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ОРГАНІЗАЦІЙНІ ФОРМИ ОБЛІКУ ЕЛЕКТРОННИХ ТРАНСАКЦІЙ

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Abstract

Introduction. *An element of the organization of accounting for electronic transactions at the enterprise is the choice of the optimal organizational form. With the development of means of payment, centripetal and centrifugal trends in the organization of accounting and management alternately changed. Centralization (decentralization) of accounting takes place at the functional, software-technical, informational, territorial, structural and consumer levels. Each individual case of organization of accounting of electronic transactions may involve different organizational levels, which leads to combinational processing of accounting information. The need to research combined organizational forms determines the relevance of the article.*

The purpose *of the article is to develop the newest form of organization of accounting and management of electronic transactions as a further development of combined-centralized and combined-decentralized options with the aim of simultaneously delegating accounting and management powers to full-time employees and variable outsourcers.*

Methods. *Systemic, innovative, functional approaches and methods of generalization, bibliographic and comparative analysis were used in the process of realizing the established goal of scientific research.*

Results. *The presence of a significant number of limitations and shortcomings in the organization of accounting for electronic transactions according to the classic centralized and decentralized organizational options has been proven. The peculiarities of the combined-centralized form of electronic transaction accounting organization, which involves the autonomous collection of primary data and placement in centralized databases, as well as*

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the combined-centralized form with the formation of a distributed database with fragmented access to it by users based on blockchain technology, have been studied. The concept of the latest organizational option, which corresponds to the current stage of development of electronic money and crypto-objects, has been developed, based on cluster combined delegation and remote performance by full-time personnel of the functions of accounting, control and management of electronic transactions. With the cluster organizational form, the division of functional responsibilities in the vertical (types of accounting, control, management) and horizontal (types of financial and economic processes or accounting objects) plane is provided for the outsourcing of accounting and management functions between variable outsourcers.

Conclusions and prospects for further research. *The implementation of a cluster version of the organization of accounting in the field of electronic transactions ensures: consideration of information priorities and rights of access to information by users, maximization of benefits from a combination of delegation and independent implementation of functions by full-time personnel, distribution of functions between outsourcers taking into account the level of their competence, optimization of information flows of the enterprise, financial and cyber security of enterprises, etc. Therefore, the organizational features of ensuring financial and cyber security of enterprises in the context of accounting and management of electronic transactions require further research.*

Keywords: *accounting, control, management, electronic transactions, organizational form, cluster variant of outsourcing.*

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Introduction. The accounting process at the enterprise quite often begins with the search for the optimal organizational form. The choice of organizational format determines the order of collection, movement and interpretation of accounting information. The historical development of organizational variants of accounting is connected with the struggle between centripetal and centrifugal tendencies in the processing of accounting information. The evolutionary development of means of payment has always prompted accounting and management specialists to organizational shifts in the theoretical as well as applied field of accounting and management. The gradual formation of the system of electronic transactions caused the alternate replacement of centralized and decentralized forms of accounting organization. The spiral of innovative changes in the time vector causes the manifestation of new aspects of the functioning of the electronic transaction system in accounting theory and practice. As a result, the centralization of accounting is replaced by decentralized information processing, and so is repeated with changing trends in the use of monetary means of payment. The popularization of electronic money and crypto-objects has led to the combination of centripetal and centrifugal aspects of accounting and management. The perspective of the study of combined accounting organization options determines the relevance of generating the latest accounting information processing format, taking into account the capabilities of modern computer and communication technologies.

Literature Review. In the history of the organization of accounting, two trends in the processing of accounting information (central and centrifugal) are permanently opposed,

which changed simultaneously with the evolution of computer technology. As proved by S. V. Ivakhnenkov, «there are two competing but complementary trends of centralization and decentralization that affect the organization of accounting at the current stage of development of technical means of computing and communication» [1, p. 294]. «Accordingly, according to the degree of centralization of accounting information processing, the forms of accounting organization are divided into centralized – accounting procedures are performed on a single computer (server) and decentralized – based on local calculations with the subsequent merging of accounting data into a single report» [2, p. 188-189].

The correlation between the definitions of «centralization» and «decentralization» of accounting was proved by scientist T.V. Popitich, according to whom «in practice, both a fully centralized and a fully decentralized accounting system cannot exist» [3, p. 304]. A team of scientists led by F.F. Butynets suggests supplementing traditional centralized and decentralized accounting with new organizational options of incomplete centralization and incomplete decentralization. «In the case of incomplete centralization of accounting, a central accounting department and accounting units are created in divisions that do not keep registers of analytical and synthetic accounting, but only accept, check and group documents for their transfer to the central accounting department; with incomplete decentralization of accounting in individual units of the enterprise, in addition to compiling documents, analytical accounting is conducted, the final data of which are periodically compared with the data of synthetic accounting of the accounting department» [4, p. 222].

