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Innovations in Public Administration and Management for Implementing Effective Strategies and Tools

Innovaciones en la Administración y Gestión Públicas para Aplicar Estrategias y Herramientas Eficaces

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ABSTRACT

Introduction: the current global dynamics and the European integration course of Ukraine's development transform the requirements for forming a public administration paradigm. At the same time, the transfer of innovations is seen as a key element in ensuring the efficiency of the management system and complementarity with the requirements of modern society.

Method: publications indexed in leading scientific databases were utilised. The inclusion and exclusion criteria for publications were based on spatial-temporal indicators and the level of information reliability. Among the methods used to assess the risk of bias in the included studies was the brainstorming method. Additionally, general scientific methods were employed.

Results: it identifies the main directions of innovative development of public administration systems in the European community. The emphasis is placed on the functionality of digitalisation tools and information and communication technologies that automate a significant part of public administration processes and improve public service quality. Several economic indicators representing the tendency to increase efficiency are presented. A comparative analysis of the indicators of e-government development in different countries and the global context is carried out. Practical concepts and practical tools for integrating innovations into public administration in the context of sustainable development are substantiated.

Conclusions: the study proves that e-governance, analytical tools, artificial intelligence, digital interaction platforms, and geographic information systems allow today to implement successful concepts of public-private partnerships and increase the efficiency of public administration. The concepts of transparency, adaptability and innovation are complementary to the requirements of society and allow for addressing the complex challenges of our time.

Keywords: Digital Technologies; E-Government; Geographic Information Systems; Innovation Culture; Participatory Methods; Public Sector Management.

RESUMEN

Introducción: la actual dinámica global y el curso de integración europea del desarrollo de Ucrania transforman los requisitos para la formación de un paradigma de administración pública. Al mismo tiempo, la transferencia de innovaciones se considera un elemento clave para garantizar la eficacia del sistema de gestión y la complementariedad con las exigencias de la sociedad moderna.
Método: se utilizaron publicaciones indexadas en las principales bases de datos científicas. Los criterios de inclusión y exclusión de las publicaciones fueron el indicador espacial y temporal y el nivel de fiabilidad de la información. Los métodos utilizados para evaluar el riesgo de sesgo en los estudios incluidos incluyeron el método de lluvia de ideas. También se utilizaron métodos científicos generales.
Resultados: identifica las principales direcciones del desarrollo innovador de los sistemas de administración pública en la comunidad europea. Se hace hincapié en la funcionalidad de las herramientas de digitalización y las tecnologías de la información y la comunicación que automatizan una parte importante de los procesos de la administración pública y mejoran la calidad de los servicios públicos. Se presentan varios indicadores económicos que representan la tendencia al aumento de la eficiencia. Se realiza un análisis comparativo de los indicadores de desarrollo de la administración electrónica en distintos países y en el contexto mundial. Se fundamentan conceptos prácticos y herramientas prácticas para integrar las innovaciones en la administración pública en el contexto del desarrollo sostenible.
Conclusiones: el estudio demuestra que la gobernanza electrónica, las herramientas analíticas, la inteligencia artificial, las plataformas de interacción digital y los sistemas de información geográfica permiten hoy en día implementar con éxito conceptos de colaboración público-privada y aumentar la eficiencia de la administración pública. Los conceptos de transparencia, adaptabilidad e innovación son complementarios a las exigencias de la sociedad y permiten abordar los complejos retos de nuestro tiempo.

Palabras clave: Tecnologías Digitales; Administración Electrónica; Sistemas de Información Geográfica; Cultura de la Innovación; Métodos Participativos; Gestión del Sector Público.

INTRODUCTION

The need to introduce innovative solutions to upgrade the public administration system is now apparent and driven by public demands. The dynamics of the integrated environment of socio-economic and social development require a sustainable effect of public administration despite conditions of instability and crisis.

Public administration needs to transfer innovative solutions to remain as effective as possible. The above will allow for the effective transfer of knowledge, experience, skills, methods, and technologies within the framework of public-private cooperation.

