THE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE ACCOUNTING SUBJECT CURRICULUM

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Abstract

This article looks at how artificial intelligence affects the teaching of accounting in secondary schools. The article is divided into three parts. The first part of the article is devoted to literature research on the topic of the implementation of artificial intelligence in the curriculum within the subject of accounting. In the second part of the article, the methodology for the implementation of the author's own research is described. The third part of this article deals with the research itself, whether artificial intelligence is implemented in the curriculum of secondary schools, within the subject of accounting. The pupils are already preparing for their future profession in schools, which has already moved forward thanks to the implementation of artificial intelligence. 43 respondents participated in the research that was conducted in two secondary schools where the subject of Accounting is taught.

Keywords

Artificial intelligence; Curriculum; Accounting subject; Students; High school.

Introduction

Artificial intelligence is one of the most important technologies of the future, in which machines imitate human actions [1]. Artificial intelligence is experiencing greater utilisation in many professions, and it is, therefore, necessary to change the curriculum for education in these professions due to this fact.

After entering the 21st century, economic globalization is unstoppable. The traditional accounting teaching system is in conflict with the current market demand [2]. It is, therefore, necessary to re-evaluate the way in which we prepare students for the accounting profession as part of teaching.

It is clear that artificial intelligence is becoming an essential part of the accounting profession, so it is crucial that students are introduced to it early in their education.

The development and use of artificial intelligence technologies continues to expand in accounting practice, industry, and government, however, the introduction of artificial intelligence to students within the subject of accounting lags behind [3]. Curriculum updates and the incorporation of artificial intelligence into teaching are essential to equip future accountants with the necessary skills and knowledge in the profession.

In the accounting profession, artificial intelligence can significantly improve the efficiency and accuracy of accounting tasks. This allows accountants to complete tasks faster and more

accurately, leading to increased productivity and cost savings for companies. Thus, it is necessary for students to become familiar with the tool of artificial intelligence already in school classes and to be prepared for the use of this tool in the profession [4].

It is clear that artificial intelligence is a key element of the future, and educational institutions should be prepared to provide students with the skills and knowledge needed to work effectively with this technology. Thanks to this, graduates will be better prepared for work in the accounting profession.

1   Literary Research

Artificial intelligence is the ability of machines to imitate human abilities, which include reasoning, learning, planning or creativity [6]. Artificial intelligence is one of the most current topics discussed in connection with the EU Digital Single Market. Artificial intelligence is a part of people's everyday life. It offers many opportunities that affect, for example, the labor market, the education system, or the structure of industry and investment [7]. Artificial intelligence mostly takes the form of a computer program and is designed to solve tasks that previously required human intellect [8].

In accounting practice, for example, it is possible to use artificial intelligence to monitor accounting books and eliminate errors in records [9]. Artificial intelligence can also be used in auditing, financial and managerial accounting, taxation, and state administration. Therefore, it would be good to include the subject of artificial intelligence within the curriculum so that students get to know about artificial intelligence before they encounter it in practice [3].

Accounting education in schools must be updated to equip graduates with the skills and knowledge of artificial intelligence that is impacting the accounting profession. This may include implementing artificial intelligence courses in the accounting curriculum, emphasizing data analysis and critical thinking, and promoting interdisciplinary education that bridges the gap between accounting and technology [4].

It is possible to use virtual reality to build a practical platform within managerial accounting. This allows students to virtually simulate real accounting [2].

A study was conducted to present accounting professionals' perspectives on the impact of AI adoption and associated risks on the accounting profession. The survey data suggest that participants have a positive perception of artificial intelligence due to the fact that it reduces repetitive tasks and the risk of human error. Participants also believe that the development of artificial intelligence will change the teaching of Accounting in schools to include specialized computer skills. Public accountants in companies claim that it is essential that students for accounting positions come with changes in the profession [5].

2   Methodologies

A form of quantitative research was conducted to obtain the necessary data as part of the research implementation. A questionnaire survey was used as a data collection technique. The survey was conducted in the form of a questionnaire through the Survio program. The questionnaire was sent to respondents by e-mail. The data from the questionnaire survey was initially analyzed and then graphically processed and interpreted.

The questionnaire was designed to answer the following research questions (RQ):

RQ1: *Do students in the selected secondary schools learn about artificial intelligence, automation of accounting processes, digitalization, or robotization within the Accounting subject?*

RQ2: *Are students in the selected secondary schools interested in the future development of Accounting with regard to evolving automation, robotics, and artificial intelligence?*

RQ3: *Are students in the selected secondary schools concerned about the implementation of robots in the accounting profession?*

RQ4: *Do students in the selected secondary schools think that artificial intelligence can replace the human work of accountants?*

3   Own Research

As part of the research, 43 respondents, students of two secondary schools where the Accounting subject is taught, were approached. The research was carried out within the Hradec Králové and Liberec regions. Students took part in the survey.

