

Big Data in the Digital Economy: Prospects for Application and Legal Regulation



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Abstract There is a tendency in modern society towards a rapid increase of the information role as a factor of production in economic activity, which has become a constant object of economic turnover, especially in the digital space. In this regard, there is a need for a comprehensive legal regulation of relations related to the creation, storage, dissemination and use of information, since the lack of regulation of these aspects leads to various abuses against the rights and legitimate interests of the subjects of this data and other third parties. The article concludes that integral control of the industry including introduction of amendments into the framework legislation governing data turnover, is required.

Keywords Big Data · Digital economy · Legal regulation

1 Introduction

New technologies are already being actively introduced into the economy, radically changing the manufacturing process, approach to conduct of business and business processes. The scope of the law is expanding and increasingly covers the regulation of relations developing in the virtual space. The proportion of public relations associated with the use of computer networks is growing throughout the world, which implies the need to ensure effective legal regulation of these relations.

There is no clear approach to the so-called network relations in the domestic legislation. Digitalization in the context of law in foreign science, is considered as a natural phenomenon that arises on the path of the development of the legal system at the present stage. In the works of foreign authors, legislative activity in digital technology is understood as:

- collecting public opinion through online forums;
- working out draft laws using online mechanisms;
- coordination of online consultations on draft laws;

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- online voting of proposed draft laws;
- providing online access to current legislation and ensuring the interpretation of current legislation.

The impact of digital technologies and digitalization of law on economic and social relations are the subject of discussions among lawyers and the scientific community. There is a search in many countries of the world for a legal regulation model of public relations arising in connection with the transition to digital technologies. Taking this into account, the main goal of regulatory regulation is to create a new regulatory environment that provides a favorable legal regime for the emergence and development of modern technologies, including Big Data.

2 Methodology

When a scientific work is written, modern methods of cognition, identified and developed by science and tested by practice, were applied. General scientific methods were used as a methodological basis for the study. Among them, you can specify: dialectics, analysis, synthesis, induction, deduction, comparative legal and systemic structural methods of analysis. Formal legal and formal logical methods were also widely used. The formal legal method was used to analyze the basis of legal regulation of the Big Data use in Russia and to study the prospects for their development. Thanks to the formal-logical method, links between the development of legal regulation for the protection of Big Data and the development of digital technologies in the economy were identified. Investigating the place of legal means of regulating Big Data in the system of Russian law, methods of monitoring the current model of legislation and its assessment were used.

3 Results

The digital economy impact can be seen as a result of the spread, implementation, and the creation of a new technological environment for the legal system, both at the national and international levels. The Big Data concept as a new approach in the field of innovation and information technology was studied by such foreign scientists [2, 6, 8]. As a rule, their scientific publications covered the issues of the essence, types and principles of Big Data. The potential of “Big Data” is so great that it is now often referred to as “new oil,” the information equivalent of the natural resource that shaped the economy of the nineteenth and twentieth centuries. This analogy has some value, but it also has drawbacks. Unlike oil, Big Data is almost unlimited and renewable. However, data analysis can be compared to its extraction and transportation. The International Data Corporation expects that there will be 175 zettabytes of data worldwide by 2025 [5]. Big Data analysis has the potential to

change the value and efficiency of new product development, market orientation and pricing processes. The digital economy in terms of Big Data application generates a request for the formation of complex branches of law based on special legal regimes and principles.

The complex branches include norms of other law branches, they use methods of regulation in various law branches. Complex law branches, in contrast to the main branches, occupy a certain, unequal place with them, and they also develop and complement the entire law system. They are regulated by the legislative space, which includes the norms of various branches of law. The approach that is used in a complex nature legislation branches, in terms of the circulation of Big Data, artificial intelligence, technologies for decentralized registry maintenance, and the like, should be taken into account to regulate complex law branches. In connection with the above, adaption of legal institutions to the dictated conditions becomes necessary. The current legal norms do not fully provide a systematic approach to the formation of the digital economy, and sometimes lead to fragmented regulation, which does not allow to fully realize the benefits of Big Data in the digital economy.

Thus, the Civil Code of the Russian Federation reflects the approach according to which data are some information units that are statically stored in spreadsheets or databases [1]. The legislator suggested that Big Data shall be understood as independent materials (articles, calculations, regulations, court decisions and other similar materials) (clause 2 of article 1260 of the Civil Code). It is difficult to agree with this position, since Big Data is a dynamic, non-stop process of the emergence of new data, some of which are not initially structured and processed in the required way, and the other part is already processed in accordance with the set goals. Big Data is a constant stream of huge amounts of information continuously coming from various sources. Obviously, the norms of “classical” legal structures cannot be fully applied to new relations, since they have a certain specificity in terms of their subjective composition, object and subject, conditions of emergence, change and termination, which leads to the need for their comprehensive regulation and revision of the existing legal regimes. There is no uniform concept, starting with the very concept of “Big Data”, which undoubtedly negatively affects the legal regulation of relations, not to mention new objects that have appeared in the field of the digital economy that did not exist before and require clarification of their nature and possibilities of legal regulation, amendments to legislation or the development of new legal regulation, given their unique nature and properties.

