

Features of Legal Relations in the Field of Digital Services: Legal Realities and Prospects for the Future

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Summary

The central feature of a digital society is the presence of a significant volume of digital services. The main research-analytical goal of the work is to identify the characteristic features of digital services, to classify and compare various types of digital services, to study the main levers for the development of digital services, the principal determinants of the observance and implementation of digital rights, to identify the dominant threats regarding the violation of digital rights, to analyze the features of legal relations that arise between the supplier and the consumer of digital technologies, consider the available taxation options for the digital economy. The work uses the following methods and research methods: hermeneutic, forecasting, in particular, extrapolation, analysis and synthesis, comparative. Research results: the definition of the concept of "digital service" is given, its main characteristics and types, according to the level of digitalization, the states-leaders are identified, slowing down, promising and problematic, the main triggers of slowing digitalization in some EU countries are investigated, by analyzing the regulatory legal acts of the European Commission on digitalization the strategy of the EU's actions to increase the degree of digitalization was determined, the positive and negative effects of digital services concerning the observance of human rights and freedoms were highlighted, the issue of levying taxes from digital companies was investigated.

Keywords: *digital service, digitalization, digital technologies, digital rights, Internet, legal relations, taxation.*

1. Introduction

The dominant factor in increasing digitalization is the improvement in the quantity and quality of digital services. The degree of interest in the development of the digital economy, the level of information technology, political and cultural factors determine the peculiarities of the introduction of digital services in different states. In recent

years, COVID-19 has become a powerful trigger for the development of accumulated digital potential. The coronavirus pandemic has sparked a surge in initiatives from governments, businesses and major digital companies to deploy new digital services. The European Union (EU) and the Organization for Economic Cooperation and Development (OECD) were forced to adjust their plans for the further development of the sector of digital "tools" that improve the quality of life of an individual, the functioning of business and the state.

Thus, the vector of digital development is now focused on the area of vital services: online communication (especially in terms of information, control, tracking), healthcare, education, e-government, data exchange and broadband, e-commerce, finance, personal data protection, etc. It is also important to consider that digital opportunities enable the social transformation to benefit the poorest. To date, crises in the areas of hunger, health care, education, relations "citizen-state", "state-business" have worsened, so the need for new approaches has increased tremendously.

It is obvious that states that have channeled a large amount of funds into broadband infrastructure and stimulated citizens and businesses to use digital "tools" are more successful, given the mode of life in the context of the COVID-19 pandemic. Many public services are available online (payment of fines for traffic violations, payment of administrative fees, registration of an individual entrepreneur within 15 minutes, a comprehensive online service "eMalyatko"), businesses have the opportunity to work remotely, schools, universities, academies, libraries have acquired tools to carry out its activities online, services in the cultural sphere continue to be provided (virtual church, imedrese, immersive theater, digital cinema, Drive-in cinema, virtual exhibitions). And in the times of the total

fight against coronavirus, digital healthcare services are becoming especially important: a cloud platform for storing information with shared access for a doctor and a patient, scanning a patient's QR code, applications capable of monitoring vital functions, applications for providing information about coronavirus, instructions regarding the rules of compliance with quarantine, etc.

The digital revolution, the introduction of powerful information technologies, the creation and operation of digital services give rise to new legal relationships and thereby pose important tasks for legal science. For a fair, efficient, equitable circulation of digital services, it is necessary to create and apply high-quality legal mechanisms, tools, and structures.

The relevance of this topic is undeniable, has practical and theoretical significance for identifying pressing problems in digitalization and their effective solution to meet the vital needs of people, especially in the fight against COVID-19. Thus, the object of research is digital services, and the subject – is the peculiarities of legal relations that arise, change and stop in the process of providing and receiving digital services.

