

Reforming National Law in the Context of Digital Transformation: Key Challenges and Prospects for Development

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Abstract

[Purpose] The purpose of this article is to identify the main challenges and prospects of national legislation in Kazakhstan and to determine the development vectors for selected branches of law in the context of digitalisation.

[Methodology/Approach/Design] The study employed the following methods: analysis and synthesis, statistical analysis, rating method, and comparison. The study identified key innovations in Kazakhstan's legal framework for digitalisation. The main objectives in the implementation of the Digital Kazakhstan state programme and the key target indicators

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defined within this programme have been studied, and the results of the implementation of this programme have been assessed.

[Findings] The dynamics of e-government and e-participation indices for the Republic of Kazakhstan are examined.

[Practical Implications] The findings of the study can be used by public authorities and policymakers to improve the efficiency of further decision-making regarding the transformation of national law in the context of digital transformation.

[Originality/Value] The findings of this study have provided an outline of the main challenges and prospects for national law in the context of digitalisation, revealing the trends for the further development of individual branches of law.

Keywords: Legislative Framework. Regulatory Act. Development Index. E-Government. E-Participation. Innovation.

INTRODUCTION

Modernity has been described as an “age of digital technology”, penetrating deeper and deeper into all areas of human life and activities. The topic of digital transformation or digitalisation has become one of the most topical in both the academic and economic-political spheres (Kraus et al., 2021; Nadkarni & Prugl, 2021; Verhoef et al., 2021). This is due to some benefits that digitalisation brings to economic, industrial, business, and societal growth in developed and developing countries, as well as many possible threats that are generated during its implementation (Myovella et al., 2020; Hai et al., 2021; ElMassah & Mohieldin, 2020). Moreover, digitalisation plays an important role in sustainable development and the circular economy, which are among the most relevant concepts in most economies and policies worldwide (Agrawal et al., 2022; Misiuk et al., 2020).

Digitalisation, in its most general form, can be understood as the process of shifting from traditional ways of transmitting information to digital ones, which involves high-tech devices such as extra powerful computers, smartphones, and laptops, linking them electronically in cyberspace (Ondashuly, 2018; Honcharenko & Shyhal, 2021). Today, digitalisation is widely applied in the economy, giving rise to the concept of a “digital economy” in which the primary resource is information. The definition of the digital economy was first articulated at the 2016 G20 Leaders’ Summit in Hangzhou: the digital economy derives from a range of economic activities aimed at effective applications in communications technology and improving the economic structure (Pan et al., 2022). The concept of the digital economy can be better described as a vast area of economic activity where digitised information and knowledge are the main factors of production, electronic information networks are the space for such activity, and information

and communication technologies (ICT) is the main stimulus for productivity growth (Li et al., 2020; Shahini et al., 2022).

There are two main approaches to defining the digital economy: narrow (referring only to the ICT sector) and broad (including both the ICT sector and partially traditional areas in which digital technologies are integrated) (Zhang & Chen, 2019; Chochia et al., 2018). The second approach implies the introduction of digitalisation not only in the economy but also in business, public administration, and the transformation of national law. The digitalisation of the legal system and its relationship to the digital economy is a recent topic of research for scholars worldwide. For example, G. I. Zekos (2022) found that the legal sphere is as tightly linked to the development of the digital economy by the need for legal support for this process, the promotion of certain draft laws that stimulate digital development, and the establishment of a link between the legal sphere and technology.

E. Ondashuly (2018) in his study sees the digitalisation of the legal system through two approaches: firstly, the rise of information law as a legal institution, and secondly, the process of digitisation of the legal system itself. Digitalisation primarily refers to the development of online services, electronic databases in the field of law. A study by Y. Gong et al. (2020) on digital transformation in public administration established that the development of online legal services is conditioned by the priority of user orientation in the modern digital economy. The key findings of the study show that the development of digital transformation in public administration is taking place in both gradual and radical changes, in a wave-like pattern, with adaptations at different levels of the system. Scientists note that the governments of the world are making every effort to develop online services and improve the user experience.

The rise of the concept of e-government is closely related to this. J. D. Twizeyimana and A. Andersson (2019), considering aspects of e-government, highlighted the following benefits: streamlined public services for citizens, enhanced open government capabilities, increased administrative efficiency, increased trust, increased ethics and professionalism and, as a result, improved public welfare. I. Mergel et al. (2019), studying theoretical aspects of e-government, found that there are two approaches to defining e-government: a broad and a narrow one. A broad approach focuses on the use of the Internet and ICT to deliver government information to citizens, while the narrow approach to defining e-government emphasises the use of ICT to deliver services to citizens (Uliutina & Artemenko, 2022).

