

# Development of Digital Economy Regulatory Environment in Supply Chain Operations

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**Abstract**— The article studies the insufficiently studied problem of digital economy regulatory environment development in supply chain operations, the interaction of the real and virtual sectors. The authors set the goal to analyze various aspects of this problem, to justify the supply chain strategy and the mechanisms for its solution. The article shows that digitalization, spreading in cyberspace and not supported by legal norms, represents a real threat to the development of fair competition and state sovereignty preservation. It is proved that digitalization causes the need to reformat the legal system, its basic foundations, content and application mechanisms. However, this reformatting is constrained by legal system differences used in the global community. The study made it possible to argue the need to develop model legislation on the key issues of modernity and the systemic use of digital sovereignty by states. The article used the methods of situational, structural and dynamic analysis, which contributed to the study of existing ideas about the interaction of enterprises of real and virtual sector of the economy, including government regulation of emerging problems. A systematic approach was used during the evaluation of digital economy regulatory environment. Research has revealed the systemic nature of various factor combination influence influencing the development of digital economy regulatory environment. Practical significance of study materials. The materials of the article are of practical value for public administration, government institutions, the public sector and business structures. The obtained research results are used in practice during digital economy regulatory environment development, the interaction of the real and virtual sectors. Their use contributes to the change of legal norms, the creation of conditions conducive to fair competition of relation subjects in the economic sphere and ensuring the security of state digitization.

**Keywords**— *cyberspace, digitalization regulatory environment, differences in legal systems, digital sovereignty, supply chain operation, state sovereignty, legal system reformatting, model law development.*

## 1. Introduction

As supply chain management gained popularity, there were several academic articles as well as practitioner articles that extolled the benefits of supply chain management, and some even attempted to define the term supply chain management but they were inconsistent. The need for this study is conditioned by the transfer to the virtual, electronic environment of economic, social and managerial relation system of digitalization in order to obtain high income for economic entities, GDP growth and improve the population life standards. Such relationships require a regulatory environment adequate to the development of digitalization in cyberspace, contributing to the balance of business, society and state interests in accordance with the developed and accepted norms of law.

Digitalization, built on the basis of cyberspace and not supported by a system of legal norms of global use, represents a real threat to the sovereignty of states. The imperfection of the system of norms in the international law governing the issues of information security does not make it possible to reflect the invasion of states in information spaces, in the sphere of production, in the financial and economic sphere and in the system of power [1-5]. However, the development of a regulatory environment that streamlining digitalization is hampered by a multitude of factors of global and local importance, the neutralization of which requires making right decisions of a large scale.

In general, the development of digital technologies leads to fundamental changes and to the reformatting of relation regulators between digitalization process participants. So, it is not enough to apply the existing rules of law concerning new objects of law created with the application of digital technologies. It requires the development and modification of the entire legal system that is adequate to the emerging nature of the interaction between the real and virtual sectors of the economy. A sustainable supply chain is about far more than the environment, though that's where consumers might focus their attention. Sustainability is a confluence of social, ecological and economic environments. A sustainable supply

chain must avoid compromising both the environment and the business itself.

The presence of various legal systems used in world practice determines the search for a kind of catalyst for their combination, which can contribute to the revision of a number of established norms in terms of their overall acceptability.

This article aims to justify the ways and the mechanisms to solve the problems associated with the creation of a regulatory environment for digitalization, the interaction of real and virtual sectors of the economy.

## 2. Materials and Methods

The study used the methods of situational, structural and dynamic supply chain management analysis, which contributed to the study of digital economy regulatory environment and determination of opportunities for its transformation. The leading method for this problem study is to study the regulatory environment of the digital economy in dynamics, space and in close connection with the existing rules of law, taking into account the influence of global and local factors. This method allows you to consider comprehensively the possibilities of the legal system, highlight the contradictions caused by the application of existing legal norms in cyberspace with respect to virtual relations. The research materials were scientific publications and reports on this topic, as well as the data on the practical application of tools and mechanisms of the digital economy regulatory environment [6,7].

## 3. Results

The search for ways and mechanisms of problem solution associated with the creation of digital economy regulatory environment in supply chain operations, the interaction of real and virtual sectors allowed us to obtain a number of results. They noted the complexity of digital economy regulatory environment transformation due to the lack of key concepts of digitalization, and the digital economy, integrated into the legal system. The study drew attention to the development not only of individual legal norms in relation to emerging situations, and focused on a fundamental change in the entire legal system, its essential foundations, content and application mechanisms, adequate to the emerging nature of the interaction between the real and virtual sectors of the economy. Due to the presence of various legal systems used in the world community as the tools for life process streamlining, a kind of catalyst is needed for their acceptable combination. The digital economy, supported by model legislation and digital sovereignty can be such a catalyst. The development of model norms must be alternated

with their adaptation to the existing legal systems, for their quicker and painless implementation in future regulatory acts. A compromise solution for all participants of virtual space use for various economic, social and managerial purposes is a special form of regulation creation combining the use of soft law, represented by international law [8], technical norms and self-regulation.