Z. Liu and other scientists substantiated the direct dependence of the centralized or decentralized organizational format on the location of all participants in the accounting process [5]. Instead, T. Maszczak believes that the choice of the organizational form of accounting depends on the size of the business of modern business entities [6]. B. Nicholson, A. Aman consider the inciting factor for the centralization or decentralization of accounting information processing to be the opposition of competing institutional logics based on the institutional understanding of accounting [7].

Synergistic combination of centripetal and centrifugal tendencies in the organization of accounting information processing V.V. Muravskyi suggests calling it combined accounting [8]. According to the scientist, in conditions of activation of communication processes in accounting, control and management, combined-centralized and combined-decentralized formats of automated processing and interpretation of accounting information are formed [9, p. 70]. An example of such combined organizational options, according to A. Asatiani, is the cloud accounting organization, when primary data is collected decentralized and sent to centralized cloud storages [10]. C. Cullinan and X. Zheng emphasize the need to develop combined variation forms that simultaneously take into account the organizational features of accounting and audit control of enterprises [11]. Z. – M.V. Zadorozhnyi and other scientists position such a combined combination of centralized and decentralized forms of organization as the evolutionary emergence of a new organizational option – mosaic accounting, which opens up opportunities for distributed outsourcing of accounting, control and management powers to several independent institutions [12, p. 541].

The presence of various organizational forms of accounting in the conditions of the use of innovative computer and communication technologies requires a more detailed study of options for their combined use in the activities of modern enterprises, taking into account

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various motivating organizational factors and the peculiarities of the functioning of the electronic transaction system in the digital economy.

Purpose. The main aim of the article is to develop the newest form of organization of accounting and management of electronic transactions as a further development of combined-centralized and combined-decentralized options with the aim of simultaneously delegating accounting and management powers to full-time employees and variable outsourcers.

Results. The most widespread format of accounting organization is the creation of a centralized accounting unit. When accounting is centralized, all accounting information is accumulated in a single place – the «accounting department» and in one person, who usually performs the duties of the «chief accountant» of the enterprise. The functions of the chief accountant may differ in different enterprises and depend on organizational factors. At small enterprises, a single accountant combines all functional responsibilities not only of the accounting direction, but also of analysis, control, legislative regulation, management, etc. As a result, the organization of accounting, including electronic transactions, in small enterprises and individual entrepreneurs is characterized by the highest degree of centralization. Such an organizational format has a complex of negative points, which are related to the insufficient resistance of the accounting system to internal and external threats, the complexity of independent control of accounting information, and excessive concentration of management powers.

The situation is somewhat different in medium and large enterprises, in which the chief accountant can perform general coordination functions, prepare final internal and external reporting, determine the accounting policy of the enterprise, also taking into account the peculiarities of the implementation of electronic transactions. In the organizational structure of the enterprise, an accounting specialist responsible for monetary transactions is often singled out. This accountant is subordinated to employees of the organizational department – «Cashiers». The cash department operates with cash and cash equivalents in material form and forms accounting information on relevant monetary transactions. In the conditions of a complete transition to electronic transactions, the company›s management may refuse cash transactions, which reduces the functions of the «Cashier» as a separate organizational unit. In this case, all monetary transactions become cashless, which with the active development of computer and communication technologies transforms them into a system of electronic transactions. Accordingly, the accounting specialist for non-cash transactions carries out monetary transactions through electronic means of communication and forms appropriate information arrays for the Chief Accountant. Also, officials in the field of accounting for electronic transactions are expected to make a centralized decision regarding permission to transfer a monetary transaction. Centralization, as well as decentralization of accounting is possible at several levels: functional (accounting and management functions), software and technical (software and technical support), information (functioning of databases), territorial (territorially separated subdivisions), structural (information and functional departments enterprises), consumer (use of data by stakeholders). A comparison of the centralized and decentralized organizational form is made in the table 1.

Table 1

Comparison of centralized and decentralized organizational form at different levels of centralization

Levels of centralization	Organizational forms	
	Centralized	Decentralized
Functional	All functions are performed at a single workplace	Functions are distributed among different workplaces
Software and technical	Processing or accumulation of accounting information takes place on a single software and technical support	Processing or accumulation of accounting information takes place on various software and technical support
Informative	All data is accumulated in integrated or unified databases	Data is systematized in distributed databases
Territorial	Accounting for the functioning of all territorially separated subdivisions is kept in the joint accounting department	Accounting for the functioning of territorially separated subdivisions is kept in their own accounting subdivisions
Structural	Accounting is kept in the accounting department of the functioning of all structural departments of the enterprise	Each structural department independently keeps records
Consumer	Users have access to all account information	Users have access to partial account information

Source: generated by the author.

