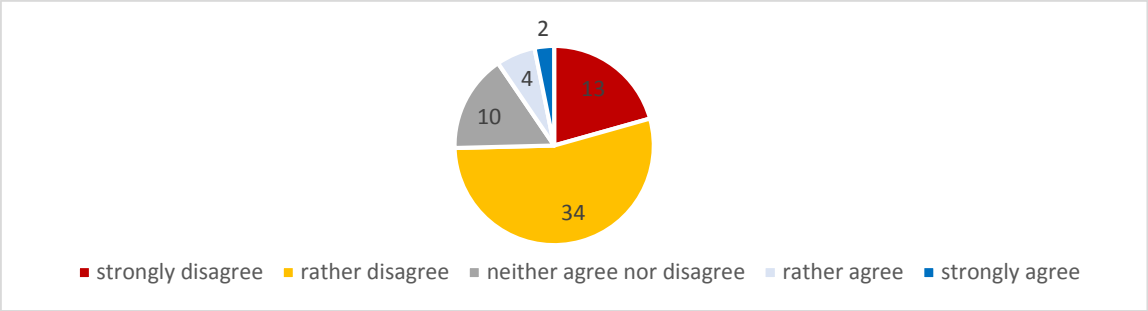


Figure 4. In your opinion, can RPA or AI technology replace the professional judgment of an accountant?

Source: own elaboration.

The students were also asked to indicate what role accounting professionals will assume, in the aftermath of digitalization. The respondents were free to select several answers out of the suggestions provided and/or indicate their own. The results are illustrated in Figure 5.

