

PUBLIC GOVERNANCE AT THE LOCAL LEVEL IN THE CONTEXT OF DIGITAL TRANSFORMATION

^aKOSTIANTYN HERASYMIUK, ^bDENYS ZABOLOTENKO,
^cMIKHAILO BAIMURATOV, ^dBORIS KOFMAN,
^eDENIS BOBROVNIK

^{a,b} Public Higher Educational Establishment "Vinnytsia Academy of Continuing Education", Vinnytsia, Ukraine.

^cSouth Ukrainian National Pedagogical University named after K.D. Ushinsky, Odesa, Ukraine.

^dAlfred Nobel University, Dnipro, Ukraine.

^eNational Aviation University, Kyiv, Ukraine.

email: ^azabolotenkodenys@gmail.com, ^bkgerasymyuk@ukr.net,

^cbaymuratov@ukr.net, ^dkofmanboris@ukr.net,

^ebobrovnikdenis@ukr.net

Abstract: The relevance of the research is determined by the need to comprehend the interaction between public governance and local self-governance at the local level, especially in the context of modern challenges and technological innovations. Consideration and analysis of theoretical concepts of management can help improve the efficiency and transparency of governance processes, which is crucial for the sustainable development of society. The purpose of the research is to theoretically analyze the interaction of public governance and local governance at the local level in the conditions of digital transformation. The study of key aspects of this interaction is aimed at identifying challenges and opportunities arising in the context of digital technologies in public governance. The research also aims to analyze practical cases of digital innovations at the local level in order to determine their impact on the quality of services and management processes. The research results will help identify strategies for the successful implementation of digital tools in local governance and their contribution to the sustainable development of society. The obtained research results: based on the research findings, it can be determined that public governance at the local level is a complex process that can be considered from different approaches and perspectives. The importance of this interaction becomes especially relevant in the context of digitalization. Practical significance: the academic paper can be used for the development and improvement of the local government management system in the current conditions. Comprehension of the various aspects of this process makes it possible to develop effective strategies for implementing and using digital technologies to improve the quality of public services, interact with the community, and optimize management processes. Conclusion: the research emphasizes the importance of adapting management systems to the challenges of the digital age and the need to search for optimal solutions. Such an approach is fundamental in establishing an effective, transparent, and open system of local governance aimed at meeting citizens' needs in a digital society.

Keywords: Digital transformation, Public governance, Local self-governance, State governance, Municipalities, Digital technologies, Internet (IoT), Digital finances, Budgeting, Accessibility of services, Integration, Electronic project management, Internet, Sensors, Electronic payment systems.

1 Introduction

In a world of rapid technological development and profound changes accompanying the digital era, the issue of public governance at the local level is becoming particularly relevant and significant. Digital transformation, which is penetrating all spheres of society, creates new challenges and opportunities for local self-government authorities.

The concept of public governance at the local level is becoming an integral part of the life of modern communities, acting as a guiding force in ensuring the effective functioning and satisfaction of citizens' needs. Local self-government bodies can significantly facilitate interaction with the population, improve the quality of services and ensure more transparent and open governance through the introduction of digital technologies.

Digital transformation in public governance brings significant changes in decision-making, optimization of bureaucratic procedures, and interaction between authorities and citizens. Artificial intelligence, big data analysis, and e-governance are becoming essential tools for achieving efficiency and accountability in modern public governance.

In this context, the research aims to comprehensively analyze the impact of digital transformation on public governance at the local level. We aim to determine the essence of changes, development prospects, and practical approaches for further strengthening management systems at the local level by using statistical data and through the prism of a methodological approach. The research results should be considered as an

important contribution to understanding and optimizing modern public governance in the context of high technological development.

2 Literature review

The issue of public governance at the local level in the context of digital transformation has been studied by numerous scholars from around the world. The development and implementation of digital management strategies at the local level is one of the key aspects.

The scientific works of Shlapko T.V., Starynskyi M.V., Myrhorod-Karpova V.V. focus on the legal support of digital transformation in the healthcare sector in view of European integration processes. Kolianko, O. V. studies the interaction of state and local government authorities with the public, and Makarova I. O. analyzes the digitalization of public governance at the regional and city levels.

The research also considers e-health issues, which are reflected in the study by Agrawal A., who analyzes the problem of medication errors and proposes preventive measures using information technology systems. Furthermore, it is worth noting the scientific article by Greenhalgh T. et al. that reveals trends and paradoxes in the study of electronic medical records.

