Impact of the Pandemic on the Development and Regulation of Electronic Commerce in Russia

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Abstract—The article deals with topical issues of legal support for the development of electronic commerce in the Russian Federation. The analysis of the main categories of e-commerce has been carried out, the content of which is standardized in domestic regulatory legal acts, the following is among them: elements of the purchase and sale process, the concept of types of trading activities, electronic signature, digital assets, digital currency, smart contracts, digital transactions, etc.). The categories have been defined, the concept of which is absent in the normative legal acts of Russia: the concept of digital goods, ecommerce infrastructure, e-commerce services, delivery channels in online stores, the concept of a courier/courier service, the concept of smart applications, the definition of varieties of online stores, etc. The problem of research is defined: insufficiently effective legal support of economic activity in electronic commerce. An imperfect system of planning strategies for the development of trade organizations in the online environment has been revealed. The conclusions have been formed that the process of digitalization and the consequences of the pandemic have a significant impact on the dynamics of legal support for the development of electronic commerce, but its level is currently not high enough and requires improvement (by making additions to several regulatory legal acts, such as the Law on Trade, the Strategy for the Development of Electronic Commerce in Russia, etc.). The study used system, situational, complex methods, graphical, block grouping, methods of comparative analysis of normative legal acts, and synthesis of conclusions and proposals.

Keywords—Legal support; strategy; development; electronic commerce; Russian federation; digitalization; informatization; online stores; delivery channels; digital product

I. INTRODUCTION

An important place in the progressive and dynamic development of electronic commerce in Russia is occupied by the issues of optimizing the legislative and regulatory framework that regulates the development of this segment of the country's economy. It is very relevant to determine the level of legal support for the development of electronic commerce in the Russian Federation, identify problems and features of existing regulatory legal acts, and form proposals for their improvement, which will ensure faster progress of electronic commerce, which is the driver of the development of the Russian economy, especially in the era of its digitalization. These issues are particularly relevant given the experience of the pandemic and the way out of it, which created additional impulses for the development of electronic commerce and caused the need for further improvement of information and legal support for this process.

A review of sources on this topic showed that the issues of legal support for electronic commerce are being studied both in Russia and abroad. Foreign authors mainly devote their attention to the peculiarities of the legal regulation of electronic commerce, taking into account the experience of specific foreign countries. For example, Gulomrizoi [1] investigated the legal costs of implementing the law on electronic commerce in the Islamic Republic of Iran. Belyavskaya [2] analyzed the issues of regulation of e-commerce in Ukraine. Mukhopadhya [3] studied the issues of e-commerce and data localization from the perspective of developing countries. Some other foreign authors, such as Olifirova and Yagmur [4] analyzed more narrow issues of legal support for electronic commerce (including cost accounting and calculations in interactive commerce: their organizations and methods). Khasenova [5] studied regional aspects (legislative aspects of the strategic development of the economy of the regions of Kazakhstan).

Russian authors Kandybko, Denisov, Petrochenko [6] focused their attention on the history of the emergence and development of electronic commerce in Russia in the field of public procurement for defense, and, accordingly, investigated the issues of assessing the current state and problems of legal regulation of electronic procurement methods for defense, indicating the positive and negative aspects of the transition to electronic closed bidding procedures using the functionality of specialized electronic platforms and the formation of further ways to improve the legal support of procurement in electronic form (purposefully in the segment of public procurement for the defense of Russia). Other Russian authors, Makarevich and Rudneva [7] focused their research attention on the prospects of using blockchain technology for the development of electronic commerce and the features of its legal support. Most often, researchers studied the features of the legal regulation of electronic commerce for certain types of goods. For example, Shvedov [8] studied the problems of legal security of electronic jewelry trade in the Russian Federation. Domestic authors paid attention to certain aspects of electronic commerce in other works, for example, procurement activities in the study of Andreeva [9], the use of innovative mechanisms in electronic commerce, and the regulation of these issues [10], legal regulation of the use of intangible assets in electronic commerce [11], regional features of the development of electronic commerce and consideration these features in local regulatory legal acts [12], the peculiarities of rationing of the retail trade network [13].

