Legal regulation of the digital environment: digitization of the state-legal and law enforcement sphere

Прійняття: Сентябрь 3, 2023  Прийнято: Октябрь 25, 2023

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Abstract
The rapid development of society and the impact of information technology have significantly changed the legal field and contributed to the creation of a legal framework for the digital environment. Successful development of digital relations in Ukraine requires effective legislative regulation. The favorable appearance of this process is determined by effective strategic planning, active participation of the government and an appropriate legal framework. From this point of view, it is considered important to consider issues of legal regulation of the digital environment in the context of the activities of state and law enforcement agencies. The purpose of the work is to research the regulatory and legal provision of the digital environment with an emphasis on the regulation of digitalization of state legal and law enforcement activities. Research methodology includes such methods as: historical, systematization, analysis and synthesis, structural-functional and comparative analysis. The result of the scientific analysis of scientific research and regulatory and legal regulation of the relevant relations was the

Anotaciya
Стрімкий розвиток суспільства та вплив інформаційних технологій суттєво змінили правове поле та сприяли створенню правової бази для цифрового середовища. Успішний розвиток цифрових відносин в Україні потребує ефективного законодавчого регулювання. Спрягтявість цього процесу визначається ефективним стратегічним плануванням, активною участю уряду та відповідним правовим полем. З цієї точки зору вбачається важливим розгляд питань правового регулювання цифрового середовища в контексті діяльності державних та правоохоронних органів. Метою роботи – дослідження нормативно-правового забезпечення цифрового середовища з акцентом на регулювання цифровізації державно-правової та правоохоронної діяльності. Методологія дослідження включає такі методи як: історичний, систематизації, аналізу та синтезу, структурно-функцionalний та порівняльний аналіз. Результатом наукового аналізу наукових досліджень та нормативно-правового регулювання відповідних відносин стало...
study of the legal plane of digital transformations in Ukraine. Internal legislative norms were studied, relevant laws aimed at digitization were analyzed, their purpose was determined: the existing legislative basis for building a digital society and economy in Ukraine is highlighted. The analysis of strategic documents on digitalization in the spheres of public administration and law enforcement was carried out. The internal concepts of the development of e-government have been studied. The experience of foreign countries in the regulation of the digital environment and electronic management was studied, progressive means of regulation of the studied issues abroad were determined.

**Keywords:** digitalization, digital environment, law enforcement activity, legal system, legal regulation.

**Introduction**

Changes in legislative regulation arose as a result of the formation of digital reality, which determines the direction of the development of society and affects the mechanisms of legal regulation. Due to the fact that life in modern society is becoming more and more dynamic, technologies are developing. The impact of globalization and digitalization leads to the transformation of the paradigm of thinking, the improvement of civil society institutions, authorities and structures, as well as the legal system. Therefore, the digital space requires the creation of a model of legal regulation that corresponds to technological reality. Thus the objective of the study is to analyze the legal regulation of the digital environment in the context of the digitalization of the state-legal and police sphere, in order to identify the challenges and opportunities posed by this transformation.

Contemporary legal frameworks mirror the evolving dynamics of current social interactions. Simultaneously, the global community is reassessing its role in safeguarding the interests and intentions of involved parties within the digital landscape. Digitalization has raised new challenges for legal regulation, such as privacy protection, security and network neutrality. The states came to the conclusion that at the current level of development of human civilization, when resolving any legal disputes, the interests of the parties to the dispute, as well as any other natural and legal persons, states and the international community in particular, should be taken into account.

In this context, the tasks of the research are:

1. To find out problematic issues of legislative consolidation of provisions on electronic government.
2. Compare international experience regarding the legal regulation of digitalization of the law enforcement sphere and the state-legal sphere.
3. To analyze the legal regulation of the digital environment in the context of digitization of the state-legal and law enforcement sphere.

Achieving these goals can be ensured only with the active role of the state. At the same time, the modern state must realize that social relations in the digital dimension have already reached a state that is quite comparable to social relations formed in the offline environment.

Accordingly, the arrangement of the elements of the digital environment and the harmonious combination of these elements among themselves should become an important goal of the functioning of state institutions at the local level, as well as interstate institutions - at the international level.