The article analyzes the features of digital services, their main types and practical significance, emphasizes that digital tools are now necessary for remote, prompt receipt of state and municipal services, for work, education, entertainment, communication, shopping and access to everything from medical services to culture, digitalization can become an influential tool for increasing the level of ensuring rights and freedoms, allowing people to go beyond certain territories, social conditions or social groups and open up new opportunities, the author draws attention to the importance of maintaining fairness, uniformity, environmental friendliness and safety of digital services and by means of what measures this is being implemented, the pace of digitalization in different countries (leaders, promising, slowing, problematic) is considered, the reasons for the slowdown of some countries of the European Union in this process are highlighted, legal relations that arise in the process of rendering and obtained digital services, in particular tax. The paper demonstrates the available options for taxing digital companies, analyzes and highlights the main potential threats, problems in this area, and the need to create and apply a unified approach to taxation of digital cross-border transactions.

2. Methodology

The methodological basis of the work is the use of such research methods: hermeneutic, forecasting, in particular, extrapolation, analysis, and synthesis, comparative.

The hermeneutic method is used to reveal the meaning and essence of the concept of "service" and to define the concept of "digital service". The hermeneutic analysis is of

key importance for the study of the conceptual and categorical apparatus of the investigated sphere.

The extrapolation method is to study the characteristics and trends that have developed in the past for their transfer to the future. This method is used in the process of distinguishing the special characteristics of digital services based on the general features of the services in general. The study of the formation and implementation of digital rights and freedoms was carried out by transferring to these processes all known trends in the observance of autonomous rights and freedoms. Predictive extrapolation was used during the assumption of a change in the factors that determine the development of the process or phenomenon under study.

The comparative method is used to study generic concepts, phenomena, processes and identify their features and differences. This method allowed us to explore different approaches regarding the definition of the essence of concepts, divide all countries into 4 groups according to the pace of digitalization, compare the taxation systems of digital companies in several countries, pay attention to different approaches, and possible negative consequences as a result.

Analysis and synthesis methods are integral to any research. With the help of the analysis, the study of the constituent parts and components of the subject of research was carried out, and then the method of synthesis was inseparably applied, which consists in combining knowledge about the properties of the constituent components.

3. Theoretical Framework

The dominant factor in increasing digitalization is the improvement in the quantity and quality of digital services. The degree of interest in the development of the digital economy, the level of information technology, political and cultural factors determine Global digitalization, the need for the development and provision of digital services, the presence of problematic issues, and the need to solve them – all generate a deep interest of theorists and practitioners.

Thus, Williams, Chatterjee, and Rossi jointly argue that a digital service is an activity or benefit that one party can provide to another through a digital transaction. A digital service provider is an entity that provides a service or activity. A digital service user is an entity that receives a service or activity [1].

Moreover, Kar and Singhal believe that digital services – are services that are fully automated and controlled by the end-user or customer of the service [2].

Nesterenko draws attention to the fact that during the provision of a digital service, electronic data is exchanged instead of the physical movement of goods. However, this does not mean that the digital service is entirely provided in

digital form only and is realized only through the transfer of a digital good. For example, Amazon.com's digital services site is capable of providing books not only in digital form but also includes the delivery of a physical product [3].

Gorshkova notes the complexity of the legal qualification of a digital service, based on the fact that its purchase and sale take place on the Internet, bypassing the physical borders of states. In this regard, the customs and tax control are complicated, the procedure for collecting taxes and customs duties becomes more difficult [4].

Kozyrev reflected on the differences between digital and electronic services. The adjective "digital" originally refers to the form (or format) of presenting the information. This form is not directly related to the material carrier of information. And the adjective "electronic" refers to the material form of the embodiment of the signal, i.e. just in time for the material carrier of information [5]. However, Nesterenko says that it is more expedient to perceive electronic services as an integral part of digital services [3].

Saveliev studied the issue of security in the provision of digital services and argued that there are a large number of algorithms, methods, and methods for analyzing potential IT risks, thanks to which it is possible to promptly inform the business. The assessment of offenses during the provision of digital services, the preparation of a mitigation plan should be carried out at regular intervals. An audit conducted by an external independent expert also increases the level of security [6].

