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PERSPECTIVES OF USE ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN ACCOUNTING: EUROPEAN INTEGRATION VECTOR OF REGULATION
ПЕРСПЕКТИВИ ВИКОРИСТАННЯ ТЕХНОЛОГІЇ ШТУЧНОГО ІНТЕЛЕКТУ В ОБЛІКУ: ЄВРОІНТЕГРАЦІЙНИЙ ВЕКТОР РЕГУЛЮВАННЯ

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Abstract. *The article discusses the role of artificial intelligence in accounting processes, its problems and risks of application in the accounting industry. Special attention is paid to the issue of artificial intelligence regulation at the international level. The problem of interaction between specialists and artificial intelligence is also raised. The purpose of the article is to systematize information on the impact of artificial intelligence on the accounting profession and accounting processes. The article is based on the hypothesis that artificial intelligence systems will replace accountants in some routine duties. At the same time, these systems will not be able to completely displace accountants from the industry. The results of the study indicate that the efficiency of accounting will be significantly improved with the assistance of artificial intelligence by automating complex tasks, increasing accuracy, systematizing information in real time, speeding up reconciliation procedures, and helping to detect fraud. The findings indicate that accounting processes are being transformed under the influence of artificial intelligence technologies.*

Keywords: *artificial intelligence, regulation, international community, accounting, machine learning, automation of accounting processes.*

Анотація. *У статті розглянуто роль штучного інтелекту та проблеми й ризики застосування у обліку. Окремої уваги приділено питанням регулювання штучного інтелекту на міжнародному рівні, зокрема, у Європейському Союзі, а також порушено проблему взаємодії фахівців зі штучним інтелектом. Мета статті – систематизувати дослідження щодо впливу штучного інтелекту на професію бухгалтера та облікові процеси в умовах імплементації європейських регуляторних норм в українське законодавство. Стаття*

грунтується на гіпотезі, що системи штучного інтелекту замінять бухгалтерів у деяких рутинних обов'язках. Водночас ці системи не зможуть повністю витіснити бухгалтера з галузі. Результати дослідження вказують на те, що ефективність бухгалтерського обліку значно покращиться за сприяння штучного інтелекту через проведення автоматизації складних завдань, підвищення точності, систематизацію інформації в режимі реального часу, прискорення процедур звірки та допомогу у виявленні шахрайства. Отримані висновки свідчать про те, що процеси обліку трансформуються під впливом технологій штучного інтелекту.

Ключові слова: *штучний інтелект, регулювання, міжнародне регулювання, європейська інтеграція, бухгалтерський облік, машинне навчання, автоматизація облікових процесів.*

Introduction. Digital technologies are becoming more and more important in the economy and in the accounting industry. Professionals have been using technology for a long time to improve the provision of accounting information to users. In particular, they have created appropriate tools for electronic document management, developed accounting software, organized the submission of reports to regulatory authorities through digital tools, etc. However, if earlier the use of machines was limited to the role of an auxiliary tool in calculations or infographics, with the advent of artificial intelligence (AI), it became possible to automate accounting processes quite thoroughly, which, according to some publications, could completely replace the profession of an accountant.

Artificial intelligence is gaining strategic importance in the European Union. According to the European Statistical Office, AI is already actively used in business. It is noted that on average, about 8% of enterprises in the European Union used AI tools in their activities as of 2023, with Denmark (15.2%), Finland (15.1%), and Luxembourg (14.4%) among the leaders. The most widespread use of cognitive technologies was for automating routine tasks, text processing, and machine learning *(Eurostat, 2023)*. The information indicates the relevance of analyzing the use of AI in various sectors of the economy, including accounting.

The purpose of this study is to systematize information on the impact of AI on the accounting profession and accounting processes in the context of the implementation of European regulations in Ukrainian legislation. In addition, considerable attention is focused on understanding the challenges and opportunities for the accounting industry provided by AI.

It is hypothesized that AI systems will replace accountants in some routine duties, as these systems can perform certain work faster and more accurately than humans. At the same time, these systems will not be able to completely displace accountants from the industry.

Various research methods were used in the investigation. In particular, the methods of induction and deduction, analysis, and synthesis were used to complex investigation the impact and prospects of AI in the accounting industry. Methods of generalization and systematization are used for a detailed consideration of AI components in order to improve the efficiency of accounting processes. The comparison method was also used to identify the weaknesses of AI and the feasibility of its use in the enterprise.