**Theoretical Framework or Literature Review**

Atamanova and Smirnov (2022) focused their research on the digitization of the state and legal domains. They concluded that in Ukraine, the digitization of the state-legal sphere aims to enable citizens to access all government services online through their smartphones. The objective of digitization is to transform government services, reduce reliance on paper, and streamline access to services for simplicity. The authors highlight that digitization is viewed as a...
A holistic approach to combating corruption, expediting service delivery to citizens, and enhancing societal participation in shaping public policy through various e-democracy tools.

The issue of legal support for the digital economy and e-business are researched by Vinnyk (2018). The author examined the interaction between the information society and the digital economy, considering them as integral components in relation to civil society institutions, the system of the digital economy, including its subject-object composition, regulatory and legal support, the legal position of electronic business and the digitalization of its corporate form, foreign experience legal regulation of digital economy relations.

A profound research of legislation in different countries and international legislation on the whole regarding the regulation of relations in the digital space was carried out by Dovgan and Mikhailina (2020). Their findings indicate that for the well-rounded progress of information rights within society, it is insufficient merely to recognize the right to access the Internet; it is crucial to regulate the relationships that emerge in the digital space. This involves primarily defining the legal status of participants, such as providers and users. Additionally, an examination of cyber security measures in leading foreign nations revealed the necessity for Ukraine to enhance the effectiveness of its law enforcement agencies.

The experience of foreign countries regarding the legal regulation of the development of the digital economy was studied by Kostyuchenko (2021). The article emphasizes on a common feature of the legal regulation of the development of the digital economy in some leading countries of the world, including Australia, Great Britain, China, the USA, France, and Japan. It is about strategic planning in the field of digitalization, the main part of which is a detailed strategy for the digitalization of the economy and all other spheres of social life. The basis of strategic planning in the field of digitalization is the understanding of the need for clear regulation of the principles of activity of all organizations participating in economic circulation, in particular, state institutions and commercial legal entities. General rules and principles of using the latest technologies, primarily those that use artificial intelligence technology, electronic commerce are also taken into account, the legal status of electronic contracts are also taken into account. Significant attention in the legislation of these states is also paid to ensuring cyber security and data protection.

Current trends in the development of legal regulation of the digital economy are considered in the work of Levytska (2019). Thus, it is stated that in the world states at the current stage of socio-economic transformation of society, the environment imposes its features on the institutional structure of society, on the model of legislative regulation of the digital economy and causes the need for the formation of fundamentally new concepts and approaches. In particular, the considered foreign experience of legal regulation in the field of digital legal relations will be useful for application at the national level of legal regulation in the digital field.

Manko (2020) considered the issue of technological algorithms and electronic documents. The author concluded that technological algorithms in law represent the digitization processes within the legal sphere of the contemporary state. While numerous issues remain unresolved, the overall trajectory of development merits endorsement and further comprehensive theoretical investigation.

The development of e-governance in Ukraine is studied by Mokhova (2021). Among other things, the author investigated the peculiarities of the formation of various approaches to e-governance in the leading countries of the world. The main goal of the study was to find out the optimal model of e-government for Ukraine, so conceptual provisions regarding the formation of the e-governance development mechanism in the conditions of digital transformations of Ukraine on the way to European integration have been determined.

Pyshchulina (2020) analyzed the current stage of global economic and social development, which is characterized by the significant impact of digitalization. In addition, the paper analyzes the potential risks and threats of digitalization in Ukraine and the world.

Pavlenco (2021) tried in his work to understand the impact of the digitization process on law as such. The work shows that along with the advantages of digital technologies, in particular artificial intelligence, new types of ethical problems and issues of justice are raised. The necessity of defining approaches to solving new tasks of legal science and improving the legal framework for the protection of the digital rights of citizens is substantiated.
Svitlak (2020) paid significant attention to the problems of regulating civil relations in the digital space. Frolova (2020) drew attention to the peculiarities of the state policy of stimulating the processes of digital transformation of small and medium-sized enterprises in Ukraine.