In most cases, centralization or decentralization occurs simultaneously on several levels. Each individual case of organization of accounting of electronic transactions may involve different organizational levels, which leads to combinational processing of accounting information. Therefore, the classic organizational options of complete centralization or complete decentralization in the conditions of the development of the electronic transaction system have significant disadvantages and limitations.

The centralized form of organization of accounting for electronic transactions significantly strengthens internal control, but complicates independent monitoring of the expediency and effectiveness of spending money. Also, centralization almost always results in delaying the processing of accounting information and making management decisions based on it. The reason for the untimeliness of accounting and management is the need for long-term passage of accounting information through regulated sequential communication channels. A significant time lag between the occurrence of primary data and the reaction of accounting and management specialists to it can lead to erroneous or harmful electronic transactions for the enterprise or a complete loss of funds. Excessive formality of the transfer of accounting information by different hierarchical levels of the company's personnel can become a communication barrier in timely and reliable accounting of electronic transactions. As a result, centralization can lead to competition, duplication or mutual exclusion in the accounting and management of electronic transactions.

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Instead, the decentralization of accounting leads to the emergence of information risks of loss or damage to accounting information about electronic transactions. Accounting and management functions are dispersed among numerous employees, which leads to an increase in administrative costs for their maintenance. Decentralized accounting organization is extremely sensitive to the quality of communication and makes it difficult to control electronic transactions due to the lack of personnel in the places where financial and economic activities of enterprises are carried out.

Instead, the development of modern computer and communication technologies actualized new studies of centripetal tendencies in the organization of accounting. The gradual formation of the system of electronic transactions led to the emergence of significant arrays of accounting information, which were accumulated in single databases. Such integrated databases of accounting data became the fundamental basis of the "Big data" technology, focused on obtaining new knowledge and developing innovative actions in the management of the company's financial resources through the processing of supermassive volumes of diverse information. However, it is necessary to take into account the degree of automation of accounting processes, which are based on the combined processing of accounting information. Autonomous collection of primary data on electronic transactions at the time of their occurrence and transfer to unified databases marked a new stage of centralization of accounting under the combined option. The combination of the accounting organization consists in the decentralized collection of primary data on electronic transactions and their initial processing at the points of origin with subsequent transfer to the centralized accounting department. Generalized accounting and reporting information for stakeholders takes place in a single organizational unit.

The combined organizational option with a centralized bias received an additional evolutionary boost with the development of cloud technologies and services. Cloud financial resources in the field of Fintech accumulate information processes in decentralized information systems. Accounting specialists under the leadership of the chief accountant and the corresponding administrator of the electronic transaction system permanently carry out information exchange with Fintech services. On the one hand, through the electronic communication system, they give instructions on how to dispose of funds, and in return they receive accounting information about electronic transactions.

They independently implement not only cash management processes, but also process accounting information. With a significant level of information decentralization, cloud services are able to prepare operational internal reports and transmit them to interested users. At the same time, all accounting information about electronic transactions is sent to the centralized accounting department for the formation of management reporting of a strategic nature and financial reporting for informing external stakeholders. Depending on the coverage of accounting and management functions by cloud services, it is possible to distinguish partially cloud and fully cloud form of combined and centralized organization of accounting of electronic transactions (Fig. 1).