The analysis of the published sources reveals that few studies have addressed aspects of the development of digital legal transformation in practice, assessing the effectiveness of measures and programmes in individual regions of

the world. Thus, the research aims to address and explore the topic of digital legal transformation in the context of the Republic of Kazakhstan. The main goal the authors seek to achieve is to identify the key challenges and prospects for the national law of Kazakhstan as it undergoes digitalization. The article focuses on providing a comprehensive analysis of the legal framework and implementation of digital transformation in the RK, starting from its initial legislative implementation in 2003. To achieve this goal, it is necessary to solve the following tasks:

- To analyse the laws and regulations in the Republic of Kazakhstan that pertain to digitalisation efforts, such as electronic document management, electronic archive, electronic transactions, digital assets, blockchain, electronic government, and electronic money;
- To evaluate the effectiveness of the implementation of certain aspects and programmes of digitalisation in the RK legal sphere, which may involve comparing actual indicators with expected ones to gauge the success and impact of digital transformation;
- To assess the dynamics of the RK's position in the e-government development index rankings, which means evaluation of where the Republic of Kazakhstan stands in comparison to other countries concerning the development of e-government initiatives; this assessment will help determine the level of progress and identify areas for improvement;
- To identify the main challenges and prospects for the national law of Kazakhstan in the context of digitalisation: by understanding the challenges, the authors can propose solutions and strategies for addressing them;
- To reveal the directions of development of individual branches of law in Kazakhstan in the context of digital transformation, which means exploration of how various branches of law in Kazakhstan, such as labour law, business regulation, civil procedure, and others, are evolving and adapting in response to digitalisation trends.

MATERIALS AND METHODS

An analysis of the legal framework and the implementation of individual state programmes in RK has highlighted the main innovations in the legal framework regarding digital transformation, starting with the first legislative implementation of digitalisation in 2003. Furthermore, this analysis has systematised and summarised the terms relating to digitalisation and the concepts that arise during their implementation, management, and administration in the

Laws of the Republic of Kazakhstan (LRK). The main terms include electronic document management, electronic archive, electronic digital signature, electronic document, automation, informatisation, information security, information system, electronic transactions, digital asset, blockchain, digital mining, digital token, electronic akimat, electronic government, electronic industry, intelligent robot, electronic money, electronic wallet, unified system of labour contracts accounting.

By using the methods of analysis and synthesis, as well as the method of comparing actual indicators with expected ones, the results achieved by the implementation of the Digital Kazakhstan state programme have been assessed. The Digital Kazakhstan state program was implemented from 2018 to 2022 with the primary objective of driving the digital transformation of the Republic of Kazakhstan. It aimed to leverage the power of digital technologies to enhance various sectors of the economy and improve public services. The program focused on fostering the growth of digital infrastructure, promoting digital literacy among the population, and advancing the development of e-government services. The authors examined the laws and regulations implemented since 2003 and identified key innovations in the legal framework regarding digitalization. These methods helped in understanding the legal developments in the context of digital transformation. Using statistical analysis and the ranking method, RK's position in the ranking of countries on the e-government development index, as well as the e-participation index, was assessed. The authors compared actual indicators with expected ones to evaluate the program's success. Furthermore, the researchers utilized the ranking method to assess Kazakhstan's position in the e-government development index and e-participation index rankings. This allowed benchmarking Kazakhstan against other countries and identifying its position among global, regional, and sub-regional leaders as well as average index values. These statistical analyses provided a quantitative assessment of the country's progress in digitalization efforts. A comparison method was used to rank the RK against the global, regional, and sub-regional leaders in these rankings, and to position the RK against the global, regional, and sub-regional average index values. This enabled the researchers to gauge how Kazakhstan's performance compared to other nations in terms of e-government development. By comparing the country against the average index values, strengths and weaknesses could be identified in its digital transformation process.

Using methods of analysis and synthesis, the main challenges and prospects existing in the field of national law were identified, and key directions for the development of individual branches of national law were outlined.

Relevant Laws and Legal Sources Used in the Study

The information basis for the article is scholarly journals in Kazakhstan and the rest of the world, and also data available on the websites of the Supreme Audit Chamber of the Republic of Kazakhstan (2022), EUR-Lex (2010ab, 2014, 2015, 2017, 2018), the European Commission (2018) and the United Nations (2023). The following Laws of the Republic of Kazakhstan were also used in the study.

Law of the Republic of Kazakhstan No. 370-II “On electronic document and electronic digital signature” (2022), which governs the use of electronic documents and electronic digital signatures, providing a legal framework for electronic transactions and document management in the country, as well as sets out the rules and requirements for the validity and authenticity of electronic documents and signatures, ensuring their legal recognition in various transactions and processes. Law of the Republic of Kazakhstan No. 418-V “About informatisation” of 2015 (2023) focuses on the process of informatization, which refers to the integration and use of information and communication technologies (ICTs) in various sectors of the economy and public administration. It aims to promote the development and implementation of ICTs, leading to increased efficiency and effectiveness in government services and private enterprises. Law of the Republic of Kazakhstan No. 419-V “On the introduction of amendments and additions to some legislative acts of the Republic of Kazakhstan on issues of informatisation” of 2015 (2015) complements the Law of Informatization (No. 418-V) by introducing specific amendments and additions to other legislative acts to support and facilitate the process of informatization in the country. Law of the Republic of Kazakhstan No. 347-VI “On the introduction of amendments and additions to some legislative acts of the Republic of Kazakhstan on the regulation of digital technologies” of 2020 (2022) deals with the regulation of digital technologies, aiming to create a favourable environment for the development of digital innovations in various sectors. It addresses issues related to data protection, privacy, cybersecurity, and the legal aspects of emerging technologies.