Some issues of the development of the legal system in the digital era were investigated by Telychko and Rekun (2022). According to the authors, the digitalization of legal reality contributes to the formation of new civilizational phenomena and processes, and the emergence of a new legal understanding, worldview, and legal culture. It was also noted that the process of rulemaking and law enforcement should become digital. At the same time, attention was drawn to the fact that the necessary technologies for this already exist, but it is necessary to ensure their correct application during the formation of digital regulation processes.

**Methodology**

The methodological basis of the research is general scientific and special methods of learning state legal and law enforcement activities and mechanisms of legal regulation of the digital environment.

With the help of the historical method, it became possible to analyze the main stages of the formation of the electronic government system in Ukraine and abroad. By its legal nature, the historical method focuses on the origin and evolution of the subject of research and is indicated in a chronology of times and stages. This method makes it possible to investigate the emergence, formation, and development of processes and events in chronological order in order to identify internal and external connections, regularities, and contradictions. Therefore, in historical retrospect, the use of this method is important for clarifying the regulatory and legal regulation of the digital environment.

The study employed a systematic approach to examine the foreign practices of implementing state mechanisms for advancing e-government and digitization within the public sector. It aimed to identify the distinctive features of regulatory and legal support for e-government in Ukraine. The methodology involved selecting the most overarching features and characteristics, as well as formulating concepts, laws, and key ideas related to the subject under investigation. Due to the systematic approach, the basis of the regulation of the state mechanism regarding the information support of electronic government based on the implementation of digital technologies was also formed.

The application of methods of analysis and synthesis was carried out when determining the features of the conceptual foundations of electronic governance, researching scientific approaches to the definition of the concept of "digital environment", "electronic governance", key achievements and problems of the implementation of digital capabilities of Ukraine, determining, as well as analyzing directions for improving the mechanisms of electronic governance. In general, the method of analysis is a method of research, which consists of the imaginary dismemberment of the whole phenomenon into constituent parts - simpler ones, the selection of individual aspects, properties, and connections. Synthesis is a method of research, that consists of the imaginary connection of separate sides, properties, connections of a complex phenomenon, and the understanding of the whole in its unity. Therefore, without applying the described methods, it is impossible to obtain objective research results.

The structural-functional method was applied to analyze the institutional framework for electronic governance in Ukraine, define the state mechanisms for the digital infrastructure of the country, and establish the strategic objectives for ensuring cybersecurity in Ukraine. In its essence, a structural-functional method is an approach to the description and explanation of systems, which examines their elements and dependencies between them within the framework of a single whole; individual social phenomena perform a certain function in maintaining and changing the social system. Each element of this structure performs certain functions that satisfy the needs of the system. The activity of system elements is programmed by the general structural organization, the positions they occupy, and the roles they perform. The structural-functional method is one of the most important forms of application of this method in the study of management phenomena and processes because it consists of dividing a complex object into its constituent parts, studying the connections between them, and determining the specific functions (roles) inherent in them, directed to meet the relevant needs of the personnel management system, taking into account the integrity of the latter and its interaction with the external environment.

Using the method of comparative analysis, an analysis of e-governance in Ukraine was carried
out, digitalization and its regulation at the regional and international levels were assessed, and the issue of electronic readiness of state administration bodies was clarified.

Data Sources:

Historical Method:
1) Historical documents related to the formation of electronic government systems in Ukraine and abroad.
2) Legal texts and regulations chronologically documenting the evolution of electronic government.
3) Historical records and reports detailing the emergence, formation, and development of electronic government processes and events.
4) Regulatory and legal documents pertaining to the digital environment and its historical regulation.

Systematic Approach:
1) Foreign practices and case studies related to the implementation of state mechanisms for e-government.
2) Laws, regulations, and key concepts governing e-government in different countries.
3) Reports and studies on the regulatory and legal aspects of e-government in Ukraine.
4) Comprehensive analysis of overarching features and characteristics in foreign and domestic contexts.

Analysis and Synthesis Methods:
1) Scientific literature on conceptual foundations of electronic governance.
2) Research papers defining the "digital environment" and "electronic governance."
3) Ey achievements and problems related to the implementation of digital capabilities in Ukraine.
4) Directions for improving electronic governance mechanisms from academic and practical perspectives.