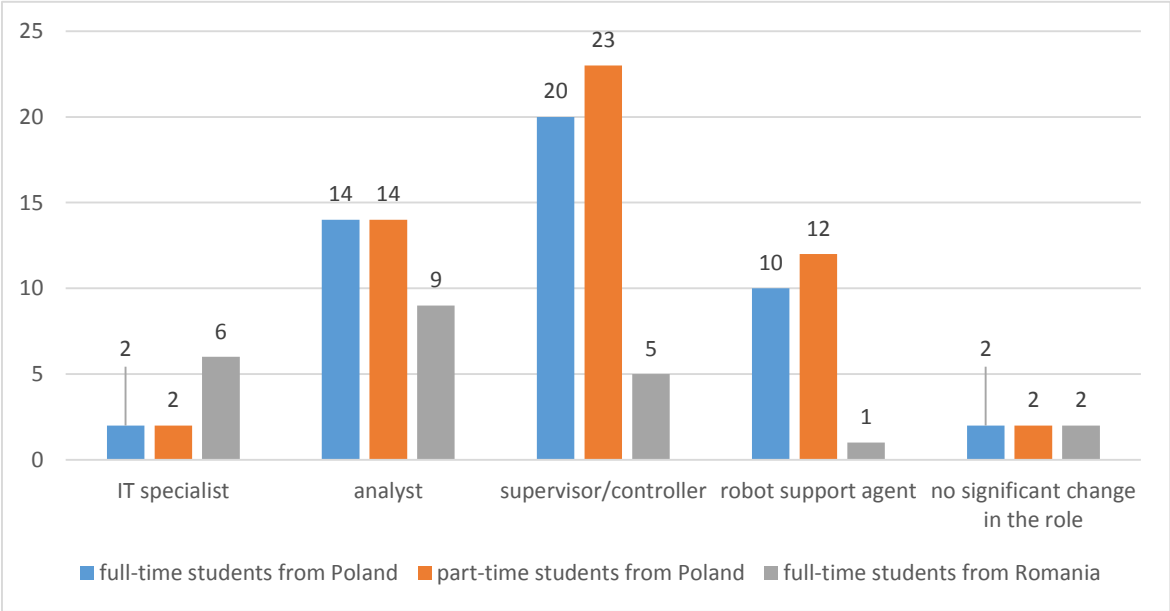
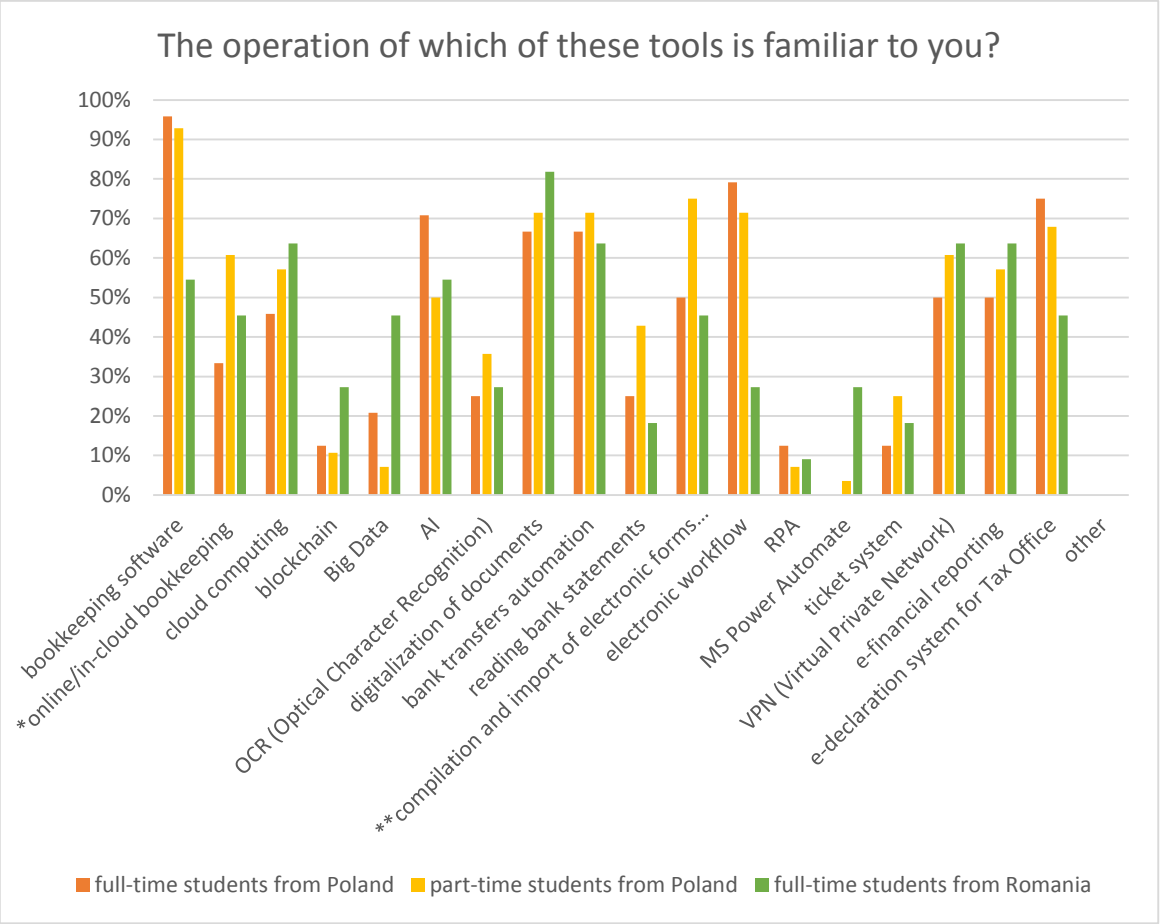


Figure 5. Digitalization-effectuated role of accountants.

Source: own elaboration.

The results were very similar across the three groups of respondents. The role of a supervisor/controller received the most indications in both respondent groups from Poland. Next most indicated was an analyst and a robot support specialist. The respondents' individual suggestions included an accounting IT systems implementer, a specialist verifying and approving the tasks performed by robots/artificial intelligence, and the role of a customer service consultant.

The students were also inquired on their knowledge of digitization tools. The responses are illustrated in Figure 6.



* online/in-cloud bookkeeping software.
**compilation and import of electronic forms corresponding to the logical structure of the Standard Audit File for Taxes (SAF-T).

Figure 6. The operation of which of these tools are you familiar with?

Source: own elaboration.