4. Results and Discussion

Aristotle said that service is a form of interaction between people, which provides for equal remuneration [7]. Kotler proposes to interpret the concept of service as any event, activity, or benefit that one of the parties can offer to the other party, and which are mostly intangible and do not lead to the mastery of anything [8]. A. Smith defined the concept of "services" by describing their characteristic features, "they are sterile and unproductive since they disappear at the very moment of their provision and are not fixed in any tangible product [9]. We assume that by this, the scholars paid attention to the intangibility of the result. In our opinion, it would be wrong to attribute this to all types of services, since the result of some is quite material (for example, obtaining a paper birth certificate in Ukraine by mail after submitting an application online using the online service "Diya").

We propose to highlight the signs of services and legal relationships that arise:

1. satisfaction with the needs of a specific subject, thereby the presence of a positive effect
2. the subject of legal relations – the needs of the customer
3. synchronism of provision and reception of services

4. consumption of a service does not mean ownership of it, as opposed to the possibility of acquiring ownership of the provided product

5. dependence of the quality of the service on the level of education, the competence of its performer, on the technical characteristics of equipment and services

6. exclusiveness, that is, the supplier is a specific subject

7. inexhaustibility of the service (as a rule, it is provided to an unlimited number of subjects).

A digital service is a specialized type of service that is delivered through the use of the Internet. According to Nesterenko, digital service is an automated online activity that one of the parties can offer to the other party through a digital transaction to improve the quality of life of society with minimal human intervention [3].

The above characteristics can be extrapolated to digital services, but also add features that are inherent only in digital:

1. mandatory Internet connection
2. distance, online mode, location independence, cross-border
3. high speed, efficiency
4. reduction of bureaucracy, overregulation, absence of corruption schemes
5. use of mobile applications
6. full automation and end-user management
7. use of IT technologies
8. absence of a human factor in the relationship between the supplier and the recipient of the service.

Digital services can be classified depending on the scope of provision and consumption: public administration or state (electronic court), informational (a distribution with an emergency alert, tracking the locations of car accidents), transport (tracking public transport), housing, and communal services (online payment of utilities), financial (e-wallets, online payments), educational and scientific (online courses, online libraries), cultural (virtual exhibitions), tourism (space tourism), commercial (online trade), healthcare (online consultations).

In developed countries, legal relations that arise in the field of digitalization are clearly regulated. In France, at the legislative level, such concepts as e-commerce, e-commerce are defined [15]. Digital rights in the UK are governed by the Regulation on Electronic Communications Infrastructure and Services; Regulation on the Protection of Intellectual Property Concerning the Use of Electronic Communications; Data exchange regulations, etc. [16]. And in the international arena, it is proposed to regulate in regulatory legal acts the legal status of an electronic person concerning intelligent robotic systems that are capable of making independent decisions and providing digital services [17].

According to the level of digitalization, all states can be divided into leaders, slowing down, promising, and

lagging behind. Let's pay attention to the main ones. Leaders: Singapore, USA, Hong Kong, South Korea; promising: China, India, Argentina; slowing down: almost all countries of the European Union; laggards: Italy, Mexico, Ethiopia. For those slowing down, it is characteristic that these are states with mature digital systems but a low rate of further development; a large number of EU countries have decided to sacrifice growth rates in the name of responsible, inclusive, and high-quality development [18].

The European Commission identifies four promising areas of movement:

1. By 2030, at least 80% of the adult population should have digital skills. Access to education that enables the acquisition of basic digital skills should be a right for all EU citizens, and lifelong learning should be a reality.

2. Reliable and green digital infrastructure: by 2030, all households must have a gigabit connection, and all populated areas must be covered by a 5G network; the production of high-quality resource-saving semiconductors in Europe should account for 20% of the world; 10,000 environmentally friendly peripheral nodes with a high degree of protection should be put into operation in the EU; the first quantum computer should appear in Europe.

3. Digitization is a must: by 2030, three out of four companies must use cloud computing, big data, blockchain, and artificial intelligence.

4. Digitalization of public services: by 2030, all public services can be obtained online; Secure e-voting, which determines broad citizen participation in democratic life; 80% of citizens must use the technology of electronic identity card [19].

