DIGITAL LAW AND ELECTRONIC ETHICS IN THE FORMATION OF SOCIETY 4.0

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ABSTRACT

The article is devoted to the topical issue of the formation of digital law and taking into account the ethical positions of society in the development of digital technologies. Challenges for digital law, key areas of its development and legislative support were defined. The role of the blockchain technology in the development of legal foundations for ensuring interaction between society and the digital world was determined. The importance of developing and mastering the norms of e-ethics was proven, which will guarantee the tolerance of the complex interaction of the digital world and human society in the future.

Keywords: Digital Law, Digital Law Enforcement, E-Ethics, Blockchain Technology, The Internet of Things, Society 4.0.

INTRODUCTION

Modern society is at the stage of a global transition to a new technological order related to the "*digital economy*" and the "*digital revolution*", the features of which are determined not only by changes in technology, but also to a greater extent by the state of public institutions, including forms and models of legal relations, mechanisms of government, as well as social systems of values and ideologies; all of this has received the designation-society 4.0. Digital technologies create a new reality that is different from the physical world in which we live. They create a new technological environment in which such social phenomena as the law and the system of electronic ethics act.

METHODOLOGY

Often, the gap between the real world and the digital world does not allow us to use all the available information that is created by a multitude of "*smart*" devices around the world. In the works of (Mouzakitis, 2017; Sunstein, 2016) it is determined that the new digital reality is already manifested in the widespread use of the Internet of Things, integrated industrial networks and artificial intelligence, automatic identification services, the collection and processing of global databases, cloud services and computing, various IT platforms and services in the digital environment. In the works of (Bourque & Tsui, 2014; Vogel, 2015) it is noted that thanks to new digital technologies, a digital legal regulation environment is being formed, in which key

technological factors can be identified: the Internet of Things, artificial intelligence and machine learning, virtual augmented reality technology, technology based on the principles of a distributed registry (blockchain), cryptocurrency, smart contracts, global databases, cloud services and computing (Yuko, 2017).

RESULT AND DISCUSSION

Over the past few years, the new technology, the blockchain, is expected to replace many modern digital platforms. Since digital distribution is the basis of almost every modern service, the technology of a distributed registry (blockchain) will become a major influence factor, like the creation of the Internet. At the same time, the blockchain technology supports much more possibilities than just a cryptocurrency (Nelson, 2018).

A smart contract is a reasonable blockchain code for the reliability of transactions and preservation of information about them, including the protection of rights and interests of rights holders, such as the blockchain application for smart contracts that are legally binding, concluded and executed using artificial intelligence and are reflected in the public blockchain. Smart registries may include information necessary for potential rightholders (in particular, license fees, conditions and restrictions on use). Blockchain registries are also able to provide the ability to enter into smart contracts that are automatically executed, including in terms of paying a license fee and registering a license in the registry. The same applies to other types of transactions, the transfer of rights or the creation of encumbrances. Digital time stamps, "*attached*" to each transaction, could guarantee full transparency and controllability of intellectual property rights in the digital property turnover.

Maintaining IP registries and services is a convenient way to replace all existing centralized IP registries with decentralized systems with blockchain technology, where records will become more reliable, and changes are introduced almost instantly. The digital certificate of authenticity serves to ensure the safety and efficiency of cataloging intangible objects and intellectual rights, as well as fixing and registering intellectual property rights that will be available globally. This is a new factor in the ethics of business communication and international interaction (Bess et al., 2015).

On the basis of the blockchain technology, the maintenance of registries of intellectual property rights can be a real way for rightholders to tighten control over intellectual rights, legitimate interests and the most authorial works. This is especially true for owners of copyrighted Internet content. Public blockchain registries contain all information about the full chain of copyright holders and the transfer of rights to IP objects that will ensure transparency, security, and evidence of the rights of authors, rights of users and right holders. In other words, the blockchain technology can be a legal tool (means):

1. For recognition of intellectual property rights and registration of objects of these rights - a digital certificate of authenticity;
2. Management of intellectual rights and objects of these rights, including their commercialization or other practical use (for example, in cases of free use or fair use);
3. Securing and protecting intellectual property rights of property owners;
4. Disposal of the exclusive right;
5. Entry to digital property circulation of exclusive rights.

However, blockchain technology is not a perfect product: blockchain today requires a huge amount of computing power and, therefore, energy. Costs are significant when processing a limited number of transactions per unit of time. The strength of the blockchain technology is its "*cyber-resistance*", which is important for IP systems, since it is almost impossible to make adjustments to the blockchain system, but in some cases such an adjustment may be necessary, for example, by a court decision.

One way or another, blockchain technologies promise to become a revolutionary way to protect copyright content and copyright on the Internet and cyberspace in general, including when they are cataloged and commercialized, which forms a new quality of life in society 4.0. Maintaining state or other rights registries based on blockchain technology equates the reliability of legal copyright protection with the protection of industrial property, and the business ethics of commercial interaction will greatly benefit from this (Makedon et al., 2019).

