Today, it is possible to say that the Internet-market together with the innovation technologies are making electronic business advantageous for all subjects of electronic commerce. Under the conditions of globalization and economic crisis in Ukraine, it is possible to forecast the significant development of this sphere of employment. World network gives the possibility to companies to leave to the completely new level on the assignment of goods and services, but users, in turn, can more effectively interact not only with producer himself, but also between themselves.

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IMPROVING ECONOMIC SECURITY IN THE PUBLIC SECTOR OF THE ECONOMY BY THE USE OF BLOCKCHAIN TECHNOLOGY

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The rapid entry into the global economy by Blockchain technology lifts up many questions to discuss, so we will look at it closely. The range of using Blockchain is very wide. At this stage of development, possibilities of this technology are still testing and studying, but even now its revolutionary potential in the public sector cannot be overvalued.

The development of derivative instruments (cryptocurrencies and smart contracts), which increases security, speed and marginality of transactions between entities (instant money transfers without intermediaries), opens up new directions for business to business and states. Thousands of new blockchain-based projects in various directions, such as identification management, property registration, diamond trading, are currently opening. Given this new vector of development, we need to analyze how this new technology can be used before policy makers launch it in the public sector.

Let's consider the point of this technology in more detail. Blockchain – a database that works without centralized management. This means that the registry or a large portion of it is not stored in one place, but distributed among hundreds or thousands of computers around the world, and any user has free access to the current version of this registry. Spheres of application of technology are numerous, but the main condition is the existence of a smart contract, whether it is a transaction or a conventional contract.

The core of blockchain work – the blocks of digital records that are cryptographically and chronologically linked in a chain. The process of bonding

blocks is called hashing; it is carrying out by hundreds, even thousands of computers in the same network. If all of the calculations have the same result, the unit is assigned a unique digital signature that is stored in the registry on each computer.

With regard to security, protection against changes, breaking the registry by changing the digital entry is impossible – to do this, you need to have access to the record on all computers in the network at the same time. Computers can range from a hundred to several thousand, distributed across different regions of the country, or even abroad. When a digital record is changed, it receives a new signature, and the mismatch will be noticed by the system instantly. This makes the attempt of changing the registry virtually impossible. Transparency of all records in such a database is both the advantage and the disadvantage. The disadvantage lies in the fact that people with different motives can trace all your records inside the system using the information received. They can do this for cheating purposes. Therefore, the system for voting in the presidential election, based on this technology, at this stage of development will not guarantee the confidentiality of voters. Nonetheless, the development of such systems is only a matter of time. The possibility to check all transactions performed by each user of a database will help track the process of allocating funds from the state budget, if the government enters into exploitation such a database.

It is known, that a contract can be broken by one of the sides that have concluded it. Currently, to "motivate" the sides to act honestly, the state uses legal mechanisms, the judicial system. However, this is long, expensive way and there are certain corruption risks, especially in Ukraine. Using Blockchain technology, more precisely, its derivatives – smart contracts – will help in matter of solving this problem.

Smart contract is an electronic algorithm or a condition in which the sides can make exchanges of different assets. The programmed terms of a smart contract are keeping track to the sucessful outcome of the transaction, and the exchange (service payment, barter) occurs only after all conditions have been completed successfully. Anyone who wishes can check the result for corruption. Any asset can be the subject of transaction. Asset of tangible and intangible real sector of the economy or the obligations associated with it. In many matters, such contracts provide the key opportunities of certain technology for the public sector of the economy.

An important function of the state is to maintain reliable information about individuals, different organizations, assets and activities. Working with this information in the process of regulating and providing public services has created such a phenomenon as administrative barriers. Blockchain is currently unable to resolve the problem of administrative barriers, but it can significantly simplify the management of trusted information, reducing the cost of the state apparatus, increasing safety and convenience for users.

In the public services system, certain technology and its derivatives (cryptocurrencies and smart contracts) are capable of solving security problems,

harmonizing and comparing data, reducing administrative barriers. Due to its properties, which have been described already, this technology is a unique tool for increasing the transparency of the public sector and reducing corruption. According to the fact that the history of counterparty financial transactions within the system is open, illegal or mistake types of transactions can be blocked or canceled, and the system operates within the framework of approved terms of smart contacts.

Described technology may find place in tax collection sphere, so taxpayer can send a payment, and then trace what was the way of using his money, as well as the ability to track the payment of taxes by public and private enterprises. Consequently, the potential effectiveness of introducing this technology in the public sector, in order to prevent corruption cannot be overvalued.

Although Blockchain still needs to be further studied and advanced, some European countries are using it as an instrument for ensuring transparency in the public sector and for other purposes.

For example, Estonia is a leader in the implementation of e-government services, introducing technology called Keyless Signature Infrastructure (KSI) to protect all public sector data. KSI allows officials to track changes in various databases – who changes the record, which changes are done and when they are done. The key results of the introduction of the KSI system were: in 2016 94% of citizens had an electronic certificate enabling the use of the system; 2% of Estonia's GDP was saved by the work of the government without paper documents, equal to its annual contribution to NATO membership. In the country more than 4000 public services are provided electronically, in addition, Estonia is the country number one in collecting taxes by the Index of Electronic Economics.

The Slovenian government have announced their target to position the country as the European leader of using Blockchain technology. The Government is also studying the possibilities of introducing technologies at the level of public administration. In turn, the Ministry of Labor and Pensions in the UK is developing a social security payment platform based on Blockchain.

It has been concluded that Ukraine stands in big need of inserting described technologies to prevail corruption and unexpected perils of different kinds, such as hacker attacks in near future.

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