Literature review. Naturally, the emergence of such a tool has given rise to active discussions on the feasibility and risks of using AI technologies in the accounting industry. A significant number of works have been published by foreign scholars. In particular, Q. Duong, T. Ariel, and A. Blyakhman studied the impact of artificial intelligence on the accounting and financial profession. Y. Peng and S. F. Ahmad examined the role of AI in accounting, financial reporting, auditing, and financial decision-making. Researchers A. Balamurugan, R. Bhattacharya, and others have studied the application of RPA in accounting.

The use of AI in accounting has been studied by domestic scientists S. Korol, O. Romashko *(Korol S., Romashko O., 2024)*, N. Khocha, U. Pelekh, Z. Tenyukh *(Khocha, N. et al., 2023)*., who have highlighted in detail the advantages and disadvantages of using AI elements in management accounting. In addition, scientists A. Kolesnikov and O. Karapetyan *(Kolesnikov, A., Karapetyan, O., 2023)*.

In their works considered not only the application, but also the risks and threats of such use. A.

Shapovalova, O. Kuzmenko, and O. Prokopova considered the growing role of AI in the processes of taxation and reporting of small businesses. O. Pistrakevych considered information on the policy of development of AI systems among foreign countries in her research. H. Vinnikova notes that in the global dimension, the most comprehensive and developed regulatory framework for artificial intelligence is represented in the European Union *(Vinnikova, N., 2022).*

Main results of the research. AI is defined as the ability of computer systems or algorithms to imitate intelligent human behavior, and it is also a term used to describe the scientific field that focuses on the development of intelligent machines that combine computer science and large data sets *(Nwosu, L.I et al, 2022).* In general, the creation and development of AI technologies is focused on reducing enterprise costs, significantly speeding up business processes, and eliminating that called human factor. AI refers to software designed to reproduce the information processing processes inherent in the human mind. AI performs such imitation with the help of various technical means, so to understand the use of such technologies in accounting, it is advisable to consider the elements contained in AI (Fig. 1).

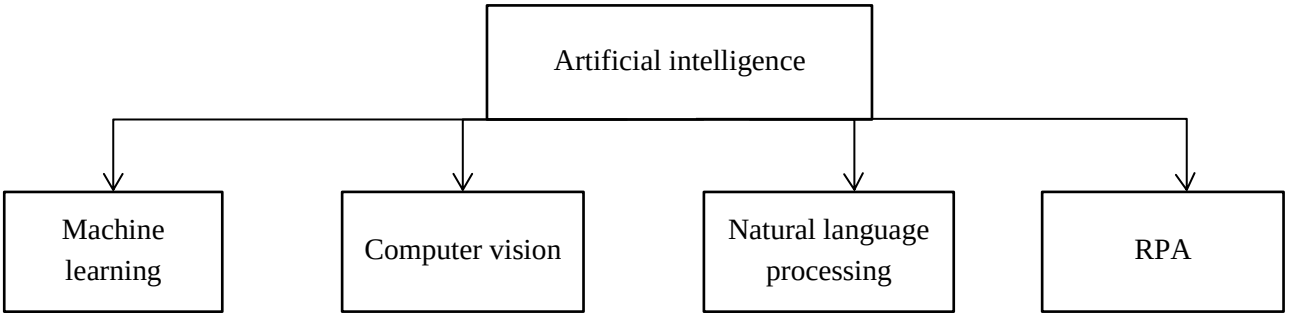

Fig. 1 Elements of AI

Machine learning is a subfield of AI that uses algorithms based on large data sets to create systems that allow performing tasks that were previously only possible for humans, such as data analysis *(3. The online Master of Information and Data Science from UC Berkeley, 2022).* Scientists note that it is advisable to use it to automate accounting processes, as machine learning algorithms are able to scan large amounts of information and find patterns in the financial and analytical system of an enterprise *(Korol S., Romashko O., 2024).* It is expected that the introduction of machine learning will increase the efficiency of business entities due to greater accuracy in forecasting financial indicators and timely identification of risks.