Structural-Functional Method:
1) Institutional documents outlining the framework for electronic governance in Ukraine.
2) Descriptions and explanations of the elements constituting the electronic governance system.
3) Data on state mechanisms for the digital infrastructure of Ukraine.
4) Reports and strategies related to the strategic objectives for ensuring cybersecurity in Ukraine.

Comparative Analysis Method:
1) Comparative studies on e-government in Ukraine and other countries.
2) International and regional regulations and practices in digitalization and its regulation.
3) Assessments of electronic readiness of state administration bodies in Ukraine and globally.
4) Reports and analyses focusing on the regional and international levels of digitalization in the public sector.

The research focused primarily on Ukraine and its results may not be generalizable to other countries of the world.

Results and Discussion

In the contemporary landscape of social development, the dynamics of interactions between individuals and the state are evolving. There is a growing emphasis on the digitization of both state-legal and law enforcement activities, reflecting the changing nature of administrative processes.

In recent years, legislative adjustments have been made to regulate the digital environment. Issues related to electronic trust services, electronic identification, public electronic registers, and the overall development of digital infrastructure in Ukraine have been addressed and regulated.

Let's consider the legal regulation of the digital environment in more detail (Table 1).
Table 1.
*Regulatory and legal regulation of the digital environment in Ukraine.*

<table>
<thead>
<tr>
<th>Legislative act</th>
<th>Key provisions</th>
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<tr>
<td>The State Regional Development Strategy for 2021-2027 (Resolution 695, 2020)</td>
<td>Provides one of its priorities the improvement of quality and ensure accessibility for the population services provided by state authorities and local self-government bodies, regardless of place of residence, in particular on the basis of digitalization.</td>
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<tr>
<td>Strategy for implementation of digital development, digital transformations, and digitalization of the state finance management system for the period until 2025 (Order 1467, 2021)</td>
<td>The task of the strategy is to create a cloud infrastructure of the state finance management system, which contains the computing power of the operating data centers of the Ministry of Finance, the Treasury, the State Tax Service, the State Customs Service, the State Audit Service, the State Financial Monitoring (only in the part of processing information that does not have an access restriction), the National Center for reservation of state information resources.</td>
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<tr>
<td>The concept of the development of electronic democracy (Order 797, 2017)</td>
<td>The purpose of the concept is the formation of political, organizational, technological, and ideological conditions for the development of electronic democracy in Ukraine. The main directions are regulatory and legal support for the development of electronic democracy; resource support for the implementation and use of electronic democracy tools by subjects of power; increasing the readiness of state authorities and local self-government bodies to use the possibilities of e-democracy; ensuring the availability of e-democracy tools.</td>
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<tr>
<td>The concept of the development of the system of electronic services in Ukraine (Decree 918, 2016)</td>
<td>This concept is aimed at forming a quality system of electronic services in Ukraine. The concept touches upon several directions, including streamlining administrative service procedures, identifying and planning the stages of electronic services system development, creating a unified information and telecommunications infrastructure to facilitate electronic service delivery, and enhancing the readiness of individuals and legal entities to utilize electronic services.</td>
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<tr>
<td>Concept of the development of artificial intelligence in Ukraine (Order 1556-r, 2020)</td>
<td>As a result of the adoption of the concept, the purpose is to determine the priority directions and main tasks of the development of artificial intelligence technologies for the satisfaction of rights and legitimate interests of individuals and legal entities, building a competitive national economy, improving the public administration system.</td>
</tr>
<tr>
<td>The concept of the development of e-government in Ukraine (Order 649, 2017)</td>
<td>The goal is to determine the directions, mechanisms, and deadlines for the formation of an effective system of e-government in Ukraine to meet the interests and needs of individuals and legal entities, improving the state administration system, increasing competitiveness and stimulating the socio-economic development of the country. Its aim is updating of government services with the help of information and communication technologies; modernization of state administration with the help of information and communication technologies; managing the development of electronic government.</td>
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<tr>
<td>The concept of the development of digital competencies (Decree 167-r, 2021)</td>
<td>The goal is to determine the priority directions and main tasks for the development of digital skills and digital competencies, to increase the level of digital literacy of the population, in particular, of able-bodied people, senior citizens, low-income families, persons with disabilities, other vulnerable population groups, in the conditions of the development of the digital economy and digital society.</td>
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Some issues of the activities of units on issues of digital development, digital transformations, and digitalization of central and local executive bodies and deputy heads of central executive bodies, regional, Kyiv and Sevastopol city state administrations on issues of digital development, digital transformations and digitalization (Resolution 194, 2020)

Provides for the mandatory introduction in ministries, in other central bodies of the executive power, the position of the head of the deputy head of the relevant body for issues of digital development, digital transformations, and digitalization.