The research directions include analyzing the impact of digital innovations on the efficiency of public governance at the local level, identifying key challenges and opportunities in the context of digital transformation. The mentioned authors have made a significant contribution to understanding the interaction between digital technologies and public governance, and further study of their works can help develop this relevant topic.

The purpose of the research is to systematically analyze the impact of digital transformation on public governance at the local level. The research is aimed at identifying key aspects of digital transformation that influence the efficiency and functioning of public governance in the context of local self-governance.

3 Results

Public governance at the local level is a complex and multifaceted process aimed at efficient and equitable management of resources and services to meet citizens' needs in a particular local community. This is the sphere where local elected or appointed authorities interact with the community to ensure harmonious development and improve the quality of life. One of the key features of public governance at the local level is primary focus on a specific territorial space, where the leadership takes into account the unique features and needs of the community. This may include addressing infrastructure issues, providing educational and medical services, and ensuring security and order.

The meaningfulness of public governance at the local level is determined by its direct impact on the lives of citizens. The ability of local authorities to solve problems at the local level is recognized as a key element of democracy and civic participation. In the process of decision-making, they should be open to citizens' opinions and needs, contributing to the creation of open and transparent governance (Ben, 2020).

Public governance at the local level also serves as a tool for ensuring social justice and equality, directing its efforts to the development of all layers of society and ensuring the participation of citizens in decision-making concerning their lives (Polevyi, 2021). In the context of digital transformation, public governance at the local level rethinks its approaches and processes, using new technologies to increase efficiency,

transparency and interaction with the community (Lopushynskyi, 2018).

Local self-governance in the system of public governance is defined as a form of public authority that has defined rights and responsibilities of local governments to regulate a significant part of public affairs at the territorial level. According to the European Charter of Local Self-Government, ratified by the Verkhovna Rada of Ukraine, this right is determined in accordance with the law, under the responsibility and in favor of the local population (Bobrovska et al., 2014).

Public governance at the local level is a set of organizational, administrative and strategic actions aimed at ensuring the functioning and development of administrative units in a particular territory, such as cities, districts or villages. This concept covers a wide range of activities, from organizing social services to solving economic and environmental issues in order to meet citizens' needs and ensure sustainable development of the community (Nedilko, 2017; Makarova, 2021).

The primary aspects of public governance at the local level include decision-making, planning, implementation and evaluation of programs and services, as well as communication and interaction with the community. This is a system that should be open, transparent and take into account the interests of various groups of the population. Another significant aspect is the ability of local governments to adapt to changes in society and use innovations, including technological solutions, to improve the quality of services and optimize processes.

Understanding public governance at the local level includes an analysis of the interaction between the authorities, the community, business and other influential actors at the local level. The consideration of the context and conditions of a particular territory helps identify the most effective and appropriate solutions to improve residents' life quality and achieve strategic development goals.

Public governance at the local level in the conditions of digital transformation is a system of organizational, informational and technological processes aimed at improving and effectively functioning of local government bodies using digital technologies.

Therefore, in our opinion, digital transformation in the context of state governance at the local level means a transition from traditional methods of management and service delivery to the use of the latest technologies. This means the introduction of electronic systems, web platforms, analytical tools, artificial intelligence and other digital solutions to improve the quality of governance, ensure openness and transparency of interaction between the authorities and citizens.

In this context, the concept of public governance means planning, decision-making, policy implementation and public service delivery at the local level. Digital transformation makes it possible to optimize these processes by automating them, improving information exchange, simplifying access to administrative services for citizens, and enhancing the analysis and use of data for making managerial.

One of the key aspects of public governance at the local level in the context of digital transformation is ensuring cyber security and confidentiality of information since the introduction of digital technologies increases the risk of cyber threats and unauthorized access to data (Holovko, 2019).

