

Research Paper

Infrastructural Support of the Innovation and Information Trajectory of Public Administration Development

Tetiana Shestakovska^{1*}, Olena Nikoliuk², Inna Moskalets³, Oleksandra Kazarian⁴, Genrykh Kazarian⁴ and Tetiana Botika⁵

¹Chernihiv Institute of Information, Business and Law Higher Educational Institution “Academician Yuriy Bugay International Scientific and Technical University”, Chernihiv, Ukraine

²Department of Public Management and Administration, Faculty of Management, Marketing and Public Administration, Department of Public Management and Administration, Odesa National University of Technology, Odessa, Ukraine

³Higher Educational Institution “Academician Yuriy Bugay International Scientific and Technical University”, Chernihiv, Ukraine

⁴Interregional Academy of Personnel Management, Kyiv, Ukraine

⁵Department of Philosophy and Law, Faculty of Management, Marketing and Public Administration, Department of Philosophy and Law, Odesa National University of Technology, Odessa, Ukraine

*Corresponding author: shestakovska27@gmail.com (ORCID ID: 0000-0002-8098-8439)

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ABSTRACT

The formation of sustainable innovative development of public administration involves the implementation of a system of measures, functions, methods, ways, and strategies to achieve program, project economic, financial, and social levels of efficiency. This is ensured by the creation and use of infrastructure tools to support and scientific development of innovation processes. The relevance of the issue of the need to solve scientific problems of innovation processes is growing in the context of increasing the level of innovation in the external environment, reducing economic growth rates, and globalization of national markets. The paper aims to clarify the degree of scientific research and systematization of scientific developments in the field of innovation and information development of public administration. Moreover, it is aimed at the study of the practical experience of infrastructural support of the innovation and information component of management development in the public sphere. During the study, the analytical method was used to study the scientific literature on information support of public administration. Furthermore, analysis, synthesis, induction, deduction in the processing of scientific information, system-structural, comparative, logical and linguistic, abstraction, idealization, as well as a questionnaire survey for practical clarification of the priority, importance, prerequisites, and components of information infrastructure in the management activities of the public sector have been applied. According to the results of the study, the main trends in scientific developments in the innovation and information development of public administration have been studied. Besides, according to the results of the survey, the position of specialists and scientists in public administration on certain practical issues related to the infrastructure support of innovation and information activities of the public sector has been clarified.

HIGHLIGHTS

- The paper aims to clarify the degree of scientific research and systematization of scientific developments in the field of innovation and information development of public administration. Moreover, it is aimed at the study of the practical experience of infrastructural support of the innovation and information component of management development in the public sphere.

Keywords: Innovative development, the efficiency of innovation processes, innovation and information policy, public administration infrastructure

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The development of an effective functioning mechanism for sustainable innovative development is one of the main conditions of public administration and the design of sustainable innovative development of the economy. Such a mechanism will ensure rational interaction of technological elements of perspective and strategic management, considering a set of organizational and resource measures to comply with the established trends in investment development. It will contribute to achieving the target orientation of the innovation development management system to obtain the planned economic results (Gasser and Almeida, 2017).

It is necessary to implement a set of measures aimed at the formation of sustainable innovative development of the national economy. This is due to the specifics of changes in the types of production, innovation, and investment activities of enterprises of the national economy, the interaction of technological and resource elements of the innovation management system, where the importance of studying the system-forming elements, tools, levers of influence and indicators of the effectiveness of innovation processes is substantiated.

The theoretical part of this study substantiates the concept, purpose, components, and main stages of the innovation and information component of public administration and infrastructure support of these processes.

The practical part of the study includes an assessment of the most important areas of information support in the field of public administration that require effective infrastructure support, the most important objects of innovation activity. They are especially in demand as the areas of work of public institutions, the most priority stages of implementation of economic projects in terms of the problems of applying infrastructure elements to support the innovation and information component of public administration. Moreover, the areas of infrastructural support for innovation and information activities that require increased attention from scientists who are active in research in the field of public administration have also been assessed.

