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Information technology industry state support as a key problem of ensuring the national security of the Russian Federation

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Abstract

The article analyzes the state support provided by the authorities of the Russian Federation to the information technology industry from the point of ensuring national security. The authors also set a goal to identify the shortcomings of the support, based on regulatory legal acts that have been adopted over the year 2021. The study emphasizes that, despite the balanced approach of the legislator to solving key issues, such as the lack of an unambiguous understanding of some legal categories, gaps in education legislation, insufficient attention to some types of digital technologies, it is necessary to improve the efficiency of public administration and further support of the industry development. Currently there is a tendency in the world to tighten legislation in the field of violations in the virtual space, and many states are seeking to streamline and systematize the use of digital technologies, including big data. At the same time, of course, it is not allowed to ignore the fundamental rights and freedoms of the end user. The legislative experience of the European Union is given as an example. Special attention is paid to the need to control the process of knowledge transmission in the information sphere. The novelty and relevance of the study lies in the fact that its main provisions are considered for the first time in Russian humanitarian knowledge. The authors believe that only the question of the conceptual and categorical apparatus was previously considered by Russian specialists, but the conclusions of many researchers are already outdated. The paper also states that in the conditions of rapidly developing digital technologies, it is necessary to create import-substituting equipment, systems and software that will reduce the digital divide, if it grows.

Keywords: state support, information technology industry, digital technologies, big data, conceptual and categorical apparatus, knowledge transmission, national security, regulatory legal act

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Государственная поддержка отрасли информационных технологий как ключевая проблема обеспечения национальной безопасности Российской Федерации

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Аннотация

В статье анализируется государственная поддержка, оказываемая органами власти Российской Федерации, отрасли информационных технологий с точки зрения обеспечения национальной безопасности. Авторами исследования поставлена цель выявить недочеты и недоработки системы поддержки, опираясь на нормативные правовые акты, которые были приняты в течение 2021 г. В исследовании подчеркивается, что, несмотря на сбалансированный подход законодателя, для решения таких проблем, как отсутствие однозначного понимания некоторых правовых категорий, наличие пробелов в законодательстве об образовании, недостаточное внимание к различным видам сквозных цифровых технологий, необходимы повышение эффективности государственного управления и дальнейшая поддержка развития отрасли. Авторы констатируют, что в настоящее время в мире намечается тенденция к ужесточению законодательства в сфере нарушений в виртуальном пространстве, а многие государства стремятся упорядочить и систематизировать использование цифровых технологий, в том числе больших данных. При этом, безусловно, не допускается игнорирование основных прав и свобод конечного потребителя. В качестве примера приводится законотворческий опыт Европейского союза. Особое внимание уделяется необходимости контроля над процессом транслирования знаний в информационной сфере. Новизна и актуальность проведенного исследования заключаются в том, что основные его положения впервые рассматриваются в отечественном гуманитарном знании. Авторы полагают, что из обозначенных проблем только вопрос о понятийно-категориальном аппарате ранее рассматривался отечественными специалистами, однако выводы многих исследователей уже устарели. В работе также констатируется, что в условиях стремительно развивающихся цифровых технологий необходимо создавать импортозамещающее оборудование, системы и программное обеспечение, которые будут сокращать цифровой разрыв, в случае его нарастания.

Ключевые слова: государственная поддержка, отрасль информационных технологий, цифровые технологии, большие данные, понятийно-категориальный аппарат, транслирование знаний, национальная безопасность, нормативный правовой акт

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Introduction

In the modern world, information technologies (IT) and their digital counterparts play an extremely important role in shaping the entire security architecture of the state. Methods of information dissemination, its content, regulation of access to information, the ability to respond competently and in a timely manner to violations in the information sphere are just some of the issues that currently together form the structure of the so-called information sovereignty of any state. In this regard, the issue of scientific and theoretical support, including the study of state support for the Russian information technology industry, becomes especially relevant.

The authors of the study emphasize that this paper deals with the security of the state. Information security is a category for a wide range of applications. Conventionally, information security can be divided into two types: micro-level information security and macro-level information security, which are closely related. If the first case, as a rule, considers the security of companies or individuals, then the authors study the second case, in which they give an analysis of the information security of the state.

The problem under consideration is extremely poorly studied, and this is its peculiarity. This is explained by the fact that state support for the information technology industry is a new direction not only in Russian science, but also in foreign humanitarian knowledge. A brief analysis of the scientific literature on the topic will be carried out retrospectively, because over time, the focus of research has shifted depending on the actualization of certain issues.

