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DIGITALIZATION OF MIGRATION PROCESSES: LEGAL ASPECTS AND INTERNATIONAL EXPERIENCE

Abstract. The article explores the legal aspects of migration process digitalization and examines international practices in this field. The authors analyze challenges Kazakhstan faces in digitalizing its migration system, including issues of data protection, lack of inter-agency integration, and the need for unified cybersecurity standards. The article presents foreign best practices (Estonia, Germany, China, Sweden) and outlines strategies to improve Kazakhstan's digital migration governance. Emphasis is placed on legal reforms, secure data handling, and smart border management.

Keywords: migration, digitalization, law, personal data, e-government, security, integration, international experience, digital state, migration policy

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ЦИФРОВИЗАЦИЯ МИГРАЦИОННЫХ ПРОЦЕССОВ: ПРАВОВЫЕ АСПЕКТЫ И МЕЖДУНАРОДНЫЙ ОПЫТ

Аннотация. В статье рассматриваются правовые аспекты цифровизации миграционных процессов и международный опыт в данной сфере. Авторы анализируют проблемы, возникающие в Казахстане при цифровизации миграционной системы, включая защиту персональных данных, недостаточную интеграцию ведомств и необходимость единого стандарта кибербезопасности. Также приводятся примеры эффективных цифровых решений в сфере миграции за рубежом (Эстония, Германия, Китай, Швеция) и предлагаются рекомендации по совершенствованию национальной политики.

Ключевые слова: миграция, цифровизация, право, персональные данные, е-правительство, безопасность, интеграция, международный опыт, цифровое государство, миграционная политика

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КӨШІ-ҚОН ҮДЕРІСТЕРІН ЦИФРЛАНДЫРУ: ҚҰҚЫҚТЫҚ АСПЕКТІЛЕР ЖӘНЕ ХАЛЫҚАРАЛЫҚ ТӘЖІРІБЕ

Андатпа. Мақалада көші-қон үдерістерін цифрландырудың құқықтық аспектілері мен халықаралық тәжірибесі қарастырылады. Авторлар Қазақстанда көші-қон саласын цифрландыру барысында туындайтын құқықтық және техникалық мәселелерді талдайды, соның ішінде дербес деректерді қорғау, жүйелердің интеграциясы және киберқауіпсіздік стандарттарын қалыптастыру қажеттілігі атап өтіледі. Сонымен қатар, шетелдік тәжірибе мысалдары (Эстония, Германия, Қытай, Швеция) негізінде тиімді цифрлық көші-қон саясатын құрудың жолдары ұсынылады.

Кілт сөздер: Көші-қон, цифрландыру, құқық, дербес деректер, е-үкімет, қауіпсіздік, интеграция, халықаралық тәжірибе, цифрлық мемлекет, көші-қон саясаты

The digitalisation of the migration sphere is a matter that has remained pertinent for a considerable period, and the implementation of a solution to this issue would result in substantial enhancements to the processes of monitoring, information exchange and accounting of migration flows at the national level. The utilisation of digital technologies in the realm of migration management is an emergent trend that has the potential to effect a duality of outcomes. Firstly, it has the capacity to reduce the complexity of bureaucratic procedures and to diminish instances of corruption within migration processes. Secondly, it can enhance transparency, structure and overall security for all participants within this sector.

Digital technologies are being rapidly introduced into public administration structures, which in turn will simplify management processes and contribute to improving the quality and efficiency of public services. The digital state is a complex organisational and technological concept that connects a functioning system of public administration with topology and logistics, providing it with electronic (information and telecommunications, mathematical and computer support), infrastructural and legal regulation [1, p. 64-69].

The notion of the digital state facilitates the expeditious and effective management of information, the execution of expert analyses, objective monitoring, data verification and validation. The digital state is characterised by several key components, with e-government representing a primary element that is closely associated with the system of executive authorities. The objective of e-government is to enhance the efficiency of governance by leveraging the widespread adoption of information and communication technologies. This modern technological solution facilitates citizens' and organisations' access to information about the services of state bodies and their results, ensuring the provision of public services in a fast and convenient way [2, p. 72-76].

Kazakhstan has legislation in place, namely the "On Personal Data and their Protection" law, however, the mechanisms of this legislation are not yet fully adapted to

digital migration systems. This creates a number of problems in terms of ensuring information security. A significant challenge is the absence of a uniform data protection standard, with various platforms employing distinct security protocols, thereby complicating the oversight of migrants' personal information processing and storage [3].

