

## ВОЗМОЖНОСТИ ТЕХНОЛОГИИ БЛОКЧЕЙН В ТРАНСФОРМАЦИИ ПРЕДОСТАВЛЕНИЯ ГОСУДАРСТВЕННЫХ УСЛУГ

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**Аннотация.** В статье рассматривается вопрос внедрения технологии блокчейн которая является одним из основных акселераторов инновационного развития финансового сектора. Рассмотрены возможности развития финансового сектора позволяющие ускорить процессы глобализации, сделать транзакции быстрее, эффективнее и безопаснее.

**Ключевые слова:** цифровизация экономики, блокчейн, финансы и банки, криптовалюта, блокчейн-технология в финансовом секторе.

## BLOCKCHAIN TECHNOLOGY CAPABILITIES IN TRANSFORMING PUBLIC SERVICE DELIVERY

**Annotation.** The article discusses the issue of implementing blockchain technology, which is one of the main accelerators of innovative development of the financial sector. The possibilities of the development of the financial sector allowing to accelerate the processes of globalization, to make transactions faster, more efficient and safer are considered.

**Keywords:** digitalization of the economy, blockchain, finance and banks, cryptocurrency, blockchain technology in the financial sector.

Globally, Blockchain technology has become a strategic tool for public sector innovation and productivity growth, as blockchain is considered a tool for public efficiency, performance, innovation and growth. In particular, the technology has the potential to transform the public sector by reducing bureaucracy, improving data sharing and interaction between the institution, citizens and other stakeholders, and by increasing transparency and reducing fraud and corruption.

In the era of the development of information technologies, the digitalization of society, the question arises of regulating new objects and related relations. With the advent of objects such as cryptocurrencies and tokens in civil circulation, relationships began to arise that, without regulation, create and can create unforeseen consequences.

To create a framework and regulate this rapidly developing sphere, Decree of the President of the Republic of Uzbekistan of July 03, 2018 No. 3832 "On Measures for the Development of the Digital Economy in the Republic of Uzbekistan" was adopted. This Decree outlined the most important tasks:

introduction and development of activities in the field of crypto assets turnover, including mining (activities to maintain a distribution platform and create new blocks with the ability to receive remuneration in the format of new units and commissions in various cryptocurrencies), smart contracts (an agreement in electronic form, the fulfillment of the rights and obligations under which is carried out by automatically performing digital transactions), consulting, issue, exchange, storage, distribution, management, insurance, crowd funding (collective financing), as well as blockchain technologies to diversify various forms of investment and entrepreneurial activity;

creating the necessary legal framework for the introduction of blockchain technologies, taking into account the best practices of foreign countries. The conceit of the President №3832 also established a couple of essential norm

Firstly, transactions of legal entities and individuals related to the circulation of crypto assets, including those carried out by non-residents, are not subject to taxation, and the income received from these operations is not included in the tax base for taxes and other mandatory payments.

Secondly, foreign exchange transactions related to the turnover of crypto assets conducted by persons who have received a license to carry out activities in the field of circulation of crypto assets in accordance with the established procedure are not subject to the norms of legislation on foreign exchange regulation.

The turnover of crypto assets and tokens was streamlined with the adoption of Order No. 16 of the Director of the National Agency for Project Management dated January 21, 2019, registered by the Ministry of Justice on January 22, 2019, No. 3127, which approved the Regulation on the Procedure for Licensing the Activities of crypto Exchanges and the Rules for Crypto Exchange Trading.

The rules for the implementation of crypto-exchange trading gave definitions to the basic concepts used in crypto-exchange trading. So, according to the Rules of crypto-exchange trading:

1. **Blockchain** is a distributed data registry in which all data is recorded sequentially and distributed in blocks, while each new block is linked to the previous block by a cryptographic signature;
2. **A crypto asset** is a set of records in the blockchain that has value and owner;
3. **Crypto exchange** — an organization that provides an electronic platform for the exchange, purchase and sale of crypto assets and tokens;
4. **A token** is a unit of accounting designed to represent a digital balance sheet, performing the function of a "substitute for securities" in the digital world, representing an entry in the register distributed in the blockchain. The token is issued by a legal entity or an individual entrepreneur (issuer) in order to attract investment and financing to the activity;
5. **Stablecoin** is a crypto asset, the value of which is tied to the asset of a legal entity.

After the adoption of this Order, on January 20, 2021, the first crypto exchange in Uzbekistan, UzNEX, began operating.