Based on the results of the study, conclusions were made on the issues raised. Among the most important areas of information support in the field

of public administration, which require effective infrastructure support, is the search for radically new niches and types of products to conquer new domestic and foreign markets. It is also important to coordinate infrastructure at the intersectoral and regional levels, as well as the introduction of the latest information products, which were skeptically perceived by most managers and were successful. At the same time, the objects of innovative activity in the public sphere are organizational decisions of administrative, commercial, production, and technical nature, which significantly improve the structure and quality of production, social sphere, sales mechanism, and mechanisms of consumer market formation. The most important problematic stages of the implementation of economic projects that require special attention in terms of the application of infrastructural elements of support for the innovation and information component of public administration are the development of the project and the implementation of management decisions by the subjects of management and business. According to the survey participants, the main aspects of infrastructural support for innovation and information activities that require increased attention from scientists who are active in research in the field of public administration are the specifics of the development of industries and markets as well as available and scarce resources.

The research aims is to find out the point of view of specialists and scientists in public administration on the peculiarities of infrastructure support of the innovation and information component of public administration.

LITERATURE REVIEW

Globalization processes lead to the ability of countries to strengthen their competitiveness using high-tech products. At the same time, the driving force of economic growth in developed countries is the increase in productivity, use, and improvement of advanced technologies. They are trying to achieve stable long-term economic growth by developing innovative technology management systems and processes in public administration (Ciarli *et al.* 2021). Effective implementation of innovation policy and technological renewal of the economy requires consistent application of various instruments of economic regulation, careful analysis of the

conditions for the implementation of innovation policy, and active measures for its enforcement (Gutierrez, Marchant and Michael, 2021).

Implementation of the innovation development model necessitates continuous improvement of public innovation policy as a component of state regulation of the economy. It is associated with strengthening the structure-forming, capital-forming, and institutional role of innovations in the economy, promoting the development of innovative industrial sectors and innovative entrepreneurship, reforming the system of the social division of labor, and deepening globalization trends (Konrad and Böhle, 2019).

Research on the participation of the state as one of the subjects of the economy, which in innovative activities forms policy, performs the function of leadership, and, accordingly, determines the behavior of other economic entities, is extremely relevant (Eom and Lee, 2022).

Recent studies and publications on state involvement, through the role of management, in policy development and implementation in the innovation process, can be divided into two groups with conventional designations: “innovation for public administration” and “public administration for innovation” (Borrás and Edler, 2020).

One of the key components of the successful development of enterprises in any industry is the innovative support of the national economy by state institutions, which is a set of interconnected social and industrial institutions necessary and sufficient for the effective implementation of innovations. Innovation infrastructure is the most important factor and the most important instrument of innovative public policy, a link between the results of scientific research and the market, the state, and the business sector of the economy (Sun and Medaglia, 2019).

The innovation infrastructures of each country and region have their peculiarities and differences in functioning. In general, some regions are characterized by high scientific and technical potential. However, the levers of its implementation, primarily an effective innovation infrastructure, are insufficiently used.

Today, the successful development of innovative infrastructures is associated with integration

processes in the economic sphere, which provide an opportunity to influence each other through the unification and coordination of various elements of the economy (Peeters & Widlak, 2018).

MATERIALS AND METHODS

A practical study of the degree of development of innovation and information infrastructure of public administration was conducted through a survey of 308 specialists working in the field of public administration and 82 scientists conducting research in this area. The study was conducted using the Google Forms service.