The risk of data leakage and unauthorised access poses an additional threat, as migration record systems contain sensitive information such as passport data, visa history, employment history and registration information. Inadequate cybersecurity has the potential to result in data breaches, which pose risks not only to migrants themselves but also to government agencies responsible for migration management. The situation is further complicated by the absence of integration between agencies. Notwithstanding the implementation of the "single window" principle, there is a possibility that information pertaining to migrants may be replicated across various systems, including Egov, the Ministry of Internal Affairs, and the Ministry of Labor and Social Protection. The absence of a unified register and the automation of data exchange engenders a heightened probability of inconsistencies, errors in information processing, and an augmentation of the administrative burden on state bodies. It is imperative that effective protection of personal data of migrants is ensured. This necessitates the establishment of unified cyber security standards, the strengthening of integration between departmental systems, and the introduction of modern information protection technologies.

The subject of personal data protection is considered from a variety of perspectives, including legal, as well as in the context of the ongoing changes in the legal market, institutional transformations, and the introduction of digital technologies. The changing relationship between law firms and clients in the context of increased control over personal data is considered, as well as the challenges of complying with data protection standards, especially in international transactions and cross-border cooperation. The digitalisation of the legal sector is driving the

need for professionals with expertise in cybersecurity, digital law and compliance. Furthermore, numerous law firms encounter challenges related to institutionalisation during their transition from private practice to a corporate governance model [4].

The development of digital law is poised to encompass a range of advancements, including the automation of processes such as document preparation, the analysis of regulatory legal acts, and the optimisation of client consultation through the utilisation of artificial intelligence. Additionally, the evolution of digital law standards is set to be a focal point, with the establishment of a legal framework that governs matters pertaining to digital assets, cybersecurity, intellectual property, and personal data protection within the digital domain. The digitalisation of corporate lawyers' activities can be defined as the adaptation of legal departments of companies to modern digital challenges. Such challenges include the management of intellectual property in the digital environment, the monitoring of the implementation of cybersecurity requirements, and the development of legal strategies for digital business [4].

In order to manage migration flows in the Republic of Kazakhstan, a single integrated information system has been developed for the purpose of recording the movement of migrants. This system facilitates the maintenance of a unified record of the purpose of arrival and the duration of stay in the country of foreign citizens and citizens of Kazakhstan crossing the state border. The Concept of Migration Policy of the Republic of Kazakhstan for 2023-2027, which was approved by the Resolution of the Government of the Republic of Kazakhstan on 30 November 2022 (No. 961), encompasses all pertinent domains of migration policy [5]. At present, public services are provided on the basis of the "single window" principle in 13 areas of the migration process. Citizens will progressively gain access to permit services through remote applications, while tax revenues will be considered in budgetary decisions. Furthermore, employers will be obligated to engage local specialists in their personnel policy.

The primary objective is to safeguard the domestic market. It is incumbent upon employers to fulfil their obligations to train local personnel when hiring foreign workers. This will allow them to replace foreign specialists with local labour in the future. Furthermore, the government exercises control over the compliance of health conditions and medical certificates of foreign citizens residing in Kazakhstan with the established requirements. In addition, measures are implemented for the purpose of identifying any violations of migration legislation, and for the resolution of all issues pertaining to migration processes. The information system "Kutty Meken" (Migration.enbek.kz) is part of the unified system of electronic labour exchange (enbek.kz). It provides records of the movement of migrants and allows for the monitoring of the activities of migration services.

Furthermore, the Republic of Kazakhstan has an information system, entitled "eQonaq", which is designed to collect and record data with a view to ensuring control over tourist flows and migration. The introduction of this system will not only improve the quality of service to tourists and increase interest in domestic hotels, but will also allow for greater control over compliance with migration legislation of the Republic of Kazakhstan.

In order to align national legislation with international standards endorsed by the United Nations, the Republic of Kazakhstan is implementing a "Unified information system for recording the movement of migrants". The purpose of the system is twofold: firstly, to effectively identify violations of migration legislation and, secondly, to ensure migrants' access to state services. This system has been demonstrated to reduce the time and organisational costs of citizens, whilst minimising the need to communicate with government agencies. Digital transformations in migration have implications for both the mobility of migrants and the domain of labour migration. This, in turn, will increase the efficiency of detecting violations of migration legislation and contribute to compliance with UN requirements [6].

