



Elevating Citizen Engagement in the Process of Territorial Development through Digitisation

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The purpose of the study is to examine the digitisation of the state system involving local executive bodies to identify effective strategies for engaging citizens in territorial development decision-making. The following methods were applied in the study: hermeneutic, statistical, structural-functional, and comparative methods. During the study, the main problems associated with the implementation of digital technologies in the territorial development system involving the country's citizens were examined, such as technological barriers, issues of confidentiality and data security, and uneven distribution of resources. This allowed formulating recommendations for problem resolution, namely, ensuring access to education, developing digital literacy among the population, devising effective measures to protect data, and guaranteeing the confidentiality of personal information. The paper also explores the prospects and threats to the economies of regions in the process of transitioning to a digital economy. Special attention is given to studying the indicators of the current state of digitisation in Kazakhstan, considering data from annual international ratings. The obtained research results can be used in the development and implementation of digital technologies in the territory management system at the international-regional level for the benefit of citizens.

CCS Concepts: • **Human-centered computing** → **Social network analysis**;

Additional Key Words and Phrases: Innovations, management bodies, digital economy, socio-economic potential

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1 Introduction

The digitisation of the economy represents a pivotal strategy for developing countries such as Kazakhstan, where citizens are engaged in territorial governance through local self-government bodies and akimats. Nevertheless, research into the incorporation of digital technologies into local governance systems, particularly at the local executive level, is scarce. Digitisation processes are considered relatively innovative, as they have long remained a priority for only a few innovative-investment companies [1]. While previous studies have explored the implications of digital transformations on state governance and economic development, they have not adequately addressed the practical mechanisms for enhancing citizen participation in territorial development. This study aims to address this gap by examining the digital transformation of Kazakhstan's local executive management system and its impact on citizen engagement in decision-making. The research will provide valuable insights for policymakers and practitioners seeking to enhance the integration of digital technologies into local governance frameworks.

The study of aspects related to territorial management in the context of digitisation has not attracted widespread attention from researchers in both domestic and foreign scientific circles until recently, but today, this issue is actively being explored. A. N. Kazyieva et al. [2] note that digital development will create conditions for the formation of a new qualitative state governance. This will impact not only the processes and functions of management but also the stages of the management cycle and their composition. These transformations will provide opportunities for the development of the “flexible management” principle, contributing to the improvement of the efficiency of government activities and increased effectiveness. Furthermore, the development of digital technologies will create a feedback mechanism, which will be a central element in the evolution of the structure of state governance.

Important information is also noted in the study by A. A. Alimbaev and B. S. Bitenova [3]. They emphasise that progress in digital technologies is gaining momentum due to intense technological changes. These changes are associated with the widespread adoption of digital technologies in many aspects of everyday life and have undergone significant changes in lifestyle, gaining wide recognition. Progress in information and communication technologies has influenced the lifestyle and information needs of citizens, and the ways in which people work and exchange information [4]. Further advancement of digital innovations, including cloud technologies, mobile services, and artificial intelligence, will amplify these transformations, providing unique services and well-being that previously seemed impossible. Digitisation blurs boundaries, creating a constant connection between society and the state. Another scholar who examined the issue of increasing citizen participation in territorial development decision-making processes is G. R. Sheryazdanova [5], who emphasised that the study of global transformations undertaken by the information era of development includes analysing changes in the economy, social relationships, communication patterns, power systems, governance, public service, politics, and democracy in society after transitioning into the post-industrial era based on new electronic information and communication technologies.

The institutional approach to research is presented in the works of L. S. Shyngysbayev [6]. This study shifts the focus to the aspects of interaction between government bodies and civil society institutions. It aims at a deeper understanding of the collaboration processes between government structures and civil organisations to improve interaction and contribute to public interests. A. T. Alisharipov et al. [7], in their study, emphasise the importance of considering subjective indicators in decision-making and the development of strategic plans for territorial development. They suggest that in the future, avoiding crises and the overall development of the country are possible by considering subjective statistical data alongside quantitative economic indicators.

Previous works did not consider the participation of local governance bodies that can influence citizen involvement in the territorial development of the country. Therefore, the purpose of this study is to examine the digital transformation of the state in the context of the local executive management body and self-government bodies to determine effective strategies for active citizen participation in decision-making processes in the development

of the state's territories. Additional research tasks include finding an approach to improving the implementation of interactive mechanisms in management systems, promoting not only the creation of more rational and balanced development strategies but also strengthening trust between the authorities, self-government bodies, and society, thereby ensuring sustainable and inclusive territorial development.

2 Methods

The methodological basis for this issue included the use of statistical data on innovation in the Republic of Kazakhstan [8], the Law of the Republic of Kazakhstan “On Local State Administration and Self-Governance in the Republic of Kazakhstan” [9], and the Law of the Republic of Kazakhstan “On State Support of Innovation Activity” [10]. The following methods were employed during the study: hermeneutic, statistical, structural-functional, and comparative methods.

The hermeneutic method was used to obtain information about the territorial management system and digitisation. This method involved studying laws, regulatory documents, strategic plans, and reports related to Kazakhstan's innovation policy and territorial management. A wide range of sources, including official websites of government bodies and scientific institutions, was examined using this method. It helped expand the understanding of the context in which digitisation and territorial management are developing [11-14]. This method also aided in understanding the main directions of changes in the public sector and establishing key principles and tasks for modernising public administration. A thorough comparison was also conducted with leading foreign countries in the development of digital government. This method included analysing factual data, observing practices of effective digital governance, and identifying key trends. The results obtained allowed for meaningful conclusions about the achievements and progress of other countries in this field, serving as the basis for further development of their own strategies and approaches.