In general, public governance at the local level in the context of digital transformation seeks to create effective, flexible and open management systems, contributing to improving citizens' quality of life and ensuring sustainable development of local communities. It should be stressed that the concept of public governance at the local level may be defined and considered from different approaches and perspectives, taking into account various aspects of its functioning. For instance, we can identify

the following approaches to understanding this concept (Kolianko, 2021):

1. the institutional approach – it focuses on the role and functions of specific institutions, such as local government authorities, administrations and other public structures for ensuring effective governance and service delivery to the local community;
2. the systemic approach – it considers public governance at the local level as part of a broader system that includes the interaction between different structures and aspects, such as the economy, social sphere and environment;
3. the community approach – it emphasizes community participation and interaction in decision-making and development processes, emphasizing the importance of public participation in the formulation and implementation of public policies;
4. the innovative approach – it emphasizes the use of the latest technologies and innovations to optimize management processes, in particular, in the field of e-government, big data analysis and the introduction of artificial intelligence;
5. the economic approach – it analyzes the expenditures and efficiency of local governance from an economic point of view, examining the interconnection between financial resources and performance, etc.

The combination of these approaches can create a comprehensive and in-depth understanding of state governance at the local level that takes into accounts the various dimensions and challenges of this important aspect of management. Ukraine poses particular difficulties in the context of digital transformation due to its ongoing conflict with Russia.. The state's current position of economic, social, and political unrest highlights how crucial it is to adopt digital solutions quickly in order to maintain the effectiveness and sustainability of public service management and delivery.

In times of war, digital transformation can become not only a tool for modernization but also a means of ensuring security and efficient resource management. It is important to take into account the specific challenges and opportunities arising in the conditions of military conflict and adapt digital strategies to the conditions determined by the situation on the front line. Furthermore, in the framework of digital transformation, what precisely is digital transformation and how can it be used to local government in the conditions of digital transformation?

To start, let's define digital transformation as the procedure of utilizing digital technologies to replace conventional commercial, management, and interaction approaches in a variety of social contexts. The conditions of digital transformation include as follows:

1. integration of modern technologies: Internet of Things (IoT), artificial intelligence, cloud computing, and data analytics and others to optimize processes and improve productivity;
2. developed digital infrastructure, including high-speed networks, Internet access and modern data storage and processing facilities;
3. use of large amounts of data to obtain insights and make informed management decisions;
4. introduction of electronic systems, platforms and services to facilitate interaction between government, business and citizens;
5. replacement of paper documentation with digital formats and automation and optimization of business processes.

Ukraine poses particular difficulties in the context of digital transformation due to its ongoing conflict with Russia.. The state's current position of economic, social, and political unrest highlights how crucial it is to adopt digital solutions quickly in order to maintain the effectiveness and sustainability of public service management and delivery. In times of war, digital transformation can become not only a tool for modernization but also a means of ensuring security and efficient resource

management. It is important to take into account the specific challenges and opportunities arising in the conditions of military conflict and adapt digital strategies to the conditions determined by the situation on the front line.

It is important to realize that digital transformation is not anything bad or distinct from digital technologies in order to fully comprehend it. Digital technologies can be defined as a set of processes, methods, and systems that use digital data and signals to process and transmit information (Dushchenko, 2021). From this perspective, digital technologies include the use of binary codes (zeros and ones) to represent information, which enables computers and other electronic devices to process information efficiently and quickly (Greenhalgh et al., 2009).

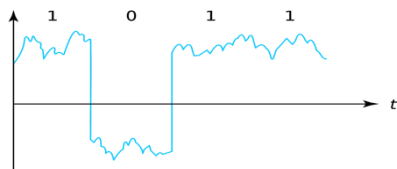


Figure 1. An example of the digital signal
Source: (Ross Knox Bassett, 2007).

Thus, as of today, digital technologies, in a broad sense, are a set of integrated circuits or devices that include as follows (Makoto Motoyoshi, 2009):

- computers, smartphones, tablets, digital cameras and other electronic devices capable of storing, processing and transmitting digital data;
- software and operating systems that run on digital devices and enable them to perform various tasks, including data processing, communication, and device management.
- The Internet and other networks are becoming more and more accessible thanks to digital technologies, enabling the long-distance transfer of data and information.
- The advancement and use of algorithms and software make it possible to automate data processing and task execution.

The integration of digital tools into local public governance is particularly important in light of the ongoing conflict in Ukraine. These tools will help ensure community participation while ensuring the authorities' work is optimized and supported. Therefore, we consider it relevant to use digital technologies in the cases as follows:

1. In wartime, e-voting can be an effective tool for organizing electoral processes in a secure environment and for ensuring the participation of people temporarily evacuated or in the temporarily occupied territories. It can also help ensure the confidentiality of votes and avoid the possibility of pressure or manipulation of the social-political situation.