Based on the findings presented in Figure 1, it can be concluded that none of the respondents were taught about artificial intelligence, automation of accounting processes, digitisation, or robotization as a part of their Accounting subject in school. This is a concerning outcome that highlights a significant gap in the current curriculum. It clearly suggests the need for improvements in the curriculum to keep pace with the technological advancements in the field of accounting.
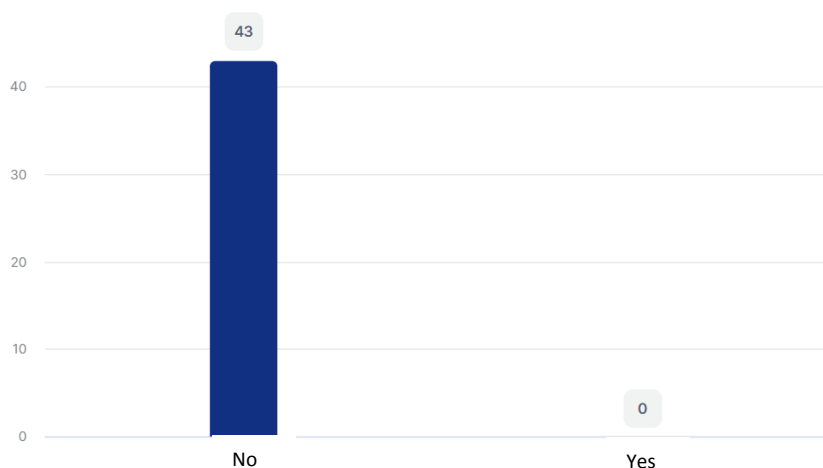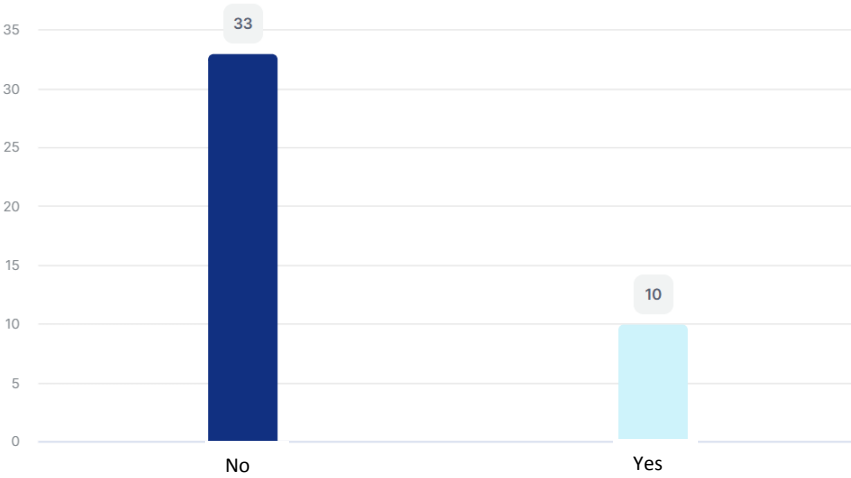

Source: Own

Fig. 1:   *Teaching the automation of accounting processes, digitization or robotization in the subject of Accounting*

From Figure 1, it follows that all respondents answered that they do not learn about artificial intelligence, automation of accounting processes, digitisation, or robotization at school as part of the Accounting subject.

As can be seen from Figure 2, out of 43 respondents, 33 students showed no interest in the future development of accounting with regard to developing automation, robotization and artificial intelligence. Only 10 respondents expressed their interest in future developments in accounting. The lack of interest among most students is remarkable and raises questions about the factors contributing to this disinterest. One of the factors may be ignorance. If students were introduced to the topic of artificial intelligence, automation and robotization in their classes, they would be more likely to take an interest in the future development of accounting. This would also enable them to understand the importance of these technologies in their future profession better. Another possible factor could be a lack of interest in the topic itself.

It is possible that the students who participated in the survey may want to pursue a profession other than accounting and therefore are not interested in this topic.