The statistical method was used to process indicators provided by the UN [15]. These indicators included the assessment of the e-government development index, network readiness index, and information and communication technology development index. This analytical method provided a deeper understanding of the state of e-government development, network infrastructure readiness, and the application of information and communication technologies in the context of comparison with international standards and practices. The obtained results are an important source for formulating recommendations and strategies aimed at improving indicators in these areas. In this study, the structural-functional method was applied for a more detailed analysis and definition of the concepts of “digitisation” and their impact on territorial management in Kazakhstan. This method provided a systematic view of the considered concepts, allowing them to be treated as complex systems. The structural-functional method facilitated the analysis of interrelationships and the assessment of the influence of various factors on these concepts in the context of territorial management. Such an approach expands the understanding of the interconnections and dynamics of the elements under consideration, contributing to a more in-depth and comprehensive analysis of their functioning.

The comprehensive approach proposed in this paper not only emphasises the importance of integrating modern digital technologies into public administration but also highlights the importance of executive authorities and self-government bodies in the territorial development of regions. The proposed approaches address important aspects related not only to technological innovations but also to the formation of interaction between government bodies and the population. This emphasis on interaction and citizen participation adds a new level of understanding and implementation of the principles of digital governance, making them more responsive and adaptive to the needs of society in the field of innovative development.

3 Results

Currently, the process of digitisation involves the integration and application of digital innovations in various areas of activity, emerging as a crucial trend in contemporary society. Its goal is to increase productivity, improve

Table 1. Key Challenges Related to Digitisation of Territorial Governance in Kazakhstan

Challenge	Description	Impact on citizen engagement	Potential Solutions
Lack of digital infrastructure	Limited access to high-speed internet and modern technology	Reduces accessibility and participation	Invest in digital infrastructure and technology upgrades
Low digital literacy	Insufficient training and awareness among citizens	Hinders effective use of digital platforms	Implement comprehensive digital literacy programs
Digital trust issues	Concerns over data privacy and security	Decreases trust and willingness to engage	Enhance data protection measures and transparency
Inefficient user interfaces	Poorly designed digital interfaces	Creates barriers to user-friendly interaction	Improve the design and usability of digital platforms
Unequal access across regions	Disparities in digital access between urban and rural areas	Exacerbates inequalities in engagement opportunities	Develop targeted initiatives to bridge the digital divide

Source: compiled by the authors.

access to information, optimise decision-making processes, and create a more innovative and competitive society. Starting its spread in the economy, digitisation quickly extended its influence to such areas of public life as the political and social spheres. The evolution of digital technologies in the early 21st century reveals new horizons for changing the directions of state policy towards active participation of self-government bodies (such as maslikhats, councils), executive bodies (akimats), and citizen involvement in territorial governance. Digitisation becomes a powerful tool for increasing transparency of decisions at the regional level, enhancing the efficiency of government agencies, and strengthening their accountability. Ultimately, this contributes to the creation of new mechanisms for citizen involvement in territorial management.

It is also advisable to consider the European experience in the field of digitising citizen participation. The existing information about European Union countries allows noting that even with well-developed mechanisms of digital participation, the activity of Europeans is assessed relatively low. The “E-Participate” platform in Estonia and the “MySociety” platform in the UK are examples of successful digital citizen engagement initiatives. Estonia’s platform allows citizens to participate in decision-making through online consultations and feedback mechanisms, thanks to its strong digital infrastructure, high digital literacy, and supportive legal framework. The UK’s platform, “TheyWorkForYou” and “FixMyStreet”, empowers citizens by making government data accessible and addressing local issues. These initiatives are driven by strong government support, robust technological infrastructure, high user engagement, and effective communication strategies [16].

According to foreign authors, on average across EU countries, only about 10% of citizens participate in e-consultations or voting in the last months [17]. One of the key factors influencing the level of citizen interest and satisfaction with digital interaction with the government is digital trust. Ignoring this factor can lead to a decrease in interest in using digital forms of interaction. According to Eurostat data [18] (Eurostat is the statistical office of the European Union responsible for collecting and publishing statistical information on the socio-economic status of EU member states) for the year 2019, 8% of Europeans restricted or completely stopped interacting with government authorities via the internet to ensure their own security (Table 1).

The creation and development of fundamental aspects of the digital economy have become one of the key areas in the strategy of the Kazakh Industry. The goal of Kazakhstan’s development by 2025 is to increase the country’s economic growth rate, improve the standard of living through the active implementation of digital technologies, ensuring the creation of a digital economy for the future, and achieving a qualitative and sustainable economy. By 2025, the aim is to increase economic growth to raise the standard of living to the levels of countries in the **Organisation for Economic Co-operation and Development (OECD)** [19]. In Kazakhstan, the level of citizens’ digital trust in the government as a whole is assessed as average. In terms of digitisation indicators, Kazakhstan ranks 28th in the UN rating of the level of development of electronic government as of early 2023 [20].

