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**ACCOUNTING AND AUDIT OF ELECTRONIC
TRANSACTIONS IN METAVERSES**

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Introduction. *The latest stage in the development of the Internet is the active use of VR and AR technologies, which in the context of virtualization of information processes leads to the spread of meta-environments. The functioning of metaverses, which are integrated information environments of virtual communications, is associated with the emergence and circulation of intangible objects, which requires the improvement of their accounting and auditing. The fundamental basis of financial and economic activities in the metaverses are*

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electronic transactions, so it is important to improve their accounting and control in the management of enterprises.

The main aim is to research the prospects for improving the accounting and auditing of electronic transactions, which provide for the formation of contractual relationships, their implementation and payment using cryptocurrencies in the metaverses.

Methods. In the process of the article purpose realization the system, innovative, institutional approaches and methods of economic and mathematical modeling, bibliographic and comparative analysis are used.

Results. The influence of the peculiarities of financial and economic activity in metaverses on the method of accounting is investigated. Recognition of NFT as an accounting object using variable methods of their estimation in metaverses is determined: initial value according to past identification of cost components, fair value through current valuation, market value according to market value and prospective value.

The necessity of using audit control methods to ensure the trust of participants in electronic transactions in meta-environments, as well as to confirm the accuracy of their reporting and other accounting information. A method of identifying electronic transactions has been developed, which has the following features: trade scams; legalization of money obtained illegally; use by attackers. The method of auditing the enterprises activities in the metaverses has been improved: introduction of accounting outsourcing in the field of financial accounting of electronic transactions; separation of information flows, which relate only to virtual financial and economic operations in metaverses; research of the internal control service of enterprises, assessment of current experience and training of staff to work with specific virtual accounting objects; formation of financial statements reflecting intangible assets related to the functioning of meta-environments.

Perspectives. It is determined that further research is needed to improve the taxonomy of standard financial reporting to fully and accurately reflect the new accounting objects of the metaverses.

Keywords: *accounting, audit, electronic transactions, metaverse, NFT, cryptocurrencies, blockchain, audit services, virtual reality technologies.*

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Introduction. The latest trends in the development of computer and communication technologies are the virtualization of social and economic processes. The use of methods of virtual and augmented reality creates unique opportunities in business development. Visual information display technologies are actively implemented in the business processes of modern enterprises. Complementing traditional technologies of information processing with program and technical means of visualization provides ergonomic operation of employees in various sectors of the economy. However, when the interest of a wider range of consumers of goods (works, services) arises in virtual and augmented reality technologies, the formation of integrated virtual information environments is possible.

The latest stage in the development of virtual and augmented reality technologies in social and economic processes is the formation of metaverses. The metaverse is a virtual communication environment based on the further development of the Internet, in which

value objects have only an intangible form. In meta-environments, all communications take place via the Internet with the help of visual images of participants in business relationships. Electronic transactions in metaverses are realized using intangible objects. All tools and objects of work in virtual environments of electronic transactions are also virtual. Money circulation is based on the use of real banknotes in non-cash form, as well as crypto currencies in various forms of origin. Combination of all forms of non-cash payments together with the formation and implementation of virtual contractual relationships in the meta-environment determines a new stage in the development of electronic transactions.

Participants of electronic communications interact exclusively remotely, which transforms the classic systems of accounting, control and management of enterprises. Accounting and control operations complement the information field of meta-environments. The saturation of meta-environments with accounting information forms an innovative integrated universe in which all social and economic and information and management processes take place virtually. The implementation of electronic transactions in metaverses leads to the emergence of new accounting objects, which requires improved accounting and auditing.