2. In the conditions of war, submitting petitions through digital systems becomes a convenient means of expressing public opinion and wishes of citizens. Citizens can submit petitions online from the comfort of their homes, which is especially important in times of restrictions and security risks. This provides quick and relevant feedback from the community, and allows the authorities to respond quickly to the urgent issues and needs of the population because of the armed conflict. Successful examples of the above are the official state application "Diia" and other forms (websites, applications, platforms) of electronic appeals of citizens. These tools are aimed at facilitating interaction between the community and the authorities. For instance, citizens can conveniently and efficiently submit various appeals online, including complaints, suggestions, questions, or any other messages. The possibility to pay taxes online is one of "Diia's" key features. Citizens can easily and securely pay their tax liabilities using digital services, which simplifies the procedure and saves them time. In addition, this platform offers services for conducting various online transactions. For instance, citizens can buy and sell a car, obtain

a police clearance certificate or other documents without the need to visit the relevant institutions in person. This simplifies interaction with the authorities and ensures the convenience and speed of solving various issues by citizens.

3. When it comes to local public governance, information security solutions are quickly emerging as a vital instrument for guaranteeing the dependability and safety of procedures involved in town and community management. These systems are aimed at protecting information related to local elections, rallies, demonstrations and other public events that are important to local governance. They include a set of measures that ensure the confidentiality and integrity of electronic systems used to process and transmit information for the effective management of local resources. Information security systems help coordinate and secure electronic platforms for citizens' appeals, which can include petition processes, approvals for public rallies and demonstrations, and ensuring the safe and secure transmission of information during local elections. These systems are an important factor in ensuring openness and transparency in public governance processes at the local level, making them more accessible and secure for residents of local communities.

4. Smart cities and mobile applications are becoming key components of modern urban governance aimed at improving residents' lives and the efficiency of city management. Smart cities integrate various technologies, such as sensors, communication networks, and data analytics to provide an integrated approach to managing urban resources. They help monitor traffic, air quality, noise, and energy efficiency, contributing to more efficient and environmentally friendly cities.

Mobile applications are becoming a necessary tool for interaction between the city and residents. They provide an opportunity to conveniently track transportation schedules, pay for utilities, and receive important notifications and news. Mobile applications facilitate active community participation by allowing for complaints, suggestions, and participation in voting. By integrating smart city technologies and mobile applications, cities become more flexible, livable, and efficient in managing their resources, contributing to the development of high-tech and citizen-friendly urban environments.

5. When it comes to rebuilding damaged structures and public infrastructure, an electronic project management system is a collection of instruments and technology that guarantee efficient planning, carrying out, and overseeing of restoration projects. The system includes a large number of electronic resources that make it possible to effectively monitor progress of the recovery, plan budgets and expenditures, and coordinate the work of various contractors and teams. Within the framework of reconstructing damaged buildings and civilian infrastructure, the electronic project management system prioritizes tasks, allocates resources, monitors progress, and ensures transparency and openness in interacting with the community. The use of an electronic project management system facilitates rapid recovery after crisis situations and helps consider residents' interests, ensuring effective rehabilitation and modernization of urban infrastructure.

6. The use of the Internet of Things (IoT) in municipalities is defined as the integration of sensors, communication and analytical tools to create an effective system for monitoring and managing urban resources. IoT makes it possible to collect, analyze a huge amount of data from various sources, such as sensors on the streets, devices in buildings and vehicles, which facilitates decision-making and optimizes the use of municipal resources. The application of IoT includes monitoring garbage levels, energy efficiency of facilities, traffic, and other parameters, allowing municipalities to respond quickly to changes and plan resources more efficiently. IoT is also used in security and monitoring systems, providing timely detection and response to events such as accidents or public order violations. The use of IoT in municipalities helps create more intelligent and efficient cities, improving residents' quality of life and

optimizing the management of municipal resources (Shevchenko et al., 2022).

7. Digital finances and budgeting represent an innovative approach to managing financial resources in municipalities. This concept is based on applying modern technologies and electronic tools to optimize budget planning and financial control processes.

Digital finances involve the use of electronic payment systems, online banking, and other digital tools to conduct financial transactions and monitor budget expenditures.