Source: Own
**Fig. 2:** *Students' interest in the future development of Accounting*

As depicted in Figure 3, out of the 43 students surveyed, 15 respondents expressed their worries about the potential impact of robots on their future accounting profession. This finding may signify a lack of understanding of how artificial intelligence could enhance their jobs as accountants. Discussing the benefits of working with artificial intelligence could help allay such fears and create a more optimistic outlook. By doing so, accountants can learn how to optimize their work with AI to improve efficiency and improve efficiency and productivity.
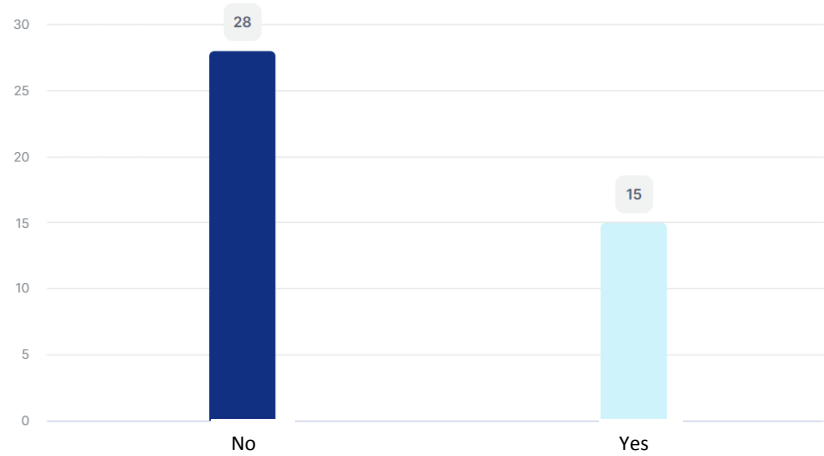
Source: Own
Fig. 3: *Students' concern about the implementation of robots in the accounting profession*

The results of the survey in Figure 4 indicate that 36 of the students surveyed believed that artificial intelligence could partially replace human accountants, mainly by assisting in routine tasks. Meanwhile, six students answered that AI could fully replace human accountants, and only one respondent said that AI could not replace human accountants at all.
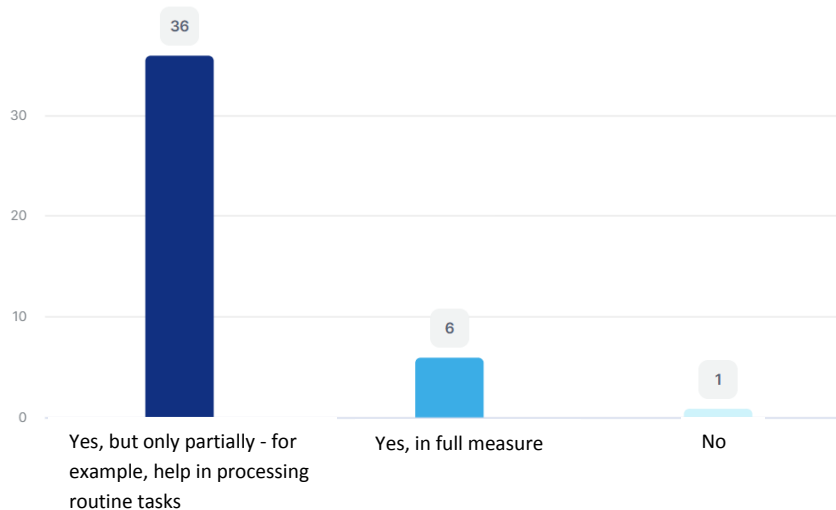
Source: Own

Fig. 4: *Substitutability of the human work of accountants with artificial intelligence*

Conclusion

The research questions were answered as part of the conducted research. It was found out that students in the selected secondary schools do not learn about artificial intelligence, automation of accounting processes, digitization or robotization within the Accounting subject. Furthermore, it was found out that 33 surveyed students were not interested in future developments in accounting, with regard to developing automation, robotization, and artificial intelligence in the accounting profession. On the contrary, 10 surveyed students showed interest in the development of accounting. As part of the third research question, it was found out that 15 surveyed students were concerned about the implementation of robots in the accounting profession. The remaining 28 students are not worried about this implementation. Through the implementation of the research, it was further discovered that 36 surveyed students think that artificial intelligence can replace the work of accountants, but only partially. This means, for example, the processing of routine tasks. Accountants will thus be able to focus on more important tasks and be more productive. 6 of the surveyed students further answered that artificial intelligence can fully replace human work in accounting, and only one student answered that artificial intelligence cannot replace the work of accountants.

The study shows that neither of the chosen schools includes teaching artificial intelligence in their Accounting subject. It is possible that students' lack of interest in future accounting developments is due to this. If schools introduced topics on artificial intelligence, automation, and digitization in Accounting, students could learn how these technologies can help them in their future accounting careers. The findings suggest a significant need to revise the Accounting curriculum and integrate AI-related topics. This will help bridge the gap between current education and the evolving demands of the accounting profession. In conclusion, the current education in Accounting at secondary schools lacks integration of AI-related topics, which could result in students graduating without the key knowledge required for future accounting job challenges.