A promising area of AI application in the field of accounting is computer vision, which is defined as the ability to perceive visual data, such as digital character recognition or image detection *(Khocha, N. et al., 2023).* Computer vision allows AI to read textual information, which makes it possible to automate document recognition and processing, such as processing check details, checking the correctness of invoices, calculating taxes, etc. Computer vision can significantly reduce the time required to create various types of documents, as AI is capable of processing large amounts of data. In addition, digital technologies improve reporting by quickly collecting data from different sources and combining them to create consistent financial statements. AI can also improve the accounting of production processes, which is expected to facilitate inventory in warehouses, increase the accuracy of defect detection in the enterprise, and help prevent property theft *(Korol, S., Romashko O., 2024; Kolesnikov, A., Karapetyan, O., 2023).*

One of the areas of use of artificial intelligence technologies in accounting is forecasting future cash flows to determine the present (discounted) value of individual financial statement items. Different approaches can be used for forecasting tasks, namely classification, regression, ranking, and clustering algorithms (*Tracheva T., Davydiuk T., Demchuk O., 2023).*

The ability of AI to process natural languages deserves special attention. The technology has significant potential in the field of accounting, in particular for automating work with counterparties. The prospect of creating an autonomous system that could independently process applications from customers and, based on the information received, generate relevant documents at the stage of

discussing the transaction with the counterparty via telephone or network communication is being considered *(Korol S., Romashko O., 2024; Khocha N. V. et al., 2023)*. This approach can also be used to ease the interaction of management with various departments of the enterprise, for example, when issuing orders, creating letters, negotiating contracts, etc.

Robotic process automation (RPA) is a set of tools that AI uses to automate any repetitive activity, often by automating manual operations performed in excel spreadsheets or other systems *(Balamurugan, A. et al., 2022)*. RPA in accounting is implemented using software bots aimed at automating repetitive accounting tasks. It is noted that RPA is similar to a macro in Microsoft Excel, but, unlike it, it can work in different information systems simultaneously to improve the efficiency and accuracy of the company's accounting processes *(Blaney, B., 2020)*. Another example of the use of AI in accounting is voice assistants, which, in combination with natural language processing and computer vision, allow creating automated callcenters and chatbots to work with clients *(Kolesnikov, A., Karapetyan, O., 2023)*.

In addition to entrepreneurs, governments of different countries are often interested in the development of AI in accounting and the economy in general. A significant number of countries see AI technologies as having strong potential to improve business processes. In 2018, a number of countries published their own national strategies for the development and use of AI, according to which new technologies are seen as a driver of economic growth, where one of the most important aspects for the rational use of AI will be the updating of the legislative base *(Pistrakevych, O., 2021)*. It was under the influence of the growing interest in AI that in 2019 the Organization for Economic Cooperation and Development (OECD) approved the OECD Council Recommendation on Artificial Intelligence, which set the general direction for the use of AI in the global economy. The document defined general principles for the use of AI in various industries. In particular, attention was paid to such points as benefits for people and the planet, inclusive growth, and sustainable development. It is emphasized that AI-based programs must comply with human rights and legislation, and transparency and accountability for proper compliance with the principles must be ensured. In accordance with the above-mentioned guidelines, the OECD also provided governments with a list of recommendations, including stimulating investment in the AI industry, as well as ensuring the exchange of information on development both within industries of individual countries and between countries in general *(OECD Legal Instruments, 2019)*.

A significant amount of work in regulating the use of AI technologies has been done by the European Commission, which published an AI White Paper in 2020, explaining its position on the development and use of AI technologies. With this document, the European Commission starts wide consultations with citizens of the Member States, industry, and academia on specific proposals for a European approach to AI. However, already in April 2021, the European Commission proposed to introduce regulatory measures for the use of AI-based products, in particular, to remove programs with a high risk to society from the public *(European Commission, 2021)*. In May 2024, the Council of Europe approved the Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law, which is the first international legally binding agreement in this area (League Law 2024).