Law of the Republic of Kazakhstan No. 11-VI “About payments and payment systems” of 2016 (2023) governs payment systems and electronic money in Kazakhstan. It establishes the legal framework for electronic payments, including rules for electronic wallets, digital payment instruments, and electronic money issuers. Law of the Republic of Kazakhstan No. 241-VI “On the introduction of amendments and additions to some legislative acts of the Republic of Kazakhstan on the development of the business environment and regulation of trading activities” of 2019 (2019) focuses on improving the business environment in Kazakhstan and regulating trading activities. It may address issues related to e-commerce, digital trade, and the use of technology to facilitate business operations

and trade practices. Law of the Republic of Kazakhstan No. 342-VI “On the introduction of amendments and additions to the Civil Procedure Code of the Republic of Kazakhstan on the introduction of modern formats for the work of courts, the reduction of unnecessary judicial procedures and costs” of 2020 (2020) aims to modernize the judicial system in Kazakhstan by introducing digital technologies and modern formats for court proceedings. It can involve the use of electronic document management systems, online case filing, and other digital solutions to streamline court processes. Law of the Republic of Kazakhstan No. 352-VI “On amendments and additions to some legislative acts of the Republic of Kazakhstan on improving the business climate” of 2020 (2020) focuses on enhancing the business climate in Kazakhstan and includes provisions related to the use of digital technologies and innovations to foster a more business-friendly environment. Law of the Republic of Kazakhstan No. 321-VI “On the introduction of amendments and additions to some legislative acts of the Republic of Kazakhstan on labour issues” of 2020 (2020) addresses labour-related issues and may include provisions related to digital transformation in the workforce. It could cover topics such as telecommuting, digital employment contracts, and the use of technology in labour administration.

RESULTS

Introduction of Selected Aspects and Programmes Related to Digitalisation in the Legislation of Kazakhstan

The introduction of certain norms on digital technologies into the legislative framework has long been a common practice and a necessity for many countries of the world. For instance, the European Union (EU), which represents some of the most developed countries in the world, is constantly expanding its legislative framework to provide legal support to stimulate economic activity in the field of digitalisation. Thus, between 2010 and 2018, such documents as EUR-Lex (2010ab, 2014, 2015, 2017, 2018) and “The Age of Artificial Intelligence: Towards a European Strategy for Human-Centric Machines” (European Commission, 2018) have been approved in the EU to support digital development (Kwilinski et al., 2020). In Kazakhstan, the digital format was first introduced at the legislative level more than 20 years ago (Amangeldykyzy, 2021). Further major changes to the legal framework for digitalisation, as seen by the authors, are outlined in Table 1.

Regulatory Act	Key Innovations
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Law of the Republic of Kazakhstan No. 370-II "On electronic document and electronic digital signature" (2022)	Formalisation of terms such as 'electronic document management', 'electronic archive', 'electronic digital signature', and 'electronic document'.
Law of the Republic of Kazakhstan No. 418-V "About informatisation" of 2015 (2023)	Definition of concepts such as 'automation', 'informatisation', 'information security', 'information system', and many others; and the establishment of provisions regarding governance in the field of informatisation.
Law of the Republic of Kazakhstan No. 419-V "On the introduction of amendments and additions to some legislative acts of the Republic of Kazakhstan on issues of informatisation" of 2015 (2015)	Introduction into circulation of transactions in electronic form, that have become widespread, including in the implementation of public procurement and other contracts.
Law of the Republic of Kazakhstan No. 347-VI "On the introduction of amendments and additions to some legislative acts of the Republic of Kazakhstan on the regulation of digital technologies" of 2020 (2022)	The term 'digital assets'; with the enactment of this law, a digital asset has been defined as part of the property and has become negotiable. Introducing provisions in the RK (Zekos, 2022) providing for the following concepts: "digital asset", "blockchain", "digital mining", "digital token", "e-akimat", "e-government", "e-industry", "intelligent robot".
Law of the Republic of Kazakhstan No. 11-VI "About payments and payment systems" of 2016 (2023)	The introduction of concepts such as: "e-money" and "e-wallet".
Law of the Republic of Kazakhstan No. 241-VI "On the introduction of amendments and additions to some legislative acts of the Republic of Kazakhstan on the development of the business environment and regulation of trading activities" of 2019 (2019)	Supplement to the Code of Civil Procedure of the Republic of Kazakhstan (CCP RK) with a chapter on "Features of Electronic Court Proceedings".
Law of the Republic of Kazakhstan No. 342-VI "On the introduction of amendments and additions to the Civil Procedure Code of the Republic of Kazakhstan on the introduction of modern formats for the work of courts, the reduction of unnecessary judicial procedures and costs" of 2020 (2020)	The Supplementation of the CCP RK with an article setting out the main provisions regarding the electronic record kept during court proceedings.
Law of the Republic of Kazakhstan No. 352-VI "On amendments and additions to some	Enshrining in the CCP RK the priority of electronic notification.