RESULTS

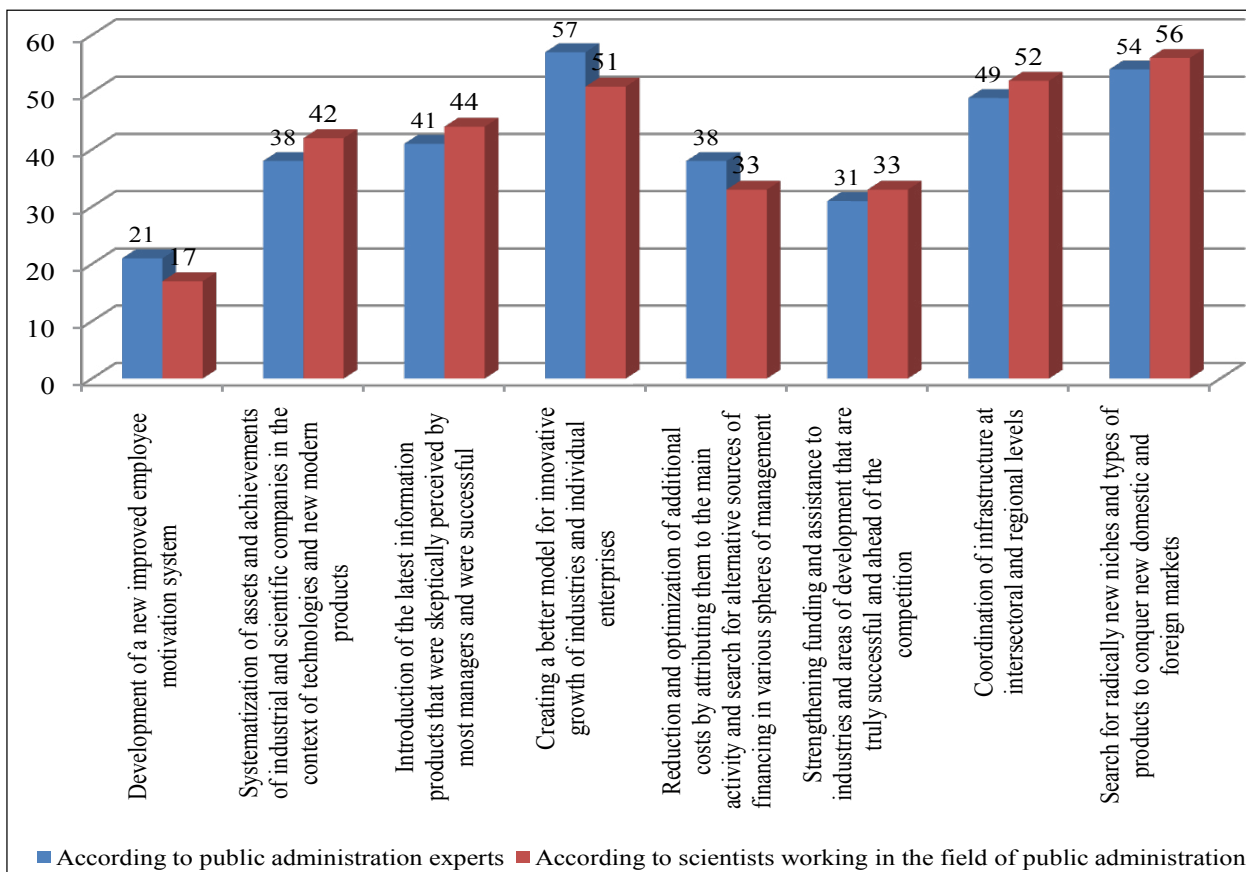
At the beginning of the survey, the respondents' position on the most important areas of information support in the field of public administration that require effective infrastructure support has been established (Fig. 1).

According to the survey participants, in the context of the rapid development of the quality of public administration, the most important areas of work in ensuring governance in the public sector are the search for radically new niches and types of products to conquer new domestic and foreign markets. Moreover, it is worth focusing on the coordination of infrastructure at the intersectoral and regional levels, as well as the introduction of the latest information products, which were skeptically perceived by most managers and were successful.

During the survey, respondents identified the following objects of innovation activity in the public sphere (Fig. 2):

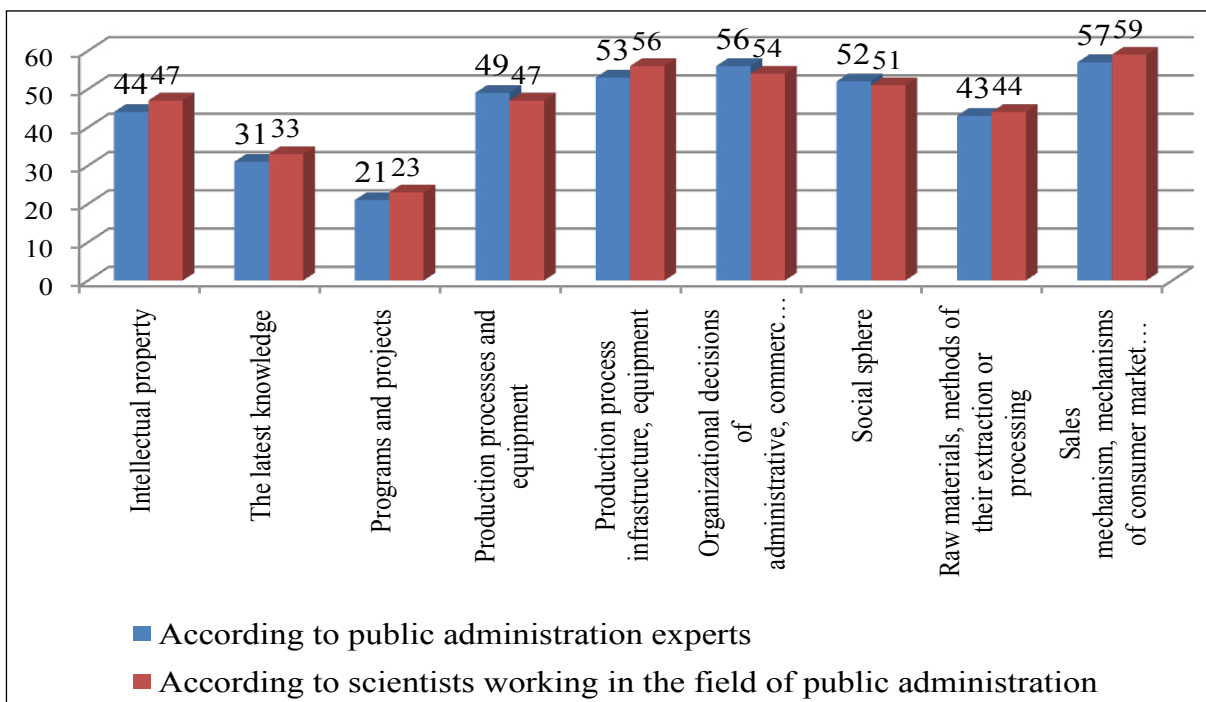
As can be seen from Fig. 2, the main objects of innovation activity, which are especially in demand today in terms of their implementation by public administration entities, are organizational solutions of administrative, commercial, and production-technical nature, which significantly improve the structure and quality of production, social sphere, sales mechanism, mechanisms of consumer market formation.