Ukraine is one of the leading countries in Eastern Europe in the use of AI technologies in many areas. At the state level, certain steps have been taken towards the development and implementation of AI. At the same time, the Government of Ukraine has also taken some steps towards the development and implementation of AI. In particular, in December 2020, it adopted the Concept of Artificial Intelligence Development in Ukraine (Concept). The legislative document is based on the OECD principles of AI use and contains detailed information on the goals and problems to be solved to achieve the rational use of AI in various sectors of the economy, namely, increasing the level of digital literacy among the population, increasing investment in AI development, improving information security, and developing a unified approach to the ethical use of AI *(Cabinet of Ministers of Ukraine, 2020)*. On the basis of the Concept, the Institute of Artificial Intelligence Problems developed the National Strategy for the Development of AI in Ukraine 2021-2030, which detailed what work AI could do in various sectors of the economy, such as defense, education, industry,

medicine, agriculture, and ecology. In particular, the strategy emphasizes the potential of AI to optimize accounting processes. In addition, an action plan for the rational use of AI in the economy is proposed, including updating AI legislation to the standards of the European Union and the OECD, increasing market security, attracting investment in the development of a national data system, and expanding the role of the Artificial Intelligence Committee in the industry *(Institute of artificial intelligence problems, 2020)*.

In October 2023, the Ministry of Digital Transformation of Ukraine presented the Roadmap for the Regulation of Artificial Intelligence in Ukraine, which envisages two stages of this process. The first stage is aimed at gaining practical experience, assessing risks, and raising public awareness in this area. The second stage is the introduction of regulatory frameworks, in particular, the implementation of the EU Regulation on Artificial Intelligence into Ukrainian legislation by 2027 (Liga Zakon 2024).

The current approach to AI at the global level was updated during the Hiroshima Artificial Intelligence Process. In particular, the meeting resulted in the publication of the International Guidelines for Organizations Developing Advanced AI Systems and the International Code of Conduct for Organizations Developing Advanced AI Systems. The documents provide instructions for organizations using AI systems, such as basic models and generative AI, to promote digital security and product trust. The main principles include commitments to mitigate risks and misuse, information sharing, investment in cybersecurity, and the development of an identification system that allows for the recognition of AI-generated content *(European Commission, 2023) (European Commission, 2023)*.

Despite such a wide range of applications of cognitive technologies in the field of accounting, there is a certain list of factors that may affect the use of AI in this area. The main obstacle in this situation is the significant need for financial, time and human resources to develop and test cognitive technologies, as well as to adapt them for use in existing accounting systems. One of the main disadvantages of implementing AI in accounting is the high cost of implementation. This includes the cost of purchasing the necessary hardware and software, and the cost of training employees in the new technology. In addition, there may be ongoing maintenance and upgrade costs to keep the AI system up to date and functioning properly. While the long-term benefits of AI in accounting can bring greater efficiency in the long run, the high upfront costs can be a barrier for many organizations, especially smaller ones with limited resources *(Reilly, J., 2024)*.

Another negative aspect of AI implementation is the need for large databases on which artificial intelligence itself is trained. Although cognitive technology systems can be very powerful, their capabilities are still limited and may not be very flexible at certain points, as they learn to perform specific tasks based on a given set of data. The quantity and quality of training information is fundamental to AI learning. Many tasks require significant amounts of data. Previous breakthroughs in areas such as computer vision and natural language processing are based on large sets of high-quality training data *(Korol S., Romashko O., 2024; ICAEW., 2017)*.

In addition, there is an indirect risk of human mistakes, as these datasets often reflect certain social and personal prejudices. This phenomenon can affect the correctness of further decision-making by artificial intelligence, as in this case it relies on incomplete training data. Another problem is that not every problem is suitable for the machine learning approach, because to identify a pattern, the problem must be repeatable so that AI can generalize the knowledge gained and apply it to similar cases. At the same time, for unique or new queries, the result may be less useful, as the cognitive technology system may not have the necessary experience *(Korol S., Romashko O., 2024; ICAEW, 2017)*.

The use of artificial intelligence in accounting raises concerns about data privacy risks. The first step in using data is to address privacy concerns, as not all users can trust artificial intelligence, especially when it is developed by a third-party corporation. Security of personal information is also an important issue on the part of employees. Accountants should be aware of the risks of data leakage and take measures to protect important financial information from unauthorized access and use of cognitive technologies in the enterprise *(Korol S., Romashko O., 2024; Kolesnikov A.; Karapetyan*

O., 2023).

Also, scientists *(Shapovalova A., Kuzmenko O., Prokopova O., 2024)* consider the specialists of the accounting industry themselves to be an obstacle to the use of artificial intelligence technologies. Professionals may consider new technologies as a potential risk of layoffs in the industry or a significant change in the role of an accountant in the company. As a result, employees may oppose the use of AI technologies in business accounting processes. Accordingly, it is advisable for entrepreneurs to develop a strategy for use of AI technologies in order not to cause imbalances in the company.