The results showed that the majority of the respondents in all three groups are familiar with the functioning of accounting software. They are also knowledgeable about document digitization, transfer automation, VPNs or electronic financial statements, and are familiar with how artificial intelligence operates. Tools such as cloud computing or online/in-cloud bookkeeping software are also known to the students, although in a lesser proportion acroos the groups surveyed. Optical Character Recognition (OCR) or bank statement reading software is known to roughly 30% of the respondents. The highest variation among the groups has been observed for electronic document circulation. Respectively, 79% of the Polish full-time students and 71% of the Polish part-time students indicated they are knowledgeable about what electronic document circulation entails, while only 27% of the Romanian students are familiar with the functioning of this facilitative tool. In contrast, more than 25% of the Romanian students indicated they are familiar with the functioning of such tools as blockchain, Big Data, or MS Power Automate, while the results for the Polish students in this regard oscillated below 5% (MS Power Automate), around 10% (blockchain) or varied - 21% of full-time students and only 7% of part-time students are familiar with the functioning of Big Data.

Figure 7 illustrates the respondents' rating of their knowledge of technological innovations in accounting digitalization on a scale of 1 to 5, where 1 represents non-existent knowledge on the subject, and 5 represents a high level of knowledge in this respect.

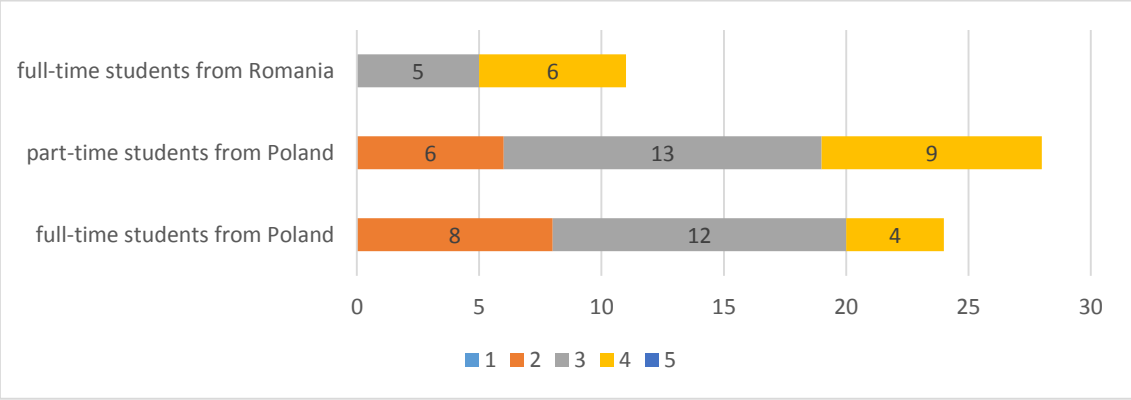


Figure 7. How would you rate your knowledge of technological innovations in accounting digitalization?

Source: own elaboration.

Half of the Polish full-time students rated their level of competence in this area at '3', eight respondents assigned a rating of '2', and four rated their level of knowledge at '4'. The part-time students from Poland rated their level of competence slightly higher – thirteen rated their knowledge at '3', while as many as nine respondents assessed their skills at level '4' on the survey scale. The Romanian respondents rated their knowledge at '3' (five students) or '4' (six students), thereby expressing a relatively sound knowledge of technological innovations in digitalization.

The surveyees were also inquired on the source of their knowledge of technological tools/novelties (Figure 8).

