

Seidova-Bohoslovska E., graduate student, National Aerospace University H.E. Zhukovsky

«Kharkiv Aviation Institute», Kharkiv

ORCID: 0000-0002-3334-5959

MECHANISMS OF DEVELOPMENT OF DIGITAL INFRASTRUCTURE OF THE TERRITORIAL COMMUNITIES

The author improves the mechanisms of development of digital infrastructure of the territorial communities. In particular, the author gives recommendations on the forming of the smart territorial communities; developing of the digital competences of employees of local governments; creation of the IT hub of territorial communities and developing of the e-government on the principles of e-democracy. The author notes that the main goal of digital infrastructure development of the territorial communities is that all citizens of Ukraine without technical, organizational and financial restrictions and difficulties could use digital opportunities regardless of their location or residence and not be in the “digital divide” segment.

Keywords: digital infrastructure, mechanisms, territorial communities, local governments.

Formulation of the problem. The use of modern digital technologies within the community is important for qualitative changes in priority areas of the community: creation of a modern sphere of life support, security and transportation system, e-medicine, online education, open government, electronic document flow and electronic democracy.

The implementation of smart digital solutions will create additional opportunities to increase the efficiency of resource use, increase economic potential, develop business, services, attract investments, improve relations between the community and local authorities and, most importantly, improve the quality of life of citizens. The above stated emphasizes the relevance of the chosen research topic.

Analysis of recent research and publications. The study (David A., Yigitcanlar T., Li RYM, Corchado JM, Cheong PH, Mossberger K, Mehmood R., 2023) aims to consolidate

understanding of strategies for implementing local government digital technologies through priority reporting elements for systematic reviews and meta-analyses. The authors analyze the possibilities, problems and strategies of adopting of technological processes and limitations. The results of the study inform local politicians about the introduction of digital technologies and transformation.

The authors (Enzo Falco, Reinout Kleinhans, 2018) argue that previous studies have emphasized that there is a lack of advanced technological solutions that can facilitate cooperation between government and citizens. The authors note that many examples of digital participation platforms are already available, as well as ready for use by governments and citizens. Consequently, the reasons for the inefficient involvement of citizens and cooperation with local authorities should not be sought in the absence of advanced technologies. Thus, the authors focus on the challenges faced by local authorities, promoting citizen engagement online and offline. The authors also provide a classification of digitalization challenges into six categories as a prerequisite for determining actions and decisions for local governments.

The article (A. Bousdekis & D. Kardaras, 2020) presents a study based on empirical data aimed at identifying the current state and potential of digital transformation in municipalities. Based on the results obtained, the authors identify the problems of adopting digital technologies in the public sector, and also cite steps that should be followed towards digital transformation.

The results of the study (Branderhorst, E. M., & Ruijter, E., 2024) show that city leaders should develop a value vision for digital transformation, pay attention to various forms of legitimacy, be aware of the ethical dilemmas and consequences of digital technologies, involve politicians in technology projects and stimulate the digital competencies of civil servants. The authors conclude that "digital leadership" requires both new and existing aspects of leadership.

However, the issue of forming of effective mechanisms of the development of digital infrastructure in territorial communities remains insufficiently worked out.

The purpose of the article. Taking into account the relevance of the chosen research topic, the purpose of the article is improving of the mechanisms of development of digital infrastructure of the territorial communities.

The given purpose of the study requires solving the following problems:

- (1) to form the smart territorial communities;

- (2) to develop the digital competences of employees of local governments;
- (3) to create the IT hub of territorial communities;
- (4) to develop the e-government on the principles of e-democracy.

Presenting main material.

The demand for access to high-speed Internet is growing in the world and in Ukraine. The needs of society are changing, the use of stationary and mobile digital devices, e-learning, receiving medical video services, interaction with government institutions, the use of various applications, automated systems, messengers, chatbots, etc. are becoming more popular.

The main goal of digital infrastructure development of the territorial communities is that all citizens of Ukraine without technical, organizational and financial restrictions and difficulties could use digital opportunities regardless of their location or residence and not be in the "digital divide" segment.

The digital divide (digital inequality) is an inequality in access to opportunities in economic, social, cultural, educational and other fields that exists or deepens as a result of incomplete, uneven or insufficient access to computer, telecommunication and digital technologies. The digital divide of the territorial community should be leveled by:

- (1) ensuring of equal access of citizens to the Internet;
- (2) promoting the expansion of the LTE mobile coverage network in populated areas, creating conditions for high-quality coverage of regions with mobile communications of different generations and the development of broadband access to the Internet [3; 5].

The functioning of all community systems and services directly depends on the level of stability, reliability computer equipment and technologies.

The development of IT infrastructure should be carried out on the basis of quality projects and technical tasks, taking into account the general concept and prospects for further development.