The dynamics of modern economic space and the rapid development of information, communication, scientific, and technical capabilities intensify this process's relevance. Thus, practical concepts and tools have a primary potential in introducing innovations into the public administration system, which will help achieve the strategic goals of democratic progress in the shortest possible time.

The relevance of the issues under study contributes to increased scientific interest in the range of issues within it. Today, there is an increase in the number of publications on this topic in the national and foreign scientific fields.

In particular, some researchers[1] study the impact of innovations in public administration on sustainable development, while others study the process of modernising the activities of governing bodies.[2] Some scholars focus on the diversity of innovative tools, methods, and techniques to find ways to maximise the satisfaction of society's needs and increase public trust.[3] Definition e-government focuses on the rationale behind implementing e-government rather than the ICT tools themselves. In light of the necessity to enhance government efficiency while addressing the needs of citizens, OECD countries have recognised that e-government extends beyond the mere placement of information and services online.[4] Overall, e-government in the public management system improves service quality, increases the efficiency and transparency of government processes, and enhances the level of interaction between the government and citizens.[5]

Torugsa and Arundel[6] and Clausen et al.[7] propose transforming and actively applying the risk management system in public sector institutions. At the same time, several scholars[8-10] analyse the potential for the assimilation of traditional public administration tools and innovative solutions.

Currently, maximum attention is focused on upgrading the functioning of the public administration sector by engaging society and integrating tools for innovative progress.[11] At the same time, some scholars[12, 13] define the issue in a broader vision and study aspects of globalisation of the innovation transfer process to strengthen national values.

Rocha[14] examines innovation in the public sector through the lens of upgrading processes and technologies, creating adapted products, and integrating a new system of social values. In contrast, Bekti [15] positions innovation as an active interaction between the state, the private sector, and society.

Attour and Chaupain-Guillot[16] analyse aspects of the impact of innovative solutions in administrative and technological policy on the processes of implementing a general e-government system within municipalities. At the same time, Kuznetsova et al.[17] consider the potential for transferring innovative public administration tools to prevent corruption risks and counter the shadow economy.

The practical social implications and related challenges are studied by scholars,[18,19,20,21] who advocate the need to integrate digital solutions to increase the efficiency, accountability and transparency of public administration processes) In the academic environment, discussions are held on improving public management tools in the context of innovation transfer as a countermeasure to shadow financial operations.[17]

Despite the significant achievements of scientists, the problem of upgrading the public administration system using adaptive innovation tools leaves a wide field for the development of the research problem.

The article aims to analyze innovative solutions in public administration in the context of integrating effective tools and strategies.

METHOD

The type of review: The research involves an original scientific development.

The search strategy employs a combined approach.

Data Collection and Sources. Evaluation Criteria. The primary limitation of this original study is the lack of full access to official data. Initially, industry publications and recent academic works were examined and analysed, focusing on topics related to the studied issue. Priority was given to publications indexed in leading scientometric databases and covering the time period from 2019 to 2024.

Analytical Frameworks and Methods. The primary methods applied during the research process included analysis, synthesis, comparison, generalisation, and abstraction. Analysis and synthesis enabled the identification of key directions for the innovative development of public administration systems within the European community. Emphasis was placed on the functionality of digitalisation tools and information and communication technologies, which automate a significant portion of public administration processes and enhance the quality of public services.

Comparison was used to juxtapose economic indicators reflecting trends in increased efficiency with indicators of e-government development across various countries and in the global context.

Generalisation and abstraction facilitated the substantiation of practical concepts and tools for integrating innovations into public administration within the framework of sustainable development.

RESULTS

Despite the differences in the organisational structure, specifics of functioning and development, and related limitations, public-private partnerships, as an integral conceptual framework for the development of public administration, contribute to active socio-economic growth.[22] Today's basis for these processes is the transfer of innovative solutions to the management system.[23,24]

As a result of the European Commission's activities, priority vectors for innovative public administration development were determined at a particular stage. These include advanced technologies, open government policy, transparency, adaptability, and integration of participatory governance methods.[25] At the same time, transforming the political system and upgrading the functionality of public administration bodies can ensure the intensive development and improvement of the public administration system.[26]

Innovations in public administration involve digital transformation, data analytics, artificial intelligence, and programmes focused on the interests and demands of society. Implementing modern digitalisation capabilities makes it possible to intensify decentralisation processes, increase adaptability to the dynamics of society, ensure transparency and openness of information, and provide unimpeded access to management decisions and control over their implementation.

