

IMPLEMENTATION OF BLOCKCHAIN TECHNOLOGY IN ACCOUNTING SPHERE

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ABSTRACT

Blockchain technology is inherent in the importance of accounting property - information in the database is reliable, truthful, regardless of the confidence of the counterparty. Transaction occurs only if it has been approved by all participants. With the help of network accounting can be translated into a secure, transparent for all parties and easy to use format. The introduction of technology in accounting has the following advantages: online transactions are high-speed and user-friendly; accounts can be updated using smartphone apps; optical data recognition systems allow you to automate the entire process, starting with the introduction of primary documents.

Keywords: Blockchain Technology, The Quality of Accounting Information, Accounts, Transaction, Cloud Storage.

INTRODUCTION

Modern IT technologies change the preconditions for managerial and accounting procedures, modify the ways of sharing, aggregation and distribution of information, leading to the emergence of a new accounting infrastructure. Changes that occur in the IT sector can significantly modify the postulates and categories of accounting system. Already, the application of innovative advances in the field of IT in accounting provides the opportunity to process large arrays of information in the shortest possible time. The use of cognitive technologies not only accelerates the processing and analysis of data, but also ensures the implementation of global and European trends in the transparency of control, accounting and reporting. Such technological requirements of transparency, quality and high level of information protection correspond to the technology of blockchain (Blockchain).

Blockchain aims to put an end to the traditional methods of billing, documentation, processing, registering, inventory systems, and paying for business. The technology will allow companies to record both sides of a transaction simultaneously in a shared book in real time, rather than keep audited records of financial transactions in separate privately created databases or accounting books. The need for traditional double-entry accounting will disappear, as the legality of accounting will be fully automated.

Therefore, consideration of issues related to the use of the blockade accounting infrastructure in the block is important and relevant.

The scientific hypothesis of the research is based on the assumption that the introduction of the blockade technology in the field of accounting will ensure the quality, transparency, efficiency and safety of accounting and control and management processes at the enterprise.

REVIEW OF PREVIOUS STUDIES

Blockchain technology is a distributed data system, where each participant in the process stores complete information about all operations (transactions) that cannot be tampered with, broken, altered or stolen (Coyne & McMickle, 2017; Kamińska, 2018). All transactions are stored in a single registry, forming a decentralized structure for making collective decisions. Since the operations are completely arranged in time, the current state of the system is determined solely by this transaction register (Dai & Vasarhelyi, 2017; Kwilinski, 2018). Consequently, in other words, BlockChain is an electronic book, copies of which can be stored on thousands of computers around the world.

As a public register based on distributed accounting books, BlockChain provides each participant with its own copy of the information, with all changes being displayed in almost all copies almost simultaneously (Karajovic et al., 2017). Each transaction is written as a data block, and each new block has an encrypted copy of the one included in it from the previous block. The technology creates a genuine information booklet in which it is almost impossible to delete entries to hide some activity (Kokina et al., 2017). It is unnoticed to change the data in one of the blocks, because the system constantly checks the data in the blocks, and if something happened, for example, as a result of any transaction, it reports it, simultaneously recording the new information in the new block (Potekhina & Riumkin, 2017; Kwilinski et al., 2019).

METHODOLOGY

In the process of research, a set of general scientific and special methods of cognition was used. In studying the theoretical positions and the current state of accounting operations, the use of methods of theoretical generalization, grouping, comparison of analysis and synthesis, observation and historical approach. Improvement of organizational and methodical provisions of accounting operations by using methods of induction and deduction, grouping, theoretical generalization. Table method was used to provide a visual representation of the research results.

RESULTS AND DISCUSSIONS

Blockchain at the present stage of economic development is important for accounting in terms of fast and secure document management with clients and contractors. For today there are three ways of document circulation between two persons: classical (by means of transfer of paper carriers); by e-mail; using cloud storage.

Each of the presented methods has its drawbacks (Table 1).

Table 1 DISADVANTAGES OF MODERN METHODS OF DOCUMENT CIRCULATION (AUTHOR'S RESEARCH)	
Method of document flow	Disadvantages
Classical	High costs and low play speed. It is necessary to resort to the help of the third letter, in order to carry out this or that operation (mail, courier service).
Electronic mail	Suitable only for preliminary discussion of the terms of one or another agreement, since in the future, approved by both parties, the document must either be transferred to a paper carrier and signed in classically, or carried out EDS with an external program
Cloud storages	Exposure. The presence of a centralized server makes it unprotected and unstable against system errors and hacker attacks. In other words, if in a

	Blockchain each block has its own "password", in cloud storage it is enough to own a key from the central server.
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Now accounting transactions are conducted by companies separately, time and human resources are needed to verify the data. Blockchain will solve this problem, since information about transactions or contracts will be recorded in the general registry in real time, so checking compliance with legal rules will occur automatically. This will greatly increase the operational efficiency of organizations. Using Blockchain in the process of settlement transactions, entrepreneurs can significantly reduce operating costs and increase working capital (Woodside et al., 2017).