legislative acts of the Republic of Kazakhstan on improving the business climate” of 2020 (2020)	
Law of the Republic of Kazakhstan No. 321-VI “On the introduction of amendments and additions to some legislative acts of the Republic of Kazakhstan on labour issues” of 2020 (2020)	The introduction in the Labour Code of the RK (hereinafter LC RK) obliges the employer to register information about the conclusion, termination, and amendment of an employment contract with an employee in the unified system for recording employment contracts. Thus, the LC RK introduced the concept of a “unified system for recording employment contracts” and the electronic documentation of employer’s acts was introduced in the territory of the Republic of Kazakhstan. This change is associated with the transition to remote work as a response to the COVID-19 epidemic.

Table 1 – Enshrining the Basic Norms of Digitalisation in the Legislative Framework of the RK

Table 1 summarises and compiles the main pieces of legislation dealing with digitalisation norms at the national level. Analysis of the data presented suggests that the government has taken some crucial steps over the past two decades to develop digitalisation and the related transformation of the national legal system. On the one hand, legislation has been enshrined to regulate legal relations in virtually all spheres of people’s economic and social life. On the other hand, the legal sphere itself has undergone significant changes: for example, in legal proceedings. As noted in Table 1, the CCP RK has been supplemented by a chapter on “Features of e-Court Proceedings”. This chapter provides that civil proceedings may be conducted electronically, whereby an electronic civil case and an electronic judicial act are generated and placed in the automated information system of the court. It is also possible to participate in court proceedings through special technical equipment. The CCP RK also specifies the requirements for establishing an electronic record. The legislative changes have been introduced as a result of the deep penetration of digitalisation in all spheres of human and state activity, which has determined the need to formalise the basic concepts and relations related to their implementation and management.

Main Directions, Indicators and Outcomes of the Digital Kazakhstan Programme

In addition to the legislative acts listed in the preceding subsection, the main directions of digitalisation are set out in Decree of the Government of the Republic of Kazakhstan No. 827 “On approval of the State Programme “Digital

Kazakhstan” (hereinafter, the Programme) (2022). The programme is designed for the years 2018-2022, so at the time this article is written, it has already been implemented. The achievements of this programme are therefore of particular interest. However, it is necessary to examine and summarise the main directions and target indicators of this Programme to better understand the relevance and consistency of the actual results with the expected ones. Regarding the implementation of the programme, the goal of the government was to be among the first fifteen leading countries in the field of digitalisation. Reaching such a goal was challenging, given the fact that digitalisation in the RK was significantly behind the leading countries in the field of digitalisation when the programme was approved. The main objectives of the Programme are presented in Figure 1.



Figure 1 – The Five Key Focuses of the Digital Kazakhstan Programme¹

“Transition to a digital state” has a clause stipulating that providing a reliable legal framework and realisation of the rights, freedoms, and interests of the population, legal entities, and the state requires a global digitalisation of this sphere. Consequently, the introduction of an “electronic file” was presupposed, and further steps were planned regarding the transition to electronic document management, as well as the introduction of information and analytical systems designed to improve the efficiency of judicial and law enforcement bodies of the RK (Ondashuly, 2018). As regards the target quantitative indicators that allow assessing the extent to which the objectives have been achieved, particular mention can be made of the “Share of public services received in electronic form out of the total volume of public services” indicator. The value of this indicator

¹ Source: Decree of the Government of the Republic of Kazakhstan No. 827 On approval of the State Program “Digital Kazakhstan” (2022).

was expected to increase by 80%. This and other target indicators are shown in Figure 2.

Productivity growth in the Mining and Quarrying section	•38.9%
Productivity growth in the Transport and Warehousing section	•21.2%
Productivity growth in the Agriculture, Forestry and Fisheries section	•82%
Productivity growth in the Manufacturing sector	•49.8%
Share of e-commerce in total retail trade	•2.6%
Creating more jobs through digitalisation	•300000 people
Share of public services accessed electronically in the total volume of public services	•80%
Share of internet users	•82.3%
Level of digital literacy of the population	•83%
Advances in the World Economic Forum's Global Competitiveness Index ranking on the Innovative Companies Growth indicator	•104th place
The volume of investment attracted by start-ups	•KZT 67 billion
Information and Communication Technology Development Index	•30th place

Figure 2 – Target Indicators of the Digital Kazakhstan Programme 2022²

However, according to the Supreme Audit Chamber of the Republic of Kazakhstan (2022) not all the tasks set have been fully realised. Moreover, the analysis of the performance of the Programme is complicated by the fact that the Ministry of Digital Development, Innovation and Aerospace (MDDIA) has not paid the necessary attention to the analysis of the achievement of the Programme indicators. Among the positive aspects is the rise of the RK in the ranking of countries in terms of e-government development: at the time of the state audit (2020), the state ranked 29th out of 193 countries. At the end of 2022, the RK rose by one position, currently ranking 28th (United Nations, 2023). Moreover, the digital literacy rate of the population exceeded the target of 83%, reaching 84.1% (Supreme Audit Chamber..., 2022).