Analysis of research and publications. According to forecasts, the global indicator of total income of enterprises in all metaverses will increase from 0.39 trillion US dollars in 2021 to 6.79 trillion US dollars in 2030 [1]. This indicator shows an increase of more than 17 times in just 10 years of statistical observation. Intensive growth is an indicator of the investment attractiveness of meta-environment enterprises. An indicator of the prospects of business in the metaverses is also the number of potentially involved persons in financial and economic activities in this area, which comprise 23.36 million people in 2030 (Fig. 1) [2]. The growth rate of this indicator is slightly lower compared to the profitability of the activity of metaverses and is about 9 times by 2030.

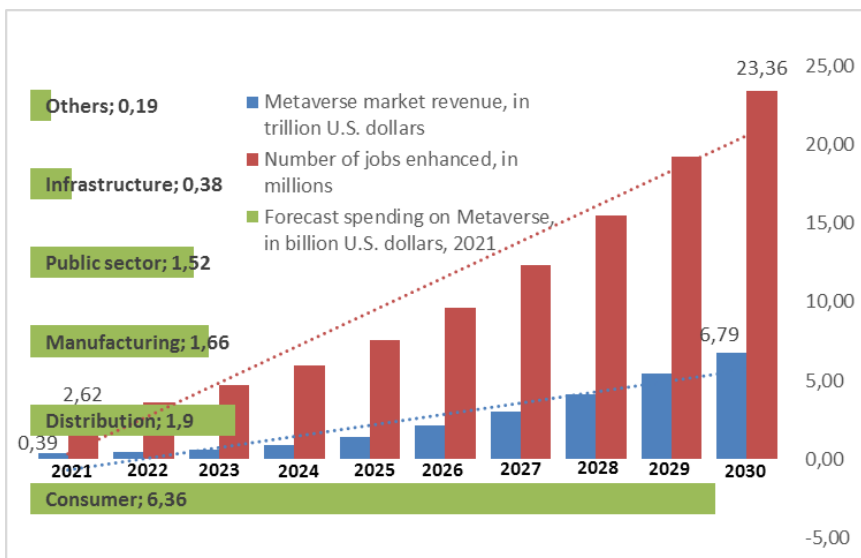


Fig. 1. Global indicators of income and expenditure of activity in the metaverses and the number of people employed in this field

Source: based on [1; 2; 3].

The actuality of business in meta-environments is also confirmed by the global indicator of total costs of financial and economic activities with the use of virtual reality technologies. In particular, in 2021, global consumer-oriented companies spent \$ 6.36 billion on virtual meta-environments, 1.9 billion on goods distribution, 1.66 billion on manufacturing, and 1.52 billion on the public sector, 0.38 billion on infrastructure and communications [3].

The prospects for further development of metaverses as information grounds for business communications are also confirmed by numerous scientific works that have become widespread since 2022. In particular, Ian Hughes predicts a positive future for business in the metaverse, which involves partial or complete implementation of virtual technologies in the social and economic processes of the future [4]. Stephen Taylor and Shamit Soneji define that the development of metaverses marks the actualization of the latest science – bioinformatics, which is based on a set of data on social and economic needs of people that can be provided in virtual information environments [5]. According to Svend Hollensen, Philip Kotler and Marc Opresnik, marketing is the most promising area for commercialization of enterprises in the metallurgical environment [6]. This position is also supported by Charles Taylor, who identifies marketing in meta-environments as an innovative call to action for potential buyers [7]. Metaverse is a unique environment for the development of new marketing tools to promote products (works, services). Also, Hilmi Akkus, Samet Gürsoy, Mesut Doğan and Ahmet Demir predict a new stage in the development of crypto currencies due to the proliferation of meta-environments in which crypto currencies are not only investment objects, but also means and objects of labor [8].

Only the development of meta-environments, as Andri Silalahi proves, is a real element of the modern digital economy, in which all business processes are carried out in electronic form [9]. Roger Bowden identifies the positive impact of meta-environment development on the economic systems of most countries, but at the same time he identifies significant difficulties and risks [10]. According to Pietro and Stefano Cresci, threats to privacy and cybersecurity are the biggest obstacles to the development of metaverses [11]. Successful projects for commercialization of meta-environments are shared by Peter Fernandez, who draws attention to the positive business experience in social media [12]. Alessandro Aurigi identifies the possibility of integrating smart cities and urban spaces into metaverses for parallel business activities [13].