International accounting corporations are already planning to apply Blockchain to accounting and auditing, as auditing activities in the future predict a serious crisis. Reliable and topical accounting records between contractors will make the audit process transparent, will significantly reduce the time of its conduct. Instead of checking the huge amounts of daily transactions, auditors will be able to focus more on truly complex and controversial issues. Thus, automation of processes will lead not to the disappearance of the profession of auditor or accountant, but to the evolution of their role in the company. The most promising directions for using the tool in accounting are:

settlements with external counterparties (using Blockchain, it will not be necessary to check accounts) Formation and write off of receivables and payables of the parties to the agreement will be simultaneously in the same assessment at the time of the transaction. and revenues and expenses);

the movement of assets within the enterprise (the work of the accountant will be reduced to the correct classification of the sent values and the formation of the value of the object of accounting. You can arrange a local block in the same enterprise or group of companies: the issuance of any assets from the storage areas is accepted by the recipient, after which the asset is automatically written off relevant accounts);

real-time accounting in real-time (due to Blockchain, the need to wait for processing of the primary document by the accountant will be lost. Primary information will not be needed either in paper or electronic form, and it will be necessary to fix the transaction in Blockchain).

Functional features of the technology enable it to be used in audit, analysis and cybersecurity.

The introduction of technology in accounting has the following advantages: online transactions are high-speed and user-friendly; accounts can be updated using smartphone apps; optical data recognition systems allow you to automate the entire process, starting with the introduction of primary documents. Blockchain intends to put an end to the traditional methods of billing, documenting, treating, registering, inventory systems, and paying for business. Thus, the need for traditional double-entry accounting will disappear as the legality of the accounting will be fully automated. The tool greatly simplifies accounting in the following areas: simplifying international transactions for small businesses; simplify the procurement process, since it will allow you to safely record transactions and improve operational efficiency; Business entities do not need to check all accounting documents, which is a rather expensive audit service; accounting records will be encrypted in a secure form, making it virtually impossible to delete entries.

Application of technological capabilities in the methodology of accounting changes the form of its organization, increases the level of professional competence and responsibility of

personnel, displays the system of information support to a qualitatively new level of transparency, security, efficiency.

Due to the introduction of Blockchain in accounting procedures following tasks (Table 2) are solved: collecting, grouping and streamlining of information flows; quick access and information provision; reduction of the interval between the receipt of information and its inclusion in the database; reducing the risks of errors in accounting and decision-making processes, which allows the company to avoid distortion of information in accounting; integration of all levels of accounting to create a unified information base; automatic report generation; ensuring effective operational control.

Aspect	Expected results from the implementation of Blockchain
Organizational-managerial	accelerating the obtaining of information for making effective decisions; flexible and responsive response to changes in the external and internal environment; Providing users with complete, truthful and unbiased information to maximize the objectivity of their decisions
Economical	cost savings in obtaining information; reduction of expenses on organization of bookkeeping, saving on the fund of labor accountants; saving on software for accounting
Professional	formalization of IT control to ensure transparency, efficiency, and accounting efficiency; providing reasonable assurance that the financial statements as a whole do not contain material distortions; expansion of the scope and tasks of the use of accounting information
Qualitative	provides high quality accounting, control, taxation and law
Technological	automation and simplification of accounting and control; synchronization of accounting records; Flexible communications user architecture; safe operation and reliable protection against loss of information and unauthorized interference

Despite a number of obvious advantages, the technology also has drawbacks: electricity consumption (every time a transaction is executed, it is confirmed as many times as the number of nodes is on the network, which leads to an increase in electricity consumption); memory (data will accumulate, which in the future will require a large amount of storage space); anonymity and irreversibility (losing a password means losing access to the network at all and forever).

The results of our study are confirmed by the following studies. The first accounting system based on Blockade will be implemented by companies to increase their transparency and facilitate access to auditors (Hilorme et al., 2018; Tkachenko et al., 2019). Such changes are beneficial to most actors, but may be negatively perceived by those who work in the shadow economy or hide their share of their income. However, entrepreneurs who are the first to take an innovative direction will receive an additional advantage and will be able to take the leading position in the market.

RECOMMENDATIONS

According to the research results, it is possible to make such practical recommendations for companies. For business entities, usage of Blockchain will have more restrictions than for non-profit organizations, since commercial secrecy imposes restrictions on the disclosure of managerial information. Thus, asset theft can be averted as an improvement in the documentation (the blockchain technology involves reconciling the information with the participants before joining the block and making it impossible to distort it later), as well as

bringing the inventory to a new, more efficient and qualitative level, as well as one-time formation of data on accounts by double entry with generalization in reporting.

Estimation and calculation will be sufficiently limited for the use of Blockchain. Issues that require an own accountant or auditor's judgment will require close attention in the future. Analytical and technological tools (including Blockchain) will provide opportunities for accelerated implementation of accounting procedures. Blockchain not only will speed up the documentation and processing of individual operations, but also provide operational internal control.

CONCLUSIONS

The Blockchain technology aims to put an end to traditional methods of billing, documenting, processing, registering, inventory systems, and paying for business. This technology will allow companies to record both sides of a transaction simultaneously in a real-time shared book, rather than store audited records of financial transactions in individual privately created databases or accounting books. The tool intends to put an end to traditional methods of billing, documenting, treating, registering, inventory systems, and making payments in business. The need for traditional double-entry accounting will disappear, as the legality of accounting will be fully automated.

The introduction of the blockchain technology (or its more advanced technological counterparts) will allow synchronizing accounting records between contractors, which will allow for ongoing automated audits. The emphasis will be shifting to questions that will require the auditor's own judgment: complex non-standard operations, effective internal control mechanisms, analytics and forecasting, IT audit, assessment.

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