Among the main negative trends is the low share of ICT goods in exports, indicating a lack of competitiveness of the national product in this area. In addition, the desired results have not been achieved concerning the implementation of cloud document management at the state level. Lack of

² Source: Decree of the Government of the Republic of Kazakhstan No. 827 On approval of the State Program “Digital Kazakhstan” (2022).

management efficiency has led to several unpromising and unprofitable projects, including the Single Information System for Legal Aid “Zan Komegi”, the Single Contact Centre, and the Smart Contract. The losses are estimated at almost KZT 1 billion. There are also concerns regarding Astana Hub’s granting of tax preferences to mining companies that do not meet the goals of the technology park (Supreme Audit Chamber..., 2022). Thus, the next steps of the government regarding digitalisation, including in the legal sphere, must therefore not only be carefully considered before implementation but must be continuously monitored in the process of execution. Such monitoring should be not only formal but include evaluation and analysis of the attainment of targets at all stages of the digitalisation process and of individual programmes in this area. Furthermore, all actors involved need to be coordinated and monitored by MDDIA.

Dynamics of the Position of the RK in the Ranking of the E-Government Development Index

In its broadest form, the current state of digitalisation in the economic and legal spheres is reflected in the E-Government Development Index (EGDI). The Index is designed to assess the state of digital government development for 193 countries in terms of three main dimensions: online service provision, telecommunications connectivity, and human capacity (Figure 3).

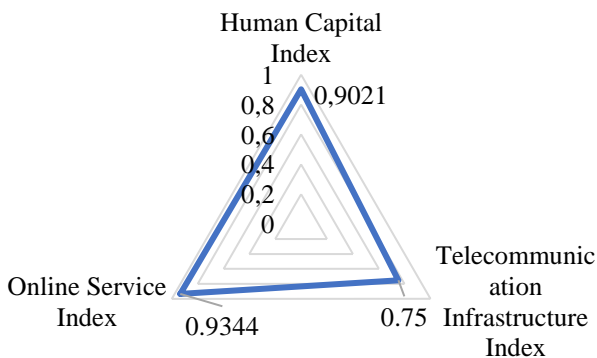


Figure 3 – Components of the E-Government Development Index in 2022³

As can be summarised from Figure 3, the highest score out of the three dimensions presented was achieved for the provision of online services (0.9344). A high score is given to human development (0.9021), while telecommunication

³ Source: United Nations (2023).

infrastructure is the least developed (0752), which demands more attention from public authorities in this area. Figure 4 shows the overall value of the e-government development index in 2022 and a comparison with the global, regional, and sub-regional leaders.

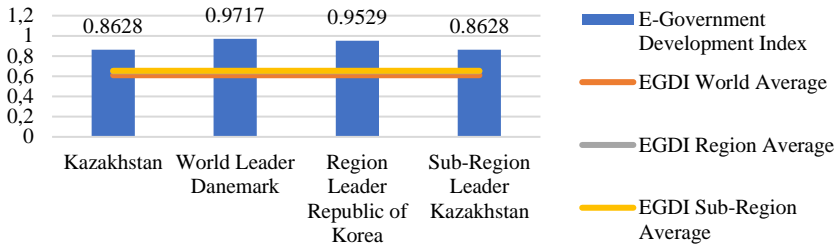


Figure 4 – E-Government Development Index for 2022⁴

As can be deduced from Figure 4, the RK is a sub-regional leader. The values for the 2022 e-government development index of the country are well above the global, regional, and sub-regional averages. The e-Participation Index is a complementary index when examining the development of e-government. The Index, in general terms, shows the extent to which the population is included in the policy-making process of the government (United Nations, 2023). Figure 5 shows the values of this index for the RK as well as the global, regional, and sub-regional leaders.

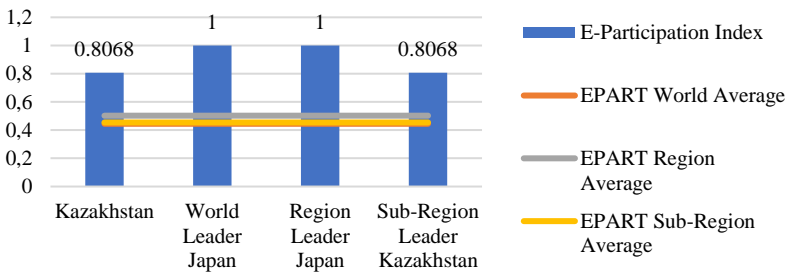


Figure 5 – E-Participation Index for 2022⁵

As Figure 5 illustrates, the RK is a sub-regional leader, as is the case with the e-government development index. The regional and also global leader is Japan, with a maximum index value of one. Although the RK is significantly behind Japan in this index, the state has a relatively high value compared to the

⁴ Source: United Nations (2023)

⁵ Source: United Nations (2023)

global and regional averages. The most visual indication of the rapid rise in the RK rankings for both of the above indices can be gained by tracing the dynamics of the index values over the past 20 years (Figures 6 and 7).