Digital budgeting includes the application of specialized programs and platforms for the development, implementation and monitoring of budget plans. This contributes to the efficient allocation of resources, taking into account the priorities of society and creating a transparent mechanism of spending. The implementation of digital finances and budgeting allows municipalities to respond more quickly to financial challenges, improve budget processes, and increase the efficiency of using funds for the benefit of development, meeting the community's needs (Demoshenko, 2022).

It is noteworthy that a lot of countries are currently actively putting electronic health systems (eHealth) into practice and using them as a vital tool to enhance the accessibility and organization of healthcare services in the local implementation of state governance. (Agrawal, 2009). These systems make it possible to efficiently exchange and store medical information, facilitate the coordination of care, and make the process of healthcare delivery more integrated.

According to scholars such as Sibylla Buletsa, Lyudmyla Deshko, and Viktor Zaborovsky, the electronic health system (eHealth) is defined as an electronic system that facilitates the receipt of quality medical services by patients and the provision of such services by doctors (Buletsa et al., 2019). According to the viewpoint of Korobchynska N.V., the electronic healthcare system can be defined as a complex apparatus that includes all subordinate medical institutions interacting in a coordinated manner within a single electronic medical record and a common electronic medical information space (Korobchynska, 2022).

In our opinion, the definition of an electronic health system (eHealth) implies that it is an integrated information ecosystem connecting various aspects of healthcare, from patients to medical professionals and administrators. Its goal is to improve the quality, efficiency and accessibility of medical care by means of information technologies.

One should also note that Electronic Healthcare Systems (EHS) have already been successfully implemented in various countries around the world: 1) Every hospital and clinic in the US is able to have its own electronic health record system, known as Electronic Health Records, or HER. Several most common EHR systems include Epic Systems, Cerner, and others. Data exchange between these systems may be hampered by technical and privacy issues (An electronic health record). 2) Germany is currently implementing digital healthcare systems. This includes electronic medical records for patients and a centralized network for the exchange of medical information between hospitals and doctors (Kierkegaard, 2011). 3) The UK has been developing a national electronic healthcare system to unite medical data from across the country. 4) France has been introducing a system of electronic medical records for patients. The process arises from issues of standardization and data exchange between various systems. 5) The electronic health information exchange system is actively being developed in the Netherlands. Emerging strategies, such as utilizing blockchain technology to guarantee data exchange security, are being discussed.

These countries have been implementing the EHS with varying degrees of success due to certain EU procedures, such as standardization, confidentiality and data exchange (Directive

2011/24/EU). Nevertheless, further development of these systems is a key step in the digitalization of this sphere.

Ukraine has already implemented the Electronic Healthcare System (EHS), which includes the Central Database and the Medical Information System. This facilitates the improvement of medical records as well as the availability of medical information, although it requires careful regulation to protect patient data.

The introduction of the EHR in Ukraine is a step towards the digital transformation of the healthcare sector. This system simplifies the accounting of medical services, facilitates the exchange of information and improves the availability of data for medical professionals. At the same time, along with convenience, it creates additional challenges in ensuring the security and confidentiality of medical information.

Regarding the legislative regulation of eHealth in Ukraine, numerous legal acts, including the Ukrainian Constitution, statutes, and bylaws, are in force to carry it out (Shlapko et al., 2021; What is eHealth, 2021).

4 Discussion

After examining local governance within the framework of digital transformation, it is, therefore, feasible to suggest that the process and outcomes of digital transformation in Ukraine should be referred to as "digitalization". For instance, in local public governance, digital technologies are replacing traditional methods in numerous areas, such as public governance, healthcare, municipal and private property, settlement management, accessibility, and the ability to obtain administrative services.

As part of the digital transformation in Ukraine, we can refer to the specific outcomes of digitalization for 2022 (Order of the Ministry of Digital Transformation of Ukraine as of May 5, 2023, No. 54):