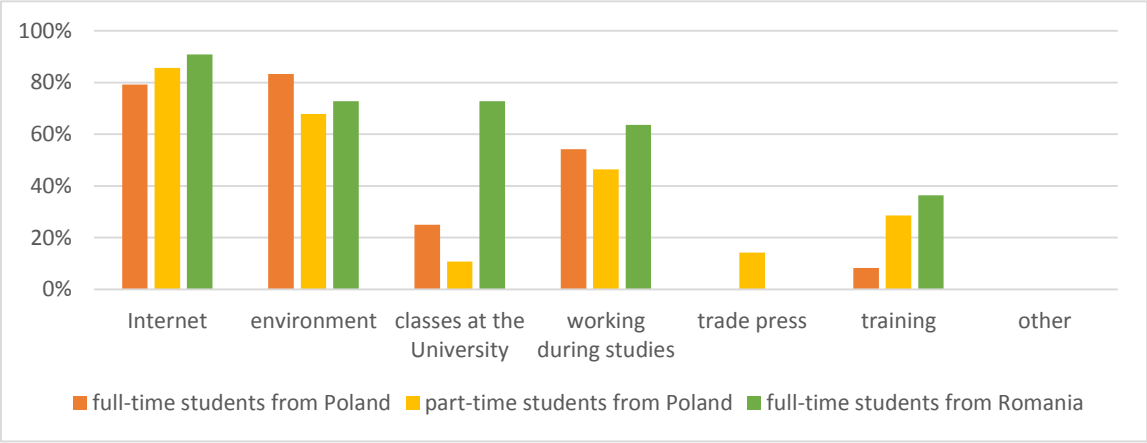


Figure 8. Where do you draw your knowledge of technological tools/innovations from?

Source: own elaboration.

Among the answer options specified, the Internet and the environment were selected most commonly. These sources were indicated by more than 60% of the respondents in all groups. Work during studies was indicated by approximately 50% of the students in all groups of

surveyees. University classes as a source of knowledge on technological innovations were indicated by as many as 73% of the Romanian students, with 25% and 11% of the Polish full-time and part-time students, respectively. Training courses were likewise indicated as a source of information on technological novelties, although by a much higher percentage of the part-time or Romanian students, compared to the Polish full-time students. Only a small percentage of the Polish part-time students, in turn, derive their knowledge from professional press.

Figure 9 illustrates the responses to the question regarding whether the students surveyed prefer digitalization solutions over traditional ones.

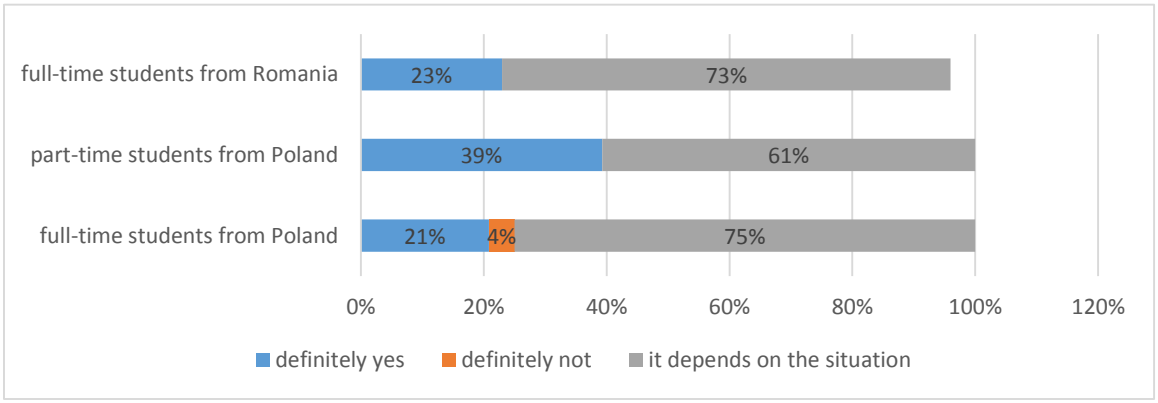


Figure 9. Do you prefer digital over traditional/manual solutions?

Source: own elaboration.

Across all surveyed groups, the vast majority of the respondents expressed the opinion that their preference is contingent on a given situation. Strongly in favor of digitalization were 21% of the Polish full-time students, 39% of the Polish part-time students and 23% of the Romanian students. Among the former, one person opted for a preference for traditional solutions. When inquired whether they were willing to employ technological innovations, the majority of the respondents opined that it varies depending on the situation (Figure 10).

