Salud, Ciencia y Tecnología - Serie de Conferencias. 2024; 3:1142
doi: 10.56294/sctconf20241142

Category: STEM (Science, Technology, Engineering and Mathematics)

ORIGINAL

Digital transformation in public administration: Evaluating the adoption and impact of technological innovations in government operations

Digital transformation in public administration: Evaluating the adoption and impact of technological innovations in government operations

Tamara Ivanova[1], Alla Kozhyna[2], Anzhela Lelechenko[2], Tetiana Derun[3], Oleksandr Slobozhan[2]

[1]State Institution of Higher Education "University of Education Management" of the National Academy of Sciences of Ukraine, Scientific and Educational Institute of Management and Psychology, Department of Public Administration and Project Management, Kyiv, Ukraine.
[2]National Aviation University, Educational and Scientific Institute of Continuing Education, Department of Public Management and Administration, Kyiv, Ukraine.
[3]Taras Shevchenko National University of Kyiv, Educational and Scientific Institute of Public Administration and Civil Service, Department of Regional Policy, Kyiv, Ukraine.

Cite as: Ivanova T, Kozhyna A, Lelechenko A, Derun T, Slobozhan O. Digital transformation in public administration: Evaluating the adoption and impact of technological innovations in government operations. Salud, Ciencia y Tecnología - Serie de Conferencias. 2024; 3:1142. https://doi.org/10.56294/sctconf20241142

Submitted: 19-01-2023 **Revised:** 19-01-2023 **Accepted:** 06-08-2024 **Published:** 07-08-2021

Editor: Dr. William Castillo-González

ABSTRACT

Introduction: the study shows that the digital modernisation of public administration seeks to create a digital platform based on the "single window" principle.
Objectives: the article aims to analyse the introduction of technological innovations into the modernised public administration system in the context of state structures.
Method: a set of general scientific methods of cognition was applied, including abstract, logical, comparative analysis, abstraction, induction and deduction, and concretisation.
Results: the critical role of digitalisation in local development is substantiated, and it involves a system of digital information, digital access, and a range of e-services in the context of organising digital interaction between representatives of government agencies, society, and businesses. The article studies the ranking of European countries similar to Ukraine in terms of development conditions, stages of digital participation, and Ukraine's place in the ranking. The main directions of digital transformation of public administration are highlighted, including integrating innovative technologies for collecting, accumulating and analysing information data, modernising the existing digital government system, digital optimisation of the local development system, and implementing monitoring and evaluation processes.
Conclusions: the study substantiates that introducing digital technological innovations in government structures should consider a range of external and internal factors of influence and proves that the digitalisation of public service delivery in Ukraine is an integral part of the European integration course of development, which requires an integrated approach and adaptation to modern challenges.

Keywords: Public Administration; Digital Government; Technological Innovations; Digitalisation; Government Structures; Digital Governance.

RESUMEN

Introduction: el estudio muestra que la modernización digital de la administración pública pretende crear una plataforma electrónica basada en el principio de "ventanilla única".

Objectives: el artículo pretende analizar la introducción de innovaciones tecnológicas en el sistema modernizado de administración pública en el contexto de las estructuras estatales.
Método: se utilizó un conjunto de métodos científicos generales de cognición, incluidos el análisis abstracto, lógico y comparativo, la abstracción, la inducción y la deducción, y la especificación.
Resultados: se corrobora el papel fundamental de la digitalización en el desarrollo local, que implica un sistema de información electrónica, acceso digital y una serie de servicios electrónicos en el contexto de la organización de la interacción electrónica entre los representantes de los organismos gubernamentales, la sociedad y las empresas. El artículo estudia la clasificación de países europeos similares a Ucrania en cuanto a condiciones de desarrollo, etapas de la participación electrónica y lugar de Ucrania en la clasificación. Se destacan las principales direcciones de la transformación digital de la administración pública, incluida la integración de tecnologías innovadoras para recopilar, acumular y analizar datos de información, la modernización del sistema de administración electrónica existente, la optimización digital del sistema de desarrollo local.
Conclusiones: el estudio corrobora que la introducción de innovaciones tecnológicas digitales en las estructuras gubernamentales debe considerar una serie de factores externos e internos de influencia y demostró que la digitalización de la prestación de servicios públicos en Ucrania es parte integrante del curso de desarrollo de la integración europea.

Palabras clave: Administración Pública; Optimización Digital; Innovaciones Tecnológicas; Digitalización; Estructuras de Gobierno; Gobernanza Digital.

INTRODUCTION

Ukraine is currently implementing several reforms aimed at transitioning from the concept of state administration to the concept of public administration. The most optimal approach is the synergy of management processes with the possibilities of self-regulation of society, provided by modern tools of innovative technologies.

Ukraine is actively developing digital governance and focusing on the digital transformation of public authorities. Digital governance is a strategic direction for modernising public administration. Currently, the priority is to find the most effective model of digitalisation of public administration processes in the context of sustainable development and European integration processes, which will include optimisation of information systematisation, creation of consolidated databases, increase in efficiency and accuracy of management and administration processes, and establishment of communication and interaction within management processes. Among the obstacles to implementing public administration digitalisation programmes in government agencies and financial and regulatory support, it is worth focusing on forming a human resource with digital competence.