1. Full accessibility of all public services for citizens and businesses via the Internet has been achieved.
2. High-speed Internet access for population, social facilities and main roads has been provided by 95%.
3. The groundwork has been laid for the advancement of the IT sector, which currently accounts for 10% of gross domestic product.
4. More than 6 million Ukrainians have been involved in government and local programs that help improve the competencies of the national population.
5. The "Diia" portal has already made it possible to receive numerous electronic public services online in 2022, including automatic permits for construction, residence declarations, various extracts, grants, etc. The capabilities of the "Diia" Portal mobile application have also been expanded, enabling new electronic public services such as credit history notifications, annual tax returns for individual entrepreneurs, transfer of electronic copies of vehicle registration certificates, etc.
6. The amount of "Diia" Portal users has grown significantly, reaching 18,5 million in the smartphone application and about 22 million on the portal as a whole.
7. A survey in the smartphone application has been introduced, allowing users to influence the decisions of public authorities. 7 polls have been conducted with active participation of users.
8. Also, when traveling abroad, it is now possible to apply the "Diia" Portal mobile application to obtain a digital residence permit Diia.pl in the mObyvatel application for Ukrainians abroad.
9. The amount of transactions using ISEI increased by 141% in 2022, reaching 29 million, compared to 12 million in 2021. More than 13,7 million qualified certificates of electronic signatures of citizens were received.

5 Conclusions

The academic paper examines in detail the introduction of digital technologies in public governance at the regional level in Ukraine, introducing the term “digitalization” as a key stage of digital transformation. The considered aspects, such as the electronic project management system, the use of the Internet of Things (IoT), and digital finance, define new realities in the management of cities and regions.

The theoretical analysis of the interaction between public governance and local self-governance identifies three concepts that define different approaches to public governance at the regional level. Notable accomplishments include making public services completely accessible online, supplying high-speed Internet to the general public, and laying the groundwork for the IT industry to expand. The “Portal Diia” mobile application has become a powerful tool for receiving services and interacting with government agencies.

Digital initiatives, such as the digital skills development program, expanding the functionality of the “Portal Diia” mobile application, and expanding the network of Centers for the provision of administrative services show success in engaging citizens in digital technologies. The growth in the amount of users and the positive impact on the satisfaction level indicate the active and practical contribution of digital transformation to improving the quality of servicing citizens (Borodin E., Piskokha N., Demoshenko H., 2021).

The key areas include the integration of modern technologies, such as smart cities, mobile applications, electronic project management systems and the Internet of Things, etc.

Digital transformation has proven to be crucial for improving residents' quality of life and optimizing the use of municipal resources. Project management systems and the use of IoT make it possible to effectively monitor and manage the recovery of infrastructure after crisis situations. Digital finances and budgeting are becoming important tools for managing municipal financial resources, ensuring transparency and efficiency of expenses. Digital payment systems and online banking help speed up financial transactions and interaction with budget plans.

The “Portal Diia” mobile application has proved to be an important tool for citizens to interact with public services, providing access to various electronic services and interaction with government bodies. Expanding the application's functionality, introducing polls, and improving security and accessibility indicate the active development of digital tools for citizens. Taking into account the concrete results for 2022, we can see significant success in implementing digital initiatives and a positive impact on the development of society and economy. Consequently, it is important to further work on cyber security, inclusiveness and ongoing optimization to ensure sustainable and effective digital transformation at the regional level.

Literature:

1. Agrawal, A.: Medication errors: prevention using information technology systems. *British Journal of Clinical Pharmacology*, 2009, 67 (6): 681–686. <https://doi.org/10.1111/j.1365-2125.2009.03427.x>
2. Greenhalgh, T., Potts, H. W., Wong, G., Bark, P., Swinglehurst, D.: Tensions and paradoxes in electronic patient record research: a systematic literature review using the meta-narrative method. *The Milbank Quarterly*, 2009, 87(4), 729–788. <https://doi.org/10.1111/j.1468-0009.2009.00578.x>
3. Holovko, O. M.: Digital culture and information culture: human rights in the era of digital transformations. *Information and Law*, 2019, 4(31), 37–44.
4. Kierkegaard, P.: Electronic health record: Wiring Europe's healthcare. *Computer Law & Security Review*, 2011, 27(5), 503–515. <https://doi.org/10.1016/j.clsr.2011.07.013>