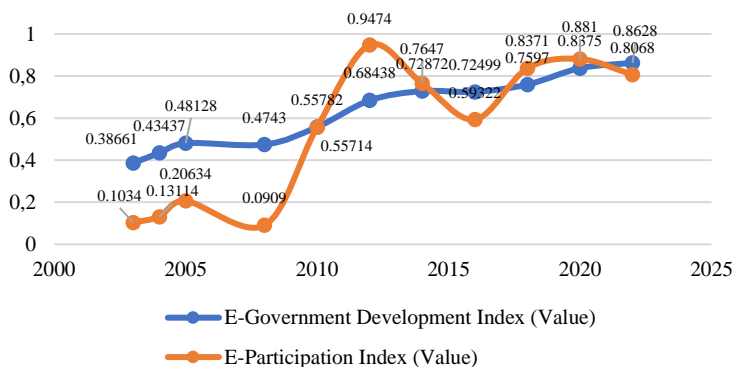


Figure 6 – Trends in E-Government and E-Participation Indexes of the RK for 2003-2022 (Index Values)⁶

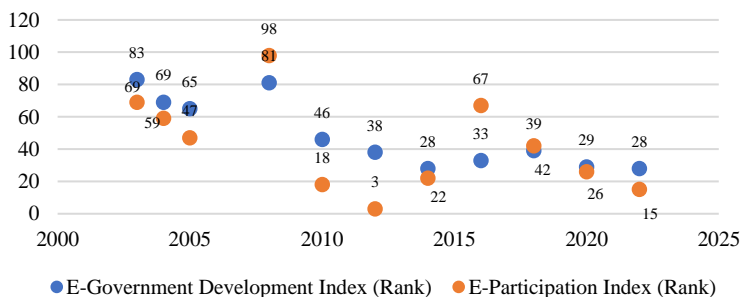


Figure 7 – Trends in E-Government and E-Participation Indexes of the RK for 2003-2022 (Position in the Country Ranking)⁷

Figure 6 shows the growth in the index values of the RK, and Figure 7 shows the place of the RK among the other 193 countries in the world. That is, in Figure 7, the lower the numerical value of the indicators, the higher the RK is in the world rankings. Thus, at the end of 2022, the state was ranked 15th in the e-participation index and 28th in the e-government development index, indicating a huge leap in the country’s development in this area over two decades.

⁶ Source: United Nations (2023).

⁷ Source: United Nations (2023).

Directions of Development of the Main Branches of National Law: Prospects and Challenges

The analysis of the development and current state of national law in Kazakhstan in the context of digitalisation suggests that the country is rapidly developing its legal sectors to adapt to the new technological challenges. But while the development of digital law is becoming a major trend in Kazakhstan, it faces many challenges. There are the most significant challenges to the national legal system of Kazakhstan in the context of digitalisation.

Firstly, low level of public digital literacy. Successful development of digital law requires that the public be aware of their rights and obligations when using digital technology. Information campaigns, education on the key basics of digital law, and the communication of accessible and understandable information on the law would be beneficial. Secondly, effective mechanisms for personal data protection are needed. Personal data is of high value in the digital economy, so protecting its confidentiality must be of the highest priority. This requires the creation of effective mechanisms to control the use of personal data and the establishment of legal liability for misuse of such data. Thirdly, the elimination of legal gaps in the field of digital law is necessary. The development of digital technology is happening so fast that the public administration does not always have the time to make the necessary legislative changes. New laws should be introduced on time and existing laws should be amended accordingly. At the same time, it is important to avoid creating an excessive legislative burden, which could be a barrier to the development of the digital economy. What is more, the information security sphere needs to be well developed. Cyber-attacks and information leaks can cause significant damage not only to citizens and businesses, but also threaten national security, so it is advisable to develop effective algorithms to counter cyber threats.

Overcoming the aforementioned challenges offers broad prospects for Kazakhstan's legal system. Justice should be more accessible to the public. Thus, that includes the ability to go to court remotely, without an actual presence in the hearing room, making adjudicating cases easier and more expedient. This is particularly relevant for citizens living in remote areas or those with mobility restrictions. Establishing effective mechanisms to monitor the enforcement of laws means that information monitoring and analysis technologies will enable violations of legislation to be identified on time and appropriate remedial action to be taken. Moreover, increasing the level of protection of the rights and interests of citizens, which includes using e-government and e-services, will increase the transparency of interaction between the state and the public, making it easier to access public services. Improving the legal culture at large through the use of innovative technologies for effective learning and development in the field of law

is crucial. It is necessary to create new business opportunities and improve investment attractiveness. Improved access to information, the ability to conduct electronic transactions, and protect rights will make the business environment in Kazakhstan more promising for investors.

Based on the above, it is necessary to outline the main directions of development of individual branches of national law in the context of digitalisation. In the civil law area, for example, the most pressing issues are personal data protection, electronic signatures, electronic document management, and e-commerce. Thus, the key direction of development of this branch of law is the improvement of legislation aimed at protecting the rights and interests of users on the Internet. In labour law, the legal protection of workers engaged in new fields of expertise, including information technology, artificial intelligence, and automation, needs to be reinforced. Therefore, it is important to develop laws to protect the rights of workers to requisite training and re-qualification in new fields, as well as to establish social guarantees and ensure the protection of labour rights.