It should be noted that there are works by various authors on the study of the legal support of electronic commerce in Russia as a whole [14, 15, 16, 17], but such works are not enough taking into account the latest and not fully researched the experience of the pandemic. Therefore, there is a need to conduct such studies, which would allow a more balanced approach to the issues of modern legal support of electronic commerce in Russia in the future in the process of gradual recovery from the pandemic.

The following research problem has been identified: insufficiently effective legal support for economic activity in electronic commerce, as well as an imperfect system for planning strategies for the development of trade organizations in the online environment. This problem has significantly worsened against the background of the manifestation of the crisis phenomena associated with the pandemic.

The research objective is to identify the features of legal support for the development of electronic commerce in Russia and identify areas for its improvement, taking into account the experience of the pandemic. Research objectives: the systematization of the experience of domestic and foreign authors on the issues of legal support for the development of electronic commerce, conducting a comparative analysis of the fundamental legislative acts regulating the legal support for the development of electronic commerce in Russia, forming conclusions and proposals for improving the legal support for the development of electronic commerce in Russia, taking into account the experience of the pandemic. The research object: electronic commerce. Research subject: legal support for the development of electronic commerce in Russia.

The article describes the results of the study: analysis of the legislative consolidation of key elements of e-commerce processes, analysis of strategic documents on the development of electronic commerce, analysis of the legal regulation of e-commerce categories related to remote biometric identification and signature, conclusion with conclusions and recommendations.

II. METHODS

The study used system, situational, complex methods, graphical, block grouping, methods of comparative analysis of normative legal acts, and synthesis of conclusions and proposals. The system method was used to analyze all elements of the system of legal support for electronic commerce in the Russian Federation, the situational approach was used to determine the current impact of the pandemic on the development of trading activities in the online environment, the graphical method was used to create an effective visualization of the results of the study, the block grouping method allowed us to identify groups of concepts of electronic commerce that are meaningfully enshrined in the current regulations in Russian legislation and groups of concepts, which are absent (while trade practice requires their further legislative consolidation), the method of comparative analysis allowed for a consistent analysis of various legislative and regulatory acts on electronic commerce (especially in terms of the rules for conducting trade transactions in an online environment).

III. RESULT AND DISCUSSION

The study of the main categories of the e-commerce process in the modern legislative and legal field of Russia in the context of the transition to the digital economy has shown that the digitalization process and the consequences of the pandemic have a significant impact on their dynamics.

A. Analysis of the Legislative Consolidation of Key Elements of E-Commerce Processes

It has been revealed that the key categories of elements of e-commerce processes, such as purchase and sale, informatization, and others, are legally fixed. The analysis showed that the Civil Code of the Russian Federation [18] describes various rights (ownership, use, disposal of property). In addition, the concept of payment for goods is noted, the sale of goods based on the remote method of selling goods, the buyer's rights in the event of the sale of goods of improper quality to him/her, the concept of providing information about the goods to the buyer is interpreted.

The Arbitration Procedure Code of the Russian Federation [19] interprets the right to appeal to the arbitration court to protect their rights. Economic disputes (which in practice are addressed by trade organizations, including in the field of commodity circulation) can also be resolved in a pre-trial order. The arbitration court allows considering the documents signed with an electronic signature.

Federal Law No. 381-FZ in Article 2 contains several concepts that are relevant to the structural elements of the competitive environment of the sphere of commodity circulation (Table I) [20].

In our opinion, the absence of terms in Article 2 directly related to various types of trade as part of the sphere of commodity circulation (including electronic commerce) is among the shortcomings of Federal Law No. 381-FZ [20]. This Federal Law does not contain the concepts of e-commerce, online store, marketplace, etc.

Federal Law No. 487-FZ and Articles 5 and 8 of Federal Law No. 381 contain the concept of the product code [20, 22]. The same Federal Law indicates the list of goods subject to labeling.

