

# ACCOUNTING AND AUDIT

DOI: 10.31617/1.2024(154)08

UDK: 004.8:657.1=111

## KOROL Svitlana,

Doctor of Sciences (Economics), Professor,  
Professor of the Department  
of Accounting and Taxation  
State University of Trade and Economics  
19, Kyoto St., Kyiv, 02156, Ukraine

ORCID: 0000-0003-0958-8720  
s.korol@knute.edu.ua

## ROMASHKO Olha,

Phd in Economics, Associate Professor,  
Associate Professor of the Department  
of Accounting and Taxation  
State University of Trade and Economics  
19, Kyoto St., Kyiv, 02156, Ukraine

ORCID: 0000-0003-3466-3489  
o.romashko@knute.edu.ua

## ARTIFICIAL INTELLIGENCE IN ACCOUNTING

*Artificial Intelligence (AI) technologies open up broad horizons for enhancing business efficiency and advancing various professional domains, boosting their productivity and competitiveness. There is an active exploration of approaches to incorporating AI technologies in the accounting sphere, promising a seamless transition from human to machine involvement. The aim of this article is to summarize the acquired experience, identify perspectives, constraints, and risks associated with the use of AI technologies in the professional activities of accountants. The research is based on the hypothesis that widespread use of AI in the professional activity of an accountant with an insufficient level of professional skepticism and caution carries significant threats and risks for both the accountant and the business as a whole. Scientific search methods, comparative and critical analysis, theoretical generalization, and synthesis were used. A prerequisite for implementing AI technologies in accounting is expert information systems and ERP systems. The*

## КОРОЛЬ Світлана,

д. е. н., професор,  
професор кафедри обліку та оподаткування  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0003-0958-8720  
s.korol@knute.edu.ua

## РОМАШКО Ольга,

к. е. н., доцент,  
доцент кафедри обліку та оподаткування  
Державного торговельно-економічного  
університету  
вул. Кіото, 19, м. Київ, 02156, Україна

ORCID: 0000-0003-3466-3489  
o.romashko@knute.edu.ua

## ШТУЧНИЙ ІНТЕЛЕКТ У БУХГАЛТЕРСЬКІЙ ДІЯЛЬНОСТІ

*Технології штучного інтелекту (ШІ) відкривають широкі можливості для підвищення ефективності бізнесу та розвитку різних сфер професійної діяльності, підвищуючи їх продуктивність і конкурентоспроможність. Ведеться активний пошук підходів до використання ШІ-технологій у бухгалтерській сфері, обіцяючи легку заміну людини машиною. Метою статті є узагальнення набутого досвіду, визначення перспектив, обмежень і ризиків використання ШІ-технологій у сфері професійної діяльності бухгалтера. В основу дослідження покладено гіпотезу, що широке використання ШІ у професійній діяльності бухгалтера за недостатнього рівня професійного скептицизму і обережності несе вагомі загрози і ризики як для бухгалтера, так і для бізнесу загалом. Використано методи наукового пошуку, порівняльного і критичного аналізу, теоретичного узагальнення та синтезу. Передумовою для впровадження ШІ-технологій у бухгалтерську діяльність є експертні інформаційні системи і ERP-системи. Результати аналізу*



Copyright © The Author(s). This is an open access article distributed under the terms of the Creative Commons Attribution License 4.0 (<https://creativecommons.org/licenses/by/4.0/>)

*analysis of AI technology implementation experience in various industries demonstrates their relevance in the accounting field for performing routine tasks (automated recognition of primary documents, processing incoming signals, and other standard operations with a simultaneous reduction in the probability of errors), analyzing large datasets, and providing information support for decision-making (processing business data and regulatory documents), training professionals, and organizing internal and external communication (particularly between humans and machines). Identified potential risks include breaches of privacy and data security, misinterpretation of output data, and the disregard of activity context, external and internal environments, especially due to the absence of emotional intelligence, which influences the trust level in integrated information systems. The requirement for the application of professional assessments and judgments, mandated by regulatory documents, limits the scope of AI technology utilization in accounting. Future research should focus on exploring the possibilities of widespread integration of AI technologies in information systems for accounting and improving legislation based on the principle of risk assessment.*

*Keywords:* Artificial Intelligence, Accounting Information Systems, Accountant's Professional Judgment, Professional Ethics, Professional Skepticism.

*досвіду впровадження ШІ-технологій у різних галузях доводить доцільність їх використання в бухгалтерській сфері при виконанні ряду рутинних завдань (автоматичного розпізнавання первинних документів, обробки вхідних сигналів та інших стандартних операцій з одночасним зниженням ймовірності виникнення помилок), аналізі великих масивів даних та інформаційній підтримці прийняття рішень (опрацювання бізнес-даних і нормативних документів), навчання фахівців, організації внутрішньої та зовнішньої комунікації (зокрема між людиною і машиною). Виявлені ймовірні ризики порушення приватності і безпеки даних; неправильної інтерпретації вихідних даних; ігнорування контексту діяльності, зовнішнього і внутрішнього середовищ, зокрема через відсутність емоційного інтелекту, що визначає рівень довіри до інтегрованих інформаційних систем. Вимога застосування професійних оцінок і суджень, встановлена нормативними документами відповідальності бухгалтерів за прийняття рішень та надану інформацію обмежують сферу використання ШІ-технологій у бухгалтерській діяльності. Подальші дослідження плануються спрямувати на вивчення можливостей широкої інтеграції ШІ-технологій в ІСБО та вдосконалення законодавчих норм на основі принципу оцінки ризику.*

*Ключові слова:* штучний інтелект, інформаційні системи бухгалтерського обліку, професійне судження бухгалтера, професійна етика, професійний скептицизм.