Table 2. Role of Akimats and Local Governments in the System of Territorial Development of the Country

Decentralisation of power	Akimats and local self-government bodies represent local levels of state authority, contributing to the decentralisation of decision-making. This allows for a more effective consideration of the specificities and needs of different regions of the country.
Territorial development management	Akimats are responsible for the development and implementation of territorial development programs at the local level. This includes planning infrastructure projects, social programs, and economic development.
Attraction of investments	Akimats actively work to create a favourable investment climate in their regions. Attracting investments contributes to economic development, the creation of new jobs, and the improvement of the standard of living for the population.
Social development	Local self-government bodies address local social issues and provide social services to citizens. This includes education, healthcare, culture, and sports.
Citizen participation	Active citizen participation in decision-making at the local level contributes to the formation of civil society. Local self-government bodies provide mechanisms for involving citizens in discussions and decision-making related to their lives and well-being.
Adaptation to the specifics of the region	Local authorities are better informed about local needs and specificities, allowing them to respond more flexibly to changes and make more effective decisions tailored to the specific conditions of the region.

Source: compiled by the authors.

This situation became possible due to several factors that played a key role in establishing digital trust in Kazakhstan. Since 2006, the country has had an **electronic government portal (eGov)** under the auspices of the state corporation “Government for Citizens,” which is used by more than 70% of the population of Kazakhstan. The development of e-government in Kazakhstan has gone through four stages and is currently assessed as “developing” [21]. At the meeting of the Government of Kazakhstan in 2022, the Chairperson of the Management Board of the state corporation “Government for Citizens,” A.S. Baltasheva, reported on the results of digitising public services, noting that out of 723 services included in the registry, 580 (80%) are provided in electronic format, while 143 (19.8%) are in paper format. Business process optimisation affected 182 government services, resulting in a 30% reduction in the average number of documents and a threefold decrease in the average service provision time. Within the framework of territorial development in the context of digitisation, the concept of the “digital environment of trust” is actively used. It includes regulatory regulation, creating a secure environment, and a favourable legal regime for the identification and authentication system of individuals and legal entities. This creates legal conditions that contribute to the formation of a unified digital environment of trust, allowing the use of proven digital technologies with protection [22].

As part of the improvement of the system in the country, there are “Akimats,” executive authorities at the regional level responsible for local governance. Akimats are key executive authorities and have important functions in the field of local self-government. They regulate many issues related to territorial development and social issues. Their activities are regulated by the Law of the Republic of Kazakhstan “On Local State Administration and Self-Governance in the Republic of Kazakhstan” [9]. Therewith, local self-government bodies, such as maslikhats and councils, also play an important role in local governance and interaction with akimats. Akimats and local self-government bodies play a key role in the country’s territorial development system for several reasons (Table 2).

Thus, akimats (local executive bodies) and local self-government bodies are key elements in the territorial development system of Kazakhstan in the context of digitisation, ensuring proximity to the population, decentralisation of power, and active citizen participation in processes that impact their lives and environment. As part of system improvement, digital vice-ministers have been appointed in the fields of healthcare, education, social labour relations, digital development, tax and customs services, as well as in the industrial and energy sectors. The automated system of public services carefully monitors the quality of document preparation and adherence to deadlines for handling requests from citizens and entrepreneurs. Moreover, akimats and self-government bodies actively work to involve citizens in solving urban problems, with special attention given to digitising this

process. The widespread use of mobile technologies and internet access gradually contributes to the transition of civic participation into digital form.

The digital governance in Kazakhstan is influenced by regional disparities, particularly the urban-rural divide and economic inequalities. Urban areas are more advanced in adopting digital technologies due to better infrastructure, digital literacy, and financial resources, while rural areas face challenges like limited access to high-speed internet, fewer qualified personnel, and inadequate infrastructure [23, 24]. This results in uneven implementation of digital governance, hampering equitable citizen engagement in decision-making processes. Economic disparities further exacerbate these issues, as wealthier regions invest more in digital innovation and infrastructure, while economically disadvantaged areas struggle to allocate resources. To address these disparities, policies should focus on improving digital literacy and infrastructure in rural and underdeveloped regions [25, 26].

An analysis of e-government components has revealed significant issues, such as the lack of centralised monitoring of the process of providing government services through various channels, differences in the list of services, the lack of control over the application and results retrieval process, and insufficient information about the history of citizen requests. Despite the existence of separate local management bodies and progress in digitising civic participation in Kazakhstan, the system still faces a number of problems and challenges. One of the main problems faced by akimats is directly related to the social structure of the region and access to educational and medical resources. In addition, economic and infrastructural problems can be highlighted. In turn, a shortage of qualified personnel, especially in some remote areas, may hinder effective management of local processes. These issues may vary depending on the region and the specific circumstances. Addressing these problems requires collaboration with other levels of government, civil society, and the business sector. Due to these difficulties, the government often makes amendments to the Law of the Republic of Kazakhstan “On Local State Administration and Self-Governance in the Republic of Kazakhstan” [9]. The latest amendments were made in 2023, expanding the powers of the management bodies, further stimulating the development of local communities. The main focus was on implementing various job virtualisation technologies for employees.

