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WAYS TO EFFECTIVELY USE INTERNET TECHNOLOGIES IN VARIOUS SECTORS OF THE NATIONAL ECONOMY

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Abstract. *This article highlights the practical significance and aspects of the digital economy, and first of all, its ability to significantly improve the standard of living of people, and its main benefit. At present, the concept of the digital economy has appeared in the economic theory and practice of a number of countries. It was characterized by the rapid development of digital technologies, the revolution in the information sphere, and the acceleration of the globalization of the economy.*

Keywords: *digital technologies, artificial intelligence, neurotechnologies, cybersecurity.*

Аннотация. *В данной статье выделены практическая значимость и аспекты цифровой экономики, и в первую очередь ее способность значительно повышать уровень жизни людей, и ее главное благо. В настоящее время в экономической теории и практике ряда стран появилось понятие цифровой экономики. Он характеризовался бурным развитием цифровых технологий, революцией в информационной сфере, ускорением глобализации экономики.*

Ключевые слова: *цифровые технологии, искусственный интеллект, нейротехнологии, кибербезопасность.*

Modern technological advances, such as the Internet of Things, artificial intelligence, the development of IT infrastructure and big data ("big data" is a field that considers data analysis, systematic extraction or other methods of working with very large data sets. Or the complex can be managed using traditional data processing software) will not only lead us to a global digital evolution, but also cause structural changes and structural transformations of the economy. In accordance with the Decree of the President of the Republic of Uzbekistan dated July 3, 2018 No. PQ-3832 "On measures to develop the digital economy in the Republic of Uzbekistan", the measures being taken to develop the digital economy in the Republic of Uzbekistan are another step towards developing the digital sector of the economy, introducing an electronic document management system, developing electronic payments and improving the regulatory framework in the field of e-commerce. All these large-scale measures lead to the use of blockchain technology in various versions on various platforms - the development of digital settlements (crypto-currencies), the introduction of smart contracts (contracts in electronic form), the automatic execution of rights and obligations in accordance with which digital transactions are carried out, as well as the improvement of international payments (settlements) - through letters of credit, guarantees, etc. The term blockchain itself partially describes its tasks and goals. The "block" part means blocks, and the term "chain" means the word "chain". As it turns out, Blockchain is a blockchain. And not just a chain. It maintains a strict sequence. Blocks are information about transactions, agreements and contracts within the system, presented in cryptographic form. Blockchain (chain of blocks) is a distributed database without storage devices connected to a common server.

This database stores a constantly growing list of ordered records called blocks. Each block contains a timestamp and a link to the previous block. This technology was created along with the emergence of the Bitcoin cryptocurrency. This happened in 2009. Satoshi Nakamoto is considered a public figure who created a new virtual currency and Blockchain. However, this personality has

become mythologized in the world of cryptocurrencies. This pseudonym is the name of one or more individuals behind it who decided not to reveal their identity. They undoubtedly spent thousands of hours creating the blockchain.

The goal of the development was to solve the problem of duplication of spending in cryptocurrency, to provide the possibility of exchange in an environment with a low level of trust without the participation of a third party, to create a distributed transaction register that is resistant to failures, as well as to provide control over the history of transactions. All blocks are interconnected, that is, they are interconnected. To write a new block, it is necessary to read information about old blocks sequentially. All the data in the Blockchain is collected and forms a database that is constantly updated. It is impossible to delete anything from this database or replace / swap a block. And this is “infinite” - an unlimited number of transactions can be recorded here. This is one of the main features of the Blockchain. Blockchain is simply a way to organize data. It is a file that keeps track of accounting records. This file can be compared to a book that never ends.

Each page of the book contains information and a page number at the bottom. By the page number, you can immediately know where this page is in the book. Obviously, page 49 is between pages 48 and 50. Like the pages of a book, blockchain blocks are filled with information. Although the blocks are not exactly numbered, they have a timestamp that performs the same function. After a block, a new block is always added with the most recent timestamp. Thus, a chain is formed. The best thing about blockchains is that they use cryptography to track when any information on any page of the ledger changes. This feature makes blockchain a good data structure for keeping track of the storage of something valuable and important.Blockchain can be compared to Torrent. Torrents operate in P2P mode (peer to peer - a computer network in which all participants are equal). When downloading a file from a tracker, we do not use a central server or storage. The file is downloaded directly from a torrent participant, just like you (Figure 13.1). If there are no participants in a peer-to-peer network, you cannot

download files. Similarly, in a block chain. All operations are carried out directly between entities. And they are carried out due to the fact that all participants are connected to a single network - Blockchain. There are two types of chains: -Public Blockchain - this is an open, additional database. This type of blockchain is used in the Bitcoin cryptocurrency. Each participant can write and read data. -In a private or private blockchain, there are restrictions on writing / reading data. Priority nodes can be established. Private Blockchain subspecies -this is an exclusive blockchain. In such a chain, a group of people are organized to carry out transactions.