However, it should be taken into account that due to the fact that this industry is only at the initial stage of development in Uzbekistan, the concepts of "crypto asset" and "token" under the legislation of Uzbekistan may have a definition and scope different from similar concepts specified in the legislation of other jurisdictions.

Moreover, residents of the Republic of Uzbekistan have the right to conclude exclusively transactions on the sale of crypto assets and tokens on crypto exchanges. Therefore, residents of the Republic of Uzbekistan cannot purchase crypto assets or tokens. From this it can be concluded that only non-residents can fully trade activities with crypto assets and tokens on the territory of the Republic of Uzbekistan.

Blockchain technology is a technology of distributed resources, its development is recognized by the Uzbek government as a priority. There are also studies of the specifics of the use of blockchain technology in the financial and banking sectors [1, 2]. Information security, including in the financial sector, has received considerable attention from researchers and scientists [3]. indicates the presence of specific problems, such as the technical problem of verifying a block of data that is performed discretely, the problem of a small number of specialists in the application of this technology, the lack of clear rules and regulations for a transaction rule using blockchain technology.

There are also studies of the features of the use of blockchain technology in the financial and banking sectors [4]. The relevance of the analysis of the experience of implementing blockchain technology is determined by the following provisions and consists in the need to form a basis for a long-term assessment of the consequences of the introduction of this technology, both at the national and international level.

If we talk about the practical use of blockchain technology, then the greatest successes are undoubtedly achieved in the financial sector. Unlike other industries, in the financial sector, blockchain-based solutions are used and developed not only by small communities, but also by mature players, such as international commercial banks.

This is mainly due to the fact that in the field of financial services, the blockchain-based transaction model can provide serious cost savings and process efficiencies, all in a short period of time. From the consumer's

point of view, the most interesting questions are which blockchain - open or closed - will win in the end and how "smart contracts" will be used in the future.

With the growing popularity of blockchain technology, the number of transactions added to validation is growing. Because of this, mempool appears - this is a queue of all transactions that await confirmation by miners. Therefore, not all transactions receive approval in the same period of time. The sequence of transactions in the queue depends on the fee set by the sender. The higher that fee, the faster the transaction gets approved. This greatly complicates the process of carrying out small fast transactions, since it often happens that the amount of the commission exceeds the amount of the transaction by several times. So, for example, when Bitcoin prices took off, the queue of transactions rose to 200,000 unconfirmed, as a result of which popular crypto exchanges could not withstand such loads and went offline, and netizens had to pay very high fees.

Table 1. Pros and cons of blockchain technology. [5], [6]

Advantages of blockchain technology	Disadvantages of blockchain technology
Creating conditions for micropayments in the Internet of Things world	The need to adapt the legislative framework
The "Smart contract" system, which allows you to exclude a person from payment control	The possibility of using blockchain for illegal frauds
The possibility of creating a new "exchange", without an owner, therefore, and without commissions	The large size of the Bitcoin blockchain (171 GB) does not yet allow most individuals and small companies to use the technology to conduct all transactions.
Full decentralization of payments reduces the likelihood of hacking and makes transactions the most transparent.	Energy consumption. At the moment, the use of many blockchain networks implies the presence of large computing power
Reduction of transaction costs	The problem of blockchain scalability. At the moment, the size of one block does not exceed 1 MB, which allows you to protect networks from hacker attacks, but reduces bandwidth
Data security. Duplication of data among the participants of the transaction allows you to reduce or even eliminate the loss of payment information during the transaction	The emergence of Mempool, the so-called delayed transactions, confirmation of which should only come from miners.

As can be seen from Table 1, many of the advantages of introducing blockchain technology, such as: transparency of payments, reducing transaction costs, creating prerequisites for Industry 4.0, outweigh the disadvantages of the technology, which is still in the early stages of implementation and involves multiple improvements. However, one of the key disadvantages of blockchain can be considered the need to completely change the laws of states in the financial sector. The issue of regulating transactions based on blockchain technology is key, and work on resolving this issue must begin in the coming years. Blockchain technology has its advantages and disadvantages when using it and requires significant improvement, but now, at this stage, a large number of companies around the world are interested in using it for various purposes.

We think blockchain technology can be used in existing systems to eliminate inefficiency and improve the reliability of public services, as well as to optimize processes and increase transparency and accountability of the government and the public sector. Moreover, the blockchain can provide continuous and timely recording of information in real time, while making it impossible to make changes. All this reduces the likelihood of fraud and errors, thereby increasing accuracy and simplifying internal processes.

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