## 4. Discussion

The digitization of the national economy is the systemic factor of changes in society and state in supply chain operations. It influences not only the technological order, but also changes in the system of traditionally established relations in the economy, social sphere, business and politics, purposefully influencing established state and public institutions, aiming them at transformation and change in accordance with the changes taking place [1].

Digitalization has a significant impact on regulatory environment and relation development arising from the interaction of the virtual and real sectors of the economy. So, with respect to new objects of law created by digital technologies, i.e. big data, goods that are materially embodied, cryptocurrencies, it is not always enough to adapt existing legal norms. It requires the development of new regulators that are adequate to the changing practice of interaction between the real and the virtual sectors of the economy. In general, the development of digital technologies leads to fundamental changes and the reformatting of the entire legal system, its essential foundations, content and application mechanisms.

On a global scale, with the development of digitalization based on various data, the contradiction between freedom of information and the right to use it is aggravated, thereby affecting the protection of a person in the digital world, his private life and ensuring the possibilities of exercising citizen constitutional rights. Digitalization spreading in cyberspace, not supported by legal norms of balance of interest provision between government, business and society, represents a real threat to the sovereignty of each of the states.

The consideration of these factors in society life necessitates the need to clarify or revise almost all the constituents of law, as the set of rules governing the relations between subjects regarding specific objects.

In the conditions of digitalization, the subject of law, in particular, an individual, builds virtual relations in an electronic environment that imitate real relations, but not always corresponding to them. Thus, virtual relations do not always have real legal consequences. For virtual objects, it is necessary to adapt clearly the existing legal

regulations, where possible, or to create new, special rules governing virtual relations, taking into account the continuous development of digitalization.

At the same time, it is reasonable to rely on the opinion of experienced experts in the development strategies of digitalization within global corporations and small businesses. In this case, the developed rules of law will be universal in nature and can be used for a long time, without major changes, ensuring the stability of the legal system that defines the working conditions of business, society and the state.

Currently, there are many interstate problems of digital economy regulation, the interaction of the real and virtual sectors. These problems are largely due to the various legal systems used in the global community. Thus, according to the basic legal systems of the present, Russian law, occupies a separate position by virtue of its specificity, for example, along with Roman-German, Anglo-Saxon, and Muslim law. A system of interlinked legal norms is needed.

Digitalization based on information and technology can be considered as a kind of catalyst to erase the boundaries between legal systems. It can be perceived as a common denominator for legal systems, capable of defining a single logic of law and influencing the establishment of common, universal norms for different legal systems.

Under the influence of digitalization, several trends emerged in the world community regarding general legal views on understanding the role of law in the electronic environment. These trends can be described as the development of digital libertarianism, whose supporters are called Cyber-libertarians. The heart of their ideas about the transformation of law represents the belief that the role of legal norms is limited in the electronic environment.

They defend the point of view in accordance with which the sovereign power of the state should be substantially limited in the Internet, and the regulatory force of national law should be reduced to the maximum.

This point of view is justified by the growing contradiction between the territorially limited action of the state internal law on information and digitalization and the global nature of information dissemination on the Internet.

An important, central idea of digital libertarianism is the dominant sovereignty of the electronic environment or the network communities represented in it, which is opposed to state sovereignty. In other words, the role and state regulating influence on the technological, financial, economic, social and political processes occurring in the Internet are decreased.

However, the problem of combining the domestic law of states is not unique to the Internet system

and may well be solved within the framework of conflict of laws. The convergence of opinions of the two parties can be considered as the fact that cyber-libertarians do not deny the right to cyberspace as such [2].

In Russia, the idea of Internet law has always been unpopular, including the modern period of time. The fact is that the Information Space does not belong to the states separately. It is common to all and therefore they need new, common approaches to the legal regulation of interstate and international relations in the Internet space recognized by all states [3].

The idea of digital sovereignty gains popularity increasingly, based on respect for the general principles of intergovernmental legal norms, but recognizing the sovereign right of the state to determine its information, technological and economic policy in the national segment of the Internet, to manage infrastructure, resources and ensure information security independently.

Digital sovereignty provides state control over the dissemination of information on its territory and is understood as complete independence from external influences, built on the basis of its own information structure and ideology.