**JEL Classification:** O33, M41, M48.

## **Introduction**

In recent decades, stable expectations have been formed regarding the solution of global problems (climate change, access to quality medicine) and the provision of sustainable development from the use of artificial intelligence (AI). The search for new opportunities in various spheres of life of society and individuals is extremely active. The use of AI technologies in business provides tangible competitive advantages and determines the development trend of many industries (Fostolovych, 2022). It has significantly changed the field of health care, financial sector, automotive industry, advertising and marketing, trade, education, tourism and hotel business, etc.

The AI possibilities in terms of machine learning, deep learning, its ability to process natural language and computer vision with its inherent unique characteristics and areas of application open up interesting perspectives and, at the same time, have become a challenge for a person in various areas of his professional activity. The disadvantage of the AI introduction in business activities is the fear of society regarding the replacement of humans with technological solutions.

For the research, the question of the AI impact on the professional activity of an accountant is relevant. This is expected to apply to the organization of work and the workplace. At the same time, it is important to understand what potential and significant consequences or challenges the use of AI technologies will have for the profession.

In 1956, at the Dartmouth seminar (among its participants were economist scientists), the task of modeling the human mind and creating machines capable of imitating human intelligence was set targeted research in the AI field was initiated.

As Ruda (2024) observes, the introduction of AI technologies led to the emergence of a significant number of uncertainties, discussions and ambiguous issues. The number of scientific publications on these issues is impressive. Scientists are investigating approaches to the use of AI technologies in various spheres of activity. For example, Ruda (2024) considered the feasibility of implementing and using AI in the banking sector; Barcaui & Monat (2023) compared the quality of performance of project management tasks by a human professional and a generative AI model; Bilyk et al. (2024), Lebedenko (2023) addressed marketing and marketing activities; Kovalenko and others. (2023) study the prospects of using AI technologies in personnel management, in particular, solving ethical issues related to data privacy and their regulation; Fostolovych (2022) considers the use of AI technologies in various spheres of economic activity. In turn, Kolesnikov & Karapetyan (2023) explore not only the opportunities, but also the threats and limitations of the use of AI technologies. At the same time, according to Lebedenko (2023), although the possibilities of AI technologies are widely discussed in the literature, it is not entirely clear how to apply these technologies.

Research on expert systems and AI in accounting began several decades ago and, according to Sutton et al. (2016), their number continues to grow steadily over the past 30 years. Among the studies of recent years, we note the publications of national and foreign authors, who consider the possibilities, advantages, disadvantages and express reservations regarding the use of AI technologies in accounting (Abdullah et al., 2024; Han et al., 2023; Khalifeh, 2023; Norzellan, 2024; Zhang et al., 2023; Korol & Klochko, 2020), as well as regarding the improvement of certain technical techniques of accounting (Cao, 2023; Yao, & Jin, 2023). Thus, Meservy et al. (1992) presented the results of a study of the AI use in expert systems in the areas of accounting, taxation and auditing; Han et al. (2023) analyzed the results of a survey of accountants regarding the AI impact on their professional activities. And Sutton et al. (2016) based on the analysis of publications and the practice of using AI in accounting strongly urge colleagues to more actively research the possibilities of using AI methods in the field of accounting.

Anyway, researchers express opposite opinions on the outlined issues. That is why the answer to the question about the prospects for the use of AI technologies in accounting requires the study of the experience gained in

various areas of professional activity, the determination of both the opportunities (advantages) of future technological innovations, as well as potential risks, limitations and measures aimed at achieving the optimal result for all interested parties.

The aim of the article is to generalize the acquired experience, determine the prospects, limitations and risks of using AI technologies in the professional activity of an accountant.

The hypothesis is formulated that the widespread AI use in the professional activity of an accountant with an insufficient level of professional skepticism and caution carries significant threats and risks both for the accountant and for the enterprise in general.

The theoretical and methodological basis of the research was the work of national and foreign scientists on the use of AI technologies in various spheres of professional activity. Scientific search methods are used to determine approaches to the introduction of AI technologies in business, comparative analysis, to establish the possibilities of their use in accounting; critical analysis, to assess the relevant advantages, risks, reservations and justify the need for regulatory regulation of the integration of AI technologies into information systems accounting; theoretical generalization and synthesis, for formulating conclusions and determining prospects for future research.

The main part of the article consists of four interrelated sections. Firstly, the prerequisites for the integration of AI technologies in AIS are defined. Secondly, the general advantages of using AI technologies in business are considered. Thirdly, the risks of using AI technologies in the AIS creation are characterized. Fourthly, key regulatory documents are defined that determine the legal framework for the use of AI technologies in the professional activity of an accountant.

### **1. Prerequisites for the AI technology integration in AIS**

Traditional comments to the classic accounting system concern the insufficient speed of data processing and promptness of information provision, as well as periodic errors. Manual bookkeeping is too risky and time-consuming. The organization of accounting underwent drastic changes with the beginning of the use of computers and special software products to create an accounting information system (AIS). This made it possible to automate all accounting procedures from registration of raw data to providing users with reporting information and to a large extent reduce (but not remove) criticisms of accounting, change its organization and increase requirements for professional knowledge and skills of accountants. To understand the dynamics of AIS development, it should be taken into account that it is at the intersection of accounting and computer science. Because of this, the periodic appearance of new information technologies generates new research to study the possibilities of their application in the organization of accounting (Sutton et al., 2016). Moreover, as the authors note, even in the early 1990s, the big six accounting (auditing) companies used expert systems with integrated AI technologies, but then they were included in audit support

systems, and did not work as autonomous systems. The same can be said about the integration of AI technologies into ERP systems, which, among other things, have the necessary functionality for accounting. With each year of the development of AI technologies, their integration into ERP systems is getting deeper and wider, and their new capabilities are increasingly being used in accounting information systems.