Geographic information systems (GIS) help government agencies to efficiently allocate and manage various resources, including land, water and energy. GIS takes into account the geographical distribution of these resources. These applications demonstrate how GIS plays a crucial role in modern public administration. GIS is a convenient tool for analysing, planning and making decisions at different levels of governance and interaction with the public.[27]

The impact of digital solutions on the public administration system is practically expressed in artificial intelligence and blockchain technologies, cloud solutions integration, and communication interaction development. Table 1 presents the directions of digitalisation's impact on public administration processes.

It is obvious that transferring innovations to public administration contributes to achieving society's strategic goals. This is evidenced by the dynamics of the Quality of Life Index in Ukraine from 2012 to 2024 (figure 1).

| Table 1. Digital optimisation of public administration processes	
Concept	**Characteristic features**
Implementation of modern digital solutions for information processing and protection	– cloud resources – blockchain – artificial intelligence technologies
Upgrading the skills of the Uravlinka team	– digital competence – critical thinking – intercultural communication – creativity
Cyber defence	– automation of functionality – control and monitoring – protection of confidential information – personification
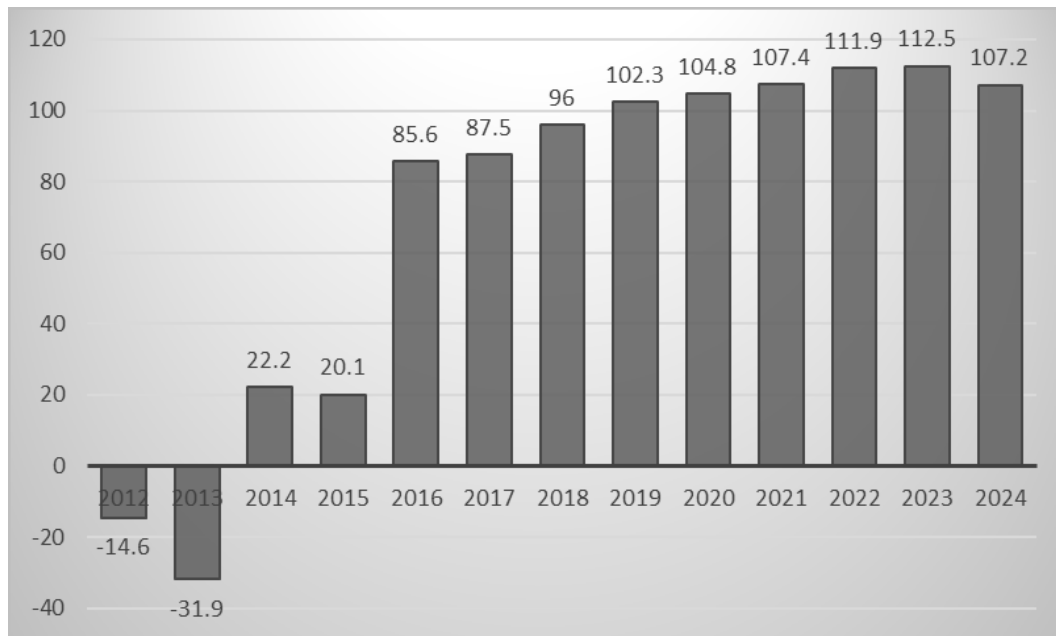
Figure 1. Changes in the Quality of Life Index in Ukraine, 2012-2024
Source: NUMBEO[28]

As figure 1 shows, the beginning of the active development of the public administration system based on innovative experience has improved the overall quality of life.[28]