The EU Digital Strategy aims to create an effective digital ecosystem where most management powers are delegated to society, government agencies, and businesses to develop harmoniously through digital potential. Effective digital optimisation to improve the efficiency of public administration is currently of particular relevance for Ukraine, and improving the quality of digital governance is seen as one of the most pressing issues determining progress in the European integration process.

The digital modernisation of public administration has been developed in the works of modern scholars. In particular, the introduction of information and communication technologies in the management system is devoted to the works of Chausovska,[1] Zarubei et al.[2], Herasymiuk and Tarasiuk,[3] Voytenko et al.[4] For example, Chausovska[1] established the relationship between public services and other types of services and proposed the author's methodology for classifying public services in terms of technological innovation. Herasymiuk and Tarasiuk[3] investigated the potential of social networks in the system of public administration modernisation. According to the authors, the main advantages of social media are the ability to reach both the target audience and new users, conduct outreach, receive feedback, improve the quality and ensure the promptness of processing citizen requests. At the same time, Voytenko et al.[4] argue for the need for specific control of information by the authorities and management in order to form the basis of national information security and to prevent the emergence of an adverse reaction from society, which could reduce the level of trust in the authorities and the democratic foundations of the information space.

The specifics of digital competencies' formation in civil servants are analysed by scientists Halych and Demydkin,[5] Merzlyak et al.,[6] Semenets-Orlova et al.,[7] Krasivskyi.[8] In particular, Halych and Demydkin[5] highlight the advantages of information technology in public administration for the implementation of socio-economic cooperation projects, including increasing the level of mutual trust in society, strengthening feedback, creating innovative forms of public participation in public administration, establishing sources of transparency of the actions of interacting institutions.

https://doi.org/10.56294/sctconf20241142

A significant contribution to the study of public management from the standpoint of digitalisation was made by Shevchenko et al.,[9] Bielialov et al.,[10] Klochan et al.,[11] who thoroughly describe the algorithms and tools for synergising digital processes and management. For example, Shevchenko et al. [9] focus on the creation of information assets, risk minimisation, the possibility of remote collaboration, and the ability to respond quickly to existing security, competitive, and other types of challenges. At the same time, Bielialov et al.[10] and Klochan et al.[11] analyse the ways and methods of organising consulting activities based on digital platforms for information and analytical support of management technologies for reforming public administration and civil service.

The authors Sytnyk et al.[12] and Roieva et al.[13] analyse the essential aspects of the public administration process in government agencies, while Bisongo[14] and Kankanhalli et al.[15] identify priority digital solutions within digital governance. Kankanhalli et al.[15] further identify the challenges associated with introducing and adopting artificial intelligence technologies in the public sector and propose a concept that includes elements of AI and the Internet of Things for the intelligent transformation of government.

Despite modern scholars' significant scientific contribution, several aspects of the research issue still need to be better understood. In particular, the possibilities of using international experience to implement digitalisation technological innovations in Ukraine's state structures have been studied fragmentarily.

The study aims to analyse the introduction of technological innovations into the modernised public administration system in the context of state structures.

METHOD

The study is classified as theoretical and survey. The theoretical and methodological basis of the work was formed, considering the priority principles of conducting comprehensive research based on a systematic approach.

During the research, a set of general scientific methods of cognition was applied, including abstract, logical, comparative analysis, abstraction, induction and deduction, and concretisation.

The methods of analysis and synthesis are employed to identify the factors and stages of development of the object under study, as well as its defining elements. Induction was utilised to forecast indicators of future development. The method of scientific abstraction was used to formulate theoretical generalisations, clarify the conceptual apparatus, identify the main concepts and categories, and formulate the study's conclusions. The specification method was operated to position the effectiveness and feasibility of increasing the role of digital solutions in public administration and to identify optimal solutions for innovation in public structures.

Statistical methods in the context of achieving the research objectives have made it possible to systematise and summarise all information about the studied objects and phenomena, including not only positive aspects but also shortcomings. They also ensured the drawing of parallels between the essence and purpose of the studied object or phenomenon and the results of its functioning.

The research is limited by the lack of access to complete official current data and the difficulty of implementing experimental verification of theoretical conclusions.

RESULTS

The impact of digitalisation on the public administration system is reflected in essential digital solutions for optimising activities using artificial intelligence, blockchain technologies and cloud solutions, as well as in the transformation of management skills in the direction of analytical and critical thinking and communication competence. The general vector of digitalisation's impact on the public administration system is shown in table 1.