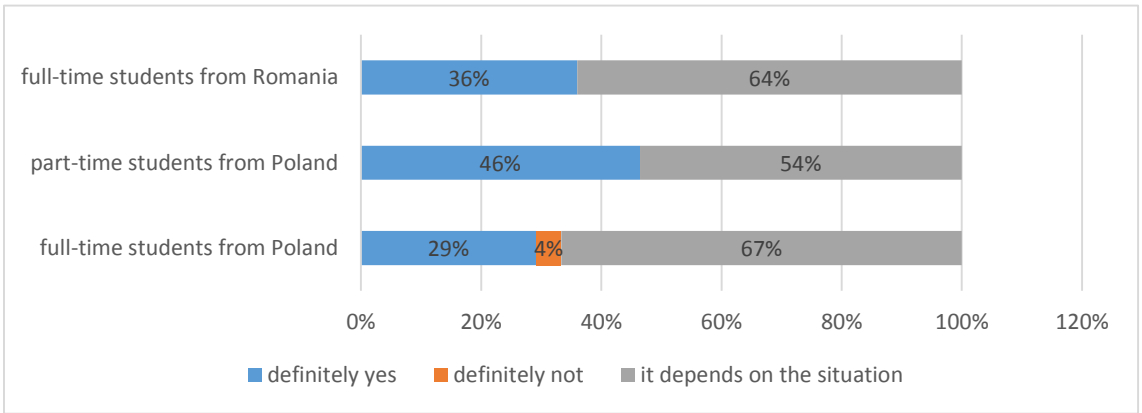


Figure 10. Are you keen on using technological innovations?

Source: own elaboration.

The answer ‘definitely yes’ was selected by 29% of the full-time students, 46% of the part-time students and 36% of the Romanian students. One Polish full-time student expressed strong reluctance to using technological innovations.

The results for the question regarding whether the respondents discern the need for digital skills and/or familiarity with digitalization tools in the accounting profession leave no room for doubt. Significant preponderance of responses ‘rather agree’ or ‘strongly agree’ that such a need exists has been found. The results are illustrated in Figure 11.

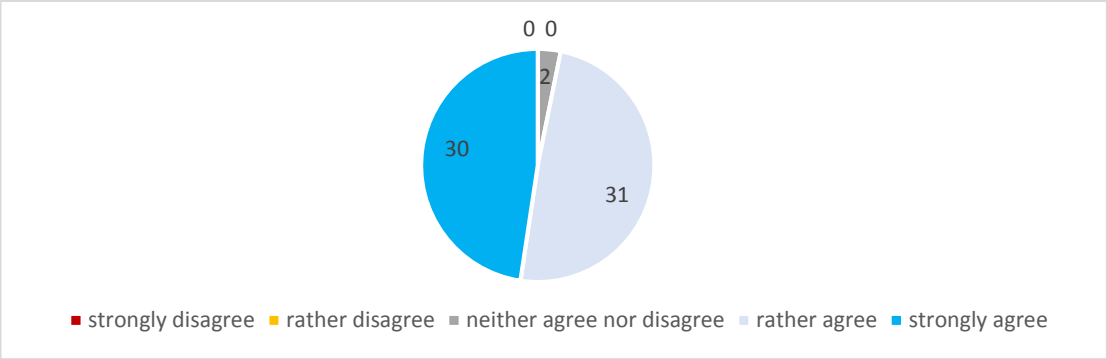


Figure 11. Do you discern the need for digital skills/knowledge of digitalization tools in the accounting profession?

Source: own elaboration.

Likewise, almost unanimously assessed was the need for new technology-based digital competencies arising due to digitalization. The vast majority do discern such a need, as illustrated in Figure 12.

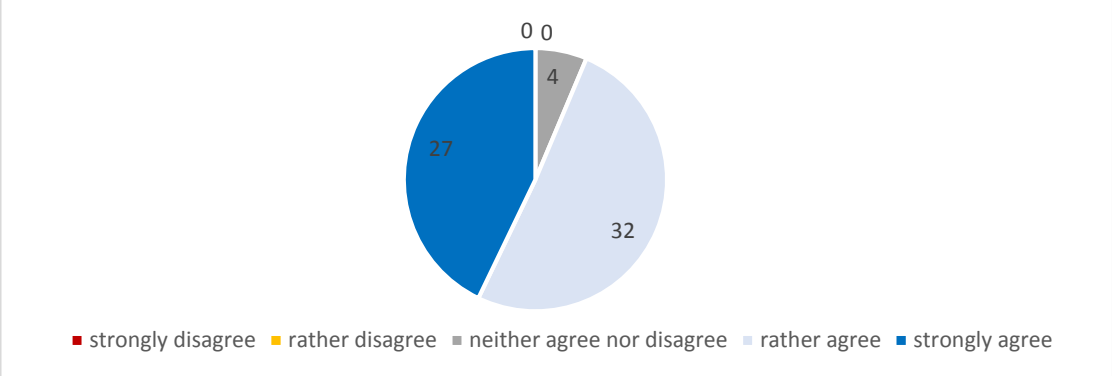


Figure 12. Are accountans in need of acquiring new technological competencies due to digitalization, in your opinion?