TABLE I. THE CONCEPTS SPECIFIED IN FEDERAL LAW No. 381 AND GOST R 51303-2013

The concepts specified in Federal Law N 381 [20]	The concepts specified in GOST R 51303-2013 [21]
Trading activity, wholesale trade, retail trade, retail network, food products, goods marked with identification means, goods subject to mandatory marking by means of identification, identification tool, marking code, identification code, verification code	Wholesale and retail trade, consumer market, buyer, wholesale buyer, seller, trade organization, trading company with a specialized assortment, trading company with a combined assortment, trading company with a mixed assortment of goods, distribution center warehouse, general goods warehouse, specialized warehouse, universal warehouse

Article 2 in Federal Law No. 149-FZ presents the following basic concepts that are relevant to electronic commerce: a website on the Internet, a domain name, a network address, etc. [23].

Federal Law No. 63-FZ (the latest version) uses the following basic concepts that are important for electronic commerce: electronic signature, electronic signature means, participants in electronic interaction, etc. [24].

Federal Law No. 2300-1 includes a description of the following terms that are also used in electronic commerce: consumer, manufacturer, seller, lack of goods, owner of an information aggregator, etc. [25]. The presence of legislative consolidation of such fundamental concepts is of particular importance in the process of overcoming the pandemic (in the context of the growth of both effectively operating online stores that have an excellent reputation among consumers, the expansion of the activities of aggregators (marketplaces), and the growth of fictitious and unreliable online organizations selling goods of questionable quality.

Further, the study showed that GOST R 51303-2013 "Trade. Terms and definitions" contains a much more complete list of terms related to trade, but only a part of them can be indicated among those related to electronic commerce [21]. The concepts of trading activity, wholesale trade, retail trade, retail chains, food products are interpreted in GOST in the same way as in Federal Law No. 381-FZ. The following concepts are given separately in GOST (Table I).

The GOST indicates the difference in terms of distance selling, mail-order trading, and e-commerce. GOST also gives a clear definition of what an electronic trading procedure is. GOST also indicates the concept of online commerce. The advantages of GOST, in our opinion, should include an extremely wide list of basic trade concepts that are fully applied in electronic commerce (goods, price, assortment, types of assortment, types of prices, quality of goods, etc.). At the same time, a major drawback of the State Standard for Trade is the lack of concepts of various types of online stores (as retail objects). In addition, a significant disadvantage and drawback of these regulatory legal acts is the lack of concepts of digital goods, e-commerce infrastructure, the concept of information about the product presented on official Internet pages (this is especially important for describing and familiarizing with the product on the website of the online store, which excludes tactile and physical contact with the product, possible distortion of colors during electronic color rendering and other restrictions). There is no concept of electronic trading services, online purchases, delivery channels in online stores, the concept of a courier or courier service, electronic means of payment in GOST and Federal Law No. 381-FZ.

B. Analysis of Strategic Documents on the Development of Electronic Commerce

A study of strategic documents on e-commerce in Russia showed that certain shortcomings were eliminated in the draft Strategy for the development of e-commerce until 2025, developed in 2017, which proposed a description of such terms as digital economy, digital economy ecosystem, e-commerce

(B2C e-commerce sector), use of the Internet channel by retail, online store, cross-border e-commerce, online purchase, digital goods, mobile commerce, B2G e-commerce sector, B2B e-commerce sector, electronic trading platform (marketplace), e-commerce transaction, O2O business (from "online to offline"), machine-to-machine interaction (M2M), aggregator of goods (services) [26].

Some terms were excluded in the updated version of the draft Strategy for the development of Electronic Commerce (as part of the Strategy for the Development of Trade in the Russian Federation for 2019-2025, published in September 2019 [27]). It should be noted that in the latest version of the Strategy for the Development of Trade in the Russian Federation for 2019-2025, the terms for e-commerce are not given in the text of the Strategy for the Development of e-commerce, but in the form of an Appendix to the entire Strategy for the Development of Trade and currently includes the following terms: digital economy, electronic commerce, e-commerce, internet trading, online store, cross-border e-commerce, B2G e-commerce sector, wholesale e-commerce (B2B), electronic trading platform (marketplace) [27].