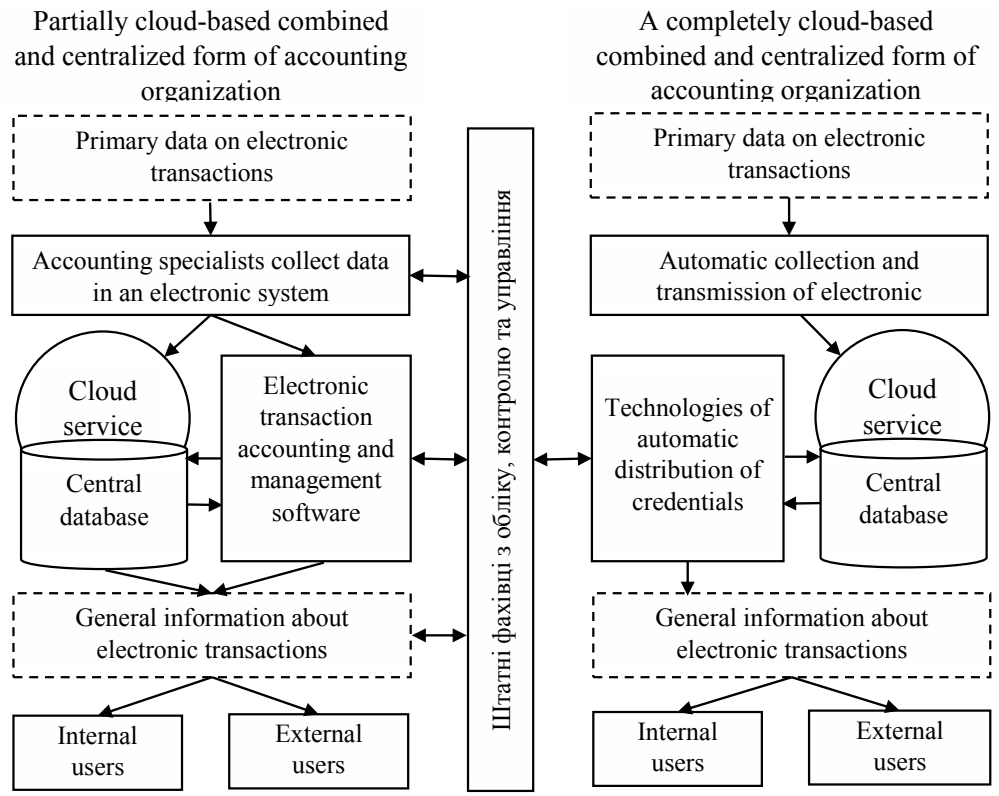

Fig. 1. Cloud variant of the combined and centralized form of organization of accounting of electronic transactions.

Source: developed by the author.

The combined-centralized version of the accounting organization is also easily adapted to the organizational subordination of the association of enterprises or corporate structures. Subsidiaries or separate divisions independently manage cash and carry out electronic transactions. Account information is processed and accumulated by accounting specialists in the places of its occurrence, who are under the regular supervision of structural entities. After the implementation of electronic transactions or at the end of the reporting period, the summarized information is transferred to the centralized accounting unit of the parent company or the top management of the corporation. The degree of disclosure and generalization of information about electronic transactions can vary significantly depending on the accounting policy and the requirements of accounting and management personnel. As a result, the accounting process in the context of managing electronic transactions involves the combined processing of information in decentralized units with mandatory sending to the central accounting department.

In such conditions, difficulties arise regarding the mutual exclusion of information about internal and intra-company electronic transactions from the reporting of corporate associations. In order to avoid duplication of information on electronic transactions

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between structural units in a corporate association, it is advisable to use consolidation mechanisms. As a result, it is recommended to place the information method of reporting consolidation into the basis of the accounting organization according to the combined option with the centralized management of electronic transactions. The consolidated unification of information flows ensures reliable accounting of electronic transactions between subsidiaries and in the parent company.

In contrast to the combined-centralized organizational form, under the influence of the further development of the system of electronic transactions, a combined option with decentralized processing of accounting information is gaining relevance. Under the conditions of using blockchain technology, combined decentralization of electronic transaction accounting becomes possible. Centrifugal trends in the organization of accounting create prerequisites for increasing the efficiency of management decision-making directly in time and in the city of generating accounting information. Block-chain structuring of accounting data automatically distributes information processing functions between responsible persons. Since the accounting information is divided into fragments with simultaneous storage in several participants of the electronic transaction system, some accounting functions can be cross-entrusted to several employees. In other words, to carry out an electronic transaction for a significant amount of money, simultaneous approval of various accounting and management specialists is necessary. Decentralization of accounting in this case consists in the absence of the need for the above personnel to stay in a single administrative building (Fig. 2).