Against the backdrop of integration processes, the global community aims to develop a single digital environment that ensures security and cyber resilience, invests in competitiveness and innovation, and enhances digital competence and digital transformation of governance. In order to effectively monitor and evaluate the e-participation mechanisms implemented by the government, the United Nations (UN) introduced the E-Participation Index (EPI). In the process of defining e-participation, specific structural components are considered:

1) e-information – digital information, which provides citizens with access to the necessary information upon request or without it;

2) e-consultation – digital consultation, which involves citizens in discussing vectors for improving public policy and individual services;

3) e-decision-making – digital decision-making involves interaction between the government and society to develop policy options, public services, and algorithms for their provision.

https://doi.org/10.56294/sctconf20241142

Table 1. Impact of Digitalisation on Modernising Public Administration

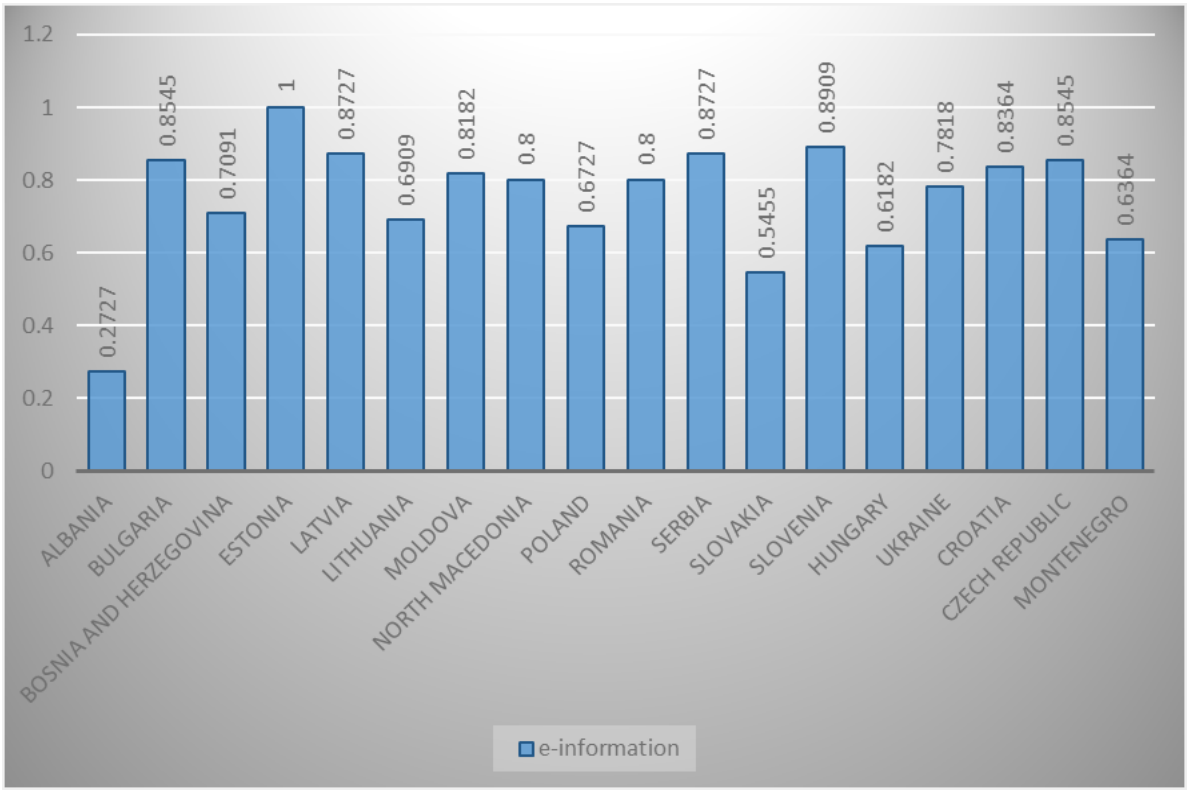
Impact aspect	Toolkit
Implementation of digital technologies and digital solutions	• Digital governance • Cloud technologies • Blockchain technologies
Human resources management	• Digitalisation of HR management • Personalisation and artificial intelligence technologies • Analytical and critical thinking • Communication skills
Cybersecurity and personal data protection	• Maximum automation of functionality • Implementation of cloud processes • Reliable monitoring and control systems

Source: compiled by the author based on Bisongo [14]

The development of e-participation in Ukraine requires creating and progressing conditions for citizens' unimpeded access to public information upon request or without it (e-information). The next stage is e-consultation, characterised by society's active involvement through digital consultation. Online discussions as a form of public consultation are currently gaining popularity in coordinating government decision-making processes under the influence of public opinion. The final stage of e-participation development involves e-decision-making.