Let us present the terms that were excluded from the latest version of the draft Strategy for the Development of Electronic Commerce until 2025 (published in September 2019): an ecosystem of the digital economy, use of the online retail channel, online shopping, digital goods, mobile commerce, electronic transaction, O2O business (from "online to offline"), machine-to-machine interaction (M2M), aggregator of goods (services). In our opinion, the exclusion of certain terms from the new version of the draft Strategy for the Development of Electronic Commerce until 2025 (published in 2019) (digital product, Internet purchase, use of an Internet channel, electronic transaction) made the last list of terms on electronic commerce not sufficiently complete and meaningful [28].

In addition, it should be noted as a disadvantage that the latest version of the E-Commerce Development Strategy does not justifiably contain a description of such concepts as electronic money, electronic product information, electronic signature, e-commerce infrastructure, various types of online stores, information protection, electronic means of payment (for example, an electronic wallet), digital transactions [27].

Let us complement: the definitions of the Internet channel and Internet purchases are neither reflected in GOST R 51303-2013 "Trade. Terms and definitions" nor in the latest version of the Draft Strategy for the Development of Electronic Commerce in the Russian Federation until 2025. The urgent need to interpret these terms, taking into account the experience of the pandemic, is of high importance.

The definition of the B2C sector in the draft Strategy for the Development of Electronic Commerce until 2025, and in its updated version from 2019 is not quite correctly formulated in terms of informing the seller about the intention to buy a product or give feedback after the purchase (which in practice can occur both online and offline).

In our opinion, it is necessary to distinguish the terms Internet commerce (as a form of electronic commerce) and the B2C Sector (as a special type of sale and/or provision of services to the end consumer individuals). Currently, these terms are being mixed in the modern version of the draft Strategy for the Development of Electronic Commerce until 2025.

The analysis also showed that the terms "Information, Information Technology and Information Protection" are described neither in GOST R 51303-2013 "Trade. Terms and definitions", nor in the latest version of the Draft Strategy for the Development of Electronic Commerce in the Russian Federation until 2025, nor in the Federal Law of December 28, 2009, No. 381-FZ. It is necessary to focus on Federal Law No. 149-FZ, which presents the following concepts: information, the confidentiality of information, a website on the Internet, a domain name, a network address, the owner of a website on the Internet, a hosting provider, a unified identification and authentication system, a search engine, etc. [23].

In addition, the analysis showed that the "information protection" term in Federal Law No. 149-FZ is not considered in the list of terms in Article 2, but is interpreted in Article 16: information protection is the adoption of legal, organizational, and technical measures.

Additional information in this regard is provided by the Decree of the President of the Russian Federation No. 646 and the Decree of the President of the Russian Federation No. 203 [29, 30]. The following basic concepts are used in the Information Security Doctrine of the Russian Federation: information security, means of ensuring it, etc.

The Decree of the President of the Russian Federation No. 203 includes the following definitions: information society, information space, processing of large amounts of data.

Thus, as the analysis of the terminology for the information block shows in terms of definitions that would refract and take into account the specifics of e-commerce in the digital economy in the face of recovering from the pandemic, this direction is insufficiently provided (although it is information that becomes the most important factor in the development of the entire economy in general, and its segments in particular). This is especially significant in the era of the development of information technologies, knowledge, and intelligence, in the process of overcoming the crisis associated with the pandemic. In our opinion, it is necessary to add a description of terms for the protection of information in electronic commerce (as a practice of preventing unauthorized access, use, disclosure, distortion, modification, research, recording, or destruction of information in electronic transactions for the sale and purchase) and information security in the legislative and legal field of Russia.

The analysis showed that the "E-commerce infrastructure" term is also not sufficiently developed. This term ("Infrastructure of electronic commerce") is legally described neither in GOST R 51303-2013 "Trade. Terms and definitions ", nor in the latest version of the Draft Strategy for the Development of Electronic Commerce in the Russian Federation until 2025, nor in Federal Law No. 381-FZ.

In addition, the text of the draft Strategy for the Development of Electronic Commerce until 2025 mentions the technical and logistics infrastructure of electronic commerce in

the list of directions for the development of electronic commerce, but the interpretation of these concepts is not given in the list of terms [27].