Despite significant scientific and practical developments in the field of commercial use of metaverses, the need to improve accounting and auditing of financial and economic activities of enterprises in meta-environment is ignored. The absence of scientific work on accounting and control issues in the metaverses eliminates the crucial role of accounting and auditing as information generators and communication communicators in the digital economy of the new generation.

The purpose of the article lies in the study of the prospects for improving the accounting and auditing of electronic transactions, which involve the formation of contractual relationships, their implementation and payment using crypto currencies in metaverses.

The research hypothesis is based on the positioning of metaverses as innovative integrated information environments of business interaction of counterparties, between which there are electronic transactions in virtual form, the information generator and communicator of which is accounting and auditing.

Results. Functioning of meta-environments is connected with significant business risks. The mutual mistrust and insecurity of the participants in business relationships are in the first place in terms of risk. The processes of finding of commodity items, their purchasing and paying can be in virtual form, and the goods can be intangible. As business contacts take place exclusively in an electronic environment, it is extremely difficult to verify the reliability of counterparties' financial statements. Similarly, the business reputation of businesses that operate over the Internet is questionable. Traditionally, there is no absolute trust of e-commerce among customers due to the impossibility of: previously more fully getting acquainted with the selected goods (works, services), offline communication with sellers, checking the integrity of the store, using after-sales services, including warranty repair). All these shortcomings of e-commerce are inherent in business relationships in the metaverses, but on a much larger scale, which is explained by the presence of exclusively virtual communications.

The most effective means of ensuring the accuracy of accounting information and trust in the participants of business relationships in the metaverses is conducting of an independent audit. The implementation of economic activity in the field of audit is a perspective and profitable activity in conditions of the metaverse. Already now, the largest audit companies are interested in virtual space in the metaverses for the organization of the audit business. All participants in business communications are interested in the audit. Sellers and buyers of goods (works, services), controlling institutions, meta-environment operators, e-money issuers, trading platforms and other institutions can order audit control.

Auditors can audit the functioning of virtual participants in business communications in terms of compliance with their activities to legal norms, rules of metaverse operators, the reliability of financial statements, the effectiveness of certain activities, etc. In this case, auditors can be guarantors of electronic money transactions. It is advisable to establish a contractual relationship with a counterparty whose business reputation is confirmed by an audit firm. Electronic transactions with such counterparties are secure. If the participant of business communications has not passed the audit, the business relationship with him is risky.

Therefore, audit firms can be an additional participant in the process of concluding business relationships and electronic settlements under contracts. If the money transactions are for a significant amount of money, then with the consent of both parties of business communications, an independent auditor may be involved to provide assurance and guarantee of electronic settlements. Based on rapid counterparty audits, auditors can fully approve electronic money transactions or determine the level of riskiness of such transactions. In special cases, participants in business relationships in metaverses may give auditors the right to dispose of funds. Auditors as managers of electronic money should be allowed to conduct operational monetary transactions in small amounts, for example, for: commission billing, electricity or rental of advertising space, salaries of temporary employees, etc.

Audit firms may also provide related services, including accounting services in metaverses. Due to the emergence of new intangible accounting objects and the active use of crypto currencies in electronic transactions, accounting outsourcing is advisable. Auditors may perform accounting transactions for the collection, processing

and interpretation of accounting information about financial and monetary transactions in metaverses. In this case, enterprises need to separate information flows related to activities in meta-environments. Auditors should be provided with the necessary level of access to the processes of implementation of virtual activities and information about it. The transfer of accounting and control procedures to audit firms will provide an additional level of confidence in enterprises in the meta-environment. In other words, accounting outsourcing for virtual enterprises will reduce the need to engage independent auditors for ensuring the reliability of accounting information.

