Law in the digital age: regulating a new technological reality

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Abstract. The paper focuses on the issues of state and law in conditions of a new technological reality, which changes the living space of the humanity. Due to the rapid development of digital technologies, the issues of legal regulation of new institutions are of particular importance. Innovative projects are implemented in all significant areas of society, and jurisprudence should not be an exception. In this paper, the authors raise the most significant questions about the operation of law and the state in the digital reality.

Keywords: law, technology, digital technologies, artificial intelligence

1. Introduction

Modern legal science and legal education are clearly lagging behind in terms of researching legal regulation issues in the digital age. More than that, they should focus more on training competent personnel for lawmaking and law enforcement activities in order to ensure adequate legal regulation in the area of new technological challenges.

First of all, the environment of the law has been completely changed. Relationships are acquiring virtual features, and the conditions for human activity are gradually changing. The problems of determining the legal status of a virtual (electronic) identity, identifying of Internet users, and defining automated systems (bots) have significantly arisen. The new architecture of the digital Internet environment does not have the usual qualities of time and space. This sphere of horizontal network interaction has no hierarchy and subordination. The very architecture of the Internet is transnational, it is associated with the construction of timeless horizontal relationships. As a result, the customary model of state and law does not fit into this form of interaction, and the problem of legal regulation of relations arising in the digital space predetermines the importance of this study.

2. Materials and Methods

The development of adequate models and means of legal regulation is possible given the social and technological context in which the law is to act. The task of the doctrinal substantiation of digital law (to streamline socially significant relations in the digital space) becomes imperative.

Thus, the object of this study is law in the digital era. The subject of the work is the system problems of Internet law, such as the following: protecting information and personal data, virtual property, etc.; interactions between humans, artificial intelligence, and robots; virtual legal education; as well as developing the digital economy and public administration in modern conditions.

The methodological basis is general theoretical methods (logical-legal and comparative-legal, analysis, prediction of concepts and relations) and empirical methods (observation; study of regulatory legal acts).

3. Results

The materials studied lead to a number of conclusions. First of all, there is the so-called systemic problems of Internet law: personal data protection, copyright protection, social networks and media, information protection, blockchain, virtual property and cryptocurrency, online gaming industry, etc. They require serious solutions [1].

Second, the problem of digitalization of state-legal interaction occupies a special place among the challenges for law and authority. Internet interactions between man and government become more operational, open, and affordable. Hierarchical relations give way to relations of equal subjects. The state is losing its monopoly on dominance, the network community comes to the fore. Along with the concept of e-state as a new form of interaction between personality and power, the idea of a network of power relations and social structures without hierarchy, centralization, and coercion appears [2].

Third, a serious challenge for the law is the emergence of artificial intelligence and robots. At the same time, such technology as artificial intelligence raises philosophical and ethical questions of the ontological order for the future of mankind. There are various forecasts about the future of "smart robots": from predictions about the end of the human era and the beginning of the machine era (S. Hawking), emergence of cyborgs (human robots) with immortality (R. Kurzweil), "machine uprising and tyranny: (D. Barrath), upcoming total unemployment (M.Ford) to the priority role of people in the creation and operation of machines (D. Mindell). At the same time, the technology of artificial intelligence is universally implemented in various fields, predicting the transfer of routine operations to "smart machines," i.e. unmanned vehicles, diagnosis programs, and developing methods for treating patients, using AI as a way to create scenarios and pictures, neural networks that deal with bankruptcy cases, insurance, prediction of court decisions, etc. [3].

The proliferation of artificial intelligence technology (machine learning) determines the scientific and theoretical understanding of this phenomenon from the point of view of ethics and law, as well as the development of relevant legal acts defining the nature of artificial intelligence (subject of law, object of law or something else). There are also implications of using "smart machines" in the legal field. The significance of the stated problem is related to the priorities of the state policy of Russia in the field of technology and the information society. The Presidential Decree of May 7, 2018 *on the National Goals and Strategic Development Objectives for the Period up to 2024* and the *Information Society Strategy from 2017 to 2030*, the development of a system of legal regulation of the digital economy and the use of artificial intelligence are among the priorities in the field digital economy. The state program *Digital Economy* (Order of the Government of the Russian Federation of June 28, 2017) provides for neurotechnologies, artificial intelligence, and robotics among the pass-through digital technologies. It especially stipulates the need for a system of regulatory support for the use of digital technologies.

At the same time, there is no necessary legal basis for using artificial intelligence technology in the Russian Federation. The vacuum of legal regulation in this area is evident, while artificial intelligence is already finding its application both in the world and in Russia, raising the question of its legal personality. First of all, at the moment, there are no adequate legal tools for streamlining the use of artificial intelligence in the legal systems of the world. In most countries of the world, only program documents for the development of robotics and artificial intelligence technology are adopted. In the Russian Federation, the "law on robotics" was developed. It was not submitted to the State Duma for consideration.