The analysis of global data on the quality of public administration is a helpful source of innovative experience for countries embarking on the path of public administration development (figure 2). In this case, the graph shows a growing trend of direct dependence on research and development expenditures as a percentage of GDP.
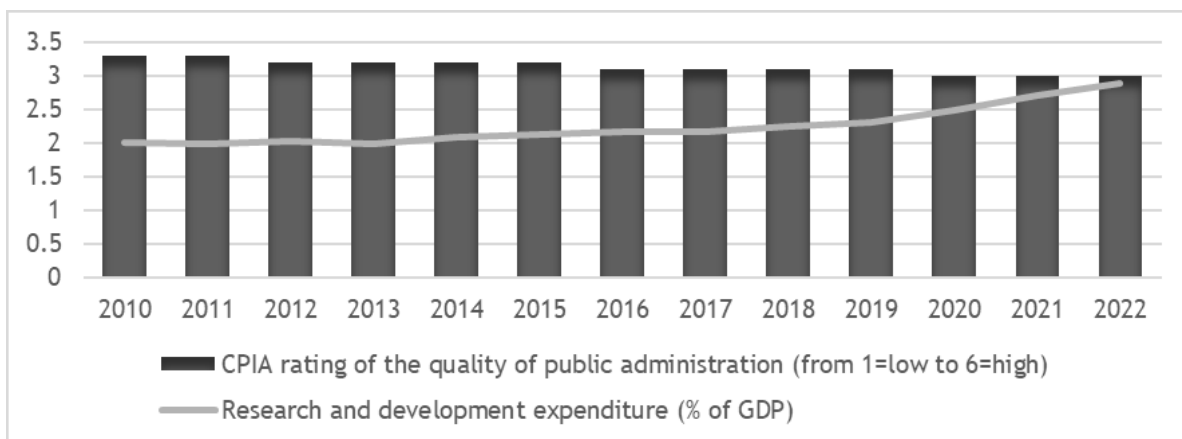

Figure 2. Global Average R&D Expenditure and CPIA Budget and Financial Management Quality Rating (1=low to 6=high)
Source: World Bank[29]

Today, e-government plays an important role, as it automates numerous administrative processes, makes information about public authorities' activities accessible, increases transparency and accountability, and enhances the interaction between authorities and citizens.[30,31] The effectiveness of e-government is measured by the e-Government Development Index (GDI) and the Participation Index (PI).

The E-Governance Development Index (E-GDI), developed by the United Nations (UN), is used to measure the effectiveness of e-government in different countries. The index considers several important indicators: accessibility of government websites, electronic services for citizens and businesses, electronic document management, electronic mechanisms for interaction with citizens and businesses, and digital transparency. At the same time, E-GDI ranks countries, which makes it possible to identify strengths and weaknesses in this area for further improvement. Ukraine's position in the global E-GDI and RI rankings for 2022 is shown in figures 3 and 4.
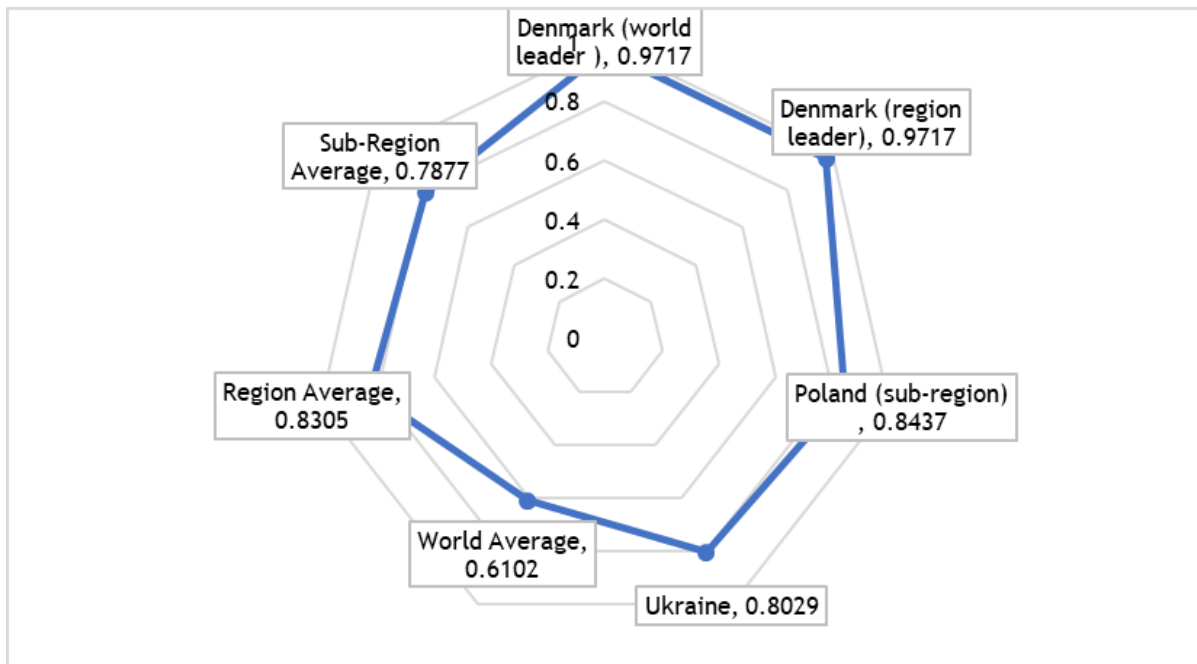