However, full transmission of accounting functions can lead to an increase in cyber risks. Because accounting information often contains trade secrets, providing access to it to audit firms or other outsourcers threatens the information integrity of enterprises in the metaverse [14]. It should be borne in mind that the economic activity of enterprises in the metaverse can take place only in a virtual form with the formation of electronic copies of documents. Virtualization of financial and economic activities further increases the sensitivity of accounting information to cyber threats. The formation of accounting documents in metaverses only in electronic format increases the risk of its loss or transmission to attackers.

Therefore, it is necessary to differentiate information accounting flows for outsourcing purposes. It is advisable to outsource financial accounting, the information of which is publicly available to the outsourcer. Instead, management accounting data that contain trade secrets should not leave the information boundaries of enterprises in the metaverse. Therefore, the implementation of management accounting functions should be left to full-time accounting professionals. Automatically collected primary accounting data should be automatically distributed for the purposes of financial accounting with the transmission to the audit (outsourcing) firm and management accounting in the accounting department of enterprises of meta-environments.

The most sensitive to cyber threats and necessary for dual distribution for the purposes of separate financial and management accounting is accounting information about the acquisition process or sale of enterprises in the metaverses and settlements with counterparties. The defining feature of metaverses is the circulation of objects and means of labor only in intangible form, participating in virtual financial and economic activities. The functioning of meta-environments is associated with the active use of crypto currencies and other intangible assets. Non-fungible tokens (NFT) are a special type of crypto currencies involved in settlement operations. The determinant feature that distinguishes NFT from crypto currencies involved in electronic money transactions is their uniqueness. Similar to objects and money in the non-virtual world, only one individual or legal person can be an issuer or acquirer of NFT. The loss or voluntary transmission of NFT is irreversible and final. In addition, NFTs, unlike crypto currencies, are less susceptible to speculative manipulation by investors because they have a stable value over time, and therefore less investment attractiveness. Therefore, most of the resources of the metaverse, which virtually duplicate the financial and economic processes of real sectors of the economy, are based on the principles of NFT.

Accordingly, NFT, with its more predictable value and market-based pricing mechanisms, best meets the criteria for recognition as an accounting entity among all crypto currencies.

The ability to identify the cost components of NFT and low market volatility helps to reliably determine the value of asset creation in the metaverse. The cost of NFT may consist of: the value of other NFTs spent and current intangible assets recorded on different types of media, which transfer the value to the newly created object; salaries of employees involved in the functioning of the meta-environment, together with social security contributions; depreciation of tangible and intangible means of labor used in the production of virtual objects of labor; the cost of utilities and energy resources, if it is possible to establish the fact of their direct association with the production process and other direct costs.

The task of NFT audit, provided that their primary cost can be reliably determined, is to advise metaverse enterprises to identify all factors of production, reliably determine their value for full inclusion in the cost of finished products (works, services). Such audit control may also be used by the parties of the contractual relationship in electronic transactions. In the process of determining the cost of virtual assets, the audit client may also be interested in an independent assessment of the fair value of NFT, which is considered as a potential acquisition. In other words, the buyer may need expert opinion on the fair value of NFT through an approximate determination of its initial and market value.

Participants in electronic transactions are interested in reliable positioning of the value of NFT in the market in order to avoid speculative overcharging, as well as forecasting the future growth of market value for obtaining future benefits from the retention of intangible assets. Auditors are required to have expertise in assessing the value of NFT in determining the past initial cost, current fair value and future market value.

However, electronic transactions using NFT are also characterized by certain shortcomings, which are related to the dishonest activities of the parties to the contractual relationship. First of all, for increasing the consumer or investment value of NFT, participants in electronic transactions can resort to trade scams. An NFT issuer or acquirer may conspire with a specific buyer or create fictitious buyers for multiple resale of crypto currencies. In the system of electronic transactions there are circular operations of resale of NFT with their return to the original owner. That is, the owner of NFT does not change in the end, but the indicators of their popularity and circulation in the system of electronic transactions are illegally inflated. As a result, there is a distortion of accounting information about NFT, which can lead to its misinterpretation by managers of enterprises in metaverses.