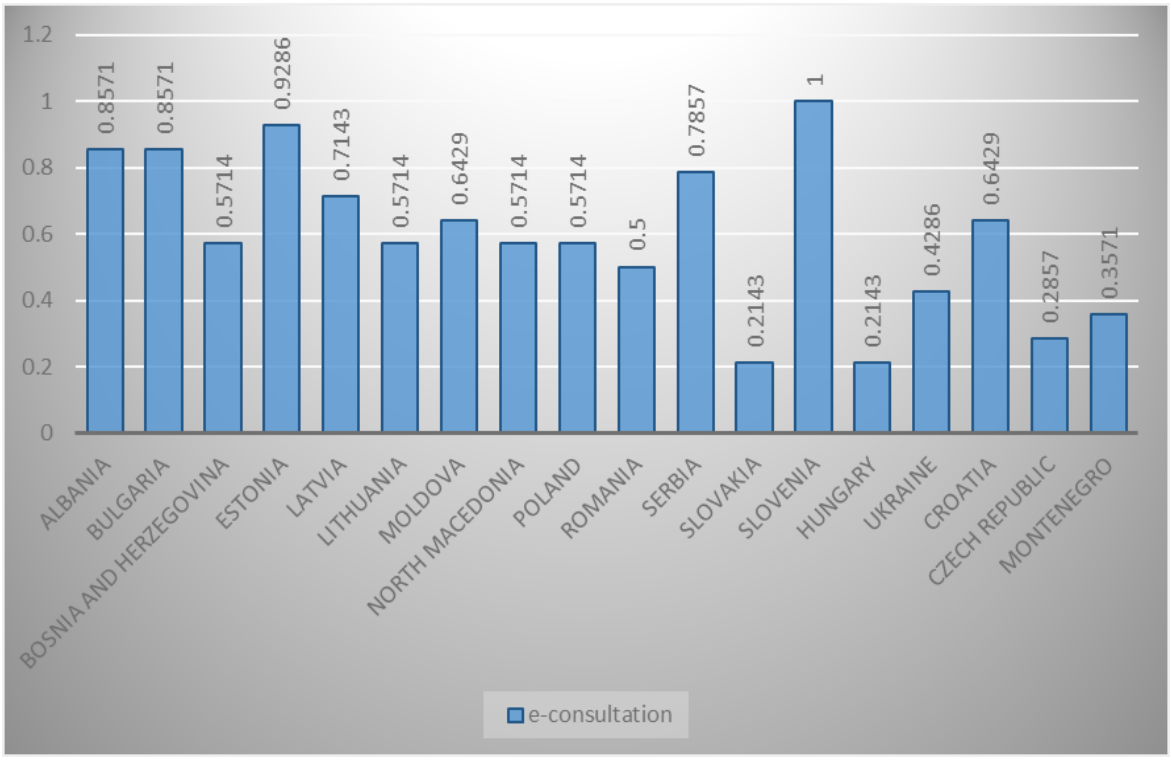
Ukraine currently has relatively low e-participation implementation rates (figure 1), which indicates the need for active support for initiatives to increase the openness and transparency of public administration processes, introduce integrated applications using open data, and intensify public accountability. These representative examples demonstrate the existing "weaknesses" and set priorities for future public administration development strategies.

Digital innovative technologies implemented in the digital government system help optimise government agencies' functioning, increase the efficiency of their activities, and create the preconditions for unimpeded public access to quality public services. Integrating digital governance with other areas of digital transformation, including developing digital infrastructure, increasing the population's digital competence, and creating a favourable ecosystem for innovative management projects, plays a unique role.

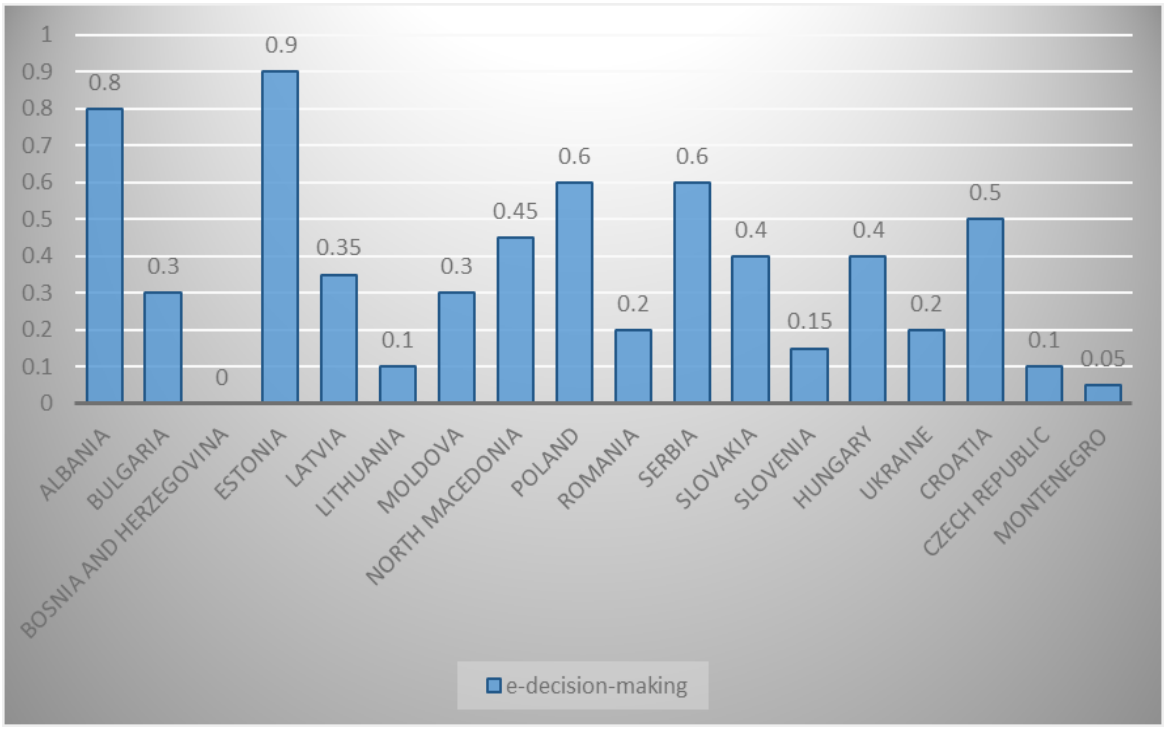


a)

https://doi.org/10.56294/sctconf20241142



b)



c)