In our opinion, to improve the legal support of electronic commerce in Russia, we should propose a structural-block approach to describing the elements of the electronic sales format infrastructure (which should be reflected in the relevant regulatory legal acts of the Russian Federation):

- 1) Technical and technological block (including software and platform software);
- 2) The communication unit (for electronic exchange and use of data, including in promotion);
 - 3) Logistics unit (aspects of warehousing and delivery);
 - 4) Electronic transaction block;
- 5) The HR support unit with the predominance of digital competencies of personnel.

The combination of these elements makes up the infrastructure of the electronic sales format in the field of circulation in the digital economy. These definitions are recommended for inclusion in the list of terms, as it is one of the key ones that allows presenting a complex of the most important structural components of electronic sales in electronic commerce in the digital economy in the long-term (strategic) perspective in the process of overcoming the pandemic.

C. Analysis of the Legal Regulation of E-Commerce Categories Related to Remote Biometric Identification and Signature

The study showed that categories such as "Remote biometric identification and cloud signature", which have become urgently in demand in the pandemic and in the process of recovering from it, are relatively new terms, which in practice require high technologies of the latest generation.

The remote identification mechanism was developed by the Bank of Russia as part of the implementation of the main directions of the development of financial technologies [31]. The creation and development of a platform for remote identification make it possible to transfer financial services to a digital environment, increase the availability of financial services for consumers, including people with disabilities, the elderly, and the disabled, as well as increasing competition in the financial market.

Biometric data of a citizen should be stored in an impersonal form, and separately from personal data, which significantly increases the level of security. User data is transmitted via secure communication channels and placed in the almost impenetrable cloud infrastructure of the system operators.

It should be noted that concerning the terminology of cloud technologies, a significant contribution was made by the Decree of the President of the Russian Federation No. 203, which includes definitions of cloud computing, processing large amounts of data, etc. [30].

An analysis of another category of e-commerce – "cloud signature" – showed that this concept is also quite new and

rapidly developing in the conditions of recovering from the pandemic. A cloud signature is an analog of an electronic signature that has all its properties and functions, but with one significant difference – the cloud signature certificate is stored not on a token or a smart card, but the server of the certification center. Accordingly, the document signing process also takes place remotely, the user only needs to confirm the operation using a mobile application or entering a one-time password on any device connected to the Internet. Cloud signing does not require additional devices and software tools (tokens, password generators, electronic signature software, scratch cards).

A cloud signature has several advantages over an electronic signature:

- 1) The cloud electronic signature is not linked to a specific computer. The signature is placed on the server of the certification center in a certified secure cell ("cloud") provided to the client for use. It can be accessed from any device (for example, from an iOS or Android smartphone).
- 2) Cloud-based encryption technologies minimize the cost of buying tokens, as well as the cost of installing and updating special cryptographic software necessary for servicing an electronic signature certificate.
- 3) Increased reliability and protection due to the refusal to use the key carrier. The cloud signature cannot be lost or broken, and the security is fully provided by the certification center.

In other words, cloud signature is the optimal solution that allows securely signing documents, giving them legal significance, at any time and from any device.

With the help of a cloud signature system in the field of circulation in the digital economy, customers' intentions to submit applications for participation in procurement procedures, authentication, creation and execution of documents, the facts of receiving and/or familiarizing users with certain information can be confirmed.

A Certificate of compliance was issued by the FSB of Russia for performing actions with authentication and confirmation of cloud signature generation operations using mobile applications for IOS and Android.

The experience of using remote biometric identification and cloud signature is in its infancy on the territory of Russia, but in the future, the process of overcoming the pandemic has the potential to grow, including in electronic commerce in the digital economy, so these terms are also recommended for inclusion in the list of necessary terms and categories in the future.

In addition, the analysis of such categories of electronic commerce in the digital economy as: "Smart contracts, smart applications" showed that their emergence and use is associated with the development of "smart" technologies. Federal Law (draft) No. 419059-7 "On Digital Financial Assets" [32] was prepared to regulate this activity in Russia, which proposes the following basic concepts: smart contract, digital wallet, digital financial asset, cryptocurrency, etc.