It is advisable to entrust auditors with verification of the authenticity of the history of electronic transactions. The task of audit is to confirm the integrity of previous NFT purchase and sale transactions. Because block chain technology is able to hide the identities of customers, it is necessary to conduct an audit of email addresses of wallets and dates of transactions. If during a short period of time repeated electronic transactions with a certain NFT from a single wallet were conducted, so fictitious actions were done. In addition, historical changes in the current balance of a certain type of NFT of the issuer and the right holder also need control. If the current balance of NFT with a large number of sales transactions does not change in one owner – there is also a fictitious trade cycle. It is also possible to check the information based on the number of electronic transactions from new wallets. If the purchase and sale transactions were conducted from newly created wallets, there is a suspicion of abuse. For example, the analysis of statistical data (Fig. 2) shows a

significant share of newly created wallets in electronic transactions in NFT, which indicates massive investment manipulation in the market [15].

Unique Wallets that bought NFTs New wallets last month

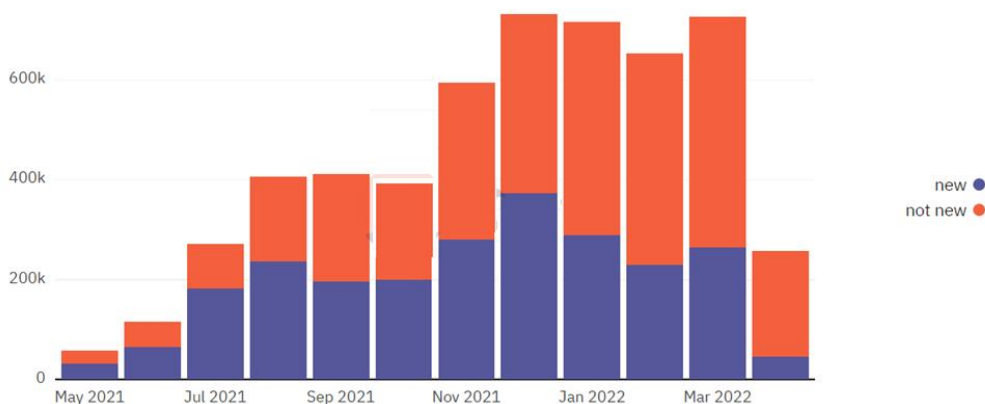


Fig. 2. The share of new wallets in electronic transactions with NFT
Source: calculated on the basis of [15].

Another area of illegal use of NFT is the legalization of illegally obtained funds. NFTs can be virtual copies of real-world objects, including codification of fine art objects. Accordingly, through the purchase and subsequent sale of digital art objects, it is possible to legalize funds. According to the National Law Review in 2019, fine art subjects are quite easy to move physically, they have a stable value, which provides a high level of investment protection [16]. That is why, paintings and other works of art are popular in the criminal environment as a means of obtaining future funds that are difficult to link to illegal activities. According to a study by the FinCEN US in 2021, the risk of money laundering through the sale of works of art is the highest in the history of observation [17].

In the field of digital duplicate works of art, auditors have the ability to control the illegal “laundering” of funds through NFT. If the movement and trade of physical works of art is extremely difficult to control, electronic transactions with NFT are transparent and open. Evidence of the complexity of illegal circulation of NFT is the small share of money laundering with their help (6 per cent) in total volume of crypto currency fraud, which is estimated at \$ 8.6 billion in 2021 [17]. However, unauthorized electronic transactions comprise a significant risk of losing confidence in NFT. Therefore, auditors are recommended to monitor transactions with each NFT for on the subject of illegal circulation. As a rule, malefactors simultaneously close numerous electronic transactions with NFT, which have a small cost for distracting attention of regulatory authorities. The rapid growth in the number of sales transactions in a short period of time is suspicious. In addition, suspicions may arise with exactly the same number of sellers and buyers of these transactions. An example of quantitative correspondence of sellers and buyers is shown in Fig. 3 according to statistical studies.