Source: own elaboration.

Figure 13 aggregates and illustrates the respondents' answers regarding the benefits of digitalization.

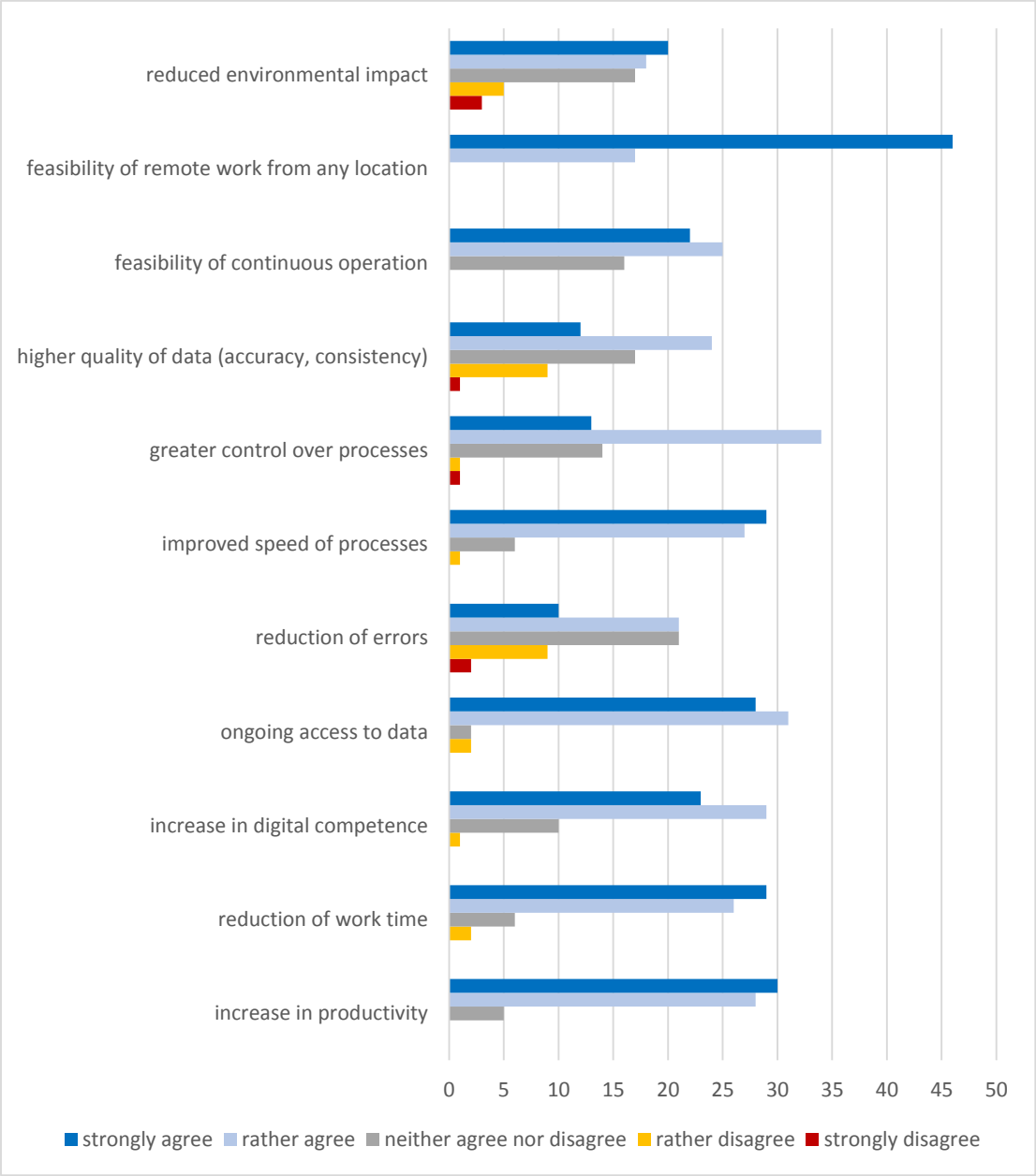


Figure 13. Benefits of digitalization.