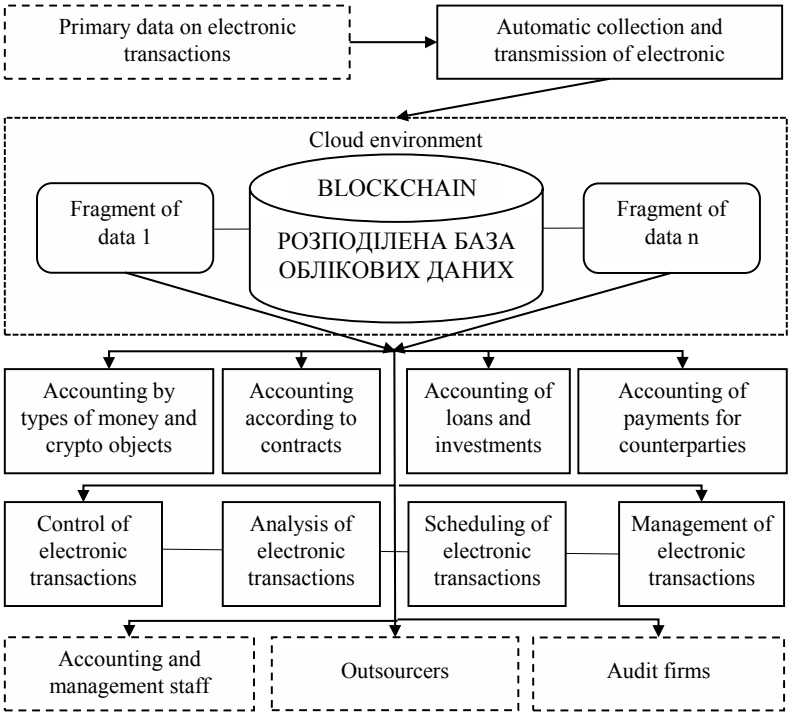

Fig. 2. Combined-decentralized form of electronic transaction accounting organization. Source: developed by the author.

In order to prevent monetary abuse by the company's personnel, it is advisable to implement a system of random distribution of remedial and control rights. In particular, in order to carry out an electronic payment transaction, a request for its approval must be sent to the responsible person, as well as to a randomly selected unknown employee in order to check the expediency and legitimacy of the monetary transaction. Double sanitization provides effective decentralized control of electronic transactions. For monetary transactions that are of public or state interest, such controllers may be persons who are not directly related to the enterprise and are not its employees. At the same time, the integration of external control into the information environment of the enterprise is taking place. External stakeholders are involved in the enterprise's accounting and control processes in a decentralized manner with a certain level of restricted access to commercial secrets. Only the volume of accounting information that is necessary for the implementation of the relevant functional duties should be provided.

With the combined-decentralized organizational option, it is easy to ensure the distribution of information flows between accounting and management specialists of different levels. In a distributed database, account information is not accumulated in one place or with one user. Thanks to the use of blockchain technology, information about monetary transactions can be automatically distributed between accounting and management personnel at different hierarchical levels of management. Information flows in this organizational variant do not cross and are not duplicated. At the time of an information request from stakeholders, accounting information about electronic transactions is recombined in the required amount. According to the information priorities of each user, arrays of account information necessary for carrying out certain information management actions can be formed and sent. For example, an operational employee can be informed about the daily cash balance through decentralized communication channels. An accounting specialist engaged in the formation of financial statements is recommended to provide generalized accounting information on the movement of funds and their current balance. For the chief accountant and manager of payment policy management at any moment of time, it is expedient to generate detailed information about electronic transactions for arbitrary time periods and in the necessary analytical interpretation. By obtaining accounting information in variable analytical sections with the possibility of dynamic, structural analysis and forecasting, strategic management of the enterprise's activities in the field of electronic transactions is realized.

Each of the above levels of accounting and management in conditions of decentralization can be an independent and independent information unit. Generating and consuming entities of the accounting and management process can be physically located in different territorial and spatial zones. Part of the operational staff may be in the months of conducting business operations and carrying out electronic transactions. It is recommended that accounting and management specialists at the highest hierarchical levels of management be transferred to remote performance of functional duties. As a result, accounting and management of electronic transactions are possible at a significant territorial distance from the physical location of the enterprise or its financial and economic activity. Quite often, the ultimate beneficiaries or owners may be unknown to most of the personnel of the business entity participating in the electronic transaction system.

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One of the functional characteristics of blockchain technology is the confidentiality of participants in electronic transactions. In other words, the payer and recipient of funds can be in incognito mode, which means replacing the traditional details of an individual or legal entity with a unique personal account of an electronic wallet. Similarly, in accounting, personal data of users of accounting information can be classified. Other participants of the information process in the system of electronic transactions do not have information about the identity of the accounting and management personnel of higher hierarchical levels of management.

A combined organizational structure with a decentralized distribution of information and management processes is an ideal basis for outsourcing. Delegation of accounting powers in the field of electronic transactions involves the transfer of part of the powers to third-party institutions. Most companies that operate in the field of electronic transactions consider outsourcing as an effective means of abandoning such an organizational structure as accounting, or an opportunity to reduce the costs of its maintenance. Thanks to a significant level of decentralized implementation of various accounting and management functions, their free delegation to independent persons is possible. In other words, if the organizational structure of enterprise management is already a mosaic with separate independent elements, it is easy to ensure the transmission of certain powers to outsourcers. The level of delegation of accounting and management functions is determined by the management of the enterprise – a participant of the electronic transaction system. The maximized outsourcing option is the transfer of all accounting information processing and interpretation functions to third-party institutions.