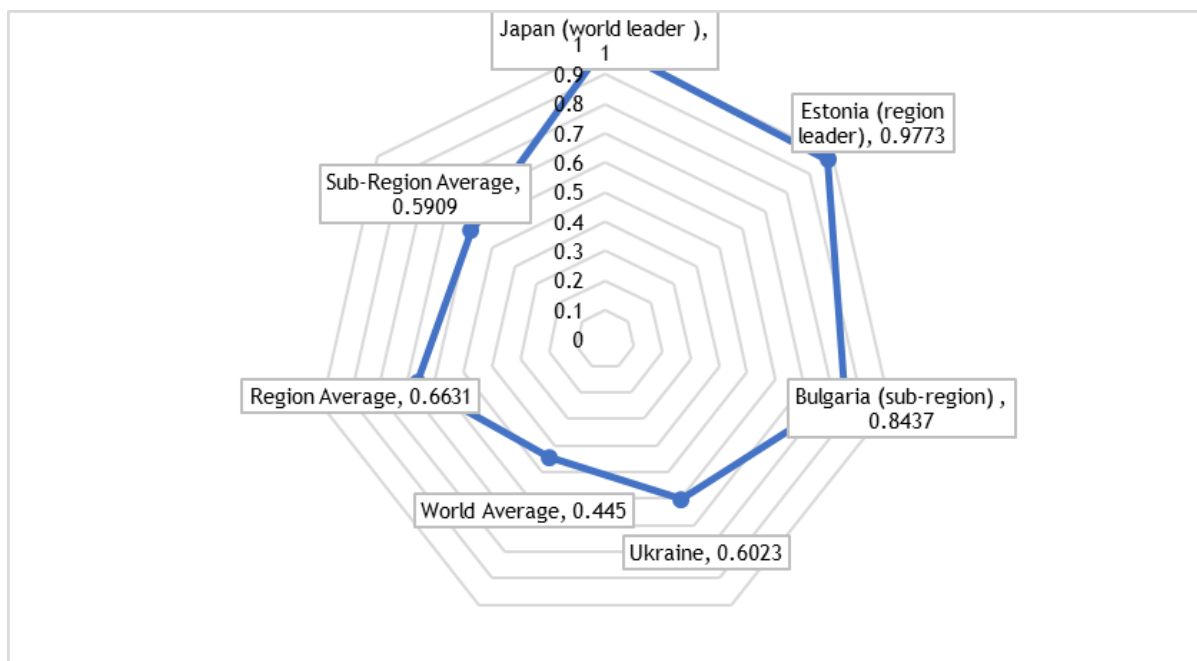**Figure 3.** E-Governance Development Index, 2022
Source: UN[22]

Figure 4. E-Participation Index, 2022
Source: UN[22]

A review of the above indicators in the context of public administration demonstrates that the latter's success depends on the integration of innovative strategies and tools. Typical goals include the creation of a single information space, optimisation of financial management, digitalisation of document flow, and individualised digital solutions for automating both the administration function and other management processes.