Figure 1. Infographics of the CEE Countries' Ranking by Stages of E-participation, 2022:
a) e-information; b) e-consultation; c) e-decision-making
Source: compiled by the author based on the E-Government Development Index[16]

Among the practical recommendations for optimising the process of implementing digital government in Ukraine, considering current digitalisation trends, it is worth highlighting:

- creating a favourable regulatory framework in terms of improving the legislation governing digital government and digitalisation, providing the necessary basis for innovative public administration projects;
- ensuring accessibility, convenience and expanded functionality of digital services by public institutions by improving digital services;

https://doi.org/10.56294/sctconf20241142

- increasing the digital competence of civil servants and citizens through the implementation of training programmes and digital literacy workshops;
- development of comprehensive, integrated digital transformation strategies.

The administrative service delivery mechanism is accompanied by many related financial, economic, and personnel issues and cooperation and interaction between territorial communities. These are positioned as practical tools for local development, local self-government development, and the mutual exchange of effective practices in administrative service delivery. At the same time, the level of decentralisation of power should correspond to the balance between the independence of self-governing bodies in solving local problems and their real responsibility for the results of their activities.

Digitalisation is one of the main priorities of the State Strategy for Regional Development until 2027, which includes more than 60 digital transformation tasks and identifies priority goals in this direction. Among all sectors of public administration, local self-government bodies can benefit the most from investments in digital technologies, which will ensure the efficiency of municipal governance and the socio-economic development of communities.

Thanks to the local self-government reform and the decentralisation policy, much has been done in the establishment and development of digital local self-government in Ukraine: digital solutions in the field of communications are successfully used at the municipal level; digital systems and information resources at all the most priority areas of community life are created and maintained in an up-to-date state; most of the country's information resources are formed and concentrated at the municipal level; specialised units that address digitalisation issues are created and successfully operate in most cities; a separate direction has formed in the activities of digital business organisations, focused on creating digital solutions for local self-government bodies.

Digitalisation in the public administration sector requires the appropriate development of digital technologies and the presence of digital skills. The Association of Ukrainian Cities, which unites 1,055 communities where over 90 % of Ukraine's citizens reside, has entered into a Memorandum of Cooperation with the Ministry of Digital Transformation of Ukraine. Signed on February 23 2021, the primary objective of this collaboration is to consolidate efforts and define areas of cooperation in the implementation of digital transformation of communities. To this end, the Association is implementing measures that contribute to the digitalisation of municipalities.

On April 21, 2021, a round table was held on the topic "Digitalisation of Regions. Features of implementing smart city solutions in communities",[17] during which issues of sharing experiences in implementing innovative city solutions and plans for regional digitalisation, the current state, and features of implementing digitalisation programs and smart communities were discussed, examples of successful project implementations and community achievements on the path of digitalisation were considered.

On May 19, 2021, the All-Ukrainian Forum "Ukraine 30. Digitalisation" was held, during which it was noted that the issue of digitalising services in communities had reached a new level. If previously this area was mainly of interest to large cities, now even communities with a population of up to 50,000 are implementing modern information technologies. O. Slobozhan, Executive Director of the Association of Ukrainian Cities, emphasised that thanks to the Association of Ukrainian Cities efforts, 3 million UAH was allocated in the 2021 state budget for programs to improve Internet access. [18]

On February 3, 2023, the next meeting of the Public Council at the Ministry of Digital Transformation of Ukraine was held with the participation of the Association of Ukrainian Cities. The main issue discussed was regional digitalisation.[19]

On May 4, 2023, the Khmelnytsky regional branch of the Association of Ukrainian Cities held an online webinar on the topic "Community digitalisation: from dream to reality".[20]

On September 28, 2023, in the city of Yaremche, the Association of Ukrainian Cities, together with the All-Ukrainian Aerogeodesic Association, held a conference dedicated to developing and digitalising information in mountain communities of the Carpathian region.[21]

On April 22, 2024, a round table was held in the Committee of the Verkhovna Rada of Ukraine on Digital Transformation on the topic "Policy to promote innovation for the restoration and development of Ukraine", [22] which was attended by the Association of Ukrainian Cities and about 200 communities. During the event, representatives of the DG Connect Directorate-General of the European Commission presented an innovative solution for the complete cycle of recovery management for cities and communities based on the European Local Digital Twins tool, which is based on optimal models for the recovery and reconstruction of destroyed objects and will provide Ukraine with the opportunity to move to a new technological level of implementing modern solutions.