I recommend organizing professional training for teachers in secondary schools, which would familiarize them with modern technologies in the field of accounting. This would enhance their ability to incorporate these topics into their teaching activities. To make the training more practical, it would be beneficial to connect theoretical teaching with real-life examples

of AI usage in accounting. This would provide students with a better understanding of how these technologies are implemented in practice.

The research was conducted only in the Hradec Králové and Liberec regions, which limits the generality of the results. I recommend expanding the geographical scope of the research to other regions to obtain more comprehensive and representative research results. Also, the research focused only on students and did not include the perspective of teachers, who have a key role in educating future accountants. Future research should incorporate teachers' opinions and observations to enable a more comprehensive assessment of the state of teaching and more beneficial suggestions for changes in educational programs.

The research focused on students' awareness of AI in teaching rather than its practical use in accounting. Future research could be aimed at assessing the actual implementation of AI in the work environment of accountants. This analysis would provide a deeper understanding of how AI technology is being utilized in professional practice. An evaluation of the specific tools and techniques used in practice would offer valuable knowledge for designing the teaching curriculums in secondary schools for the subject of Accounting.

Acknowledgements

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DOPAD UMĚLÉ INTELIGENCE DO UČEBNÍCH OSNOV PŘEDMĚTU ÚČETNICTVÍ

Tento článek se zabývá tím, jak umělá inteligence ovlivňuje výuku předmětu Účetnictví na středních školách. Článek je rozdělen do tří částí. První část článku se věnuje literární rešerši k tématu implementace umělé inteligence do učebních osnov. V druhé části článku je popsána Metodologie pro realizaci vlastního výzkumu. Třetí část tohoto článku se zabývá vlastním výzkumem, zda je umělá inteligence implementována do učebních osnov na středních školách v rámci předmětu Účetnictví. Žáci se tak připravují již ve školách na svou budoucí profesi, která se již díky implementaci umělé inteligence posunula dopředu. Výzkum byl proveden na dvou středních školách, kde se vyučuje předmět Účetnictví a zúčastnilo se ho 43 respondentů.

DER EINFLUSS KÜNSTLICHER INTELLIGENZ AUF DEN LEHRPLAN DES FACHS RECHNUNGSWESEN

In diesem Artikel wird untersucht, wie sich künstliche Intelligenz auf den Buchhaltungsunterricht an weiterführenden Schulen auswirkt. Der Artikel ist in drei Teile gegliedert. Der erste Teil des Artikels widmet sich der Literaturrecherche zum Thema Implementierung künstlicher Intelligenz im Lehrplan im Fach Rechnungswesen. Im zweiten Teil des Artikels wird die Methodik zur Umsetzung eigener Forschung beschrieben. Der dritte Teil dieses Artikels befasst sich mit der Forschung selbst, ob künstliche Intelligenz im Lehrplan weiterführender Schulen im Fach Rechnungswesen implementiert ist. Die Schüler bereiten sich bereits in den Schulen auf ihren zukünftigen Beruf vor, der dank der Implementierung künstlicher Intelligenz bereits vorangekommen ist. Die Untersuchung wurde an zwei weiterführenden Schulen durchgeführt, an denen das Fach Rechnungswesen unterrichtet wird, und 43 Befragte nahmen daran teil.

WPŁYW SZTUCZNEJ INTELIGENCJI NA PROGRAM NAUCZANIA PRZEDMIOTU RACHUNKOWOŚĆ

W artykule omówiono wpływ sztucznej inteligencji na nauczanie rachunkowości w szkołach średnich. Artykuł podzielony jest na trzy części. Pierwsza część artykułu poświęcona jest na analizę stanu badań w zakresie wdrażania sztucznej inteligencji w programie nauczania przedmiotu Rachunkowość. W drugiej części artykułu opisano Metodologię realizacji badań własnych. Trzecia część artykułu dotyczy samych badań, czy sztuczna inteligencja jest uwzględniana w programach nauczania szkół średnich, w ramach przedmiotu Rachunkowość. Sami uczniowie już w trakcie edukacji szkolenj przygotowują się do przyszłego zawodu, który bardzo rozwinął się dzięki wdrożeniu sztucznej inteligencji. Badania przeprowadzono w dwóch szkołach ponadgimnazjalnych, w których nauczany jest przedmiot Rachunkowość i wzięło w nich udział 43 respondentów.