Fig. 3. The ratio of sellers and buyers in the NFT market
 Source: calculated on the basis of [18].

If the number of sellers and buyers coincide during mass electronic transactions, then fraudulent manipulations take place. After all, several buyers may want to buy popular NFT in the free market. And on the contrary, the product offer of irrelevant NFT by an unreliable seller will not find a buyer in the market. Accordingly, auditors can identify NFTs in respect of which there are abuses, as well as warn about risky electronic transactions of an enterprise in meta-environments.

The information scheme of advanced accounting and auditing of electronic transactions in the metaverses is shown in Fig. 4.

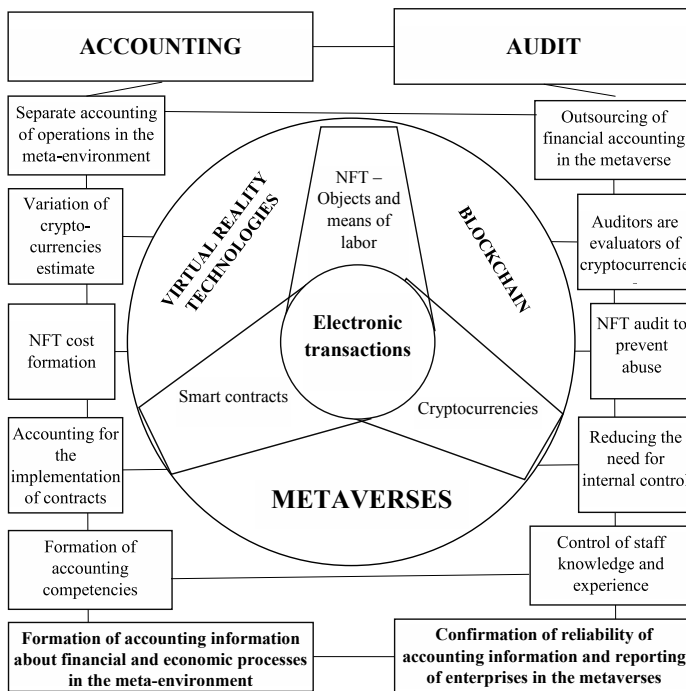


Fig. 4. Information scheme of accounting and audit of enterprises in metaverses
 Source: generated by the author.

Conducting of e-transactions in metaverses is accompanied by significant risks. Manifestation of meta-environment risks inevitably leads to distortion of accounting information and reporting of virtual enterprises. Auditors should consider the variable risks of the crypto currency cycle when planning an audit. To do this, auditors can examine the accounting policy of the company in terms of implementing electronic transactions using NFT, the presence of relevant experience in crypto currency accounting among accounting staff, the state of development of internal audit, compliance of internal forms of external reporting with the realities of electronic money accounting.

If the company carries out financial and economic activities simultaneously with the use of traditional communication channels, product promotion (works, services) and virtual information environments, it is necessary to differentiate information flows in accounting. The application of different tax systems, variable elements of accounting policy, different qualified accounting professionals requires a dual view of the method of accounting. For separate accounting of electronic transactions, it is advisable to introduce analytical accounts of settlements with counterparties in meta-environments. At the same time for versatile analytics in the methodology of accounting it is advisable to use different forms of cumulative documents and forms of management reporting. The task of audit is to control and prevent cross-accounting of costs and revenues related to electronic transactions in real or virtual sectors of the economy, which may lead to distortion of accounting information.