Local self-government bodies are actively involved in training programs in digitalisation. Thus, for participation in the "Community 4.0" Program (an acceleration program for representatives of local self-government bodies aimed at creating and implementing digital projects for communities to ensure resilience

during the war and the needs of future reconstruction), which started in March 2023 and involved active work by representatives of local self-government bodies on the concepts of digital transformation projects, 52 communities were selected out of 291 applications submitted. As a result of the training, 21 local self-government teams presented digital transformation projects. Among the presented projects were the chatbot "Travel around Haivoronshchyna" (Haivoron community, Kirovohrad region), a digital registry of community land plots with investment passports of free plots (Tarashcha community, Kyiv region), a universal online platform for convenient and accessible public services (Volodarka community, Kyiv region), an e-document management system that will ensure modern routing and transparent document processing (Berezna community, Chernihiv region), and others.

In general, the digitalisation of public administration transforms traditional approaches to providing public services, increasing efficiency, speed, and convenience. Table 2 presents the areas of practical implementation of digital public administration.

The types of public services presented in table 2 demonstrate the directions of creating a more efficient state apparatus through the digitalisation of public administration, which can best meet the needs of a digitalised society.

Table 2. Practical Implementation Areas of Digital Public Administration

Types of public services	The potential of digitalisation
Digital Government – digital government services	It allows citizens to receive traditional government services online, including business registration, filing tax returns, ordering certificates and certificates, and applying for social assistance.
e-Democracy – digital democracy	It increases citizen participation in government by allowing online voting, e-petitions, public discussions, and consultations.
e-Social Services – social services	It enables more efficient assistance and support to those in need, including online social assistance platforms, programmes for people with disabilities, and other digital social protection tools.
e-Security – public security	This includes using digital technologies to improve the effectiveness of law enforcement, emergency management, monitoring and response to threats.
e-Education – educational technologies	This includes distance learning, e-libraries, online courses and platforms for collaboration between teachers and students, which provides greater flexibility and accessibility to education
e-Health – digital health	It promotes improved access to healthcare services, including digital medical records, online consultations with doctors, digital prescribing, and patient health monitoring.

Source: compiled by the author based on Shmyhelskyi [23]

The creation of unified digital portals for the online provision of public services significantly simplifies the interaction process between society and the state. Using big data and digital analytics allows government agencies to adapt public services to the requirements of an integrated society, optimising planning and resource allocation.

The effectiveness of this process should be intensified by adapting the legal regulation of the following aspects:

- use of digital signatures and protection against related cyber threats;
- standardisation of public services in digital format;
- protection of personal confidential data of recipients of public services and the legal significance of digital document management;
- providing infrastructure for information technology interaction;
- accessibility of digital public services to the public and government agencies.

Thus, to fully comply with the requirements of the EU-Ukraine Association Agreement, Ukraine needs to implement and develop European countries' experience in digitalising public services, adapting it to the realities of wartime and post-war reconstruction programmes.

DISCUSSION

Innovative events in public administration should focus on modernising the digital tools system, increasing the accessibility, speed, and completeness of information, and expanding the boundaries of transformational change.[24,25,26] Most modern scholars see public administration as the basis for the innovative development of socio-economic processes towards sustainable development. Researchers in current scientific fields[27] are convinced of the unprecedented effectiveness of digital governance.

According to scholars,[28,29] the digital transformation of the modern public administration system involves

fundamental changes in the communication model. Innovative solutions in the field of public administration should focus on modernising the system of digital tools, increasing the availability, speed, and completeness of information, and expanding the scope of transformational changes. In particular, Mansoor et al.[30] propose the use of digital technologies in the selection of personnel of state structures and assess the quality of their activities using a targeted mobile application to assess their contribution to the effectiveness of public authorities objectively. According to Cagle[31] and Savić and Pavlović,[32] digital training of public servants should focus on developing modern digital competencies in data analysis, social media management, graphic visualisation and mobile technologies.

Despite scientists' significant achievements, increasing the accessibility of financial services for all population segments is considered one of today's most pressing economic problems. [33] It requires an active scientific search for ways to optimise the situation.

CONCLUSION

The digitalisation of public administration should ensure the formation of a digital platform based on the "single window" concept. This concept provides a system of digital information, access, and e-services to organise digital interaction between government agencies, society, and business representatives.

The main vectors of public administration modernisation in Ukraine include implementing the latest technologies for collecting, accumulating, analysing, and using information from various sources, updating the digital governance system, maximising the digitalisation of local development processes, and integrating the monitoring and evaluation of digital governance.

Ukraine demonstrates low levels of digitalisation of public administration in government agencies compared to European countries. This indicates the need to develop initiatives to open government data, increase civic responsibility, and develop applications using open data. The data presented in the study demonstrate existing "weaknesses" and set priorities for future public administration development strategies.

Thus, the impact of digitalisation on the modernisation of public administration in Ukraine is positioned as an integral part of European integration development, which requires adaptation to modern challenges and a comprehensive approach. The digitalisation of public services has the potential to catalyse a positive transformation of social processes, contributing to the development of open, dynamic and citizen-oriented governance. An in-depth analysis of the impact of human potential in Ukraine's digital participation in the European Human Development Index (HDI) context is a promising area for further research.