The changes that have taken place in the professional activity of accountants due to the integration of AI in AIS are revolutionary (Korol & Klochko, 2020). By automating data entry and controlling financial records, accountants were able to focus on more complex tasks. The rapid development of AI technologies and their increasingly widespread use in various spheres of professional activity raises the question of the transition from fragmentary to systematic use of them in AIS.

The successful use of AI technologies requires distinguishing the following levels of discussion of this problem:

- a separate AI technology or primary ability to perform a separate action (for example, work with large databases);
- the ability of AI technology to perform certain tasks (for example, data analysis, making forecasts, determining trends);
- the use of AI technologies in a certain field of professional activity based on their integration into professionally oriented information systems (for example, accounting, auditing, finance, marketing, advertising, design).

The possibilities of using AI technology in various spheres of professional activity arouse wide interest, need to be studied and in each case depend on the content of such activity, types of work, legislative requirements, etc. Accounting activity involves the performance of both routine tasks related to the processing of primary documents, analysis of large data sets, organization of internal and external communication, and tasks that require professional decision-making. If AI technology has advantages in performing a certain task compared to a person or technologies of the previous generation, a request for its use in the relevant spheres of professional activity is formed. This approach is the basis of further research.

## **2. General advantages of using AI technologies in business**

Currently, in various fields of professional activity, specialists are looking for opportunities to use known AI types, each of which has its own unique characteristics and areas of application, namely: machine learning (training a model on large volumes of data to make decisions), deep learning (using neural networks for identifying patterns in data and improving the quality of solutions), natural language processing (the ability of machines to understand and interpret, generate and reproduce answers in human language), computer vision (the ability of machines to analyze, perceive and create such visual data as images and videos) (Termin.in.ua, n.d.).

Researchers (Abdullah & Almaqtari, 2024; Khalifeh, 2023; Cao, 2023; Bilyk et al., 2024; Ruda, 2024; Fostolovych, 2022; Termin.in.ua, n.d.;

Alter Systems, 2023) note a number of advantages the use of AI technologies in various areas of professional activity. In the context of the prospects of their use in the activity of an accountant, we note the following.

*Machine learning.* AI is trained on large data sets and is capable of continuous learning in the process of communicating with a person, performing assigned tasks, processing added texts, and more. This is relevant for the work of an accountant, especially in Ukraine due to the unstable external environment and regular changes in legislation.

*Improving human-machine communication.* AI is able to perceive human speech and convert it into machine-readable signals, formulate and provide answers in a human-understandable form (such as the recent Google Gemini language model).

*Recognition of graphic objects (symbols, images) and sound signals.* Thanks to this, AI is able to "read" and process primary documents and verbal input messages. As a result, the database is automatically replenished, systematized and presented in a specified format (for example, in the form of text, tables, graphs).

*Analysis of large data sets.* This AI ability, as observed by Khalifeh (2023), is necessary for making better financial decisions, identifying financial trends, analyzing and visualizing its results, monitoring compliance with various types of rules and regulations, providing guidance on new tax laws and regulations, determining deductions and pre-calculation tax obligations, performance of repetitive time-consuming tasks, improvement of relations with clients.

*Training of specialists.* AI models and methods are used in expert systems to expand professional knowledge, improve professional experience, and form professional judgment. In particular, large auditing firms and individual universities (for example, Brigham Young University, USA) were engaged in such developments in the early 1990s (Meservy et al., 1992).

*Reducing the probability of errors.* Under the conditions of a complex algorithm and a large set of tasks, AI is able to perform them more accurately and obtain a better result (Fostolovych, 2022). This applies to well-structured tasks, the solution of which is also provided by expert systems in accordance with a given algorithm.

*Performing loosely structured tasks.* As an example, Barcaui & Monat (2023) cite the task of planning and allocating resources during design. This ability significantly distinguishes generative AI from expert systems and other products. At the same time, as the authors note, AI lacks human experience, the ability to accurately describe important details and take into account content.

*Risk management.* Generative AI helps with risk assessment and mitigation by analyzing large amounts of data and identifying potential problems or bottlenecks.

*Personal assistants.* AI is trained to recognize patterns in data, identify trends, and make predictions. On this basis, some researchers conclude about his ability to make decisions (Kolesnikov & Karapetyan, 2023; Termin.in.ua, n.d.).

Instead, Fostolovych (2022) and Termin.in.ua (n.d.), with which one should agree, characterize it as the AI ability to provide information support to a specialist in decision-making, speed up the decision-making process and achieve a better result.

In addition, AI technologies, which are already integrated into ERP systems at a basic level, help accounting in enterprises in terms of data entry, processing and reconciliation of accounts, preparation of financial reports and notes to them (Sutton et al., 2016). Among other capabilities of AI technologies, it is worth highlighting the detection of regularities, trends and anomalies (Abdullah & Almaqtari, 2024), which, in particular, makes it possible to analyze financial reports and detect violations in entered data and unusual transactions (Alter Systems, 2023). Thus, according to the calculations of Zhang et al. (2023), the use of AI technologies in the formation of accounting transactions can be implemented with high efficiency. According to the researchers' calculations, the probability of error is about 0.23%, which can be considered a good result. At the same time, the researchers emphasize the need for practical confirmation of their calculations.

So, generative AI, which has been trained on various databases and models, is able to respond to certain situations, perform standard processing of accounting data and generate financial and tax reports at the request of users.

### **3. Risks of using AI technologies in AIS creating**

Recognizing the advantages of AI technologies in various areas of professional activity and, in particular, in accounting, one should take into account the shortcomings that are revealed when they are used in certain areas of professional activity and cause potential risks. In particular, despite the fact that the authors mainly focus on the opportunities and advantages of using AI technologies, the caution and skepticism inherent in the professional activity of an accountant require us to pay attention to weaknesses and potential risks.