4 Discussion

Generally speaking, about the digitalization of the economy, objects in the digital field can be objects created by computer programs as a result of mathematical calculations (algorithms) digital records, virtual property, “digital twins”, technological platforms (social networks, industrial Internet, messenger, online trading platforms, information resources, etc.), “cloud” computer computing, domain names, means

of individualization of digital devices (IP addresses, accounts and personal data in social networks) and many others. As mentioned earlier, modern legislation does not fully meet the needs of the time, there is often a discrepancy between the object of regulation and the legal means and instruments applied to it. The emergence of a new form of normative legal act, including a digital law with changing content, which will act as a flexible regulator of public relations, is relevant and in demand. In these conditions, adaption of already existing legal norms, legal institutions to the digital economy is necessary, while fundamentally new models of legal regulation, designing certain mechanisms of their interaction with law are tested.

So, for example, an attempt in civil legislation was made to take into account the peculiarities of legal regulation of Big Data turnover in the digital space—a new named type of agreement appeared—an agreement on the provision of services for the provision of information (Article 783.1. Civil Code of the Russian Federation) [1]. Such agreements were previously known to the business community, but there was a need to fix the terms of confidentiality (NDA) separately. It should be admitted that NDA is a new phenomenon for Russian law, therefore the chances of judicial protection are small, but still present.

The amendment introduced stipulates that the contract, by virtue of which the contractor undertakes to take actions to provide certain information to the customer, may establish the obligation of one of the parties or both parties not to perform actions for a certain period, as a result of which information may be disclosed to third parties. In other words, the parties or a party undertake to use anonymized data. This amendment is of great practical importance, since the data used for analysis often contains personal or relevant commercial information. Taking into account the existing steps in the legal regulation of the Big Data turnover, prediction of the growth trends of the Data driven economy influence is possible. The greatest application of Big Data is expected for decision support, forecasting, modeling and visualization, risk management, development of new products, increasing margins, and the like. According to the forecasts of companies, the use of Big Data will increase in many sectors of the economy, in particular in transportation and logistics, trade in telecommunications, financial companies, industries with the trend of development of “Industry 4.0” (the emergence of cyber—physical systems) [4, 5]. On the IT market, there are quite complete solutions for the deployment, maintenance or administration of large storages and hardware and software solutions for them. A feature of the best is the presence of embedded systems and security tools, technological solutions and a harmonious combination of used software products [3].

Hitachi Data Systems offers are in great demand, which include two specialized hardware and software complexes: a platform for storing and managing large volumes of unstructured data (Hitachi Content Platform, HCP) and solutions for providing file access to data, with saving and managing a large number of files (Hitachi Network Attached Storage (HNAS)). To protect data storages, the authors of the projects propose the use of techniques for creating a SUNDR repository, the development of digests of certified messages; rotation of keys; or creating your own cloud storage [4].

The Big Data phenomenon has made many companies realize the need to collect, analyze, store and protect structured and unstructured data. However, implementing these processes requires an action plan and the right tools to optimize the processes. The impact of Big Data will largely depend on the efficiency of management and the use of resources [8]. Large enterprises with global connections, and advanced information and communications technology infrastructures will benefit significantly more than those lagging behind in these areas. Just look at how the lists of the most expensive companies in the world by market capitalization have changed over the past ten years, in which IT companies have taken the lead - Apple Inc., Amazon, Microsoft, Facebook [2].

5 Conclusion

IDC predicts that about 74% of enterprises intend to maintain their investments in Big Data and business analytics at the same level or increase in the next year. This is because analytics solutions are an important business need for digital trust and resilience during the COVID-19 crisis [5]. These technologies have helped businesses cope with the impact of the pandemic by providing insight, improving business productivity and detecting fraud. In the Strategy for the development of the information technology industry in the Russian Federation for 2014–2020 and for the long term until 2025, Big Data is listed as the first among the most important breakthrough areas for the global industry, in which global technological competitiveness of Russia can be ensured with a high probability in the future 10–15 years [7]. By 2022, national standards for processing Big Data sets should be created. Thus, in the near future, we should expect the emergence of more and more cases with Big Data, in particular, the development of public–private partnerships, as well as the emergence and development of legal regulation in this area. Big Data analytics can be called the heart of the digital world by analyzing and transforming data into information that provides valuable business insights. Therefore, using of flexible regulators, primarily legal experiments to regulate the relevant social relations is necessary. In this regard, the main goal of legal regulation of the Big Data institution is the formation of a new regulatory environment that will provide a favorable legal regime for the emergence and development of innovative activities in general.

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