When delegating accounting and management powers in terms of accounting for electronic transactions, it is advisable to take into account the type of outsourcer. Entities outsourcing the processing of accounting information in the electronic transaction system include: independent self-employed accountants, specialized consulting institutions, auditing firms. In the conditions of a combined and decentralized organization of accounting for electronic transactions, the above forms of outsourcing can vary significantly.

A common feature for the above types of outsourcers is the minimization of personnel participation in the initial collection and processing of accounting information. Since the documentation and initial processing of primary data takes place completely automatically in the electronic transaction system, it is advisable to resort to outsourcing services already at the next stages of the accounting process. In other words, third-party accounting and management specialists are involved in the accounting of electronic transactions for the purpose of interpretation, generalization and potential use of accounting information.

Individual entrepreneurial practice of providing services in the field of accounting is the most economically effective organizational form. An independent outsourcer integrates many accounting and management functions at low operating costs. However, with a significant volume of daily electronic transactions, an individual independent specialist is unable to ensure timeliness and proper completeness of accounting. Also, he may not have enough working hours and qualifications to implement control and management functions. Therefore, the use of the services of an individual accounting specialist is in demand only for small-sized enterprises or with a minimum number of electronic transactions during the reporting period. Excessive concentration of authority in one person threatens the financial

and informational security of the enterprise. For medium and large enterprises, the most optimal organizational option is to use the services of consulting institutions or auditing firms.

Independent institutions providing consulting services in the field of accounting and management have personnel and organizational capabilities to fully obtain accounting and management powers from the outsourcing customer. All areas of accounting related to electronic transactions can be delegated to such entities. At the same time, consulting firms bear full responsibility for processing and interpreting accounting information about electronic transactions. For internal and external control of the reliability of information about electronic transactions, it is necessary for the company to maintain its own accounting and control units. If the enterprise is not subject to public control, then external control can be minimized. Information prepared by third-party professional or cloud services is sufficient for external controllers. Internal control can be carried out by the management units of the enterprise.

For enterprises that are an object of public interest or are required to undergo an audit, a more appropriate organizational option is to use the services of an auditing firm. Independent auditors can perform the functions of accounting, internal control, external control and partly management of electronic transactions in an integrated manner. On the basis of a single array of accounting data, the audit firm is able to summarize accounting information, confirm its authenticity for the purpose of control, and send it to stakeholders with the expectation of a management response from them. That is, when exercising accounting powers, audit firms immediately provide quality parameters of accounting information, which is the basis of providing confidence to stakeholders regarding the efficiency and correctness of the company's financial and economic activities. Accordingly, auditors, when preparing an audit report for a customer, rely on effectively organized accounting and internal control. Operational management decisions involving small amounts of money can also be delegated to auditing firms. Accordingly, enterprises participating in the system of electronic transactions may refuse or reduce the staff involved in the accounting and management of electronic transactions. However, the functions of the chief accountant and top management managers are necessarily left to the full-time staff of enterprises, which reflects the combined-decentralized organizational format.

As a result, the delegation of a complex of accounting and management functions to audit firms is positioned by outsourcers as the most optimal organizational option. Comprehensive outsourcing programs are offered in the form of optimal service packages for less money, which minimizes the total administrative costs of the customer. Despite the obligation of auditors to observe professional ethics, it is advisable to strive to avoid excessive concentration of delegated functions in one outsourcer. In order to optimize organizational processes at the enterprise, it is recommended to distribute accounting and management powers among many outsourcers.

Based on the automatic distribution of credentials using blockchain technology, it is possible to transfer them in the optimal volume and time to various institutions that provide outsourcing services and full-time employees of the enterprise. The most advanced type of combined decentralized organizational option is cluster outsourcing. In this case, the cluster is positioned as a set of sequentially dependent accounting, control, analysis and

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management functions. In terms of the functioning of the system of electronic transactions, the cluster is «accounting of monetary transactions – control of the reliability of accounting information and preservation or movement of electronic monetary funds – analysis of electronic monetary transactions – management of the monetary policy of the enterprise». Cluster outsourcing involves the transfer of only some of the above functions to a certain outsourcer. Each functional responsibility in such an organizational form is delegated to another outsourcer in order to prevent excessive consolidation of information management capabilities in one outsourcing entity. The distribution of individual functions between different institutions determines the possibility of forming horizontal cluster outsourcing. With vertical delegation of functions, accounting information about certain accounting objects or processes is transferred to the outsourcer. For example, accounting, control, analysis and management of: electronic payments with certain counterparties is delegated to one outsourcer; various options for monetary transactions (loans, deposits, financial investments, etc.); various types of electronic money; areas of activity in which electronic transactions are carried out (purchases, internal calculations, realization, payment of wages, calculations of other obligations, etc.); structural units and branches that are participants in the electronic transaction system. The information scheme of the cluster organizational option in the context of electronic transaction accounting is shown in Fig. 3.