The implementation of AI technologies has challenges common to all stakeholders in terms of data security, privacy and misuse of information; accountability; availability; transparency and trust (Zhang et al., 2023). At the same time, Alter Systems (2023) and Karbon (n.d.) note that the use of AI technologies in the performance of some operations in AIS is associated with the following risks:

- machine learning to perform the accounting procedures of a specific enterprise using their business data: the economic activity of the enterprise, the context of its activity and the accounting policy have certain features, and therefore require the provision of an AI model of access to business data. As stated by Alter Systems (2023), the question arises as to whether AI can transfer enterprise business data to competitors;
- recognition of primary documents and processing of incoming signals: the access of AI technologies to private data causes business concerns about ensuring the confidentiality of information. In addition, one cannot be sure

that the AI (ChatGPT) answers to the question are true and complete. AI is not capable of guaranteed correct interpretation of raw data (for example presented in tabular or graphical format);

- predictive analysis and generation of texts: the use of AI technologies for the implementation of functions of analysis and writing of texts worries users about the completeness and accuracy of the received information. Meanwhile, according to Yao & Jin (2023), AI can read and extract data from a page, but it cannot think critically and apply the extensive knowledge and experience of professionals in the relevant field.

The results of the analysis indicate the need to define approaches to the protection of business information. Regarding this, in particular, authors who are familiar with the technical side of the process express reservations (Termin.in.ua, n.d.; Alter Systems, 2023).

At the same time, Alter Systems (2023) and Karbon (n.d.) note that the use of AI technologies in the performance of some operations in AIS is associated with the following risks:

In addition, experts (Han, 2023; Zhang et al., 2023; Karbon, n.d.; Termin.in.ua, n.d.) express other concerns that are of a global nature and go beyond ISBO, in particular regarding:

- the potential impact of AI on employment. Since this concern was first raised, experts have repeatedly reassured the public that AI technologies cannot fully replace humans, and now the vast majority of accountants do not agree that such a threat exists, instead agreeing that the implementation of AI technologies requires them to new skills;

- confidence in the reliability and completeness of the data on which the AI model was trained. Accordingly, questions arise regarding responsibility for the selection and use of AI technologies in the accountant's professional field of activity, training the model, checking the received answers for correctness, training specialists for work;

- biases of AI models during data analysis and text writing. Such situations are likely and may occur due to intentional interference or the use of skewed data when training the model. The result can be dynamics that are difficult to detect and control.

At the same time, with the development of AI technologies and their widespread use, new challenges arise in the areas of ethics, privacy and data security, impact on workplaces, shortage of qualified specialists, potential social and economic consequences, etc. (Zhang et al., 2023; Kolesnikov & Karapetyan, 2023). Researchers point to the latent ignoring of ethical aspects when solving problems based on statistical models, fair and honest consideration of the interests of all interested parties, influence on professional judgment, skepticism and ethical considerations of the accountant when making decisions, etc. (Korol & Gnasko, 2021). To the ethical problems that management accountants and managers have to solve, the authors attributed the definition of advantages and problems at the stages before and after the decision to implement AI, gaps in expectations before and after the use of AI, bias in decision-making processes, distortion of results, excessive



dependence on AI and technical competence (Zhang et al., 2023).

In this context, company managers should receive sufficient confirmations about the possibility of "trusting" AI with tasks, the performance of which is related to professional responsibility and professional judgment (Abdullah & Almaqtari, 2024). AI lacks emotional intelligence, which is difficult to teach, and lacks an understanding of the organization's mission, which is the basis for decision-making and evaluating the results of financial analysis. Today, there are serious reservations about the use of AI in the professional activity of an accountant.

These issues and other challenges related to the specifics of the accountant's professional activity, the use of AI technologies, require special attention and legislative regulation.

#### **4. Regulation of AI technology use in the accountant professional activity**

The professional activity of an accountant has, in addition to technological, important regulatory and ethical limitations. In this context, the statement about the need to define an adequate legal framework for the use of AI technologies in various spheres of activity acquires special importance. At the same time, one should not only seek a "balance between promoting innovation and protecting the rights and freedoms of citizens" (Kolesnikov & Karapetyan, 2023), but also take into account business interests and requirements for a certain field of activity.

The Law of Ukraine "On Accounting and Financial Reporting in Ukraine" (Law of Ukraine No. 996-XIV, 1999) defines the requirements and scope of responsibility of the chief accountant or the person who ensures the accounting of the enterprise (at all stages of the accounting process) without taking into account and referring to AI technologies, as well as the legality of using an electronic document, electronic signature, electronic document flow and electronic form of financial reporting. The Conceptual Framework for Financial Reporting dated 01.09.2010 (IASB) states that "financial statements are largely based on <professional> estimates, <professional> judgments and models, rather than precise descriptions". In turn, the International Code of Ethics of Professional Accountants (IFAC, 2018) defines "the fundamental principles of ethics of professional accountants, which reflect the profession's recognition of its responsibility to protect public interests." That is, the use of AI technologies in the professional activity of accountants and auditors requires proper regulation, for example, in those matters involving the application of professional ethics, professional judgment and professional responsibility (Fomina et al., 2020).

At the same time, the use of AI technologies in business has also created real challenges for governments, businesses and citizens. In response, in 2019, the OECD defined Principles and developed Recommendations on Artificial Intelligence (Recommendation, 2019). They contain specific provisions regarding state policy and strategy; promote the development of

innovative and reliable AI with respect for human rights and democratic values. The OECD Recommendations on AI are based on the principles of inclusive growth, sustainable development and well-being; people-centeredness and justice; transparency and comprehensibility; strength, reliability and safety; responsibility these principles are relevant for various industries and spheres of professional activity (in particular, accounting).