In accordance with the Decree of the President of the Republic of Kazakhstan No. 522 “On Approval of the Concept of Development of Public Administration in the Republic of Kazakhstan until 2030” [27], the efficiency of the public administration system is considered with the aim of ensuring a high standard of living for the population. To achieve this goal, decisions need to be made in close cooperation with local residents, significantly improving the work of local executive bodies and increasing the level of state interaction with the population. President of Kazakhstan K. K. Tokayev emphasises that the government must always feel its responsibility to the people [28]. The transition to the election of rural akims (local administrators) contributes to strengthening the system of local self-government, starting from the grassroots level. Thus, the administrative potential of the rural district, including the ability to manage socio-economic development and set clear priorities for territorial development, depends significantly on the akim, and their ability to achieve their implementation. From 2018 to 2020, the Academy of Public Administration branch conducted training for rural akims, and the results, according to the Bureau of National Statistics [8], indicate an increase in practical knowledge and skills necessary for managing the socio-economic development of rural areas. An analysis of the effectiveness of training showed an increase in the revenue part of the local budget from 10% to 15%. Moreover, according to data from the Bureau of National Statistics of Kazakhstan, the number of graduates from technical and vocational organisations after secondary education increased by approximately 7% from 2018 to 2023, indicating a positive trend.

During the pandemic, regional administrations in Kazakhstan postponed the implementation of certain information technology projects due to financial constraints, such as the introduction of 5G technology and infrastructure improvement in the telecommunications and transport sectors [29, 30]. Instead, new government services were launched in an online format, and budgets were revised with a focus on developing remote work systems, pass verification systems, and improving interagency electronic document management [31, 32]. These

are just some of the difficulties faced by regional administrations in Kazakhstan. These problems require careful analysis and a comprehensive approach to their resolution, emphasising the importance of motivating government officials to engage citizens in the region's governance processes.

Summarising the above, it can be concluded that the issue of improving the efficiency of public service development is relevant on a global scale. The experience of reforming public service systems in various countries points to the importance of improving the feedback mechanism, i.e., societal control over the quality of public service work and its effectiveness. The future perspective of Kazakhstan's public service depends on its ability to become a subject of innovative development for society and the state. This implies the presence of political will capable of ensuring the realisation of such development, which, in turn, will provide significant efficiency and effectiveness of public service.

The implementation of digital methods to involve citizens in regional governance has significant potential [33]. The use of digital technologies can significantly facilitate active citizen participation in the life of their region and country, thereby contributing to the formation of a civic culture. Building a democratic society is a complex process that requires coordinated efforts from both the government and civil society [34, 35]. Digital technologies can act as a tool capable of integrating the efforts of both sides. These methods will be especially relevant in the coming decades, as the proportion of the population with Internet access and the level of skills in using digital devices is constantly growing. However, digital methods can be used now, including involving young people in the management of the region, given that young people often prefer modern methods of civic participation.

The primary target audience for effective strategies for citizen participation in territorial development decision-making through digital technologies is identified as the younger generation. This is due to the fact that younger generations are more au fait with digital platforms and therefore have a greater capacity to influence the future of territorial governance. The involvement of young people in this process guarantees the incorporation of innovative concepts and contemporary technological instruments, which are vital for the formulation of effective and sustainable strategies. Moreover, the involvement of young people encourages a long-term commitment to civic engagement and the utilisation of digital technologies in governance practices, thereby contributing to the overall modernisation of territorial development.

In order to enhance citizen engagement in territorial governance through digitisation, a series of targeted strategies should be implemented [36]. Firstly, it is of the utmost importance to invest in digital infrastructure in order to guarantee that all citizens have access to reliable high-speed internet and modern technological tools. It is recommended that investment in digital infrastructure be prioritised in underserved and rural areas, where current levels of digital connectivity are limited. The implementation of this recommendation will serve to enhance accessibility and participation rates, thereby reducing the digital divide. It is anticipated that the implementation of this strategy will result in an increase in online engagement and a more equitable distribution of digital services across a range of geographical areas.

Secondly, it is imperative to cultivate digital literacy among the citizenry. It is recommended that comprehensive training programmes be developed and made available at community centres, schools and via online platforms. It is essential that these programmes are tailored to different age groups and skill levels in order to ensure inclusivity. By improving digital literacy, citizens will be better positioned to engage with digital governance platforms and participate in online consultations and voting. The anticipated outcome is a more informed and active citizenry, capable of effectively utilising digital tools for civic participation.

Thirdly, it is of the utmost importance to establish robust digital trust mechanisms. This encompasses the assurance of data security, transparency in digital interactions, and the provision of explicit information regarding the utilisation of citizen data. It is incumbent upon government agencies to implement secure and user-friendly platforms and to disseminate their privacy policies to the public on a regular basis. The establishment and maintenance of digital trust will encourage a greater number of citizens to participate in online governance processes, which will in turn result in higher levels of engagement and satisfaction [37].

It is recommended that digital platforms incorporate regular feedback and improvement loops. It is incumbent upon governments to proactively solicit and integrate citizen feedback regarding their digital experiences, with the objective of continuously enhancing the usability and effectiveness of these platforms. By addressing user concerns and implementing incremental enhancements, digital platforms can better align with the needs of their users, leading to sustained and increased engagement in digital governance activities.

By taking these concrete steps, targeting specific audiences, and anticipating the outcomes of each recommendation, the effectiveness of digital engagement in territorial governance can be significantly enhanced, thereby fostering a more connected and participatory society.

