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LEGAL BASIS FOR THE USE OF BLOCKCHAIN TECHNOLOGY: PROBLEMS AND DEVELOPMENT PROSPECTS

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Abstract

The article covers one of the most discussed topics in business and information technology - the "blockchain" technology. The covered technology is the main trend in the development of the modern international economy, and it is well deserved that its invention was called the digital revolution and it supposedly can completely change the global financial system. This study describes "blockchain" technology as a relatively "young" phenomenon. In Russia "blockchain" technology is mainly associated exclusively with cryptocurrency. This is due to the fact that the "blockchain" technology was first applied in operations with the electronic currency "bitcoin" ten years ago. Today this phenomenon has gone far beyond electronic currencies (cryptocurrencies) and is evolving as a self-sufficient technology. A narrow understanding of this technology in our country and a cautious, rather negative even, attitude towards it is associated with a certain lack of understanding of the "blockchain" technology in society as well as the lack of legal regulation by the legislator. The latter results in significant disagreement between the positions of state bodies regarding the technology. The relevance of the studied topic is that both the blockchain technology itself and the legal basis for its functioning in Russia are in their infancy, however, its adoption and development can lead to significant economic benefits. At present, the need to develop the legal framework for the use of blockchain technology and designate the further vector of the generation of the legislative framework aimed at legal regulation of this industry has become quite acute.

Keywords: Blockchain, technology, cryptocurrency, electronic money, regulatory documents, legal basis of blockchain technology.

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1. Introduction

Blockchain is a decentralized data system that provides data accounting and storage and consists of a chain of transaction blocks, the data is identical for all participants in a decentralized system, confirmation of the validity of blocks is provided by consensus between the participants in the system (Dyatlov, Bulavko, Nikitina, Lobanov, & Efremova, 2018). In other words, it is a way of storing data - a registry that stores information about all changes and operations (transactions) that have occurred in the system. The technology generates and stores a list of ordered records that are called blocks. Each individual block contains time information and a unique image (Hash) of the previous block, thus, the technology "binds" data blocks, excluding the possibility of change in the formed blocks without changing the entire sequence (Pal, Alam, Thakur, & Singh, 2019). The main advantage of using blockchain technology is its decentralization, the absence of a single control center, the entire transaction chain is duplicated and stored in encrypted form by each participant, which does not allow unauthorized changes to one of the blocks. Therefore all ongoing transactions are subject to repeated copying and are absolutely transparent.

Due to the use of the above technological solutions blockchain has got conceptually distinctive features that make it a rather promising technology for financial transactions using cryptocurrencies (for example, bitcoin digital payments (Ageeva, Lang, Loshkarev, Chugurova, & Churakova, 2018) as well as for entering contracts (application of technology in the field of economics, markets and finance, particularly to work with stocks, bonds, mortgages, futures, legal titles, assets and contracts).

With all its significance for the financial environment blockchain technology today is not limited to its scope. The innovative technology under consideration has great potential for use in any field requiring data security for maintaining registers of all kinds (for example, information on registration of property rights, medical data, notarial records, etc.).

The blockchain technology is being quite actively introduced into intellectual property rights protection. In 2017 the Skolkovo Foundation and the Russian Intellectual Property Organization presented a project of a "trust infrastructure" for national intellectual property - IPCHAIN (Association "National Coordination Center for Processing Transactions with Intellectual Property Rights and Objects"). The same year a Tomsk company "Bubuka" launched a platform based on blockchain technology that allows musicians to receive payments in cryptocurrency, and as part of the development of the IPCHAIN initiative, Siberian Federal University developed a blockchain platform for knowledge sharing and copyright management.

Despite the promise and great potential of blockchain technology it is currently in an absolute legal vacuum (Garaschuk, 2018). The lack of state legal regulation measures limits the further development of blockchain technology in the Russian Federation. At the same time, the introduction of such technologies is a significant step towards a utterly new level of economy, property management, etc.

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2. Problem Statement

In order to adequately consider the issue of "blockchain" technology legal regulation and outline the prospects for its development, it is necessary to consider specific problems that are currently present in modern legal reality. One of the main problems is the lack of clear understanding of blockchain technology in society, excluding people whose area of occupation is directly related to digital technology. The concepts of cryptocurrency and bitcoin were actively discussed in the media and thereby a certain understanding of these phenomena was created, while blockchain remains in media shadows for now.

Secondly one must mention the lack of an integrated legal framework. In the period from 2015 to 2019, a disparate technical system was formed in Russia, it occurred in the banking sector, commercial companies, non-governmental organizations and associations that all conduct separate research and develop technologies related to the use of blockchain technology (non-profit organization Blockchain Fund, an expert council on digital Economics and blockchain technologies under the State Duma Committee on economic development, industry, innovative development and entrepreneurship, Digital Ecosystem Platform, Federal Electronic Platform dash "RTS-tender", etc.). This problem is not unique to Russia. Due to the justification of digital currencies in the financial markets of many countries they are beginning to realize the problems of the blockchain industry and make the first attempts to regulate this technology (Janssen, Weerakkody, Ismagilova, Sivarajah, & Irani, 2019). At the same time, the approaches of different countries differ significantly from each other: from fairly soft and flexible regulation (Japan, Switzerland) to tough approaches (USA). Currently, there is an ISO / TC 307 project, "Blockchain and distributed ledger technologies", which sets the general standards for the use of "blockchain" technology. Thirty nine countries participate in the project, including Australia, Russia, Finland, Canada, USA, Great Britain and others. The development of model regulations governing and explaining blockchain is an important factor in the development of the global economy (ISO / TC 307 blockchain standards and distributed ledger technology, 2019).