The Government of Ukraine has recognized the OECD Principles on Artificial Intelligence. In 2020, the national Concept of AI Development in Ukraine (2022) was developed. The legislation of Ukraine should be harmonized with the International Code of Conduct for Organizations Developing Advanced AI Systems (The International Code of Conduct for Organizations Developing Advanced AI Systems) (European Commission, 2023) and documents of the European AI Alliance (The European AI Alliance. Shaping Europe's digital future, n.d.).

These measures, in our opinion, will have a significant impact on the professional activity of accountants; will contribute to the assessment of relevant opportunities, and the determination of ethical and legal limits of the application of AI systems. At the same time, the involvement of the International Financial Reporting Standards Council and the International Federation of Accountants in the process of regulatory regulation of the principles and measures of using AI in this area should be expected.

### **Conclusions**

The possibilities of using AI technologies in various spheres of professional activity arouse wide interest, need to be studied and in each specific case depend on the content of the activity, types of work, and legislative requirements. The more complex is the task performance technology; the potentially higher is the effectiveness of the implementation of AI technologies.

Accounting involves performing both routine (technologically simple and monotonous) work, as well as tasks that require the processing of large volumes of data, professional judgment and decision-making. Therefore, various AI technologies are useful for the researched field of activity. Instead, their use requires establishing the correspondence between existing opportunities, on the one hand, and limitations and risks, on the other. The most critical for an accountant are the risks of misinterpretation of source data, provision of incomplete or false information, failure to take into account the context. In addition, ethical issues, problems of business data protection, fair and honest consideration of the interests of all interested parties need to be resolved. The role of AI technologies in accounting decision-making is limited by the need for professional judgment, skepticism, ethical considerations, and responsibility.

We expect that not only the general principles will be regulated at the legislative level, but also the principles and limits of the use of AI technologies in the professional activity of an accountant with the participation of international and Ukrainian professional organizations. It is important to

allocate the scope of responsibility for the use of AI technologies between software product developers, owners, users, regulators and other parties based on the principle of risk assessment.

For further research, it is of interest to study the possibilities of using AI technologies for the continuous support of an accountant at all stages of professional activity, in particular in management accounting, based on broad integration into AIS. International, European and national legislation regarding AI technologies also needs to be studied and monitored.

REFERENCE	СПИСОК ВИКОРИСТАНИХ ДЖЕРЕЛ
Abdullah, A. A. H., & Almaqtari, F. A. (2024). The impact of artificial intelligence and Industry 4.0 on transforming accounting and auditing practices. <i>Journal of Open Innovation: Technology, Market, and Complexity</i> , 10(1). <a href="https://doi.org/10.1016/j.joitmc.2024.100218">https://doi.org/10.1016/j.joitmc.2024.100218</a>	Abdullah, A. A. H., & Almaqtari, F. A. (2024). The impact of artificial intelligence and Industry 4.0 on transforming accounting and auditing practices. <i>Journal of Open Innovation: Technology, Market, and Complexity</i> , 10(1). <a href="https://doi.org/10.1016/j.joitmc.2024.100218">https://doi.org/10.1016/j.joitmc.2024.100218</a>
Alter Systems. (2023). Artificial intelligence in ERP. Date of publication 04.08.2023. <a href="https://altersystems.com.ua/shtuchnij-intelekt-v-erp/">https://altersystems.com.ua/shtuchnij-intelekt-v-erp/</a>	Alter Systems. (2023). Штучний інтелект в ERP. Дата публікації: 04.08.2023. <a href="https://altersystems.com.ua/shtuchnij-intelekt-v-erp/">https://altersystems.com.ua/shtuchnij-intelekt-v-erp/</a>
Barcaui, A., & Monat, A. (2023). Who is better in project planning? Generative artificial intelligence or project managers? <i>Project Leadership and Society</i> , (4). <a href="https://doi.org/10.1016/j.plas.2023.100101">https://doi.org/10.1016/j.plas.2023.100101</a>	Barcaui, A., & Monat, A. (2023). Who is better in project planning? Generative artificial intelligence or project managers? <i>Project Leadership and Society</i> , (4). <a href="https://doi.org/10.1016/j.plas.2023.100101">https://doi.org/10.1016/j.plas.2023.100101</a>
Cao, P. (2023). Research on the impact of artificial intelligence-based e-commerce personalization on traditional accounting methods. <i>International Journal of Intelligent Networks</i> , (4), 193-201. <a href="https://doi.org/10.1016/j.ijin.2023.07.004">https://doi.org/10.1016/j.ijin.2023.07.004</a>	Cao, P. (2023). Research on the impact of artificial intelligence-based e-commerce personalization on traditional accounting methods. <i>International Journal of Intelligent Networks</i> , (4), 193-201. <a href="https://doi.org/10.1016/j.ijin.2023.07.004">https://doi.org/10.1016/j.ijin.2023.07.004</a>
European Commission (2023). Hiroshima Process International Code of Conduct for Advanced AI Systems. Publication 30 October. <a href="https://digital-strategy.ec.europa.eu/en/library/hiroshima-process-international-code-conduct-advanced-ai-systems">https://digital-strategy.ec.europa.eu/en/library/hiroshima-process-international-code-conduct-advanced-ai-systems</a>	European Commission (2023). Hiroshima Process International Code of Conduct for Advanced AI Systems. Publication 30 October. <a href="https://digital-strategy.ec.europa.eu/en/library/hiroshima-process-international-code-conduct-advanced-ai-systems">https://digital-strategy.ec.europa.eu/en/library/hiroshima-process-international-code-conduct-advanced-ai-systems</a>
Fomina, O., Zadniprovsy, O., Korol, S., & Romashko, O. (2022). Professional judgement in accounting: contents and conditions of application. <i>Business: Theory and Practice</i> , 23(1), 26-38. <a href="https://doi.org/10.3846/btp.2022.13330">https://doi.org/10.3846/btp.2022.13330</a>	Fomina, O., Zadniprovsy, O., Korol, S., & Romashko, O. (2022). Professional judgement in accounting: contents and conditions of application. <i>Business: Theory and Practice</i> , 23(1), 26-38. <a href="https://doi.org/10.3846/btp.2022.13330">https://doi.org/10.3846/btp.2022.13330</a>
Han, H., Shiwakoti, R. K., Jarvis, R., Mordi, C., & Botchie, D. (2023). Accounting and auditing with blockchain technology and artificial Intelligence: A literature review. <i>International Journal of Accounting Information Systems</i> , (48). <a href="https://doi.org/10.1016/j.accinf.2022.100598">https://doi.org/10.1016/j.accinf.2022.100598</a>	Han, H., Shiwakoti, R. K., Jarvis, R., Mordi, C., & Botchie, D. (2023). Accounting and auditing with blockchain technology and artificial Intelligence: A literature review. <i>International Journal of Accounting Information Systems</i> , (48). <a href="https://doi.org/10.1016/j.accinf.2022.100598">https://doi.org/10.1016/j.accinf.2022.100598</a>
IFAC (2018). International Federation of Accountants. The International Code of Ethics for Professional Accountants (including International Independence Standards). <a href="https://mof.gov.ua/storage/files/kodex_et.pdf">https://mof.gov.ua/storage/files/kodex_et.pdf</a>	IFAC (2018). International Federation of Accountants. The International Code of Ethics for Professional Accountants (including International Independence Standards). <a href="https://mof.gov.ua/storage/files/kodex_et.pdf">https://mof.gov.ua/storage/files/kodex_et.pdf</a>
Karbon (n.d.). Are accounting jobs safe in a world of ChatGPT and AI? Last accessed 09.02.2024. <a href="https://karbonhq.com/resources/accounting-jobs-safe-chatgpt-ai/">https://karbonhq.com/resources/accounting-jobs-safe-chatgpt-ai/</a>	Karbon (n.d.). Are accounting jobs safe in a world of ChatGPT and AI? Дата звернення: 09.02.2024. <a href="https://karbonhq.com/resources/accounting-jobs-safe-chatgpt-ai/">https://karbonhq.com/resources/accounting-jobs-safe-chatgpt-ai/</a>