In the field of administrative law, the efficiency and transparency of public administration are to be raised through the introduction of electronic services and specialised information technologies (Sinaj & Robert Dumi, 2015). An important area of administrative law development is the streamlining of procedures for state registration, obtaining permits, controlling, and monitoring the implementation of regulations. New types of crimes related to innovative technologies are now emerging in criminal legislation, including hacking, cyberterrorism, fraud, and others. Therefore, one of the key areas in the development of criminal law is refining the legislative framework aimed at countering such crimes, increasing the effectiveness of investigation and prosecution in this area, as well as protecting the rights of victims of cybercrime and improving methods of corroborating evidence. The constitutional law must protect the rights and freedoms of citizens in the realm of information technology, including the right of access to information and freedom of expression, and strengthen information security and the protection of personal data (Jatkiewicz, 2013).

An important area of development in financial law is increasing the efficiency of the legal framework for electronic payments and e-money, as well as introducing effective mechanisms for state regulation of the digital economy. Improvements in the effectiveness of international law in Kazakhstan should be undertaken in the following areas: regulation of cyberspace (the main objective is to protect users' rights); development of international treaties: since Kazakhstan is a party to some international organisations (UN, SCO, EAEC), this area is key in developing international law; development of international data protection;

regulation of e-commerce, which is becoming increasingly popular and therefore requires increased attention to its regulation.

DISCUSSION

The analysis in this article suggests that over the past twenty years, the government of the Republic of Kazakhstan has implemented a number of important changes to state legislation regarding the development of digitalisation. Many legislative acts have legislated at the state level the basic concepts related to the digitalisation process, and the legal relations arising from their implementation, use, and management. These concepts mainly include electronic document management, automation, informatisation, information security, information system, digital asset, e-money, e-government, and others. The legislative consolidation of these notions was naturally conditioned by their deep penetration into all spheres of human activity, including the legal sphere. The study also identifies the main positive developments in the RCC legal framework about digitalisation, as well as the negative trends in this area. The positive aspects include the high level of development of e-government, as well as a significant increase in the digital literacy rate of the population. The assessment of negative trends is made more difficult by the lack of attention from MDDIA to monitoring and determining the extent to which digitalisation development targets are being met. Available sources suggest the low competitiveness of national ICT products on the international market, the presence of some unprofitable and unpromising projects in the field, and the lack of desired results regarding the implementation of cloud document management at the state level (Supreme Audit Chamber..., 2022).

For all these challenges, the transformation of national law in the context of global digital transformation also has great potential. Thus, the leadership of the RK at the sub-regional level in the area of e-government development is particularly noteworthy. Further enhancement and consolidation of the position of the RCC in the context of the transformation of the legal system in line with the modern demands generated by the need for global digitalisation should be facilitated by informed decision-making and digitalisation programmes, continuous enhanced monitoring of digitalisation targets, and ensuring coordination between the actors involved in the digitalisation process at all stages and levels (Zhakupov et al., 2023). A critique of government decisions regarding the implementation of digitalisation innovations in legislation can be found in the study by A. A. Amangeldykyzy (2021). The author notes that introducing changes to the CCP RK is untimely until all the theoretical aspects have been accurately defined. This is related to the fact that a digital right, according to the researcher, is not a property right as such, it is rather a way of enshrining property rights. This

perspective highlights the necessity for careful consideration of the challenges posed by digitalisation in the legal sphere, before their direct implementation in the legal framework. Moreover, to address such issues there is a need for coordination of actors involved in the digitalisation process at all levels, which has been the focus of this paper, in particular the interaction between the public sector and science.

A number of scholarly works are devoted to exploring promising avenues for digitalisation in the transformation of national law through the use of specific innovative technologies. For example, a study by K. F. Isabekova (2018) explored the potential of using artificial intelligence as a means of digitalisation and its application in rulemaking. The application of artificial intelligence, such as Data Mining, to analyse the database of regulations for inconsistencies or overlaps and to analyse regulations for errors and other inconsistencies was characterised. The paper also reveals the possibilities of using neural networks to find optimal solutions in the process of creating regulations, searching for defects, modelling situations. A third type of artificial intelligence, whose capabilities are extensively covered in the research of the author, are expert systems, which allow the input of certain knowledge to be stored and later retrieved and used. This study reveals another avenue for the investigation of the transformation of national law in the context of digital transformation, namely, the study of the application of specific digital technologies in the field of law. This distinguishes this paper from that of the authors, as in this article the transformation of national law in the context of digital transformation is considered mainly in terms of changes in the legal framework.