REFERENCES

1. Chausovska SI. The concept of public services and their classification. State and Regions 2017; 1(57): 102–109. http://pa.stateandregions.zp.ua/archive/1_2017/20.pdf

2. Zarubei V, Kuybida V, Kozhyna A, Vdovichena L, Varenia N. Modeling and technology of public administration of socio-economic security for digitalization. International Journal of Management (IJM) 2020; 11(3): 143–154. http://www.iaeme.com/IJM/issues.asp?JType=IJM&VType=11&IType=3

3. Herasymiuk LS, Tarasiuk LM. Information and communication technologies as a factor in the transformation of the process of forming the image of public administration. Scientific notes of V. I. Vernadsky Taurida National University. Series: Public management and administration 2022; 33(72), 3: 42–45. https://doi.org/10.32838/TNU-2663-6468/2022.3/08

4. Voytenko AB, Plotnikova MF, Buluy OG. Information technologies in communication and interaction of government, society and business in public administration, local self-government and entrepreneurship development. Public administration: improvement and development 2021; (2). https://doi.org/10.32702/2307-2156-2021.2.38

5. Halych OA, Demydkin OS. Features of information systems and technologies of public management and administration in the context of European integration processes. Economy. Finances, Management: Topical Issues of Science and Practical Activity 2021; 2(56): 151–166. https://doi.org/10.37128/2411-4413-2021-2-11

6. Merzlyak A, Boklag V, Vikhort Yu. Foreign experience of electronic public services system development under conditions of information society fostering. State and regions 2021; 1(71): 136–142. https://doi.org/10.32840/1813-3401.2021.1.21

7. Semenets-Orlova I, Kushnir V, Rodchenko L, Chernenko I, Druz O, Rudenko M. Organisational development and educational changes management in public Sector (case of public administration during war time

[Desenvolvimento organisational e gestão de mudanças educacionais no setor público (caso da administristração pública em tempo de Guerra)]. International Journal of Professional Business Review 2023; 8(4). https://doi.org/10.26668/businessreview/2023.v8i4.1699

8. Krasivskyi O. Features of public involvement and digitalisation of services in the reform of public administration during the war. Democratic governance 2023; 1(31): 12–23. https://doi.org/10.23939/dg2023.01.012

9. Shevchenko I, Lysak O, Zalievska-Shyshak A, Mazur I, Korotun M, Nestor V. Digital Economy in a Global Context: World Experience. International Journal of Professional Business Review 2023; 8(4): e01551. https://doi.org/10.26668/businessreview/2023.v8i4.1551

10. Bielialov T, Kalina I, Goi V, Kravchenko O, Shyshpanova N, & Negoda A. Global Experience of Digitalisation of Economic Processes in the Context of Transformation. Journal of Law and Sustainable Development 2023; 11(3). https://doi.org/10.55908/sdgs.v11i3.814

11. Klochan V, Piliaiev I, Sydorenko T, Khomutenko V, Solomko A, Tkachuk A. Digital platforms as a tool for the transformation of strategic consulting in public administration. Journal of Information Technology Management 2021; (13): 42–61. https://doi.org/10.22059/JITM.2021.80736

12. Sytnyk HP, Zubchyk OA, Orel MH. Conceptual understanding of the peculiarities of managing innovation-driven development of the state in the current conditions. Science and Innovation 2022; 18(2): 3–15. https://doi.org/10.15407/scine18.02.003

13. Roieva O, Oneshko S, Sulima N, Saienk V, Makurin A. Identification of digitalisation as a direction of innovative development of modern enterprise. Financial and credit activity-problems of theory and practice 2023; 1(48): 312–325. https://doi.org/10.55643/fcaptp.1.48.2023.3968

14. Bisongo M. Sustainable development goals in public administrations: Enabling conditions in local governments. International Review of Administrative Sciences 2023; 89(4). https://doi.org/10.1177/00208523221146458

15. Kankanhalli A, Charalabidis Y, Mellouli S. IoT and AI for Smart Government: A Research Agenda. Government Information Quarterly 2019; 36(2): 304–309. https://doi.org/10.1016/j.giq.2019.02.003

16. E-Government Development Index (EGDI). https://publicadministration.un.org/egovkb/en-us/About/Overview/-DigitalgovernmentDevelopment-Index

17. The AUC invites hromadas to take part in the round table "Digitalisation of Regions: Features of Smart City Solutions Implementation in Hromadas". Administrative services 2021. https://auc.org.ua/novyna/amu-zaproshuye-gromady-vzyaty-uchast-u-kruglomu-stoli-cyfrovizaciya-regioniv-osoblyvosti

18. Slobozhan O. Digitalisation will ensure equal access to services for residents in all Ukrainian hromadas. Administrative services 2021. https://auc.org.ua/novyna/oslobozhan-cyfrofizaciya-dozvolyt-zabezpechyty-rivnyy-dostup-do-poslug-zhytelyam-u-vsih