Source: own elaboration.

Highest rated were such benefits as the ability to work remotely from any location - as many as 46 respondents strongly acknowledge and 17 respondents rather agree with the existence of this benefit. Also highly rated were increased productivity, greater speed of processes, continuous access to data or reduced working time. Slightly fewer respondents, though still in an overwhelming majority, perceive a benefit in the possibility of continuous work, improved digital competencies or greater control over processes. The benefit of reduced errors was rated the lowest, with only 31 respondents rather agreeing or strongly agreeing that such a benefit does arise as a result of digitalization.

Figure 14 illustrates the responses regarding the identification of barriers likely to hinder the implementation of digitalization.

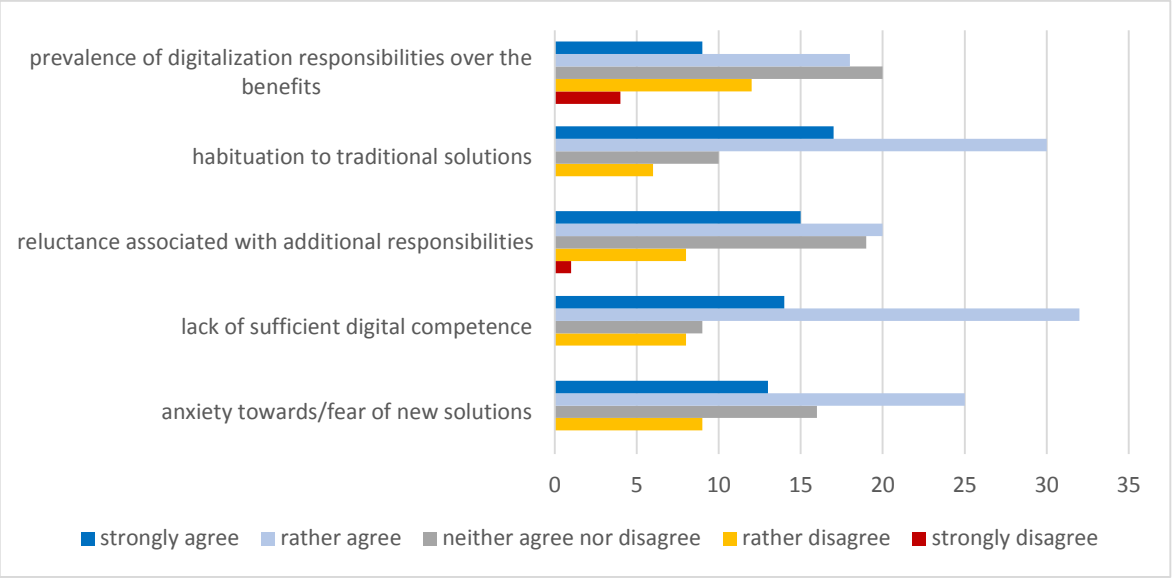


Figure 14. Barriers to digitalization.

Source: own elaboration.

The greatest barriers identified were the lack of sufficient digital skills and habituation to traditional solutions. Over 50% of the respondents rather or strongly agree with the barriers of fear of new solutions and aversion to new responsibilities. Prevalence of digitalization-related responsibilities over the benefits appears to be the least significant barrier, with less than half of the respondents rather or strongly agreeing with the statement. Identification and a solid understanding of the barriers can prove contributive to the overcoming thereof.