Important is the fact that blockchain users exist in the world of equality. There are no controlling structures, moderators or administrators in the system, here is a different ethics, and each is responsible for his actions. In the moral and ethical aspect, the prospect of the development of this technology gives rise to a paradoxical synthesis of direct democracy, the realization of which is total. Trust and responsibility are realized in the electronic network, and the violation of the commitments made-rich in exceptions of the network-not only industry-specific, project-based, but economic, legal, that is, civilizational. Blockchain is the basis of the powerful movement of decentralized autonomous organizations (Salganik, 2017). The principal thing is that the blockchain is based on the technological realization of trust, leads to "*bridges*", the radius of which is limited. It is not by chance that the reaction to the blockchain from political, legal and financial structures is reminiscent of panic: the system of employment and property is changing; the ideas about sovereignty are changing, which means a change in values in society. At the same time, the blockchain technology itself cannot be a panacea for expanding responsibility and trust. It is simply a network of actors who need to verify important information for them, around which the network is created. These are financial, expert structures, patent offices, some regime organizations and the like. Perhaps the second wave will catch up with the scientific and educational networks (Dupont & Maurer, 2016). In general, all those networks where there is an acute problem of identification and verification of information, its sources, obligations, which is very characteristic of society 4.0.

Ensuring intellectual property rights using blockchain technology can also be considered as a digital rights management (DRM) system that will provide rights holders with more effective protection of their works in the digital environment for a long time. In most countries, rules have been in place for a long time, aimed at the technical protection of copyright works and the interests of copyright holders of DRM technology from circumventing the protection or hacking of content in the manner prescribed by law.

Thus, Articles 6 and 7 of Directive 2001/29/EC provide for provisions on technical means of protecting copyrights, including electronic, and information about the management (disposal) of rights. These provisions require member states to provide legal protection against "*acts of circumventing any effective technological measures*" and "*any actions aimed at removing or altering any information about rights management".* Not only the EU, but many other countries have similar rules based on this copyright treaty, which has been ratified by 96 member states, including the United States. These provisions may also apply to blockchain

technologies and stimulate the use of such systems convenient for right holders to use such systems in society 4.0.

Blockchain technology is also important for the formation of blockchain (electronic) registries of rights, confirming digital rights to objects specified in such registers by maintaining appropriate records, codes (a certain sequence of characters). Regardless of who creates blockchain registries-private companies or government agencies, the legal status and legal significance of such electronic registries should have the same legal force and properties of a digital record as evidence of "*prima facie*", which indicates the authenticity of a digital record of an electronic registry.

It is necessary to determine the order of refutation of these records by the right holders or users and the mandatory procedure for making the record fixed on the blockchain platform (Pouliquen-Lardy et al., 2016). Any IP management scheme that will work on blockchain technology will require the allocation of significant resources for the operation of such a system, including the payment of this kind of services (registration actions) in accordance with current legislation.

Automated licensing of operations under the blockchain technology will entail the issue of contractual remedies in the event of malfunction, violations and guarantees of the implementation of contracts. Right holders and users should have the necessary tools to refute such transactions and protect their rights, including the right to terminate the license agreement.

The possibility of using copyright works without intermediaries will also raise the issue of ethics of legal relations and the need for collective management organizations of copyright, since the rationale for the need for this legal institution is largely based on the general opinion that large-scale independent use of works for most authors and rightholders is not possible or economically appropriate. The blockchain technology can fundamentally change this position and ultimately cast doubt on the need for a collective rights management system itself. Thus, for restructuring and ensuring the effectiveness of management and control systems in Russia, the monetization of the economy cannot be an objective economic, new and legislative system (Wattenhofer, 2016).

Digital technologies create technological space, environment, and new conditions of legal regulation. Many countries that stimulate the development of the digital economy, formulate strategies in this area. The digital economy is understood in the Strategy as an economic activity, in which the key factor of production is digital data, processing large volumes of information and using the results of analyzing which in comparison with traditional forms of management can significantly improve the efficiency of various types of production, technology, equipment, storage, and sale, delivery of goods and services.

The scope of application of digital technology are:

1. Financial and banking sector;
2. Education and professional development;
3. Health and medicine;
4. Intellectual energy;
5. Digital law enforcement;
6. Creation and development of global technology centers at the international level for the formation of new markets in order to stimulate the possibilities of national business (Pschetz et al., 2017);

The need to regulate the market of "*digital objects*" by recognizing their legal status and turnover rules is due to the actual presence of such objects in today's digital economy.

In the future, in the development of the logic of bills for the digital economy, there will be an objective need to create an independent neoclassical legal direction, using not only traditional, classical institutions and legal structures of private or public law. It is, in essence, about "*formatting*" in the very near future of digital law in a broad sense, not limited to the classical ethical and legal architecture and private legal doctrine.

RECOMMENDATIONS

The recommendations of this study are formed in the following areas: (1) such digital transformations and the emergence of e-ethics in society 4.0 raises the question of a new moral model of hybrid society in which people are integrated with machines into one system of responsible digital relationships and their legal support; (2) in fact, humanity is faced with the powerful challenge of civilization in the direction of digitalization in all areas: from politics and science to ethics and morality. It is about the new content of applied ethics and law.

CONCLUSION

As a result of the study, we state that the active development of a legal framework for regulating the digital economy and digital technologies for the society 4.0 model will require significant intellectual efforts that need to be done in the most expeditious manner to stimulate the practical use of the benefits and the disclosure of the possibilities of digital technologies in the modern digital economy. Digital law should secure the possibility of enforcing a record of the holder of digital rights to an intellectual object without violating ethical norms. This is confirmed by the need to formulate special laws today defining the procedure for creating digital rights, the scope of their use and the features of application in the new society 4.0.

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This article was originally published in a Special Issue 2, entitled: **"Business Laws and Legal Rights: Research and Practice",** Edited by **Dr. Svetlana Drobyazko**