How torrents work135 Summarizing the subtotals, we list the main features of the Blockchain decentralization, there is no server in the chain.

Each participant is a server. This ensures the operation of the entire blockchain; -Transparency - information about transactions, contracts, etc. is stored in the public domain. However, this information cannot be changed; - Theoretically unlimited - theoretically, the blockchain can be filled with an unlimited number of records. Therefore, it is often compared to a supercomputer; - Reliability - agreement of blockchain nodes is required to record new data.

This allows you to filter transactions and record only legal operations. Hash substitution is not valid. This blockchain feature is illustrated in Figure 13.2. In the Bitcoin blockchain, blocks contain information about transactions. Each block shows who transferred bitcoins to whom and to whom. Since the Bitcoin blockchain has been used to track the movement of all bitcoins since its inception, you can always check and know who owns how many bitcoins.

At any given time, “who owns what” is what we call the current “state” of the blockchain. In the case of cryptocurrency, the principle of blocking A transaction only occurs after it is included in a block and the block is added to the chain. So, when a block is added to the chain, the state of the blockchain is determined. Ultimately, bitcoins are moved. This means that if I want to check whether someone has actually made a transaction to my address, I need to check the state of the block. To do this, the ledger must be publicly available. This is

where peer-to-peer networks come to the rescue (Figure 13.3). If the blockchain is stored on only one computer and suddenly it is turned off, then this will be very unpleasant. In the slide, the current state of the blockchain is downloaded, synchronized and presented by many computers around the world. The structure of the server and peer-to-peer network.

These computers are called “nodes” (nodes), and they work together in a peer-to-peer network to ensure the security and up-to-dateness of the blockchain. Each of these nodes stores a complete, updated (current) version of the blockchain. Every time a new block is added, all nodes update the block chain. Using a peer-to-peer network has certain advantages:

-You can always check the status of the blockchain using blockchain explorer.

-You don’t have to trust only one party to know the real state of the blockchain.

You don’t have to trust the security of a single server to know the security of the blockchain. - An attacker would have to compromise thousands of computers at once, not just one server. -Always make sure the blockchain never goes down, as all nodes would have to be destroyed for this purpose.

Each block contains a unique hash (which acts like a digital fingerprint) of the previous block, and links them together to form a blockchain. This technology eliminates the need for centralization by allowing parties to securely exchange information and directly transact with each other. At this stage of development, blockchain has its advantages and disadvantages.

The digital economy and blockchain opportunities in Uzbekistan were assessed as very promising. By the decree of the Head of our state “On the formation of the Fund for Supporting the Development of the Digital Economy” dated September 2, 2018, “digital trust”, free start-up of companies in the field of crypto-asset circulation, and blockchain technologies were provided. In addition, these technologies are being introduced into the public sector on the basis of public-private partnership. The Digital Trust Fund has been established, the tasks

of which include attracting investments, implementing promising projects for the development of the digital economy, including projects related to the implementation of blockchain technologies. Advantages and disadvantages of blockchain Advantages Disadvantages Decentralization - network participants can exchange information on an equal footing and directly Scalability - if the Bitcoin blockchain were to match the share of Visa transactions, then its volume would reach hundreds of terabytes. Reliability - data exchange and hacking attacks are excluded, since special encrypted keys are used Fraud - the transfer of blockchain data is irreversible.

Therefore, even if performed by mistake, the operation cannot be reversed. Transparency - all blocks are available for public viewing. You can check the path taken for any operation 51% attack - if 51% of the computing power in the Bitcoin blockchain belongs to one device, the integrity is violated Versatility - blockchain can be used not only in the financial sector, but also in other areas of life (law, real estate) On November 12, the first pilot application of blockchain technology in Uzbekistan was carried out, namely in the automated system of registers for the State Unitary Enterprise "State Center for Expertise and Standardization of Medicines, Medical Devices and Medical Equipment". Thus, this object is protected from any data manipulation.

Conclusion. It should be noted that some elements of the digital economy are already successfully operating in the life of our country.

In particular, taking into account the mass transfer of documents and communications to digital means, electronic signature authorization and communication with the state are also being transferred to electronic platforms.

In the words of UN Secretary-General António Guterres, “the digital economy can create new risks, including threats to cybersecurity, facilitation of illegal economic activity, and violations of privacy.

Making new decisions requires joint action by governments, civil society, academic groups, the scientific community, and the technological sector.”

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