<p>Khalifeh, T. (2023). Accounting in the Age of Generative AI. <i>Strategic Finance</i>, 16.10.2023. <a href="https://www.sfmagazine.com/articles/2023/october/accounting-in-the-age-of-generative-ai?_gl=1*-rgwrwe*_ga*MTcyODE1MzkyMi4xNzA0ODE2MTQy*_ga_BFP14JSJ0G*MTcwNDgxNjE0MS4xLjEuMTcwNDgxNjcxMC42MC4wLjA.*_gcl_au*MjM4MDEzMzIuMTcwNDgxNjE0MA">https://www.sfmagazine.com/articles/2023/october/accounting-in-the-age-of-generative-ai?_gl=1*-rgwrwe*_ga*MTcyODE1MzkyMi4xNzA0ODE2MTQy*_ga_BFP14JSJ0G*MTcwNDgxNjE0MS4xLjEuMTcwNDgxNjcxMC42MC4wLjA.*_gcl_au*MjM4MDEzMzIuMTcwNDgxNjE0MA</a></p>	<p>Khalifeh, T. (2023). Accounting in the Age of Generative AI. <i>Strategic Finance</i>, 16.10.2023. <a href="https://www.sfmagazine.com/articles/2023/october/accounting-in-the-age-of-generative-ai?_gl=1*-rgwrwe*_ga*MTcyODE1MzkyMi4xNzA0ODE2MTQy*_ga_BFP14JSJ0G*MTcwNDgxNjE0MS4xLjEuMTcwNDgxNjcxMC42MC4wLjA.*_gcl_au*MjM4MDEzMzIuMTcwNDgxNjE0MA">https://www.sfmagazine.com/articles/2023/october/accounting-in-the-age-of-generative-ai?_gl=1*-rgwrwe*_ga*MTcyODE1MzkyMi4xNzA0ODE2MTQy*_ga_BFP14JSJ0G*MTcwNDgxNjE0MS4xLjEuMTcwNDgxNjcxMC42MC4wLjA.*_gcl_au*MjM4MDEzMzIuMTcwNDgxNjE0MA</a></p>
<p>Meservy, R. D., Denna, E. L., &amp; Hansen, J. V. (1992). Application of artificial intelligence to accounting, tax, and audit services: Research at Brigham Young University. <i>Expert Systems with Applications</i>, 4(2). <a href="https://doi.org/10.1016/0957-4174(92)90112-6">https://doi.org/10.1016/0957-4174(92)90112-6</a></p>	<p>Meservy, R. D., Denna, E. L., &amp; Hansen, J. V. (1992). Application of artificial intelligence to accounting, tax, and audit services: Research at Brigham Young University. <i>Expert Systems with Applications</i>, 4(2). <a href="https://doi.org/10.1016/0957-4174(92)90112-6">https://doi.org/10.1016/0957-4174(92)90112-6</a></p>
<p>Norzelan, N. A., Mohamed, I. S., &amp; Mohamad, M. (2024). Technology acceptance of artificial intelligence (AI) among heads of finance and accounting units in the shared service industry. <i>Technological Forecasting and Social Change</i>, (198). <a href="https://doi.org/10.1016/j.techfore.2023.123022">https://doi.org/10.1016/j.techfore.2023.123022</a></p>	<p>Norzelan, N. A., Mohamed, I. S., &amp; Mohamad, M. (2024). Technology acceptance of artificial intelligence (AI) among heads of finance and accounting units in the shared service industry. <i>Technological Forecasting and Social Change</i>, (198). <a href="https://doi.org/10.1016/j.techfore.2023.123022">https://doi.org/10.1016/j.techfore.2023.123022</a></p>
<p>Recommendation of the Council on OECD Legal Instruments Artificial Intelligence. 22.05.2019. OECD/LEGAL/0449. <a href="https://oecd.ai/en/assets/files/OECD-LEGAL-0449-en.pdf">https://oecd.ai/en/assets/files/OECD-LEGAL-0449-en.pdf</a></p>	<p>Recommendation of the Council on OECD Legal Instruments Artificial Intelligence. 22.05.2019. OECD/LEGAL/0449. <a href="https://oecd.ai/en/assets/files/OECD-LEGAL-0449-en.pdf">https://oecd.ai/en/assets/files/OECD-LEGAL-0449-en.pdf</a></p>
<p>Sutton, S. G., Holt, M., &amp; Arnold, V. (2016). "The reports of my death are greatly exaggerated" – Artificial intelligence research in accounting. <i>International Journal of Accounting Information Systems</i>, (22), 60-73. <a href="https://doi.org/10.1016/j.accinf.2016.07.005">https://doi.org/10.1016/j.accinf.2016.07.005</a></p>	<p>Sutton, S. G., Holt, M., &amp; Arnold, V. (2016). "The reports of my death are greatly exaggerated" – Artificial intelligence research in accounting. <i>International Journal of Accounting Information Systems</i>, (22), 60-73. <a href="https://doi.org/10.1016/j.accinf.2016.07.005">https://doi.org/10.1016/j.accinf.2016.07.005</a></p>