4 Discussion

In this study, the problem of implementing and expanding digitisation technology and the challenges faced by management bodies in the territorial development of regions were examined. It was explored that digital citizen participation in this context involves their active involvement in the decision-making process regarding various regional issues. Due to the management bodies and the use of digital technologies, people can actively participate in decision-making processes, overcome geographical and sociocultural barriers, contributing to the creation of a more democratic and open society.

Digitisation in territorial governance can improve accessibility for citizens with disabilities. By implementing accessible digital platforms, local governments can ensure all citizens, including those with physical, sensory, or cognitive disabilities, can participate in decision-making processes. These platforms, including websites and mobile applications, can provide greater access to public services and eliminate barriers to physical attendance. These accessibility features comply with international standards and ensure equitable distribution of benefits, increasing citizen engagement, especially among groups previously excluded from traditional methods due to physical or geographic limitations.

When addressing this issue, attention should be drawn to the publications of researchers such as D. Correia et al. [38]. In their paper, the researchers examined guiding principles and methodologies for a collaborative society aimed at motivating active citizen participation in the decision-making process. These principles represent fundamental approaches that contribute to the formation of an open, inclusive, and responsible mechanism of interaction between citizens and management bodies. For example, the principles of transparency, education and development, adaptability, consideration of feedback, and protection of citizens' rights. Considering this, it is necessary to agree with the author's statement since the use of these guiding principles contributes to the creation of effective mechanisms for the collective participation of all management bodies, ensuring broader and more interactive citizen involvement in decision-making processes related to territorial development.

In the next work, A.R. Mørøe et al. [39] analysed various aspects and the importance of innovative systems in the context of digital modernisation, particularly concerning decision-making processes, citizen participation, and interaction with government officials within electronic democracy. They asserted that the examination of electronic democracy and digital transformation underscores the importance of using information systems as a means to facilitate effective interaction between citizens and authorities. The given statement is agreeable, as it aligns with the assertions made in this study. It can also be added that within the framework of electronic democracy, information systems play a key role in engaging citizens in socio-political processes. The creation of digital platforms for feedback, online consultations, and electronic voting provides citizens with the opportunity for active participation in decision-making, expressing their opinions, and contributing their ideas, which are monitored by executive bodies and self-government authorities [40].

An interesting study by L.F. Rodriguez-Hevia et al. [41] is also worth noting. In their study, the researchers analysed factors influencing the adoption and use of e-government by citizens of European Union countries, and discrepancies on this issue within the European Union. With the increasing interest in effectively achieving sustainable development goals, it becomes increasingly evident that existing models are unable to fully fulfil their

function in guiding the future development of e-government. A binary logistic regression model was applied to determine the user profile of e-government. Moreover, the researchers paid special attention to the role of digital skills as a factor becoming increasingly important in the context of using electronic government services. This study provides some statements, such as the use of a binary model for the Republic of Kazakhstan to effectively improve the e-government programme, which has existed in the Republic since 2006. The creation of such open digital platforms is necessary, where citizens can discuss and propose ideas for improving infrastructure and social programmes [42]. Furthermore, the establishment of feedback mechanisms allows citizens to monitor the implementation of decisions and provide their comments. It is noteworthy that the integration of digital skills not only provides a better understanding of why citizens prefer to use electronic government services but also lays the foundation for predicting future trends in this area.

S. Hovik and A.G. Giannoumis [43], in their work, hold a similar opinion to that highlighted in this study regarding digitisation. The application of digital tools to encourage citizen participation, whether in the form of electronic participation or digital participation, is becoming increasingly prevalent worldwide. Most major cities actively promote citizen participation by implementing information and communication technologies and new media. Examples of such participation include social networks and virtual platforms specialised for content creation and information exchange. Undoubtedly, the pandemic and restrictions imposed on physical gatherings have contributed to an increased demand for digital participation tools. This period of challenges has also compelled society and government bodies to pay attention to the possibilities of digital interaction.

Meanwhile, E. Berisha and G. Cotella [44] focused their study on the role of territorial management and spatial planning in addressing tasks related to the development of innovative activities. In the context of the study related to innovative development, the role of territorial management and spatial planning appears crucial and multifaceted. These areas have a substantial impact on shaping an innovative ecosystem and determining the success of implementing innovative ideas in different regions. In particular, territorial management plays a key role in creating a favourable environment for innovation. The development of innovative activities requires effective resource management, the establishment of infrastructure for research and development centres, and the provision of access to technological platforms for start-ups [45]. Territorial authorities can offer support by providing tax incentives, establishing innovative clusters, and facilitating the formation of science and technology parks. On the other hand, it is worth adding that spatial planning influences the organisation of territories to meet the needs of innovative development. This involves allocating zones for high-tech enterprises, creating innovation clusters, and ensuring accessibility to educational and research institutions. Spatial planning should also consider environmental and socio-cultural aspects to ensure sustainable and harmonious development.

It is also worth noting the study by K. Vitálišová et al. [46]. The authors unanimously acknowledge that effective sustainable development requires local governments not only to make independent efforts but also to flexibly respond to numerous and complex challenges posed by a more educated, informed, and technologically advanced population. They emphasise that a high level of citizen engagement can ensure high-quality governance, which, in turn, contributes to the harmonious development process in socio-cultural and economic contexts, promoting societal sustainability. In addition, the authors highlight that new strategies in sustainable development confirm the importance of building partnerships with stakeholders. They identify effective tools, such as involving stakeholders in the process of developing and implementing ideas based on real needs and possibilities. This, in turn, implies the promotion of innovative concepts in various spatial economic spheres. The authors emphasise that this interconnection between local government, an educated population, and stakeholders becomes an integral element of an effective sustainable development strategy. The study of these researchers aligns and coincides with the results of the conducted study. It is worth noting that these partnership-oriented approaches not only contribute to resolving current issues but also form the basis for innovative development that reflects the needs and aspirations of the entire society.