The main measures concerning the development of the IT infrastructure are the following:

- (1) using certified cloud server solutions or building an on-ground data center with further certification;
- (2) ensuring the appropriate level of information protection at the organizational, hardware and software levels;
- (3) constant updating of the material and technical base (hardware) and software;

(4) organizational and technical measures to prepare for work with large volumes of information at the local and national level (Big Data);

(5) constant analysis of the technical infrastructure of the community;

(6) assistance to Internet providers in network development to ensure stable high-speed Internet access;

(6) establishment of direct cooperation with equipment manufacturers and software developers [2; 8].

Another goal is to facilitate residents' access to high-speed Internet and modern digital solutions, to create new formats and platforms for people's interaction.

The strategic goals in this area is to finally establish the role of technology as a powerful tool for the active participation of all interested parties in the social, cultural, and economic life of the community, where everyone is guaranteed the right to self-expression without artificial barriers and discrimination:

(1) creation of a social center with the support of the Ministry of Digital Affairs of Ukraine, which will unite, train people and help to develop community projects;

(2) creation of conditions for the development of startups;

(3) stimulating of the development of public initiatives and projects to solve community problems [4; 7].

In view of the international experience, the development of e-government is one of the main factors of ensuring the improvement of the country's competitiveness. After all, e-government tools are able to provide a significant improvement in the quality of service to individuals and legal entities and increase the openness, transparency and efficiency of the activities of state authorities and local self-government bodies.

Ensuring transparent governance involves:

(1) targeting residents, businesses, workers, tourists and other consumers of goods;

(2) good management of processes;

(3) accessibility and openness to people and new ideas;

(4) disclosure of data about one's activities;

(5) protection of personal data;

(6) building on integrated services and infrastructure;

(7) proactivity in education and development of citizens [1; 6].

With the development of information and communication technologies, in order to expand the opportunities for citizens' participation in the process of state formation and state administration, the tools of electronic democracy are increasingly being used.

In this regard the main tasks of the “E-democracy” component are the following:

- (1) expanding opportunities for citizens and businesses to participate in state management using online tools;
- (2) improving communication between the authorities and the community;
- (3) increasing the transparency of the activities of authorities thanks to the use of modern information access technologies.

The following can be considered as an important information services of electronic democracy:

- (1) community portal as a single information hub;
- (2) community open data portal;
- (3) survey, discussion, appeal, vote;
- (4) online broadcasts of council and executive committee meetings;
- (5) open budget with reports on the status of its implementation;
- (6) reports of managers of funds of all levels (including regarding concluded contracts);
- (7) petitions;
- (8) reception room (including deputies);
- (9) consultations [2; 4].

The main goal is to provide citizens with easy and convenient access to the use of electronic democracy tools. These tools are designed to establish a better relationship between citizens and authorities in solving various socially important problems.

Conclusions. Thus, the given recommendations give the following opportunities:

- (1) continuous improvement of the level of comfort and safety of the territorial community residents;
- (2) increasing the level of government transparency in the territorial community management;
- (3) increasing of the revenues to the budget due to increased efficiency of property management, optimization of financial and business processes;

(4) increasing the attractiveness of the territorial community for potential residents and persons ready to place their own capital in local projects.

References:

1. Agung Purnomo, Triana Susanti, Elsa Rosyidah, Nuzula Firdausi & Mohammad Idhom (2022). "Digital economy research: thirty-five years insights of retrospective review", *Procedia Computer Science*, 97, pp. 6875.
2. Branderhorst, E. M., & Ruijter, E. (2024). "Digital leadership in local government: an empirical study of Dutch city managers", *Local Government Studies*, 1–24. URL: <https://doi.org/10.1080/03003930.2024.2363368> (accessed: 27.09.2024).
3. David ,A., Yigitcanlar, T., Li, R.Y.M., Corchado, J.M., Cheong, P.H., Mossberger, K., Mehmood, R. (2023). "Understanding Local Government Digital Technology Adoption Strategies: A PRISMA Review", *Sustainability*, 15(12) (accessed: 27.09.2024).
4. Falco, E. & Kleinhans, R. (2018). "Beyond technology: Identifying local government challenges for using digital platforms for citizen engagement", *International Journal of Information Management*, 40, pp. 17-20.
5. Kohtamaki M., Parida V., Oghazi P., Gebauer H. & Baines T. (2019). „Digital servitization business models in ecosystems: a theory of the firm", *J. Bus. Res.* 104, pp. 380–392.
6. Li Q. & Zhao S. (2023). "The impact of digital economy development on industrial restructuring: evidence from China", *Sustainability* 15. URL: <https://doi.org/10.3390/su151410847> (accessed: 30.01.2024).
7. Svahn F., Mathiassen L. & Lindgren R. (2017). "Embracing digital innovation in incumbent firms: how Volvo cars managed competing concerns", *Mis Q.*, 41, pp. 239–253.
8. Wang Q. & Wei Y. (2023). "Research on the influence of digital economy on technological innovation: evidence from manufacturing enterprises in China", *Sustainability*, 15. URL: <https://doi.org/10.3390/su15064995> (accessed: 30.01.2024).