Among the main tasks of the Concept: introduction of legal regulation on issues of state policy formation in the field of artificial intelligence; conducting information campaigns aimed at popularizing the basics of artificial intelligence in secondary education institutions; ensuring scientific cooperation with international research centers; holding conferences and seminars on the introduction and use of artificial intelligence technologies; the introduction of artificial intelligence technologies into the national cyber security system for the analysis and classification of threats and the selection of a strategy for their containment and prevention of their occurrence; development of a system of indicators for assessing the state of information security using artificial intelligence technologies; ensuring the use of AI technologies in defense systems, health care, and justice, as well as for analyzing the effectiveness of the public administration system.

Is aimed to build a capable service and digital state in Ukraine, which ensures the protection of citizens’ interests based on European standards and experience. The expected results of the public administration reform until 2025 are: ensuring the provision of high-quality services and the formation of a convenient administrative procedure for citizens and businesses; formation of a system of professional and politically neutral public service, focused on protecting the interests of citizens; development of effective and accountable state institutions to citizens, which form state policy and successfully implement it for the sustainable development of the state.

Based on the results of the analysis of the mentioned documents, the investigation revealed a lack of emphasis on the digitization of public administration and law enforcement activities. So, as can be seen from the above analysis, digital transformations in society are related to strategic planning, which becomes especially relevant during the development and implementation of the state policy of modernization of the sphere of public administration and law enforcement activities. The issue of digitization of the processes of activities of public authorities and certain aspects of the formation of digital competencies of public servants were reflected in domestic development strategies.

The digitalization reform of Ukraine is currently one of the most visible reforms in the country. Thus, the digitalization of the state-legal sphere in Ukraine involves, first of all, the modernization of the state administration of Ukraine. However, it is necessary: to develop the architecture of the ministries’ functions; data collection; applications, technologies; information security architecture; and general business processes. In general, the goal of reforming state structures is to save time, reduce costs for providing services, increase transparency, and improve the quality of services provided to citizens and businesses.

Regarding the stage of the digitalization process, which the Ukrainian state-legal sphere is currently undergoing, all reforms were
accelerated and carried out with a view to online access due to strong corruption and bureaucratic schemes. So, if in European countries, for example, digitization of services is carried out for the convenience of access by citizens, then in our country, the government plans to overcome corruption schemes that may arise when communicating live and receiving services by citizens in person.

Conclusions

1) Ukraine has established suitable legislative frameworks to foster a digital society, support law enforcement activities, and develop a digital economy. Nonetheless, the ongoing relevance of Ukraine’s integration into the global digital space necessitates effective regulatory management of these processes. The primary objective is to align domestic legislation with the legal norms of the European Union in the realm of digital relations.

2) The digitization of the state-legal and law enforcement sectors entails enhancing professional and specialized digital skills, refining e-democracy tools, and elevating the quality of state electronic services.

3) The state plays an extremely important role in stimulating the processes of digital transformation of state bodies and society in general. Today, Ukraine is only at the beginning of a complex path of digital reconstruction of society and digitization of state legal and law enforcement activities. The success of achieving these goals requires the state to take important steps to form a modern regulatory and legal basis for digitization, to develop and fully implement strategies and programs for the digital transformation of public administration, taking into account the best global experience in the development of the digital economy, to develop roadmaps for digital transformation as a business in general.

Summing up, it can be concluded that the goal and task of the research have been fully achieved. Regarding further scientific research, we consider developing the problematic issues of legal regulation of the digital environment in Ukraine and the ways to solve them.

Bibliographic references