The gradual improvement of two-way communication between citizens and urban authorities is happening due to innovations in the field of digital participation. Moreover, they provide enhanced opportunities for

citizens to actively participate in government decision-making processes. This shift towards digital participation underscores the commitment to democratisation by both researchers and industry leaders, as well as policymakers. The ability of citizens to actively influence the shaping of government policies through digital technologies becomes a key aspect of discussions and research.

5 Conclusions

Within this study, an important issue of implementing and expanding digitisation technology into the system of territorial management, considering the characteristics of modern society, was addressed. The primary focus of the study was on understanding how the work of management bodies and active citizen participation in digital processes can effectively contribute to decision-making processes, especially in the context of various challenges faced by the region.

The study also introduced the idea that akimats (local executive bodies) and local self-government bodies play a significant role in the development structure of territories in Kazakhstan, providing proximity to the population, distributing power at the local level, and stimulating active citizen participation in processes that impact their lives and the environment. Therefore, the effective use of digital technologies in regional management not only increases the level of citizen engagement but also contributes to more efficiently addressing current issues and shaping sustainable societal development. Through effective local governance and the use of digital technologies, citizens can actively participate in decision-making processes, overcoming geographical and sociocultural barriers, promoting the creation of a more democratic and open society.

The findings of this research demonstrate the substantial impact that digital technologies can have on enhancing citizen engagement in the context of territorial development decision-making. The implementation of digital tools, including e-governance platforms, online consultations, and participatory mapping, can facilitate greater transparency and accountability in governance at the local executive level. It is recommended that local authorities invest in the development of digital literacy among citizens, with the aim of ensuring that all segments of the population are able to participate meaningfully in these processes. Furthermore, the fostering of trust through the implementation of robust data protection measures and the assurance of inclusivity on digital platforms can serve to enhance citizen participation. It is similarly imperative to encourage collaboration between local governments and civil society in the development of regional digital strategies, in order to ensure sustainable territorial development.

References

- [1] Daniel J. Boyce, Pedro Arizti, Natalia Manuilova, Carlos Sabatino, Roby Senderowitsch, and Ermal Vila. 2020. *Building Effective, Accountable, and Inclusive Institutions in Europe and Central Asia: Lessons from the Region*. The World Bank. <http://hdl.handle.net/10986/34031>
- [2] Kazyeva Asel, Shalbayeva Sholpan, and Kadyrova Korlan. 2022. Digital transformation as a process of changing the system of public administration in Kazakhstan. *State Audit* 56, 3 (2022), 47–57. <https://doi.org/10.55871/2072-9847-2022-56-3-47-57>
- [3] Alimbaev Abilda Amirkhanovich and Bitenova Baghdad. 2019. Digital economy: Peculiarities of formation and development trends. *Economics: The Strategy and Practice* 14, 1 (2019), 57–69. <http://jesp.ieconom.kz/wp-content/uploads/2019/05/4-Alimbaev-2.pdf>
- [4] Diegtiar Oleg, Kravchenko Tetyana, Yevmieshkina Olena, Sych Tetiana, and Linetska Yana. 2022. Innovative foundations for optimizing the information and communication system of local government. *Public Policy and Administration* 21, 5 (2022), 606–617. <https://doi.org/10.13165/VPA-22-21-5-07>
- [5] Sheryazdanova Gulmira Rustemovna. 2020. Digital Kazakhstan: The role of it in modern conditions of Kazakhstani reality. *Bulletin Series of "Sociological and Political Sciences* 71, 3 (2020), 196–207. <https://doi.org/10.51889/2020-3.1728-8940.27>
- [6] Shyngysbayev Lesken Seydygalymovich. 2020. On the question of the development of state-confessional relations in the Republic of Kazakhstan. *Bulletin Series of "Sociological and Political Sciences* 71, 3 (2020), 181–188. <https://doi.org/10.51889/2020-3.1728-8940.25>
- [7] Alisharipov Aibek, Kussainova Larissa, Khamitova Dinara, and Dyussebekova Zhazira. 2023. Use of statistical data on the quality of life in making decisions about territorial development. *Bulletin of "Turan" University* 98, 2 (2023), 297–309. <https://doi.org/10.46914/1562-2959-2023-1-2-297-309>
- [8] Bureau of National Statistics. 2023. Statistics of education, science and innovation. Retrieved May 19, 2024 from <https://stat.gov.kz/industries/social-statistics/stat-edu-science-inno/dynamic-tables/>