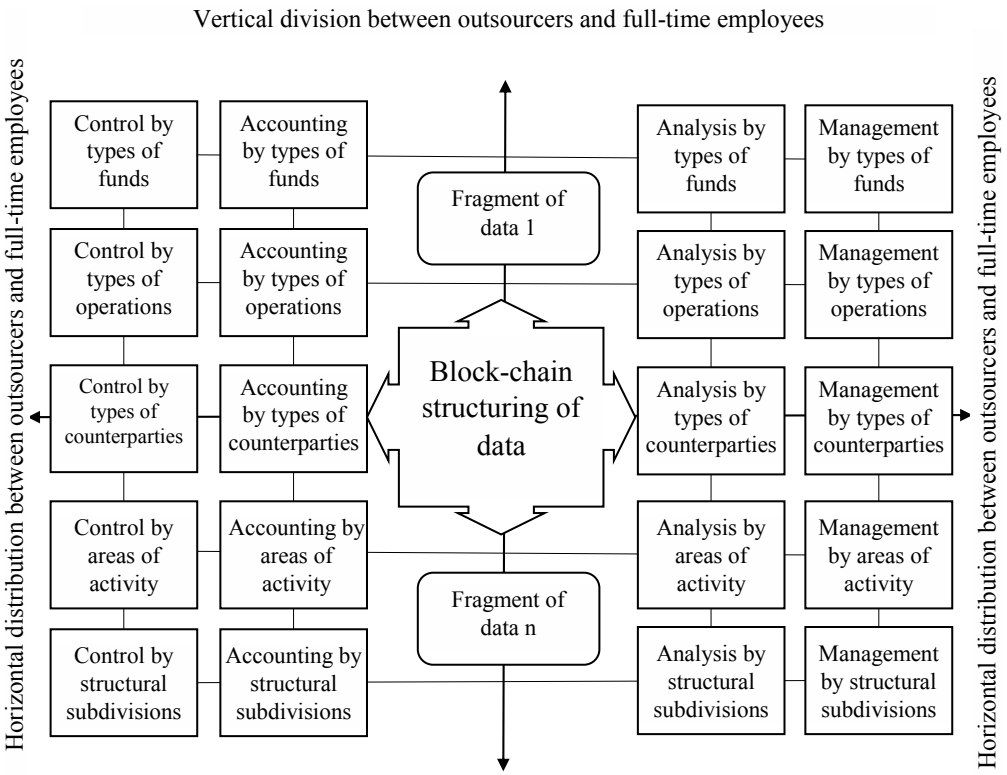

Fig. 3. Matrix of the cluster organizational option in the context of accounting for electronic transactions.

Source: developed by the author.

Some functions that are related to management accounting, strategic analysis and management are recommended not to be trusted by outsourcers. It is advisable to limit access to confidential information only to the internal information environment, to which only responsible persons from among the company's staff have access. Other functional duties, on the contrary, should be delegated simultaneously to several outsourcers. Duplication of certain electronic transaction functions is required to obtain information or expert opinions from two independent sources. Such an opportunity is especially necessary in the field of dynamic change and significant volatility of some electronic money and cryptocurrencies. The offer is accepted on the condition that the expert positions of two or more outsourcers match.

The cluster option of outsourcing in the field of electronic transactions makes it possible to: maximally take into account information priorities and access to confidential information of various users; maximize the benefit from the combination of delegation of functional powers and their implementation by the company's personnel; ensure effective division of functions between outsourcers, taking into account the level of competence in a certain professional field; optimize information flows of the enterprise in a remote, permanent, timely and cost-effective manner; prevent financial fraud, accidental errors, distortion, theft or destruction of accounting information, as a result of which threats to the financial and cyber security of the enterprise, etc.

Conclusions and prospects for further research. The evolutionary development of monetary means of payment leads to progressive transformation of organizational forms of accounting. The historical cyclical nature of accounting and management of electronic transactions led to the alternation of centripetal and centrifugal trends in the processing of accounting information. The current stage of actualization of electronic money and crypto-objects is connected with the combination of centralized and decentralized organizational formats. In the functioning of the system of electronic transactions, the following forms of organization of accounting and management are possible: centralized, decentralized, combined-centralized, combined-decentralized and cluster.