5. Korobchinska, N. V.: Monitoring of the healthcare system in the local management system. *Public Administration and Customs Administration*, 1(32), 2022. <https://doi.org/10.32836/2310-9653-2022-1.11>
6. Shlapko, T. V., Starinsky, M. V., Myrgorod-Karpova, V. V.: Legal support of the digital transformation of the healthcare sector in the light of medical reform with regard to European integration processes. *Analytical-comparative jurisprudence*, 2021, 3. <http://journal-app.uzhnu.edu.ua/article/view/252521/249796>
7. Resolution of the Cabinet of Ministers of Ukraine on "Certain Issues of the Electronic Health Care System" dated April 25, 2018, 411. <https://zakon.rada.gov.ua/laws/show/411-2018-%D0%BF#Text->
8. Makoto Motoyoshi. Through-Silicon Via (TSV). *Proceedings of the IEEE*, 2009, 43–48. <https://doi.org/10.1109/JPROC.2008.2007462>
9. Ross Knox Bassett. To the Digital Age: Research Labs, Start-up Companies, and the Rise of MOS Technology. *JHU Press*, 2007. https://books.google.com.ua/books?id=UUbB3d2UnaAC&printsec=frontcover&hl=ru&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false
10. Nedilko, A. I.: *The role of civil society in the development of public administration at the local level in Ukraine*, 2017. http://www.pdu-journal.kpu.zp.ua/archive/4_2017/tom_2/28.pdf
11. Kolyanko, O. V.: Interaction of state authorities and local self-government with the public. *Bulletin of Luhansk Taras Shevchenko National University. Economic Sciences*, 2021, (65), 116-122. <https://doi.org/10.36477/2522-1205-2021-65-16>
12. An electronic health record (EHR). Official Website of The Office of the National Coordinator for Health Information Technology (ONC). <https://www.healthit.gov/faq/what-electronic-health-record-ehr>
13. Makarova, I. O.: Digitization of public administration at the regional and municipal levels. *Current issues of public administration: coll. scientific works of ORIDU*, 2021, 2(83), 86–91. <http://dspace.pdpu.edu.ua/handle/123456789/14930>
14. Order of the Ministry of Digital Transformation of Ukraine dated May 5. *Report on the Results of the Ministry of Digital Transformation of Ukraine for 2022*, 2023, 54 https://cms.th.edigital.gov.ua/storage/uploads/files/page/ministry/%D0%97%D0%B2%D1%96%D1%82_%D0%9C%D1%96%D0%BD%D1%86%D0%B8%D1%84%D1%80%D0%B8_2022.pdf
15. Shevchenko, O. O., Bochko, N. Ye.: Modernization of the e-governance development model in the context of digital transformations. *Dnipro Scientific Journal of Public Administration, Psychology, Law*, 2022, (4), 45-50.
16. Lopushynskiy, I. P.: Digitalization as the basis for state governance in the transformation and reform of Ukrainian society. *Theory and Practice of Public Administration and Local Self-Government*, 2018, (2).
17. What is eHealth and how to connect? 2021. <https://blog.h24.ua/ru/ehealth-shho-tse-ta-yak-pidklyuchytysya/>
18. Polyovy, P. V.: Modernization of public administration in the context of the development of a digital society, 2021. <https://doi.org/10.32836/2310-9653-2021-2.6>
19. Buletsa, S., Deshko, L., Zaborovskyy, V.: The peculiarities of changing health care system in Ukraine. *Medicine and Law*, 2019, 38(3), 427-441. https://dspace.uzhnu.edu.ua/jspui/bitstream/lib/31339/1/Buletsa%2c%20ZaborovskyyThe%20peculiarities%20of%20changing%20health%20care%20system%20in%20Ukraine_article.pdf
20. Ben, N. M.: Problems of digital transformation of public administration in Ukraine at the local level. *Archive of qualification works*, 2020.
21. Bobrovska, O., & Zenina-Bilichenko, A.: Substantive and comparative aspect of public administration at the local level. *Public Administration: Theory and Practice*, 2014, 2. http://nbu.v.gov.ua/UJRN/Patp_2014_2_22
22. Borodin, Y., Piskokha, N., Demoshenko, H.: Problems and advantages of digitizing local self-government. *Aspects of Public Administration*, 2021, 9(4), 95-103.
23. Demoshenko, H.: The impact of digital transformation on municipal management. *Aspects of Public Administration*, 2022, 10(1), 36-42.

24. Directive 2011/24/EU of the European Parliament and of the Council of 9 March 2011 on the application of patients' rights in cross-border healthcare. <https://eur-lex.europa.eu/eli/dir/2011/24/oj>
25. Dushchenko, O. S.: Current state of digital transformation of education. *Physical and Mathematical Education*, 2021, (2 (28)), 40-45.

Primary Paper Section: A

Secondary Paper Section: AE, AP