- [9] Law of the Republic of Kazakhstan “On Local State Administration and Self-Governance in the Republic of Kazakhstan”. 2001. Retrieved May 19, 2024 from https://online.zakon.kz/Document/?doc_id=1021546
- [10] Law of the Republic of Kazakhstan “On State Support of Innovation Activity. 2009. Retrieved May 20, 2024 from https://online.zakon.kz/Document/?doc_id=31062594
- [11] Law of the Republic of Kazakhstan “On Administrative Procedures. 2000. Retrieved May 20, 2024 from https://online.zakon.kz/Document/?doc_id=1020750
- [12] Order of the Minister of Digital Development 170/HK “On Amending the Order of the Acting Minister of Digital Development, Innovation “On Approval of the Register of Public Services”. 2022. Retrieved May 19, 2024 from https://online.zakon.kz/Document/?doc_id=39182861
- [13] Law of the Republic of Kazakhstan No. 401-V “On Access to Information”. 2015. Retrieved May 18, 2024 from https://online.zakon.kz/Document/?doc_id=39415981
- [14] Document “On Approval of the Concept of Development of Public Administration in the Republic of Kazakhstan until 2030”. 2021. Retrieved May 19, 2024 from <https://gp11.kz/wp-content/uploads/2022/10/Ukaz-Prezidenta-Respubliki-Kazahstan-ot-26-fevralya-2021-goda-522.pdf>
- [15] United Nations. 2022. *UN Study: E-Government 2022: The Future of Digital Government*. United Nations, New York. <https://desapublications.un.org/sites/default/files/publications/2023-02/UN%20E-Government%20Survey%202022%20-%20Russian%20Web%20Version.pdf>
- [16] Boly Vincent, Marche Brunelle, Davy Monticolo, Mauricio Camargo, and Marianna Hörlesberger. 2021. Be digital and responsible: The case of Grand Est territory in France. In *30th Annual Conference of the International Association for Management of Technology (IAMOT 2021)*. International Association for Management of Technology (IAMOT), Cairo, Egypt. 1151–1164. <https://doi.org/10.52202/060557-0088>
- [17] David Le Blanc. 2020. E-participation: A quick overview of recent qualitative trends. Retrieved May 21, 2024 from https://www.un.org/esa/desa/papers/2020/wp163_2020.pdf
- [18] Eurostat. 2019. Digital economy and society: Overview. Retrieved May 20, 2024 from <https://ec.europa.eu/eurostat/web/digital-economy-and-society/overview>
- [19] Official website of the President of the Republic of Kazakhstan. 2017. Course towards the future: Modernization of Kazakhstan’s identity. Retrieved June 8, 2024 from https://www.akorda.kz/ru/events/akorda_news/press_conferences/statya-glavy-gosudarstva-vzglyad-v-budushchee-modernizaciya-obshchestvennogo-soznaniya
- [20] E-government Survey. 2022. The Future of Digital Government. 2022. Retrieved September 12, 2024 from <https://desapublications.un.org/sites/default/files/publications/2022-09/Web%20version%20E-Government%202022.pdf>
- [21] UNDP Kazakhstan. 2023. Digitalisation for sustainable development and social well-being of society. Retrieved June 15, 2024 from <https://www.undp.org/ru/kazakhstan/stories/cifrovizaciya-dlya-ustoychivogo-razvitiya-i-obespecheniya-socialnogo-blagopoluchiya-obshchestva>
- [22] Anton Barabanov and Ekaterina Usacheva. 2024. The internet and local government communication with citizens and local communities. In *Understanding the Digital Transformation of Socio-Economic-Technological Systems: Dedicated to the 120th Anniversary of Economic Education at Peter the Great St. Petersburg Polytechnic University*. Springer, Cham. 437–450. https://doi.org/10.1007/978-3-031-56677-6_34
- [23] Arginbekova Gulnar, Zhusupova Gulnaz, Kyndybayeva Rimma, Kyndybayeva Zhanna, and Abdukerova Aigul. 2024. Legal culture as a factor of economic stabilisation in the conditions of digitalisation. *Scientific Herald of Uzhhorod University. Series Physics* 55 (2024), 1871–1879. <https://doi.org/10.54919/physics/55.2024.187ny1>
- [24] Nataliia Gavkalova, John Martin, Hanna Shumska, and Kristina Babenko. 2024. Landscape and circular economy as a mechanism of sustainable development in globalisation and digitalisation of the world economy. *Economics of Development* 23, 2 (2023), 80–90. <https://doi.org/10.57111/econ/2.2024.80>
- [25] Viktor Ladychenko and Anton Mykytiuk. 2023. Environmental rights protection in the European Court of Human Rights. *Law Human. Environment* 14, 4 (2023), 24–36. <https://doi.org/10.31548/law/4.2023.24>
- [26] Jomartova Sholpan, Mazakov Talgat, Mukhaev Daryn, Mazakova Aigerim, and Tolegen Gauhar. 2021. Intelligent system for assessing the socio-economic situation in the region. *Communications in Computer and Information Science* 1463 (2021), 437–447. https://doi.org/10.1007/978-3-030-88113-9_35
- [27] Decree of the President of the Republic of Kazakhstan No. 522 “On Approval of the Concept of Development of Public Administration in the Republic of Kazakhstan until 2030”. 2021. Retrieved June 21, 2024 from <https://adilet.zan.kz/rus/archive/docs/U2100000522/26.02.2021>
- [28] Science Committee of the Ministry of Science and Higher Education of the Republic of Kazakhstan. 2021. Independence is more valuable than anything else. Retrieved June 24, 2024 from https://iie.kz/?page_id=15943
- [29] Chebaro Bilal, Fakhoury Rania, and Baker David S. 2020. Expanding e-government adoption in an emerging market economy: An exploratory segmentation based on socio-demographic and behavioural variables. *International Journal of Business and Emerging Markets* 12, 3 (2020), 243–258. <https://doi.org/10.1504/IJBEM.2020.109574>