The European experience can be cited

as an exemplar, wherein the establishment of internal borders has been accompanied by measures directed towards the fortification of external borders. Moreover, the Schengen Information System was developed to provide immigration police with contemporary information on potential visitors. Within the European Union, the system was utilised to facilitate the return of migrants to their country of origin and to identify them, obtaining DNA and biometric data. The German Federal Office for Migration and Refugees (BAMF) has initiated a pilot project that utilises technologies for the automatic identification of personality type and dialect, the analysis of name transcription, and research on mobile devices [7, p. 65].

Digital technologies are utilised in the verification of immigrants' applications, personal data and information regarding their country of origin. Previously, the execution of these procedures necessitated extensive surveys and expert evaluation by specialists. However, contemporary advancements have rendered these procedures expeditious, with the possibility of their completion in a matter of minutes [8, p. 271]. The government is currently examining the potential for utilising digital surveillance technologies to predict the subsequent "migration crisis", employing analogous methodologies [9, p. 20]. For instance, in Sweden, government agencies utilise the "Migration Algorithm," a machine learning-based approach, to forecast future migration patterns [10, p. 1-9]. In China, digital technologies are extensively utilised within the context of the migration management system, with ongoing efforts to develop these technologies based on data from the social credit system [11, p. 123].

The Digital Nomad Visa (DNV) represents a paradigm shift in visa policy, specifically designed for the needs of remote professionals. Estonia is among the first countries to have implemented such a system. The validity of this visa is for a period of up to one year, during which its holders are permitted to undertake work remotely from the territory of Estonia, whether as a freelancer or an employee of a foreign company. DNV confers upon the holder the right to reside in Estonia for a period of up to one year, thereby

establishing a foundation for the subsequent acquisition of a permanent residence permit. Kyrgyzstan has offered visa-free entry and additional benefits to "digital nomads" who intend to relocate to the country to work remotely. It is evident that the subjects in question are entitled to enter and remain in the territory of Kyrgyzstan without any restrictions, without the necessity of obtaining a visa or undergoing other immigration procedures. Furthermore, they will be empowered to deliver remote services to international clientele and undertake legal labour activities without the prerequisite of obtaining preliminary permits. The examples above demonstrate the rapid development of the trend towards the use of new digital technologies in managing international migration and border security. The degree of digitalisation within the domain of migration varies across different nations. The successful implementation of digital transformation by developed countries will serve to consolidate their leadership positions and render them a pivotal factor in the management of risks associated with migration processes [12, pp. 9-14].

According to the conclusions of European scholars M. Besters and F. Pauly, the digitalisation process has led to the transformation of EU migration policy into a risk management system. The conventional notion of "border control" has been superseded by the term "migration flow management", which is a process that employs a "risk filter" to identify individuals who do not fall into the category of "conscious migrants". The extensive utilisation of digital data will facilitate a more precise and exhaustive identification of individuals whose entry or residence within the European Union should be restricted [13, pp. 455-470].

The digitalisation of the migration sphere represents a contemporary trend that aims to enhance the efficiency of migration management. The process will optimise public services, control migration flows, and ensure data transparency and security. Nevertheless, there are a number of legal and technical obstacles to the digitalisation of migration in Kazakhstan. The protection of personal data is of paramount importance. Despite the

existence of legislation in the form of the "On Personal Data and Their Protection" law, it has not been fully adapted to digital migration management systems. The absence of consistent standards, compounded by the heterogeneity of data security protocols across diverse platforms, engenders a heightened risk of personal data leakage.

Moreover, inadequate departmental integration gives rise to the duplication of information, inconsistencies, and convoluted administrative procedures. In order to enhance the regulatory framework governing digital migration systems, it is imperative to establish cohesive cybersecurity standards, facilitate the integration of departmental systems, and fortify information security requirements.

Furthermore, it is imperative to automate migration services through e-government and digital platforms, whilst taking into account international experience. In order to address these issues, Kazakhstan should consider implementing legislative reforms in this area, as well as developing unified information systems. Consequently, the digital regulation of legal matters pertaining to migration necessitates a comprehensive and systematic approach. The successful implementation of digital transformation in the field of migration is contingent upon the alignment of the legislative framework with international standards and the optimisation of administrative procedures.

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