In addition to the previously mentioned obstacles to the introduction and use of cognitive technologies, there is another group of risks that are primarily related to the developers of artificial intelligence systems. In the field of cognitive technologies, there is a whole category of people who work in the field of testing cognitive technology systems. Such employees are often hired to train AI, but in the end, during the training process, they do most of the work that AI should do on its own. One of the cases of a certain mismatch of AI work was the Just Walk Out technology from Amazon. The product was designed to allow customers to pay for goods in the store without having to stand in line at the cash desk or self-service terminal. According to the developers, AI counted the products that customers put in the cart, and after leaving the store, the corresponding amount for the purchased goods was debited from the bank account. As it turned out later, more than a thousand people worked behind the scenes of Just Walk Out to correct AI inaccuracies *(Olson, P., 2024)*. Of course, the product was innovative and there was a high risk that certain problems would arise during development, but this example proves that to develop and support products using cognitive technologies, it is necessary to involve a significant number of people to monitor AI learning.

There are also cases in the field of AI technologies when developers artificially increased the performance indicators in AI reports. One of them is Devin AI. It was introduced as the first software engineer in the role of an AI and quickly attracted the attention of the tech community with its claims of automating complex software engineering tasks. This system did indeed make some progress in the field of programming. However, the more people studied the application of Devin AI in practice, the more doubts arose about the system's performance. Critics discovered discrepancies between its advertised capabilities and actual usage practices, which resulted in growing skepticism about the accuracy of the information that was on demonstration. According to them, the AI not only failed to meet the actual requirements of customers, but also generated incorrect code and made mistakes, which further complicated the task. In addition, a significant difference was found in the speed of AI. It turned out that the demonstration presented as a quick 30-minute task actually lasted at least six hours *(Kramer, N., 2024)*.

To introduce AI in an enterprise, it is necessary to overcome a number of barriers related to the complexity of putting AI technologies into operation. At the same time, there is a need to train hired specialists to work professionally with AI to improve the efficiency of the enterprise as a whole, and this requires a detailed consideration of the interaction of specialists with such technologies.

Researchers agree that the development of AI technologies will continue to affect accounting processes. It is expected that the share of AI in the accounting industry will increase significantly in the future, so the best strategy for accounting and finance professionals in general is to master professional skills, adapt and accept changes with the development of AI. As a result, the role of accountants will continue to change depending on the development of AI, with more emphasis on technological skills, data analysis and innovative thinking. The use of AI can significantly increase the efficiency of professionals. It allows professionals to focus on better planning and execution of important tasks by automating repetitive processes such as data entry, reconciliation, and reporting *(Peng, Y. et al, 2023)*. AI-based technologies can detect inconsistencies and possible fraud, thus improving the quality of financial audits.

In particular, companies are considering the potential of combining human resources and AI tools. After all, despite the fact that cognitive technologies are designed to mimic human thinking, they function differently: while AI can overcome such human characteristics as emotional influence on work or tiredness, the human mind can prevent AI errors due to the incorrect information base on

which it relies. Where technology provides a better understanding of data, AI helps experts make better decisions and provide more relevant advice. Research shows that people and AI working together are more effective than people or AI alone. As a result, leading companies IMA and Deloitte are developing the concept of synthesizing human intelligence and AI, called «collaborative intelligence» *(Duong, Q., 2023)*. According to this concept, both sides work together to achieve results. Humans are responsible for training AI, preparing it to perform tasks, and monitoring the correctness of their performance with the possibility of correcting detected defects. For its part, AI enhances the efficiency of specialists by applying all available tools for automating accounting processes.

In order to fully use the potential of AI to empower members of the accounting and finance team, accounting and finance professionals must be creative in their use of AI technologies. This requires accounting professionals to acquire adequate knowledge of both the benefits and limitations of the AI that the enterprise plans to use. Understanding the programming languages used to develop AI algorithms can be even more helpful in adopting and implementing AI models. In addition, a thorough knowledge of the accounting and finance industry, as well as the economic environment in which the organization operates, is required to facilitate decision-making on the application of AI technologies across the organization *(Peng, Y. et al, 2023)*.