There is no concept of smart applications in the draft Federal Law No. 419059-7 "On Digital Financial Assets", but there is an urgent need for its development, especially taking into account the experience of the pandemic. So far, there are separate ideas about the essence of this definition. It has not fully developed yet. We can offer the following as one of the interpretations: smart applications are software specially developed for a specific platform (iOS, Android, Windows Phone, etc.), which is intended for use on smartphones, tablets, and other devices and provides unique opportunities for expanding the functionality of mobile devices.

Federal Law No. 259-FZ was prepared based on Federal Bill No. 419059-7 [33]. Taking into account the rapid growth of the practice of using smart technologies, such categories as digital assets, digital currency, smart contacts will gradually enter the field of e-commerce in the digital economy, taking into account the experience of the pandemic.

It should also be noted that an analysis of another category, such as "Public networks", was performed, which showed that one should be guided by Federal Law No. 126-FZ [34]. According to the law, the Internet is a general-purpose network. In addition, the Decree of the President of the Russian Federation No. 203 gives the following definition to the varieties of this category: industrial Internet, new generation communication networks, the Internet of Things [30].

Thus, the analysis of the entire complex of categories relevant to online sales showed that these concepts and their content are not fully covered by the regulatory legal acts of Russia regulating the development of electronic commerce in the Russian Federation.

IV. CONCLUSION

We conclude that the considered categories of elements of the e-commerce process in the Russian Federation in the digital economy are highly significant and relevant, but the level of legal support for the development of e-commerce is not at a high level and requires several improvements.

On the one hand, the categories of e-commerce processes were identified, the content of which is normalized in regulatory legal acts (sales of goods, their payment, buyer's rights, the concept of electronic signature, digital assets, digital currency, smart contracts, digital transactions, etc.). At the same time, it was revealed that several categories related to electronic commerce are absent in the regulatory legal acts of Russia: there is no concept of digital goods, e-commerce infrastructure, e-commerce services, delivery channels in online stores, the concept of a courier/courier service, the concept of smart applications, the definition of varieties of online stores, etc.

As a result, the conclusions have been formed: even though the process of digitalization and the consequences of the pandemic have a significant impact on the dynamics of legal support for the development of electronic commerce, its level in Russia is not yet high enough and requires improvement. For example, it requires the revision of the GOST on trade (which should include such concepts of various types of online stores, digital goods, e-commerce infrastructure, the concept of product information presented on official Internet pages, the

concept of electronic trading services, online purchases, delivery channels in online stores, the concept of a courier or courier service, electronic means of payment. Strategic documents on the development of e-commerce also need to be finalized: it would be desirable to include a description of the following concepts in the e-Commerce Development Strategy: electronic money, electronic product information, electronic signature, e-commerce infrastructure, various types of online stores, information protection, electronic means of payment (for example, an electronic wallet), digital transactions. The Law on Trade in the Russian Federation also needs additions (which should include such terms as the concept of e-commerce, online store, marketplace, etc.).

Timely revision and improvement of the conceptual and categorical apparatus in the legal support of electronic commerce in Russia, its unification, consolidation of these concepts and their content in the Russian regulatory framework, their wider use in domestic post-pandemic practice will eliminate objective obstacles to faster development of electronic commerce in the Russian economy, especially taking into account the pandemic-related crisis recovery and the acceleration of digitalization processes.

Among the prospects of our research, it should be noted the need to continue scientific and analytical work in the direction of studying the changes being made to the legal support of electronic commerce in the conditions of exiting the pandemic at the present time, in the medium and long term (taking into account the prolonged cumulative impact of the pandemic on the development of electronic commerce). In the future, there is also the study of changing strategic documents on ecommerce at the national level, taking into account the process of digitalization, the study of various strategic alternatives for the development of e-commerce, its strategic trajectories. Promising, in our opinion, is not only the continuation of the study of the All-Russian level of development, but also regional (the level of individual large regional entities subjects of the Russian Federation). This will make the study more comprehensive, in-depth and meaningful in the future.

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