DISCUSSION

Implementing innovations in public administration requires identifying practical strategies and tools. In particular, the material basis for upgrading the public administration system is determined by a set of resources that make it possible to perform managerial functions and solve the tasks assigned by law. Massey[32] notes the main components of the material basis for the transformation of the public administration system:

1. Financial resources, i.e. own budget, are formed from taxes, fees and other local revenues. Financial autonomy enables local authorities to address issues related to their innovative development in the context of publicity.

2. Economic opportunities: In the context of decentralisation, regions can actively develop their own economies, attract investment, and implement projects aimed at intensifying the effectiveness of public administration at the local level.

3. Qualified personnel in public administration is an important part of the material basis, as professional and competent employees contribute to the adequate performance of the tasks of self-government bodies.

4. Grants, subsidies, and assistance from the state or international organisations provided for specific projects and programmes.

Such conclusions are synergistic with the results of the current study, reinforcing them.

When comparing the obtained results with the conclusions of scholars, it is worth noting that, firstly, financial autonomy in a regional context requires a high level of institutional development, which is challenging to ensure in developing countries. Secondly, economic opportunities under conditions of decentralisation indeed require the attraction of investments and grants aimed at enhancing the efficiency of public administration at the local level. Special attention should be given to the development of personnel strategies based on the principles of transparency, adaptability, and innovation. Additionally, the requirement for digital innovation development must be emphasised, which entails upgrading existing approaches to management processes.

Upgrading the public administration system is an important component of democratic transformation and development of society. Mountasser and Abdellatif[19] argue this point. According to the scientists, its successful implementation depends on an effective combination of regulatory, material and financial foundations. All these elements in synergistic interaction form the basis for the sustainable development of municipalities and support their socio-economic progress. It is necessary to agree with the scholars, as only the synergy of institutional and financial-economic foundations can effectively stimulate the development of the public administration system.

According to Attour and Chaupain-Guillot,[16] the public administration system, which is based on the provision of the necessary resources, is one of the most influential factors of effective regional development, which stimulates the practical independence of regions, has a positive impact on business development, allows for effective infrastructure development, and ensures the solution of amenity problems. In addition to the conclusions of the above-mentioned scholars, the current study demonstrates that innovative digital solutions positively impact the formation of the public administration system, even in the limited conditions of the socio-economic crisis.

It is widely acknowledged that innovations, at least in the private sector, are fundamental to economic growth and prosperity through creative destruction, which stimulates entrepreneurial activity.[33] This study comprehensively analysed the gaps in the existing developments in integrating the potential of modern information systems into the public administration environment. Comparing the research findings with the conclusions of contemporary researchers, it is important to emphasise the necessity of a systematic approach to upgrading management systems. Modern public administration requires consideration of societal demands on one hand and international standards on the other, to ensure the harmonious resolution of problematic aspects. At the same time, in-depth studies are needed on the dependence of international indicators of digital development of management processes on indicators of socio-economic growth.

CONCLUSIONS

The aim of the article was to analyse innovative solutions in public administration in the context of integrating effective tools and strategies. The research findings convincingly indicate that e-governance, analytical tools, artificial intelligence, as well as geographic information systems and digital interaction platforms, currently enable the enhancement of public administration efficiency by implementing successful public-private

partnership concepts. Concepts of transparency, adaptability, and innovation complement societal demands and allow for the resolution of complex modern challenges.

The research results highlight the functionality of progressive tools in modern public administration in the context of improving transparency, innovation, efficiency, and public engagement. These tools and methods enable contemporary society to meet its demands.

The analysis of defined indicators in the context of public administration demonstrates that its success depends on the integration of innovative strategies and tools. Typical goals include the creation of a unified information space, the optimisation of financial management, the digitisation of document workflows, and personalised digital solutions for automating both administrative functions and other management processes.

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CONFLICT OF INTEREST
The authors declare that there is no conflict of interest.

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