The increase of digital sovereignty supporter number is caused by the development and rapid entry of information technologies into the life of states, which make fundamental changes in the regulation of relations between states, society and population. New features of telecommunication systems provide an opportunity to intrude in various areas of state activity without obstacles for interested parties, to carry out informational aggression against countries that do not have their digital sovereignty and are unable to defend themselves against such an invasion.

The lack of rules governing information security in international law has led to the lack of opportunities to prevent an invasion in their information space, production, the financial and economic sphere and the system of government for many countries. An invasion can occur not only in local systems of state life activity, but also into a global international financial system, the functioning of which is based on information technologies that are not protected yet by reliable legal mechanisms adequate to the ongoing changes [4]. This does not make it possible to preserve the complete independence of states, to preserve their systems of life activity at the local and global levels of government.

The presence of digital sovereignty allows states to pursue economic policy independently, balancing it with the interests of the international community. It can be beneficial for business entities as well, from the point of view of more suitable conditions for profit independent selection in an electronic environment. A state with digital sovereignty gains

control over the activities of business entities in the electronic environment, using them for taxation or other economic, fiscal measures.

A practical means of digital sovereignty implementation in various countries was the adoption of draft laws regulating the freedom of information use. In Russia, for example, this is facilitated by the so-called Yarovaya law, which covers even the Russian structures of foreign operators, and if they have to disclose personal user data to special services, this will lead to the violation of European regulations on the protection of personal information [5].

Similar views on digital sovereignty are held by such a large, world power as China. The provision of the digital sovereignty of each of the states in the field of personal data protection and used virtual space, is one of the priorities of cybersecurity, especially in connection with the development of information relations and digitalization. This is the ability of the state to manage the process of bringing information to the public, to work with disinformation effectively.

Digital sovereignty will get rid eventually of unauthorized interference of some countries in the affairs of others, through aggressive actions aimed at central government destabilization, collapsing the financial system of countries and corporations, reducing political stability and depriving states of sovereignty. The basis of such a decision could be the interaction of countries in the development of "model legislation" on the key problems and challenges of our time [6].

As is known, the model law is advisory. It is inherent in the implementation of legislation regulatory and consolidating role. It gives a regulatory orientation for subsequent legislation. The main function of the model act is the determination of legal regulation development vector. The recommendatory nature of a model law may be perceived differently by an addressee. The meaning of the model recommendation is to introduce it into legislation.

Thus, model legislation is based on model laws — the recommendatory legislative acts that contain model rules orienting legislation. Model law is not binding for legislative power bodies. It can serve as a normative-orienting standard for them, the means of legislation unifying and harmonizing, including various legal systems, since it is a kind of bridge for them between the norms of international and domestic law and is woven into the fabric of various legal systems. Model laws, incorporating the norms of international law, incorporate them into national legislative acts. In the world as a whole, there is the tendency to increase the number of such acts and the expand the areas of legal regulation with their use. The digital economy also goes into this trend, although the specific manifestation of its transition to a pattern requires

more in-depth scientific research and detailed justification.

The development of this tendency to use the system of recommendatory acts in economy digitalization will help eliminate contradictions in the content of existing and developed new legal norms, systematically bringing them to a common denominator in accordance with the demands of the interaction between the real and virtual sectors of the state life.

The process of model rule development should be accompanied by the creation of conditions for their adaptation to the existing legal systems. This will allow them to translate faster and more painlessly into future regulatory acts.

It is necessary to overcome gradually the established understanding of established norm, principle and institution of international law transfer ease to the regulation of the information environment objects and to develop new approaches [7]. It is not adequate to the emerging realities, in accordance with which, new relations appear in the virtual space that have no analogues in the real space and require adequate legal norms of regulation in the interests of their direct and indirect participants.

Along with the legal norms, the forms of regulation are also important, which preserve the essence of the content and application effectiveness concerning the developed restrictions on the use of the Internet at the international and national levels of government. A compromise solution for all participants of virtual space use for various purposes is the creation of a special regulation form combining the use of soft law, presented by international law [8-14], in combination with technical norms and the norms of self-regulation.

The proposed measures will allow to avoid absorption by the concept of the digital economy, and the system of state regulation. The system of public administration, including a targeted impact on the processes occurring on the Internet, should be based on the same principles, supported by the missing rules of law that must be developed and tested both domestically and internationally, in accordance with national and interstate interests [15-19].

## 5. Summary

The development of digital economy regulatory environment in supply chain operations is a complex, multifaceted phenomenon at the interface of economics, law, government regulation, institutional practice, applied psychology and cybersecurity. It can be successfully promoted with a systematic solution of this problem, on the basis of special competences, modern practical experience accumulated in this sphere of life activity. Current trends emerging in this direction

are the use of model legislation, soft law and digital sovereignty of states.

### Conflict of interests

The author confirms that the submitted materials do not contain a conflict of interest.

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