- [30] Sinoimeri Dea, Teta Jonida, Prifti Valma, and Lazaj Armira. 2024. Information technology in supply chain management. Case study. *Lecture Notes on Multidisciplinary Industrial Engineering* F2090 (2024), 35–44. https://doi.org/10.1007/978-3-031-48933-4_4
- [31] Gasco-Hernandez Milaa, Nesti Giorgiab, Cucciniello Mariac, and Gulatee Yeniseid. 2021. Introduction to the special issue on digital government and gender. *Information Polity* 26, 2 (2021), 109–113. <https://doi.org/10.3233/IP-219007>
- [32] Hayk Sargsyan and Ruben Gevorgyan. 2024. Efficiency of electronic government systems. *Ikonomicheski Izsledvania* 33, 4 (2024), 19–34.
- [33] Tatiana Yu Anopchenko, Elena I. Lazareva, Anton D. Murzin, Roman V. Revunov, and Evgeniya V. Roshchina. 2021. Diversification of regulatory powers in social, environmental, and economic relations as a factor for stimulating regional development. In *The Challenge of Sustainability in Agricultural Systems*. Springer, Cham, 561–570. https://doi.org/10.1007/978-3-030-72110-7_62
- [34] Singh Sumanjeeta, Kumar Vimalb, Paliwal Minakshic, Verma Pratimad, and Rajak Binode. 2022. A citizen-centric approach to understand the effectiveness of e-government web portals: Empirical evidence from India. *Information Polity* 27, 4 (2022), 539–555. <https://doi.org/10.3233/IP-220001>
- [35] Abudaqa Anas, Hassim Affendy, and Saidun Zulkifli. 2019. Relationship between service usefulness and information awareness toward citizen satisfaction of E-Government services in Kuala Lumpur. *International Journal of Innovation, Creativity and Change* 5, 2 (2019), 118–127.
- [36] Alkrajji Abdullah Ibrahim. 2021. An examination of citizen satisfaction with mandatory e-government services: Comparison of two information systems success models. *Transforming Government: People, Process and Policy* 15, 1 (2021), 36–58. <https://doi.org/10.1108/TG-01-2020-0015>
- [37] Al-Hasan Abrar, Khalil Omar, and Yim Dobin. 2021. Digital information diversity and political engagement: The impact of website characteristics on browsing behavior and voting participation. *Information Polity* 26, 1 (2021), 21–37. <https://doi.org/10.3233/IP-190183>
- [38] Correia Diogo, Feio José Eduardo, Marques João, and Teixeira Leonor. 2023. Participatory methodology guidelines to promote citizens participation in decision-making: Evidence based on a Portuguese case study. *Cities* 135 (2023), 104213. <https://doi.org/10.1016/j.cities.2023.104213>
- [39] Mørøe Anders Røsten, Norta Alexander, Tsap Valentyna, and Pappel Ingrid. 2020. Increasing citizen participation in e-participatory budgeting processes. *Journal of Information Technology & Politics* 18, 2 (2020), 125–147. <https://doi.org/10.1080/19331681.2020.1821421>
- [40] Trusova Natalia, Yeremenko Denys, Karman Serhii, Kolokolchukova Iryna, and Skrypnyk Svitlana. 2021. Digitalization of investment-innovative activities of the trade business entities in network IT-System. *Estudios de Economia Aplicada* 39, 5 (2021). <https://doi.org/10.25115/eea.v39i5.4912>
- [41] Rodriguez-Hevia Luisa Fernanda, Navío-Marco Julio, and Ruiz-Gómez Luis Manuel. 2020. Citizens' involvement in e-government in the European union: The rising importance of the digital skills. *Sustainability* 12, 17 (2020), 6807. <https://doi.org/10.3390/su12176807>
- [42] Oleksii Zarichuk. 2023. Comparative analysis of frameworks for mobile application development: Native, hybrid, or cross-platform solutions. *Bulletin of Cherkasy State Technological University* 28, 4 (2023), 19–27. <https://doi.org/10.62660/2306-4412.4.2023.19-27>
- [43] Sissel Hovik and G. Anthony Giannoumis. 2022. Linkages between citizen participation, digital technology, and urban development. In *Citizen Participation in the Information Society: Comparing Participatory Channels in Urban Development*. Palgrave Macmillan, Cham, 1–23. https://doi.org/10.1007/978-3-030-99940-7_1
- [44] Erblin Berisha and Giancarlo Cotella. 2021. Territorial development and governance in the Western Balkans. In *Governing Territorial Development in the Western Balkans: Challenges and Prospects of Regional Cooperation*. Springer, Cham, 23–42. https://doi.org/10.1007/978-3-030-72124-4_2
- [45] Irada Pashaeva, Mehriban Aliyeva, Nigar Atakishiyeva, Esmira Babashirinova, and Nazakat Musayeva. 2020. Digital models of income and expenditure management and accounting. *TEM Journal* 9, 2 (2020), 590–600. <https://doi.org/10.18421/TEM92-22>
- [46] Katarina Vitálišová, Mária Murray-Svidroňová, and Nikoleta Jakuš-Muthová. 2021. Stakeholder participation in local governance as a key to local strategic development. *Cities* 118 (2021), 103363. <https://doi.org/10.1016/j.cities.2021.103363>

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