<p>Termin.in.ua (n.d.). Artificial intelligence (AI) – what it is, how it works and why it is needed. Date of appeal 12.02.2024. <a href="https://termin.in.ua/shtuchnyy-intelekt/">https://termin.in.ua/shtuchnyy-intelekt/</a></p>	<p>Termin.in.ua (б.д.). Штучний інтелект (ШІ) – що це таке, як працює і навіщо потрібен. Дата звернення: 12.02.2024. <a href="https://termin.in.ua/shtuchnyy-intelekt/">https://termin.in.ua/shtuchnyy-intelekt/</a></p>
<p>The European AI Alliance. Shaping Europe's digital future (n.d.). Last accessed 14.02.2024. <a href="https://digital-strategy.ec.europa.eu/en/policies/european-ai-alliance">https://digital-strategy.ec.europa.eu/en/policies/european-ai-alliance</a></p>	<p>The European AI Alliance. Shaping Europe's digital future (б.д.). Дата звернення: 14.02.2024. <a href="https://digital-strategy.ec.europa.eu/en/policies/european-ai-alliance">https://digital-strategy.ec.europa.eu/en/policies/european-ai-alliance</a></p>
<p>Yao, L., &amp; Jin, M. (2023). Research on Accounting Data Encryption Processing System based on Artificial Intelligence. <i>Procedia Computer Science</i>, (228), 373-382. <a href="https://doi.org/10.1016/j.procs.2023.11.043">https://doi.org/10.1016/j.procs.2023.11.043</a></p>	<p>Yao, L., &amp; Jin, M. (2023). Research on Accounting Data Encryption Processing System based on Artificial Intelligence. <i>Procedia Computer Science</i>, (228), 373-382. <a href="https://doi.org/10.1016/j.procs.2023.11.043">https://doi.org/10.1016/j.procs.2023.11.043</a></p>
<p>Zhang, C., Zhu, W., Dai, J., Wu, Y., &amp; Chen, X. (2023). Ethical impact of artificial intelligence in managerial accounting. <i>International Journal of Accounting Information Systems</i>, (49). <a href="https://doi.org/10.1016/j.accinf.2023.100619">https://doi.org/10.1016/j.accinf.2023.100619</a></p>	<p>Zhang, C., Zhu, W., Dai, J., Wu, Y., &amp; Chen, X. (2023). Ethical impact of artificial intelligence in managerial accounting. <i>International Journal of Accounting Information Systems</i>, (49). <a href="https://doi.org/10.1016/j.accinf.2023.100619">https://doi.org/10.1016/j.accinf.2023.100619</a></p>
<p>Bilyk, M. Yu., Moroz, O. V., &amp; Latyshev, K. O. (2024). The use of artificial intelligence in the marketing activities of enterprises. <i>Efficient economy</i>, (1). <a href="https://doi.org/10.32702/2307-2105.2024.1.49">https://doi.org/10.32702/2307-2105.2024.1.49</a></p>	<p>Білик, М. Ю., Мороз, О. В., &amp; Латишев, К. О. (2024). Використання штучного інтелекту в маркетинговій діяльності підприємств. <i>Ефективна економіка</i>, (1). <a href="https://doi.org/10.32702/2307-2105.2024.1.49">https://doi.org/10.32702/2307-2105.2024.1.49</a></p>
<p>Law of Ukraine No. 996-XIV of 16.07.1999. "On Accounting and Financial Reporting in Ukraine". <a href="https://zakon.rada.gov.ua/laws/show/996-14#Text">https://zakon.rada.gov.ua/laws/show/996-14#Text</a></p>	<p>Закон України № 996-XIV від 16.07.1999 "Про бухгалтерський облік і фінансову звітність в Україні". <a href="https://zakon.rada.gov.ua/laws/show/996-14#Text">https://zakon.rada.gov.ua/laws/show/996-14#Text</a></p>