The absence of experience and practice of accounting of electronic transactions among the staff can lead to incorrect crediting of financial and economic transactions of metaverses to the accounting indicators of other activities of enterprises. In other words, credentials related to electronic money transactions can be mixed by employees with information from other sources. In the future, users of information will not be able to identify certain accounting elements that relate exclusively to the activities of enterprises in metaverses. In this case, the accounting information is incomplete.

First of all, it is difficult for inexperienced accounting staff to identify and monitor contractual relationships between contractors based on smart contracts. Smart contracts can only work within a certain meta-environment. Outside the information boundaries of the metaverse or between different metaverses, signing and executing smart contracts is extremely difficult. Uninformed accounting staff may initiate and authorize the conclusion of such contractual relationships that are impossible.

As smart contracts for e-transactions in metaverses are executed automatically, accountants can also skip control dates in the financial and business calendar. That is, according to the time of fulfillment of the terms of the smart contract, the write-off of funds in favor of the recipient may occur without the reflection of the monetary transaction in the accounting system. As a result, a large amount of accounting information about the contractual relationship may be lost. To avoid the loss of accounting information resources, it is necessary to provide automatic display of electronic transactions in the accounting system. Along with the automatic implementation of electronic transactions in accordance with the smart contract, it is advisable to make entries in accounting accounts and electronic accounting registers.

As a result of the possibility of functioning of metaverses exclusively on smart contracts, the need for further business communications with the parties of contractual relations is

lost. After the initial business relationship concerning discussions of terms and signing of a smart contract (agreeing to its terms), the contractors lose the possibility of non-fulfilment, deferred payment or other breach of contractual obligations. That is why, enterprises in the metaverses should use the methods of smart contracts in the organization of the internal control system of electronic transactions. The implementation of automatic electronic transactions in metaverses will prevent unfair performance of contractual relations. An automated system of management of electronic transactions is also able to control all information flows. Accordingly, the need for involvement of the company's staff in the internal control of electronic transactions is reduced, and the risks of distortion of accounting information are significantly minimized.

The auditor should identify and assess the risks of substantial distortion in financial statements, which include an assessment of the types of potential distortions and an assessment of the probability and magnitude of the misstatements, and the identification of probable sources of potential distortions. An audit is necessary for reflection of NFT accounting objects and electronic transactions related to them in the financial statements in the part: of the book value of non-current and current intangible assets in the statement of financial position of an enterprise; income and expenses, respectively, profits or losses, which in the enterprises of metaverses can be formed exclusively as a result of virtual economic activity; contributions of crypto currencies to registered, additional or reserve capital, as well as revaluation of intangible assets in the statement of the own equity; cash inflows and outflows based on the results of electronic cash transactions in the statement of cash flows, etc. Therefore, further research is needed for improving the taxonomy of enterprise reporting in the metaverses to form reliable, complete and timely accounting information about electronic transactions.

Conclusions. The latest stage in the development of computer and communication technologies in the digital economy is the formation of virtual information environments for business communications – metaverses. The functioning of meta-environments is associated with significant risks such as: distrust of participants, inaccuracy of information, complexity of management, etc. Avoiding the riskiness of activity of enterprises in meta-spaces foresees improvement of accounting and auditing of electronic transactions, which includes the formation of contractual relationships, their implementation and payment using various crypto currencies.

The latest crypto currency that is actively developing in meta-environments is NFT – an irreplaceable token. NFT is an electronic copy of a specific accounting object (object or means of labor), which virtually exists in a single version and circulates similarly to works of fine art. The task of accounting of electronic transactions using NFT involves a reliable determination of their value. To estimate the value of NFT, it is advisable to use the initial cost based on the identification of the past cost components, fair value through current valuation, market value through determining the prospective ratio of supply and demand in the market.