19. Digitalisation of regions is the topic of the Public Council under the Ministry of Digital Transformation. Administrative services 2022. https://auc.org.ua/novyna/cyfrovizaciya-regioniv-tema-gromadskoyi-rady-pry-mincyfri

20. News from the Makivka community. https://makivska-gromada.gov.ua/news/1683196188/

21. Development and digitalisation of information in mountainous communities of the Carpathian region. Land and property 2023. https://auc.org.ua/novyna/rozvytok-ta-cyfrovizaciya-informaciyi-u-girskyh-gromadah-prykarpattya

22. The Digital Transformation Committee held a roundtable meeting on the topic: Policy of stimulating the development of innovations for the restoration and development of Ukraine. Press service of the Verkhovna Rada of Ukraine 2024. https://www.rada.gov.ua/news/news_kom/248741.html

23. Shmyhelskyi V. Theoretical foundations of public service provision in the context of digitalisation of public administration. In M. Bunyk, K. Blischuk, O. Fedorchak, O. Khudoba (Eds.), European integration and transformation of public administration in Ukraine, pp. 47–50. Lviv Polytechnic National University; 2024. https://lpnu.ua/sites/default/files/2024/pages/27385/iadu19042024-ostanne.pdf

24. Semenets-Orlova I, Shevchuk R, Plish B, Moshnin A, Chmyr Y, Poliuliakh R. Human-centred approach in new development trends of value-oriented public administration: Potential of education. Economic Affairs (New Delhi) 2022; 67(5): 899–906. https://doi.org/10.46852/0424-2513.5.2022.25

25. Semenets-Orlova I, Shevchuk R, Plish B, Grydiushko I, Maistrenko K. Innovative approaches to development of human potential in modern public administration. Economic Affairs (New Delhi) 2022; 67(4): 915–926. https://doi.org/10.46852/0424-2513.4s.2022.25

26. König PD, Wurster S, Siewert MB. Sustainability challenges of artificial intelligence and Citizens' regulatory preferences. Government Information Quarterly 2023; 40(4): 101863. https://doi.org/10.1016/j.giq.2023.101863

27. Fotoh LE, Lorentzon JI. The impact of digitalisation on future audits. Journal of Emerging Technologies in Accounting 2021; 18(2). https://doi.org/10.2308/JETA-2020-063

28. Coman DM, Ionescu CA, Duică A, Coman MD, Uzlau MC, Stanescu SG, State V. Digitisation of accounting: The premise of the paradigm shift of role of the professional accountant. Applied Sciences 2022; 12(7). https://doi.org/10.3390/app12073359

29. Zhang M, Ye T, Jia L. Implications of the "momentum" theory of digitalisation in accounting: evidence from Ash Cloud. China Journal of Accounting Research 2022; 15(4). https://doi.org/10.1016/j.cjar.2022.100274

30. Mansoor MA, Salmanand EM, Al-Sartawi A. Transformation of Managerial Accounting Trends in the Era of Digitalisation. Lecture Notes in Networks and Systems 2023; (557): 717–723. https://doi.org/10.1007/978-3-031-17746-0_57

31. Cagle MN. Reflections of Digitalisation on Accounting: The Effects of Industry 4.0 on Financial Statements and Financial Ratios. In Hacioglu, U. (Eds), Digital Business Strategies in Blockchain Ecosystems. Contributions to Management Science, pp. 473–501. Springer, Cham; 2020. https://doi.org/10.1007/978-3-030-29739-8_23

32. Savić B, Pavlović V. Impact of Digitalisation on the Accounting Profession. In: Benković, S., Labus, A., Milosavljević, M. (Eds.), Digital Transformation of the Financial Industry. Contributions to Finance and Accounting. pp. 19–34. Springer, Cham; 2023. https://doi.org/10.1007/978-3-031-23269-5_2

33. Kozhyna A. Modern trends in the development of public administration in the field of museums in the context of digital transformation. Aspects of Public Administration 2023; 11(4): 89-96. https://doi.org/10.15421/152357

FINANCING

The authors did not receive funding for the development of this research.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHORSHIP CONTRIBUTION

Conceptualisation: T. Ivanova, A. Kozhyna, A. Lelechenko, T. Derun, O. Slobozhan.
Data curation: T. Ivanova, A. Kozhyna.
Formal analysis: A. Lelechenko, T. Derun.
Research: T. Ivanova, A. Kozhyna, A. Lelechenko, T. Derun, O. Slobozhan.
Methodology: T. Ivanova, A. Kozhyna, A. Lelechenko, T. Derun, O. Slobozhan.
Project management: O. Slobozhan.
Resources: T. Ivanova, A. Kozhyna, A. Lelechenko, T. Derun, O. Slobozhan.
Software: T. Ivanova, A. Kozhyna.
Supervision: T. Derun.

Validation: A. Lelechenko.
Display: O. Slobozhan.
Drafting – original draft: T. Ivanova, A. Kozhyna, A. Lelechenko, T. Derun, O. Slobozhan.
Writing – proofreading and editing: T. Ivanova, A. Kozhyna, A. Lelechenko, T. Derun, O. Slobozhan.

https://doi.org/10.56294/sctconf20241142