And the third problem arising from the second is disparate organizations implementing autonomous regulation of the use of blockchain technology. In other words, today there is no integrated source of blockchain legal regulation that would have authority among all participants in the application of the technology in question, satisfy the requirements of understanding the blockchain for state regulation and take into account the interests of real participants in the technology.

3. Research Questions

Based on the identified problems the formation of an adequate legal framework for the implementation and application of the blockchain technology requires an answer to the following questions:

- disclosure of the essence and content of the blockchain technology;

- analysis of the norms of the current Russian legislation that directly or indirectly regulates the use of blockchain;

- study of Russian and foreign practice of using blockchain technology;

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- designations of the Russian legislation development vector in the direction of legal regulation of "blockchain" technology use.

4. Purpose of the Study

The following can be outlined as the objectives of the study:

- identification of problems of legal regulation of "blockchain" technology;
- offering recommendations to supplement the current legislation governing the use of blockchain technology.

5. Research Methods

When writing the article, various methods of scientific knowledge were used. The main ones are dialectical materialism that serves as a universal approach to objective knowledge of reality and the method of system knowledge, which allowed us to consider the concept of "blockchain" as a system object. Such general scientific methods as analysis and synthesis; induction and deduction were used in the study. Formal legal method, comparative legal (comparative method) and logical methods were also used in research. For example, the formal legal method was used in the interpretation and study of regulatory documents.

6. Findings

Blockchain is the latest revolutionary technology that needs to be analyzed and applied (Schmidt, & Wagner, 2019). Many foreign countries have long and actively used blockchain technology in almost all areas of society. For example, Estonia uses blockchain in production data registries, such as judicial, legislative, national healthcare, security, and commercial codes. On November 27, 2017, a new Law on combating money laundering and the financing of terrorism (Money Laundering and Terrorist Financing Prevention Act, 2017) hereinafter (MLTFPA, 2017) came into force in Estonia, which makes it possible to legally engage in cryptocurrency business in Estonia (Money Laundering and Terrorist Financing Prevention Act, 2017). In the United States, which can rightfully be called the main player in cryptocurrency and blockchain systems, electronic money is considered as assets and is taxed on capital gains (Egorova, Mukhomorova, & Mosalev, 2018). Switzerland is one of most favorable countries for the implementation of projects and ideas related to blockchain technologies. Most blockchain companies are located in Switzerland. One of the Swiss banks (Hypothekarbank Lenzburg) said it would allow individual crypto and blockchain enterprises to open accounts with them. We can't ignore the legislative activity of Malta in relation to the regulation of cryptocurrency and blockchain technology turnover. Over the past few years such laws have been enacted there as the Malta Digital Innovation Technology Act (MDIA), designed to create a government agency that is responsible for promoting consistent principles for the development of innovative technology (Malta Digital Innovation Technology Act, 2019) and the Organization and Service Act Innovation Technology (ITAS) provides the regulatory framework for the development and regulation of innovative technology agreements (Organization and Service Act

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Innovation Technology, 2019). All this has led to increased interest in Malta by the developers of blockchain technologies.

A number of measures has been taken to study the issues of application and proper legal regulation of blockchain technologies in Russia since 2015, the year that was marked by the official appeal of the Russian Internet Development Institute to the President of the Russian Federation, Vladimir Putin, regarding the creation of conditions for the introduction of blockchain technologies in our country. Organizations are created to sort the available information and international experience in this area (for example, the Russian Cryptocurrency and Blockchain Association (RCBA), the above-mentioned project "trust infrastructure" for the national intellectual property sphere - IPCHAIN). In July 2017, the Government of the Russian Federation approved the Digital Economy of the Russian Federation program, according to which in 2018 legal conditions will be created for the introduction of decentralized registry and certification of rights technologies, not only within our state, but also within the framework of the Eurasian Economic Union (Program "Digital Economy of the Russian Federation", 2017). In the same year, the Federal Electronic Platform "RTS-Tender" tested the "system of unified accreditation of procurement participants on all electronic platforms eligible for bidding under 44-FL and 223-FL" (RTS-Tender, 2019). This system was implemented on the basis of the free MultiChain system software, and allows multiple verification of data and the elimination of unauthorized changes.

The Russian Federation Ministry of Health has also announced plans to transfer electronic patient records in Russian medical institutions to a united blockchain-based reference system. Citizens will be able to independently choose with whom they will share personal information (Hachaturova, & Makarevich, 2018). There is no doubt that the use of the latest technologies opens up great opportunities for both states and society as a whole, as well as for an individual. Despite the presence of several promising blockchain projects, the level of implementation of this technology in Russia is at an embryonic level. How successful and true the chosen strategy is time will tell.

7. Conclusion

Summarizing the above we hope that the problem of the absence of an integrated legal framework for regulating blockchain technology is temporary. First, reform of the Federal Law "On Information, Information Technologies and Information Protection" is required as it is fundamental in governing basis for operating digital technologies and covering the relevant terms. The laws governing the civil-law sector of the application of the blockchain technology should also be subject to change. Currently, Russia has approved the Digital Economy of the Russian Federation program (Program "Digital Economy of the Russian Federation Program", 2017), in accordance with which the Government of the Russian Federation will develop and implement this technology in various fields. The Ministry of Finance of Russia introduced for discussion the Draft Federal Law No. 419059-7 "On Digital Financial Assets" (Draft Federal Law "On Digital Financial Assets", 2018).

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