At the beginning of the fight against coronavirus, the European executive branch asked telecommunications companies to provide anonymous mobile data to study the patterns of the spread of the virus. Digital technology can help guide the trajectory of COVID-19 by tracing contacts with infected people, but this involves the use of a large amount of sensitive personal data. The European scientific community created an app with the ability to analyze Bluetooth signals between mobile phones to track users who were close to each other. The program temporarily stores this encrypted data locally, and if users soon test positive for COVID-19, the application can inform anyone who was near the infected person recently, while leaving the identity of all users anonymous [11].

In 2020, the European Commission made recommendations on the use of mobile applications and data in a pandemic. It is recommended to provide digital services with an emphasis on the following aspects: the operation of mobile applications to take measures for the most effective distance, to prevent, prevent and trace contacts; forecasting the spread of the virus by tracking the location of sick people and sharing information between the relevant epidemiological government agencies [12].

Efficiency, convenience, self-service, reduction of bureaucratic obstacles in the process of obtaining public services, remote ambulance services, online appointments, and consultations, storing medical records in digital form, reducing the number of contacts with COVID-19 infected using tracking mobile applications – all these are positive effects. digital services, but at the same time, the features of digital services are a potential threat of confidentiality breach and the dissemination of personal data. The rapid growth of the digital economy, the development of convenient applications for making contactless payments (Apple Pay, Google Pay, and Samsung Pay) have increased the share of electronic payments. Cashless payments have several advantages (high transaction speed, distance), but there is a high risk of cyber-attacks and data interception. Today, the most common types of fraud in an electronic payment system are: hacking an account, then launching a virus that collects data and transfers it to the cybercriminals' computer; phishing, or access to personal information through fraudulent sites. The information collected includes the names of bank account holders, passwords, and credit card numbers [13].

The global practice of taxing digital companies shows that the concept of a “unified approach” is poorly implemented. Many countries are introducing only unilateral mechanisms in the form of DST or hybrid forms of such a tax. States introduce the principles of taxation based on their interests and needs. For example, Greece imposed a tax on short-term rentals through digital platforms such as Airbnb (US) and Booking (US) due to Greece's dominant tourism sector, while Poland and Portugal introduced a tax on streaming platforms such as like Netflix (USA) [20].

The lack of a universal, uniform, and equal approach to taxation of digital cross-border transactions, the lack of international tax agreements, unilateral legal regulation by national tax legislation create a threat of double taxation.

5. Conclusions

1. A digital service is an automated online activity that one of the parties can offer to the other through a digital transaction to improve the quality of life of the community with minimal human intervention.

2. The levels of digitalization and its legal regulation in different countries are significantly different. According to the degree and success of digitalization, four groups can be distinguished: leaders who are slowing down, promising, and lagging. The peculiarity of those slowing down is that these are states with mature digital systems, but a low rate of further development, which are ready to sacrifice growth rates in the name of responsible, inclusive, and high-quality development.

3. Based on the example of the regulatory legal acts of the European Commission, the following prospects for the future can be distinguished: 80% of the EU population have digital skills, by 2030 all households should have a gigabit connection, and all populated areas should be covered by a 5G network, by 2030 three out of four companies must use digital technologies and provide digital services, by 2030 all public services must be delivered online

4. Digital services undoubtedly improve the quality of the life of an individual, the functioning of business, and the activities of the state, but at the same time, they reduce the level of state security, are a threat of violation of confidentiality and illegal use of personal data due to cyber-attacks and fraud.

5. To equitably receive the digital services offered, people must have equal access to the Internet, mobile communications, access to education, and the acquisition of digital skills.

6. To avoid double taxation of digital companies, it is important to create a universal international tax collection system that will be applied by all states simultaneously and uniformly.