Summing up, the pilot study conducted leads to the following several conclusions:

1. The students are aware of the transformation in the role of an accountant and the change in the functioning of the profession itself under the influence of digitalization.
2. The majority of the students find it impossible that in the future, due to digitalization, a person employed as an accountant will not be required to hold a professional degree. The results also indicate that, according to the respondents, RPA and AI will not replace the professional judgment of accountants.
3. Among the new roles of an accountant arising from digitalization, the role of a supervisor/controller received the most indications in all respondent groups. Next indicated were an analyst and a robot support specialist.
4. The results of the survey showed that the majority of the respondents across all three groups are familiar with the functioning of accounting software. They are also knowledgeable of what document digitization, wire transfer automation, VPN or electronic financial statements entail. Likewise, they are familiar with how artificial intelligence (AI) operates.
5. Noticeable is the different level of knowledge among the groups in terms of familiarity with certain digitalization tools.

6. The students most frequently rated their level of competence at ‘3’ on a five-point scale. Some of the surveyees consider their skills to rank at the level of a ‘4’. None of the respondents rated their skills at the lowest (1) and highest levels (5), which reflects a similar assessment of self-reported level of knowledge among the respondents.
7. The Internet and the environment were most often indicated as sources of knowledge on technological innovations. Approximately 50% of the students in all surveyed groups also selected work experience during their studies as the source of such knowledge.
8. The choice of digitalization solutions over traditional ones, as well as the willingness to employ digitalization solutions, have been indicated as contingent on a given situation by the majority of the respondents.
9. The students clearly discern the need for digital skills and/or knowledge of digitalization tools in the accounting profession. They also recognize the need to acquire new competencies in these areas.
10. The surveyees do acknowledge the many benefits of digitalization, simultaneously identifying the associated barriers.

5. Conclusions

According to Brendan Sheehan (ACCA…, 2020), possession of digital skills is even presently essential in the accounting profession, and will continue to be of utmost significance in the future. It is therefore imperative to devote time to the understanding of the digitalization environment. Particularly relevant this aspect becomes in the context of educating future accounting adepts - they must be ready for the challenges ahead.

The literature review carried out allowed the ordering of the positions within the field of accounting profession digitalization with respect to academic education. The publications were divided into six research areas: digital technology tools in academic education, changes in academic education, modern forms of teaching, analysis of syllabuses and curricula, accountant skills in the modern world, RPA in education. The literature review carried out revealed a research gap of scant empirical research into the accounting students' knowledge and awareness of the changing role of accountants under the impact of digitalization. The only researches that addressed digitalization in the accounting profession from an academic perspective were those conducted by Taib et al., 2023 and Awang et al., 2023. In a group of 440 students of postgraduate accounting studies at the University of Malaysia, the level of digital competence and its impact on the digitalization of the accounting profession were examined. The results indicated a strong positive correlation between information literacy, ICT literacy as well as digital literacy, and digitalization (Taib et al., 2023). A similar study on digital literacy, also among Malaysian postgraduate students, indicates that mean scores for

information literacy, media literacy, information and communication technology literacy and digital literacy are high (Awang et al., 2023). It should be emphasized, however, that these studies do not allow for comparisons to be made with the results obtained by the authors, both due to the subject matter, country and type of studies. This indicates the originality of the research conducted by the authors and the research gap in this area. Partial contribution to filling this gap arose as the main objective of the present article.

The pilot survey was conducted among final-semester graduate students in Poland and Romania, assessing their knowledge and awareness of the changing role of accountants due to digitalization. The empirical survey employed the method of selection by convenience, therefore the results obtained cannot be generalized onto the entire population.

The survey found that students are aware of the change in the functioning of the accounting profession and the changing role of accountants, most commonly indicating a new role of a supervisor/controller. Most of the respondents are familiar with the operation of accounting software, and are not strangers to document digitization, transfer automation or electronic financial statements. The level of familiarity with such tools as blockchain, Big Data, and MS Power Automate was more varied. Most frequently, the students rated their technological competencies at the level of '3' on a five-point scale. They do agree, however, that the need for digital skills in the accounting profession is evident. The results of the survey, therefore, provided answers to the research questions posed.

In the future, further in-depth research is planned, involving a larger group of students, not only in their last semester of a master's degree in accounting, but also undergraduate students, as they too are becoming increasingly active in the profession after completing their undergraduate education. The authors are also considering to invite other economic universities in Poland and Romania to participate in the research, which would allow a cross-country comparison of accounting students' knowledge and awareness of the undoubtedly changing role of accountants in the modern economy. It would also be worth examining whether the current field of study program meets the needs of the market.

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