Conclusions. First of all, accounting professionals need to understand the importance of keeping the accounting industry open to new technologies. Despite the fears of some industry representatives, AI is not a cause of layoffs or the complete displacement of accountants from accounting processes. Researches prove that AI is currently unable to cover all accounting processes without human control or adjustments to its work. That is why it is advisable not to oppose the use of AI technologies but to actively use it to improve accounting work.

It is expected that the efficiency of accounting will significantly improve with the assistance of AI by automating complex tasks, improving accuracy, systematizing information in real time, accelerating reconciliation procedures, and supporting fraud detection. As a result, the use of AI will allow accountants to manage their time and expertise more effectively and focus on analytical activities, improving resource efficiency and contributing to the growth of business financial results.

At the same time, AI regulation is an important aspect. Despite the fact that the international community has already taken significant steps to update the legislative framework, problems remain unresolved, primarily related to copyright, the use of AI in information wars, and the lack of public awareness of the use of AI. Ukraine has all the conditions for building an effective system of regulation of relations in the use of AI that will be in line with the best international practices and European legislation.

Highly qualified accounting professionals are needed to meet the future challenges associated with the implementation and use of AI. They need to learn a new set of skills related to working in AI systems, such as training AI systems, including correcting the data set on which AI will be based, and monitoring the completion of tasks. Only under such conditions can we be sure that AI technologies will develop in accordance with the needs of the accounting industry.

The issue of AI application requires further research. In particular, it is advisable to consider in more detail the problems of integrating cognitive technologies with existing accounting systems of an enterprise. The issue of using AI in tax accounting to improve the interaction between companies and fiscal authorities is still outstanding. It is also advisable to consider the prospect of introducing programs for its use in state accounting systems. In addition, it is necessary to investigate the issue of advanced training of accounting professionals in the use of AI.

References

1. Eurostat (2023). 8% of EU enterprises used AI technologies in 2023. https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240529-2 (accessed: 07.06.2024).

2. Nwosu L.I., Bereng M.C., Vorster H. Segotso, T. (2022) Artificial Intelligence And Its Effects On The Accounting Profession For Future Accountants: A Systematic Literature Review,

https://www.researchgate.net/publication/366066043_Artificial_Intelligence_and_its_effects_on_the_accounting_profession_for_future_accountants_A_systematic_literature_review

3. The online Master of Information and Data Science from UC Berkeley (2020)/ What Is Machine Learning (ML)? https://ischoolonline.berkeley.edu/blog/what-is-machine-learning/ (accessed: 02.06.2024).

4. Korol S., Romashko O. (2024) Artificial intelligence in accounting. Scientia fructuosa, 2. https://doi.org/10.31617/1.2024(154)08

5. Khocha, N., Pelekh, U., Tenyukh, Z., (2023) Artificial Intelligence (AI) Technologies in Management Accounting. Scientific Notes of Lviv University of Business and Law, 39. http://dx.doi.org/10.5281/zenodo.10033293

6. Balamurugan, A., Vamsi, M, Bhattacharya, R., Mohammed, Sh., Kaushik, P., Haralayya, Dr, (2022) Robotic process automation (RPA) in accounting and auditing of business and financial information. Manager-The British Journal of Administrative Management, 157. https://www.researchgate.net/publication/370418613_ROBOTIC_PROCESS_AUTOMATION_RPA_IN_ACCOUNTING_AND_AUDITING_OF_BUSINESS_AND_FINANCIAL_INFORMATION?enrichId=rgreq-dd000386403f423e6373a917abf5e9d3-XXX&enrichSource=Y292ZXJQYWdlOzM3MDQxODYxMztBUzoxMTQzMTI4MTE1NDU5ODUxN0AxNjgyOTIyODU3MjI3&el=1_x_2&_esc=publicationCoverPdf

7. Blaney, B., (2020) What is Robotic Accounting? Tipalti. https://tipalti.com/accounting-hub/robotic-accounting/ (accessed: 02.06.2024).

8. Kolesnikov, A., Karapetyan, O., (2023) Artificial intelligence: advantages and threats of use. Effective economy, 8. http://doi.org/10.32702/2307-2105.2023.8.9

9. Reilly, J., (2024). Cost of AI in 2024: Estimating Development & Deployment Expenses. Akkio. https://www.akkio.com/post/cost-of-ai (accessed: 02.06.2024).