References

- [1] Williams, K., Chatterjee, S., Rossi, M.: *Design of emerging digital services: a taxonomy*. In: European Journal of Information Systems, vol. 17(5), pp. 505-517 (2008)
- [2] Kar, A., Singhal, H.: *Information Security Concerns in Digital Services: Literature Review and a Multi-Stakeholder Approach*. International Conference on Advances in Computing, Communications and Informatics, pp. 901-906 (2015)
- [3] Nesterenko, E.V.: *Digital services: concept, types, features*. Theoretical economics, vol. 7, pp. 71-76 (2019)
- [4] Ggorshkova, L.V.: *Is a digital product a product or a service?* Report at the VII International Conference "Law and the Internet". URL: <http://moglobi.ru/stati/cifrovoj-tovar-tovar-ili-usluga/main.html>
- [5] Kozyrev, A.N.: *Digital Economy and Digitalization in Historical Retrospective Digital Economy (CEMI-RAS)*. Moscow: CEMI RAS (2017) URL: <http://digitaleconomy.ru/stati/tsifrovaya-ekonomika-i-tsifrovizatsiya-v-istoricheskoy-retrospektive>
- [6] Savelyev, A.I.: *The legal nature of cloud services: Freedom of contract, copyright and high technology*. Bulletin of civil law, 5, pp. 54-56 (2015)
- [7] Braginskaya, N.V.: *Aristotle. Nicomachean ethics*. Moscow: AST (2011)
- [8] Kotler, F.: *Fundamentals of Marketing*. Moscow: Williams Publishing House (2007)
- [9] Popov, E.A.: *Conceptual essence of services in the information and service economy: monograph*. Samara: Publishing house Samar. state econom. University (2007)
- [10] Telehealth: the post-quarter trillion dollar COVID-19 reality? URL: <https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/telehealth-a-quarter-trillion-dollar-post-covid-19-reality>
- [11] Digital Agenda and Digital Technology Initiatives in an Environment COVID-19 (review of the practices of the European Union, the Organization for Economic Cooperation and Development, and other countries). Moscow: NRU HSE (2020)
- [12] Commission Recommendation of 8.4.2020 on a common Union toolbox for the use of technology and data to combat and exit from the COVID-19 crisis, in particular concerning mobile applications and the use of anonymised mobility data. URL: https://ec.europa.eu/info/sites/default/files/recommendation_on_apps_for_contact_tracing_4.pdf
- [13] What is contactless payment. URL: <https://www.cleverence.ru/articles/elektronnaya-kommertsiya/beskontaktnaya-oplata-cto-eto-takoe-funktsii-tekhologii-kak-rabotat-sistema-i-kak-ey-polzovatsya/>
- [14] Electronic government. URL: <https://nso.ru/page/2631>
- [15] Loi № 2004-575 du 21 juin 2004 pour la confiance dans l'économie numérique (1). URL: [https://www.lagbd.org/index.php/Loi_pour_la_confiance_dans_l%27%C3%A9conomie_num%C3%A9rique_\(fr\)#:~:text=La%20loi%20n%C2%B0%202004,r%C3%A8gles%20relatives%20au%20commerce%20%C3%A9lectronique](https://www.lagbd.org/index.php/Loi_pour_la_confiance_dans_l%27%C3%A9conomie_num%C3%A9rique_(fr)#:~:text=La%20loi%20n%C2%B0%202004,r%C3%A8gles%20relatives%20au%20commerce%20%C3%A9lectronique)
- [16] Digital Economy Act (2017) URL: <http://www.legislation.gov.uk/ukpga/2017/30/introduction>
- [17] Ovchinnikov, A.I., Fatkhi, V.I.: *Law and the digital economy: the main directions of interaction*. Philosophy of law, 3, 128-134 (2018)
- [18] The most digital countries in the world: ranking of 2020 (2020) URL: <https://hbr-russia.ru/innovatsii/trendy/853688/>
- [19] Communication from the European Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. URL: <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:52021DC0118>
- [20] Theoretical and practical aspects of the application of different forms of taxation of digital companies in the world. URL: <https://cyberleninka.ru/article/n/teoreticheskie-i-prakticheskie-aspekty-primeniya-raznyh-form-nalogooblozheniya-tsifrovyyh-kompaniy-v-mire>