Kovalenko, M. M., Shevchenko, M. M., & Bilinska, O. P. (2023). Artificial Intelligence in Human Resource Management: Future Development Perspectives. <i>Efficient economy</i> , (4). <a href="https://doi.org/10.32702/2307-2105.2023.11.51">https://doi.org/10.32702/2307-2105.2023.11.51</a>	Коваленко, М. М., Шевченко, М. М., & Білінська, О. П. (2023). Штучний інтелект у кадровому менеджменті: перспективи розвитку на майбутнє. <i>Ефективна економіка</i> , (4). <a href="https://doi.org/10.32702/2307-2105.2023.11.51">https://doi.org/10.32702/2307-2105.2023.11.51</a>
Kolesnikov, A. P., & Karapetyan, A. M. (2023). Artificial intelligence: advantages and threats of use. <i>Efficient economy</i> , (8). <a href="https://doi.org/10.32702/2307-2105.2023.8.9">https://doi.org/10.32702/2307-2105.2023.8.9</a>	Колесніков, А. П., & Карапетян, О. М. (2023). Штучний інтелект: переваги та загрози використання. <i>Ефективна економіка</i> , (8). <a href="https://doi.org/10.32702/2307-2105.2023.8.9">https://doi.org/10.32702/2307-2105.2023.8.9</a>
The Concept of Artificial Intelligence Development in Ukraine: Order of the Cabinet of Ministers of Ukraine dated 02.12.2020. No 1556-r. <a href="https://zakon.rada.gov.ua/laws/show/1556-2020-%D1%80#n8">https://zakon.rada.gov.ua/laws/show/1556-2020-%D1%80#n8</a>	Концепція розвитку штучного інтелекту в Україні: розпорядження Кабміну України від 02.12.2020 № 1556-р. <a href="https://zakon.rada.gov.ua/laws/show/1556-2020-%D1%80#n8">https://zakon.rada.gov.ua/laws/show/1556-2020-%D1%80#n8</a>
Korol, S., & Gnasko, A. (2021) Ethics of professional accountants as a factor of influence on the economic environment. <i>Business Inform</i> , (12), 217-224. <a href="https://doi.org/10.32983/2222-4459-2021-12-217-224">https://doi.org/10.32983/2222-4459-2021-12-217-224</a>	Король, С. Я., & Гнасько, О. І. (2021) Етика професійних бухгалтерів як фактор впливу на економічне середовище. <i>Бізнес Інформ</i> , (12), 217-224. <a href="https://doi.org/10.32983/2222-4459-2021-12-217-224">https://doi.org/10.32983/2222-4459-2021-12-217-224</a>
Korol, S., & Klochko, A. (2020). Digital technologies in accounting and audit. <i>State and regions. Series: Economics and Entrepreneurship</i> , 1 (112), 170-176. <a href="https://doi.org/10.32840/1814-1161/2020-1-29">https://doi.org/10.32840/1814-1161/2020-1-29</a>	Король, С. Я., & Клочко, А. О. (2020). Цифрові технології в обліку і аудиті. <i>Держава та регіони. Серія: Економіка та підприємництво</i> , 1 (112), 170-176. <a href="https://doi.org/10.32840/1814-1161/2020-1-29">https://doi.org/10.32840/1814-1161/2020-1-29</a>
Lebedenko, S. O. (2023). Artificial intelligence in marketing. <i>Efficient economy</i> , (4). <a href="https://doi.org/10.32702/2307-2105.2023.4.38">https://doi.org/10.32702/2307-2105.2023.4.38</a>	Лебеденко, С. О. (2023). Штучний інтелект в маркетингу. <i>Ефективна економіка</i> , (4). <a href="https://doi.org/10.32702/2307-2105.2023.4.38">https://doi.org/10.32702/2307-2105.2023.4.38</a>
Ruda, O. L. (2024). Artificial intelligence and directions of use in banking. <i>Efficient economy</i> , (1). <a href="https://doi.org/10.32702/2307-2105.2024.1.50">https://doi.org/10.32702/2307-2105.2024.1.50</a>	Руда, О. Л. (2024). Штучний інтелект та напрями використання в банківській діяльності. <i>Ефективна економіка</i> , (1). <a href="https://doi.org/10.32702/2307-2105.2024.1.50">https://doi.org/10.32702/2307-2105.2024.1.50</a>
Fostolovich, V. A. (2022). Artificial intelligence in modern business: potential, modern trends and prospects for integration into various spheres of economic activity and human life. <i>Efficient economy</i> , (7). <a href="https://doi.org/10.32702/2307-2105.2022.7.4">https://doi.org/10.32702/2307-2105.2022.7.4</a>	Фостолович, В. А. (2022). Штучний інтелект в сучасному бізнесі: потенціал, сучасні тренди та перспективи інтегрування у різні сфери господарської діяльності і життєдіяльності людини. <i>Ефективна економіка</i> , (7). <a href="https://doi.org/10.32702/2307-2105.2022.7.4">https://doi.org/10.32702/2307-2105.2022.7.4</a>

**Conflict of interest.** The authors certify that don't they have no financial or non-financial interest in the subject matter or materials discussed in this manuscript; the authors have no association with state bodies, any organizations or commercial entities having a financial interest in or financial conflict with the subject matter or research presented in the manuscript. Given that one of the authors are affiliated with the institution that publishes this journal, which may cause potential conflict or suspicion of bias and therefore the final decision to publish this article (including the reviewers and editors) is made by the members of the Editorial Board who are not the employees of this institution.

The contribution of the authors is equal.

Korol S., Romashko O. Artificial intelligence in accounting. *Scientia fructuosa*. 2024. № 2. S. 145-157. [https://doi.org/10.31617/1.2024\(154\)08](https://doi.org/10.31617/1.2024(154)08).

*Received by the editorial office 19.02.2024.*

*Received after revision 01.03.2024.*

*Accepted for printing 11.03.2024.*

*Published online 11.04.2024.*