Auditors are required to have ability to expertly assess the value of NFT. Auditors can be guarantors of electronic transactions, verify the accuracy of accounting information, ensure the business activity of the parties to contractual relations in the metaverses. In addition, the conclusion of electronic contracts on the principles of smart contracts can increase the

level of control over electronic transactions, which reduces the need for audit services. However, electronic transactions using NFT are characterized by shortcomings connected with dishonest activities of the parties to the contractual relationship: trade scams and money legalization obtained illegally. Based on the monitoring of information operations in meta-environments with the use of specific audit procedures, auditors can warn the management of enterprises about risky electronic transactions.

Auditors may also provide related audit services on: accounting outsourcing in the field of financial accounting of electronic transactions; separation of information flows, which relate only to virtual financial and economic operations in metaverses; research of the internal control service of enterprises; assessment of current experience and training of staff to work with specific virtual accounting objects; formation of financial statements reflecting intangible assets related to the functioning of meta-environments. However, further research is needed to improve the taxonomy of standard financial reporting to fully and accurately reflect the new accounting objects of the metaverses.

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ОБЛІК ТА АУДИТ ЕЛЕКТРОННИХ ТРАНСАКЦІЙ У МЕТАВСЕСВІТАХ

Анотація

Вступ. Новітнім етапом розвитку Інтернет-мережі є активне використання технологій віртуальної та доповненої реальності, що в умовах віртуалізації інформаційних процесів призводить до поширення метасередовищ. Функціонування

метавсесвітів, які є інтегрованими інформаційними середовищами віртуальних комунікацій, пов'язане з виникненням та кругообігом нематеріальних об'єктів, що потребує удосконалення їхнього обліку й аудиту. Оскільки фундаментальною основою фінансово-господарської діяльності у метавсесвітах є електронні трансакції, важливим є удосконалення їхнього обліково-контрольного позиціонування в управлінні підприємствами.

Мета статті полягає в дослідженні перспектив удосконалення обліку та аудиту електронних трансакцій, що передбачають процеси формування договірних взаємовідносин, їхню реалізацію та оплату з використанням криптоактивів у метавсесвітах.

Методи. У процесі реалізації сформованої мети наукового дослідження використані системний, інноваційний, інституційний підходи та методи економіко-математичного моделювання, бібліографічного та компаративного аналізу.

Результати. Досліджено вплив особливостей фінансово-господарської діяльності у метавсесвітах на методика бухгалтерського обліку. Обґрунтовано визнання NFT (невзаємозамінних токенів) обліковим об'єктом з використанням варіативних методів їхньої оцінки в метавсесвітах на основі визначення: первісної вартості за даними минулої ідентифікації собівартісних складових, справедливої вартості через теперішню оцінку, ринкової вартості через визначення перспективного співвідношення попиту і пропозиції на ринку.

Доведено необхідність використання методик аудиторського контролю для забезпечення довіри до учасників електронних трансакцій в метасередовищах, а також підтвердження достовірності їхньої звітності та іншої облікової інформації. Розроблено методика ідентифікації електронних трансакцій, що мають ознаки: торгівельних афер; легалізації грошових коштів, отриманих незаконним шляхом; використання зловмисниками. Удосконалено методика аудиту діяльності підприємств у метавсесвітах через: запровадження облікового аутсорсингу у сфері фінансового обліку електронних трансакцій; відокремлення інформаційних потоків, які стосуються лише віртуальних фінансово-господарських операцій у метавсесвітах; дослідження служби внутрішнього контролю підприємств, оцінку актуального досвіду та підготовку персоналу до роботи з специфічними віртуальними обліковими об'єктами; формування фінансової звітності з відображенням нематеріальних активів, що пов'язані зі функціонування метасередовищ.

Перспективи. Визначено, що подальших досліджень потребує удосконалення таксономії стандартної фінансової звітності для повного та достовірного відображення нових облікових об'єктів метавсесвітів.

Ключові слова: облік, аудит, електронні трансакції, метавсесвіт, NFT, криптоактиви, блокчейн, аудиторські послуги, технології віртуальної реальності.

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