1. At the beginning of the 21st century, there has been a revival in the discussion of information security problems in its purely theoretical and methodological dimension. During this period, such fundamental works as a two-volume book "Information security of organizational management systems" edited by N.A. Kuznetsov were published [2006], as well as A.V. Tsaregorodtsev's widely popular monograph "Information security in distributed control systems" [2003].

2. Around the middle of the next decade, there is an increase in interest in highly specialized information security issues, such as the development of the information technology industry as a whole. Among the significant works of this period, we would like to highlight the "Formation and development of a system for stimulating the labor activity of personnel in the information technology industry: theory and practice" by E.A. Mitrofanova and N.V. Bulkina [2016], and the well-known book "Mass Media in the context of globalization: information and communication security", edited by V.I. Vasilenko [2015].

3. Over the past two or three years, the problem of using digital technologies in various spheres of human activity has become even more urgent. Most of the memorable works on this topic were written in the format of articles. Among them, for example, the publications of famous economists E.N. Smirnov [2020], S.A. Lukyanov [Smirnov, Lukyanov, 2019] and other researchers. At the same time, dissertations for the degree of candidate and doctor of sciences on topics related to this study were prepared and defended. For example, R.M. Lamzin's research work [2020] and M.V. Ilyicheva's dissertation [2021].

The authors have not identified a single study on the topic indicated in this article, considering current changes that digital transformations bring with them.

Materials and research methods

The topic of this study is interdisciplinary in nature and is located at the intersection of such areas of knowledge as the theory of public administration, economic theory and jurisprudence.

During the preparation of the work, the authors used the following research methods. Firstly, the analysis of theoretical sources was actively involved as the main general scientific method of cognition. The latest works of well-known Russian specialists in the field of information and digital technologies, information and digital security, state regulation of the information technology industry were reviewed and studied. The conclusions and main provisions of monographs and scientific publications published over the past two years were also summarized.

Secondly, the authors used an extensive regulatory framework, which corresponds to a specially scientific method in jurisprudence. In particular, the legal acts of the Russian Federation and the European Union (EU) countries were considered.

Thirdly, the authors used the modeling method, which is actively used in economic and legal research. And finally, the so-called concrete historical method made it possible to look at the development of the indicated problem in dynamics, taking into account those views and opinions that recently were relevant.

Results

The results of the study are systematized and presented as follows.

Firstly, in Russian science and, as a result, in lawmaking activities, a categorical apparatus in relation to such key concepts as digital technologies, information technologies, information and digital technology industries has not yet been formed. It is also necessary to find out what the information technology industries are, since there is still no clear and unambiguous understanding of this term in academic conditions.

The concept of information technology in its semantic load is much broader than the category of digital technologies. The authors proceed from the fact that digital technology is the coding of digital information in dynamics, that is, in the process of transition from one source to another. As for information technology, this concept includes such areas as mass media in any format (not only digital) and information systems, which are understood as ways of storing information, organizing and archiving it, and even librarianship.

Speaking about the information technology industry, it is necessary to take into account the fact that this concept appeals primarily to information business players, primarily manufacturers of modern information (not only digital) technologies. The digital technology industry, respectively, is also significantly narrower than the information technology industry. Unfortunately, there is a certain discrepancy in the interpretation of certain terms among specialists. The analysis of some important regulatory legal acts, for example, the Action plan (Roadmap) "Creating additional conditions for the development of the information technology industry"[1], which was approved by the Government of the Russian Federation on September 2021, can serve as a proof that there is a certain categorical dissonance in domestic science and law-making. This document contains the main directions that are supposed to be aimed not only at the development of the information technology industry, but also at strengthening the country's sovereignty in the information space.

Secondly, an ambiguous understanding of key concepts has become the main cause of offenses in the field of education. And this also requires appropriate state regulation. Extremely important for ensuring information security is the method of transferring knowledge in the field of information technology, or, in other words, mass education of the population. The topic of education in the information technology industry is not new. For example, in the document mentioned above, one section is devoted to legislative activities in the field of training and is called Electronic educational services.

Russian legislators provide for a number of measures that should contribute to the implementation of the following goals:

- the transition of the Russian education system to domestic software (messengers, mail, video conferencing, office software, operating systems, etc.);
- wider dissemination of knowledge in the field of innovative transformations (providing talented students of secondary school with the opportunity to take an additional two-year course in modern programming languages, organizing additional qualifications for students in the IT profile in 100 universities at "digital departments", etc.);
- advanced training of teachers on methods and technologies of distance and blended learning.