10. ICAEW (2017) Artificial intelligence and the future of accountancy:Report: https://www.icaew.com/technical/technology/artificial-intelligence/artificial-intelligence-the-future-of-accountancy (accessed: 02.06.2024).

11. Shapovalova, A., Kuzmenko, O., Prokopova, O. (2024). The role of artificial intelligence in tax optimization and reporting in small business. Economy and Society, 62. https://doi.org/10.32782/2524-0072/2024-62-116

12. Olson, P. (2024) Amazon's AI Stores Seemed Too Magical. And They Were Bloomberg. https://www.bloomberg.com/opinion/articles/2024-04-03/the-humans-behind-amazon-s-just-walk-out-technology-are-all-over-ai (accessed: 02.06.2024).

13. Kramer, N. (2024) Is Devin a Scam? Unpacking the Truth Behind the Claims. Daily.dev. https://daily.dev/blog/is-devin-a-scam-unpacking-the-truth-behind-the-claims (accessed: 02.06.2024).

14. Duong Q. (2024) The Impact of Artificial Intelligence on Accounting and Finance : a global perspective. Report. Institute of Management Accountants. https://www.imanet.org/research-publications/ima-reports/the-impact-of-artificial-intelligence-on-accounting-and-finance (accessed: 02.06.2024).

15. Peng, Y., Ahmad, S.F., Ahmad, A.Y.A.B., Al Shaikh, M.S., Daoud, M.K., Alhamdi, F.M.H.. (2023) Riding the Waves of Artificial Intelligence in Advancing Accounting and Its Implications for Sustainable Development Goals. Sustainability, 15, 14165. https://doi.org/10.3390/su15191416

16. Tracheva D., Davydiuk T., Demchuk O. (2023) Prospects for the use of artificial intelligence in financial accounting. Entrepreneurship and management of the development of socio-economic systems. 2023. № 2. С. 171-191. https://repository.kpi.kharkov.ua/handle/KhPI-Press/76651.

17. Pistrakevych, O. (2021) Strategies for artificial intelligencein the european union (in the caseof the Visegrad group). International Relations, Public Communications, and Regional Studies. DOI 10.29038/2524-2679-2021-01-160-174

18. OECD Legal Instruments (2019) Recommendation of the Council on Artificial Intelligence https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449 (accessed: 14.06.2024).

19. European Commission (2020) White Paper on Artificial Intelligence. A European approach

to excellence and trust https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/excellence-and-trust-artificial-intelligence_en (accessed: 14.06.2024).
20. On approval of the Concept of Artificial Intelligence Development in Ukraine: Order of December 2, 2020 No. 1556-p. Kyiv: Cabinet of Ministers of Ukraine. https://zakon.rada.gov.ua/laws/show/1556-2020-%D1%80#Text
21. European Commission (2021) Europe fit for the Digital Age: Commission proposes new rules and actions for excellence and trust in Artificial Intelligence. https://ec.europa.eu/commission/presscorner/detail/en/IP_21_1682 (accessed: 14.06.2024).
22. European Commission (2023) Hiroshima Process International Guiding Principles for Advanced AI system. https://digital-strategy.ec.europa.eu/en/library/hiroshima-process-international-guiding-principles-advanced-ai-system (accessed: 14.06.2024).
23. European Commission (2023) Hiroshima Process International Code of Conduct for Advanced AI Systems. https://digital-strategy.ec.europa.eu/en/library/hiroshima-process-international-code-conduct-advanced-ai-systems (accessed: 14.06.2024).
24. Institute of artificial intelligence problems (2021) National Strategy for the Development of Artificial Intelligence in Ukraine 2021-2030 https://wp.oecd.ai/app/uploads/2021/12/Ukraine_National_Strategy_for_Development_of_Artificial_Intelligence_in_Ukraine_2021-2030.pdf
25. European integration: regulation of artificial intelligence in Ukraine and the EU. https://jurliga.ligazakon.net/analitycs/228365_vrontegratsya-regulyuvannya-shtuchnogo-ntelektu-v-ukran-ta-s(accessed: 14.06.2024).
26. Artificial intelligence in the context of global governance. Scientific journal "Politicus" Issue 3. 2022C. 65–70 http://politicus.od.ua/3_2022/10.pdf