However, the strategic documents of Russia determine the creation of an adequate system of legal regulation in the field of using artificial intelligence as one of the key tasks. Thus, the *Forecast of the Scientific and Technological Development of Russia until 2030* considers machine learning, creating prototypes of biosimilar, anthropomorphic robots capable of learning and interacting with humans, developing an artificial nervous system of robots among the promising areas of scientific research. In

addition, in the field of legal research on the use of artificial intelligence, such issues as the concept and legal nature of AI technology remain unresolved. Also, the question of the availability of legal personality of AI and approaches to legal regulation remains controversial

At the same time, there are practically no special studies on the technology of artificial intelligence in jurisprudence. Protecting information security from dangerous and destructive information and cyber attacks is a separate issue. According to leading experts, the main challenge for the state and corporations is cybercrime, which can cause the necessary material and financial damage. At the same time, it is equally important to develop measures of protection at the hardware and software level, as well as looking into issues of legal regulation for bringing to responsibility for computer crimes [4].

Fourth, this is the virtualization of legal education due to distance technologies and online courses. With all the advantages of distance learning, there are problems of control over learning independence ans absence of live communication.

In particular, we should discuss the need to work on an appropriate regulatory framework for further developing the digital economy and public administration in a new information environment. At the moment, the field of digital economy is mainly regulated by strategic and program-oriented documents. Among the significant regulatory legal acts, we can name such as federal laws on information, personal data protection, and a number of others. Obviously, these documents are not enough to create the necessary certainty in the legal regulation of the digital economy.

4. Discussion

Scientific research on artificial intelligence can be divided into the following groups: 1) research papers on the nature, capabilities, and predictions of using artificial intelligence technology: N. Bostrom, K. Kelly, A. Andrew, S. Russell, S. Hawking, R. Kurzweil, A. I. Redkina, I. V. Ponkin, V. F. Khoroshevsky, A. A. Zhdanov, and others; 2) research related to the concept and legal personality: AI: R. Cherke, Yu. Grigen, N. Petit, I. N. Kuksin, G. A. Gadzhiev, V. B. Naumov, I. V. Ponkin, A. I. Redkina, S. N. Grin, D. S. Grishin, A. V. Nesterov, and others; 4) works dedicated to liability for harm caused by AI: D. Byers, R. Cherke, Yu. Grigen, K. O. Belyakov, G. A. Gadzhiev, E. N. Iriskina, T. M. Lopatina, A. V. Nesterov, I. V. Ponkin, A. I. Redkina, O. A. Yastrebov; 5) research related to the applicability of AI technology in the legal profession: G. A. Gadzhiev, A. Ivanov, R. Kvitko, I. Kondratieva, I. Kondrashov, S. E. Korzhov, S. Pereverzev, A. Pronin, A. Saveliev, Dennis Garcia, Richard Holovchak, Neybil Adam, Edvina Rissland, John McGinnis; 6) works on private legal issues of using AI technology (for example, in the field of intellectual property could be mentioned P. M. Morkhat), military robots in international law, etc. In jurisprudence, only one doctoral dissertation on artificial intelligence in the field of intellectual property was defended by P. M. Morkhat [5]. It should be noted that he also the author of only one monograph on artificial intelligence in the field of law (published in Russian). Among the leding scientific centers for studying legal aspects of using artificial intelligence, we can name the Research Center for the Problems of Regulation of Robotics and Artificial Intelligence (A. Neznamov, V. Naumov, and V. Arkhipov). This Center is engaged in the preparation of draft legislation in the field of robotics and artificial intelligence (http://robopravo.ru/).

5. Conclusion

The practical significance of the problems posed in the work is confirmed not only in documents of a strategic and programmatic nature, but also due to creation of special state institutions for dveloping state policy in the field of digitalization, robotics, and artificial intelligence. In 2018, the position of the representative of the President of the Russian Federation on issues of digital and technological development was established, and the Ministry of Digital Development was also officially formed. Similar state bodies are created in foreign countries. General studies of the issues of robotics and artificial intelligence revolve around two main problems: a fundamental possibility of an artificial supermind (optimists and pessimists) and the problem of a future personality when artificial intelligence appears as an autonomous cyber-physical system. In the field of jurisprudence, such issues are similarly

discussed, focusing on the possibilities of legal regulation in new technological conditions, legal personality and responsibility of artificial intelligence [6].

Thus, while a significant part of human life is changing under the influence of digital and technological innovations and moving into the virtual sphere, the legal systems, by virtue of their inherent conservatism, operate without taking into account the architecture of the emetging digital reality, in which a modern human finds him/herself [7]. There is a legal vacuum and low efficiency of legal regulation in such areas as the Internet, virtual currency and property, information security, etc. There is a logical need to streamline these areas of life with the help of law.

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