However, according to the authors, a very important circumstance, which has already become widely covered in the media, escapes the attention of specialists. The growing demand for knowledge in the field of modern digital innovation creates a paradoxical situation. The fact is that this niche is filled not by accredited educational institutions, but by lower-level educational organizations and even individual bloggers. According to some eyewitnesses, the so-called information scammers, without providing the proper level of knowledge, mislead numerous listeners by providing unverified and sometimes false information. In this regard, the issue of amending the federal laws of the Russian Federation "On education", "On licensing certain types of activities" and other regulatory legal acts is brewing.

Thirdly, one of the most controversial areas is the problem of using big data, the illegal and uncontrolled use of which is also associated with information security risks. Big data is the type of end-to-end digital technology that is the hardest to control. So, for example, if transactions using artificial intelligence can be registered and there is currently a lively discussion about this, then big data is a pronounced cross-border category and today is not subject to any control. An exception is the use of information included in the concept of state, commercial, medical and judicial secrets.

People are now witnessing the adoption of regulations governing copyright protection, which otherwise has not yet reached the required level of effectiveness. In the Roadmap analyzed by the authors, a relatively small fragment is devoted to the problem of using big data, which also concerns the use of artificial intelligence and the Internet of things.

The authors note that the vector taken by Russian legislators as the basis for regulating the use of big data is in line with the global trend. An analysis of foreign legislative activity allows us to state that the period of uncontrolled use of big data by individuals and legal entities for commercial, scientific, domestic and other purposes, apparently, is coming to its logical conclusion. This provision does not mean limiting the rights of citizens to use information obtained in the virtual world. Nevertheless, there is a tendency to streamline and systematize this process.

The initiatives of the European Union are a clear confirmation of this. For example, the Law on Big Data (or Data governance act) is currently under consideration in the European Commission, which has not been adopted by the European Parliament yet. The document clearly regulates

[1] *The Action plan (Roadmap) "Creating additional conditions for the development of the information technology industry" (approved by the Government of the Russian Federation on 9 September 2021)*, available at: https://www.garant.ru/products/ipo/prime/doc/402692050/ (accessed 22.06.2022)..

many aspects of the use of big data, considering the risks that their uncontrolled use can provide for the state[2]. It seems that foreign experience in regulating the use of end-to-end digital technologies, including big data, should be taken into account by Russian specialists in the future.

Discussion

As mentioned above, the research topic chosen by the authors has not yet received proper discussion in the academic environment. Of all the problems considered in Russia, there is a discussion only about the question of the categorical apparatus.

The publication "On standardization of terminology in the information technology industry" [Gorshkov et al., 2013] provides a detailed analysis of the categories used in the scientific and legislative condition. However, we note that the relevance of this work is somewhat outdated. Such problems as the teaching of academic disciplines related to information technology, as well as the regulation of big data, have not yet been sufficiently investigated by Russian specialists. Nevertheless, the analysis of foreign literature shows that our conclusions do not differ much from the views of foreign colleagues [Viana, 2021].

Conclusion

The information security of the state is largely determined by the level of support that the government provides to the main participants in the information technology industry – primarily domestic IT companies. As the analysis of scientific literature and recently adopted regulatory legal acts shows, the activities of the Russian federal authorities provide for a wide range of forms of support, as evidenced by the Roadmap approved in September 2021.

Nevertheless, given the fact that digital transformations are rapid by their nature, and it is difficult to foresee the direction in which they will develop in the near future, it is extremely necessary for the state to monitor foreign experience. First of all, we are talking about the experience of the most promising countries from the information technology development point of view, including the European Union. In this regard, the analysis of legislative initiatives of the Russian Federation foreign partners is extremely important. The growing popularity of digital technologies, as well as the emerging opportunities for specialists in this field, requires special control by the state over the process of education in this area. It is gratifying that Russian experts see the threats that the existing format of knowledge broadcasting brings with it. In addition, it seems that there is a need to study this problem at the legislative level. And, finally, another issue that has been updated recently, and has not yet found its solution among specialists, is the development of a single categorical apparatus in the field of information and digital technologies. Without solving this problem all discussions about state support for the information technology industry may be ineffective.

[2] European Commission, *European Data Governance Act,* available at: http://digital-strategy.ec.europa.eu/en/policies/data-governance-act (accessed 04.07.2022).

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