Classic centralized and decentralized forms are characterized by a significant number of limitations and shortcomings in the organization of accounting for electronic transactions. Instead, combined-centralized and combined-decentralized organizational forms are more adapted to the requirements of the digital economy and the state of development of innovative computer and communication technologies. The actual method of organizing the accounting of electronic transactions is combined-decentralized, which involves autonomous collection of primary data and their primary processing, and then placement in decentralized databases based on blockchain technology. In a combined organizational option with a decentralized bias, aggregated data can be provided to cloud services, outsourcers or remotely located employees from the company's staff for the purpose of generating reports, interpreting them and using them to take managerial actions.

The most optimal organizational option, which corresponds to the level of scientific and technical progress, is a cluster format of combined delegation and remote performance by full-time personnel of the functions of accounting, control and management of electronic transactions. In the case of a cluster organizational form, the distribution of functional responsibilities in the vertical (types of accounting, control, management) and horizontal

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(types of financial and economic processes or accounting objects) plane is provided for the outsourcing of operational management accounting, financial accounting, internal and external control between different outsourcers. On the basis of remoteness and decentralization, it is advisable to distribute the functions of management accounting and management of electronic transactions among variable full-time employees of the enterprise.

The main advantages of the cluster version of accounting organization in the field of electronic transactions are: consideration of information priorities and access rights to confidential information of various users; maximizing the benefit from the combination of delegation of functional powers and their implementation with the help of full-time staff of the enterprise; ensuring the distribution of functions between outsourcers, taking into account the level of their competence; optimization of information flows of the enterprise in a remote, permanent, timely and cost-effective mode; ensuring financial and cyber security of enterprises, etc.

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ОРГАНІЗАЦІЙНІ ФОРМИ ОБЛІКУ ЕЛЕКТРОННИХ ТРАНСАКЦІЙ

Анотація

Вступ. *Елементом організації обліку електронних трансакцій на підприємстві є вибір оптимальної організаційної форми. З розвитком платіжних засобів почергово змінювалися доцентрові та центробіжні тенденції в організації обліку й управління. Централізація (децентралізація) обліку відбувається на функціональному, програмно-технічному, інформаційному, територіальному, структурному та споживацькому рівнях. Кожний окремий випадок організації обліку електронних трансакцій може задіювати різні організаційні рівні, що приводить до комбінаційної обробки облікової інформації. Необхідність дослідження комбінованих організаційних форм визначає актуальність статті.*

Мета статті *полягає в розробленні новітньої форми організації обліку та управління електронними трансакціями як подальшого розвитку комбіновано-централізованого та комбіновано-децентралізованого варіантів з метою одночасного делегування обліково-управлінським повноважень штатним працівникам та варіативним аутсорсерам.*

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Методи. *У процесі реалізації сформованої мети наукового дослідження використані системний, інноваційний, функціональний підходи та методи узагальнення, бібліографічного та компаративного аналізу.*

Результати. *Доведена наявність значної кількості обмежень та недоліків в організації обліку електронних трансакцій за класичними централізованим та децентралізованим організаційним варіантами. Досліджено особливості комбіновано-централізованої форми організації обліку електронних трансакцій, яка передбачає автономний збір первинних даних та розміщення в централізованих базах даних, а також – комбіновано-централізованої форми з формуванням розподіленої бази даних з фрагметованим доступом до неї користувачів на основі технології блокчейн. Розроблено концепцію новітнього організаційного варіанта, що відповідає сучасному етапу розвитку електронних грошей та криптооб'єктів, на основі кластерного поєднаного делегування та дистанційного виконання штатним персоналом функцій обліку, контролю та управління електронними трансакціями. За кластерної організаційної форми передбачений розподіл функціональних обов'язків у вертикальній (види обліку, контролю, управління) та горизонтальній (види фінансового-господарських процесів чи облікових об'єктів) площинах щодо аутсорсингу обліково-управлінських функцій між варіативними аутсорсерами.*

Висновки і перспективи подальших досліджень. *Впровадження кластерного варіанта організації обліку в сфері електронних трансакцій забезпечує: врахування інформаційних пріоритетів та прав доступу до інформації користувачами, максимізацію користі від комбінації делегування та самостійної реалізації функцій штатним персоналом, розподіл функцій між аутсорсерами з урахуванням рівня їхньої компетентності, оптимізацію інформаційних потоків підприємства, фінансову та кібернетичну безпеку підприємств тощо. З огляду на це подальших досліджень потребують організаційні особливості забезпечення фінансової та кібербезпеки підприємств у контексті обліку й управління електронними трансакціями.*

Ключові слова: *облік, контроль, управління, електронні трансакції, організаційна форма, кластерний варіант аутсорсингу.*

Формули: 0; рис.: 3; табл.: 1; бібл.: 12.

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