A lot of studies by Kazakh scholars are devoted to a more detailed study of aspects of the digitalisation of the law in specific areas. For example, the article by A. Amenova (2020) focuses on ways to improve financial controls in the context of digital transformation. The researcher comments that the improvement of national law in the context of digital transformation enables not only the process to be automated but also the actual performance of the public audit and financial control. This is achieved through the successful implementation of an electronic system of public internal audit and financial control, which enables greater transparency, efficiency, and control over the use of budgetary funds, state assets, and the non-state sector (Mikhailov et al., 2020). The study by D. K. Tleubayev et al. (2021) discusses aspects of the digitalisation of the criminal procedure in the RK. Among the positive effects of this process, researchers note an increase in the transparency of the criminal process, saving money and time, ensuring the safety of materials from loss or falsification, strengthening control, and prosecutorial supervision. According to the authors, these positive effects are characteristic of virtually any direction of digitalisation of national law

transformation, which confirms the need to further reinforce the activities of the state authorities to the development of digitalisation in the field of law. Thus, it is advisable to implement digitalisation in areas such as tax law, financial law, and financial control, as well as concerning legal aspects of individual public bodies, organisations, and businesses (Abdrasulov & Gubaidullin, 2019).

Most studies by scholars in other countries consider the digitalisation of law in the context of the digitisation of government services or so-called “e-government” (M Abudaqa et al., 2019). The article detailed the success of the RK in achieving a high position in the ranking of countries on the e-government development index, but it is also of interest to examine what benefits such development brings to the state and society. The benefits are outlined most generally in a study by D. MacLean and R. Titah (2022). Among these benefits, academics have attributed increased productivity for taxpayers and customers, higher public satisfaction, better service quality, greater trust, and better opportunities for communication with the public. T. T. Nguyen et al. (2020) categorise these and other benefits into four categories: efficiency, reliability, citizen support, and transparency. E-government is also intended to increase citizen convenience and trust on both sides. R. Matheus and M. Janssen (2020) point to the aspect of increasing transparency in public administration, while at the same time, the scholars argue that achieving full transparency is both unlikely and unnecessary. According to the researchers, attention should be paid to establishing the necessary level of transparency in public administration that will ensure user confidence, in which the development of e-government plays a significant role. A study by S. Y. Lee et al. (2019) identifies the use of blockchain technology in e-government as a specific innovation that can increase transparency in public administration. Among other benefits of e-government, scholars cite the expansion of e-democracy, which contributes to the consolidation of information democracy.

The findings of this study suggest that research into the transformation of national law in the context of digital transformation can be carried out in several ways: examining aspects of digitalisation directly into the legislative framework, considering the digitalisation of individual areas of national law, examining specific innovative technologies that can be successfully used in the digitisation of national law (blockchain, artificial intelligence), as well as an in-depth study of the development of e-government. Further research could cover any of these areas, but the most relevant, according to the authors, is a detailed study of the results of the Digital Kazakhstan state programme to determine the exact causes of the adverse results and to further develop the positive trends formed within its framework.

CONCLUSION

The study concludes that over the past two decades, Kazakhstan has made remarkable progress in digitalizing its economy and legal system. Concepts such as automation, informatization, information security, e-government, and more have been integrated into the legislative framework, impacting all spheres of human activity. The state program "Digital Kazakhstan" (2018-2022) had positive effects on the rule of law and digital literacy but also faced challenges in monitoring and competitiveness. Therefore, it is advisable to ensure effective monitoring and coordination of participants in the digitalisation process at all its stages and levels.

Among the promising areas of national law transformation in the context of global digital transformation is the development of e-government. Despite a significant advance in Kazakhstan with regard to the transformation of national law in line with the digitalisation process, there are still some problems and challenges in the field. Solving such issues will provide the state with many prospects, including making justice more accessible to the public, creating effective mechanisms to monitor compliance with the law, improving the protection of citizens' rights and interests, improving the legal culture in general, and creating new opportunities for business development and increasing investment attractiveness. Furthermore, a number of changes to the legal framework in some areas of law (civil, labour, administrative, criminal, constitutional, financial, and international) are necessary to make national law more effective in the context of digital transformation.

As Kazakhstan progresses in its digital journey and aligns its legal system with digitalization, international law plays a vital role in facilitating international cooperation, ensuring cross-border data flows, protecting digital rights, and harmonizing legal standards with other countries. Recognizing the significance of international law in the digital age is essential for Kazakhstan to enhance its global standing, foster international trade, and attract foreign investment in the digital economy. Additionally, addressing digital-related issues within the scope of international law can lead to improved protection of citizens' rights, stronger data privacy and security measures, and effective legal mechanisms for resolving transnational digital disputes. Therefore, further research and examination of the prospects and challenges of international law in Kazakhstan's digital transformation can yield valuable insights and help shape future policies and practices in the global digital landscape.

Researchers will find valuable lessons from the state program assessment, the integration of key digital concepts, e-government development, challenges in legal transformation, necessary legal framework adjustments, and the importance

of coordination and monitoring in digital initiatives. These findings, along with a thorough study of the prospects, issues, and directions of development of international law in Kazakhstan, should be chosen as a direction for further research. Understanding and harnessing the role of international law will be crucial in ensuring Kazakhstan's successful integration into the global digital arena and reaping the full benefits of its digital transformation efforts.

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