The most problematic stages of implementation of economic projects that require special attention in terms of the use of infrastructure elements to support the innovation and information component



Source: Built by the authors.

Fig. 1. The most important areas of information support in the field of public administration that require effective infrastructure support, %



Source: Built by the authors.

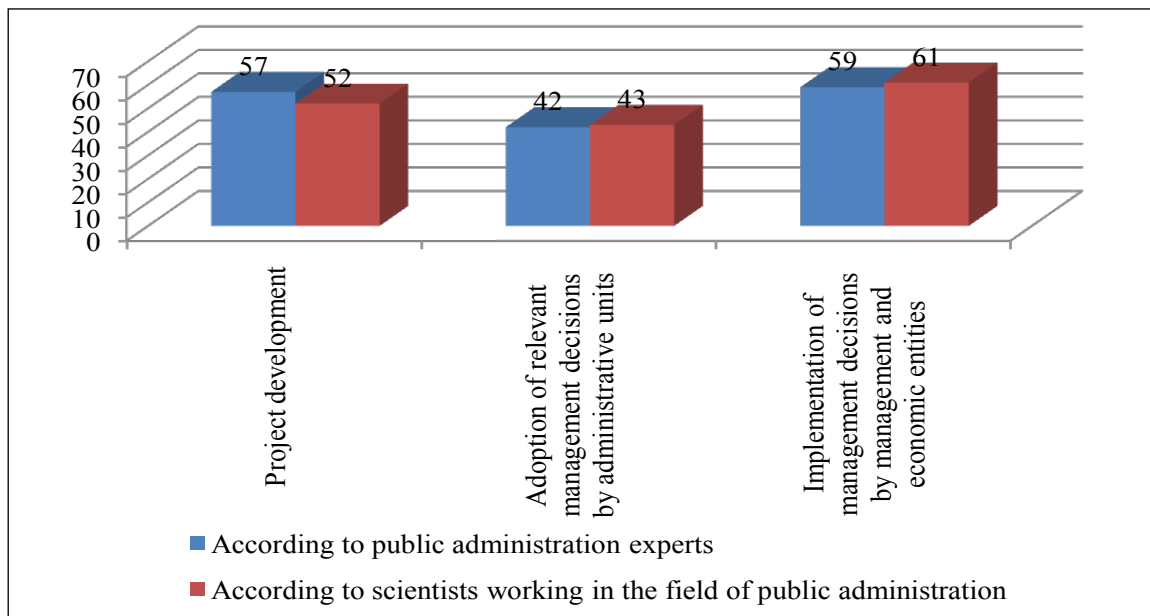
Fig. 2. Objects of innovation activity that are particularly in demand as areas of work of public institutions, %

of public administration, according to the survey, are (Fig. 3):

According to the survey, the greatest attention in terms of selection and application of effective infrastructural means to support the work of public institutions requires project development and implementation of management decisions by management and economic entities.

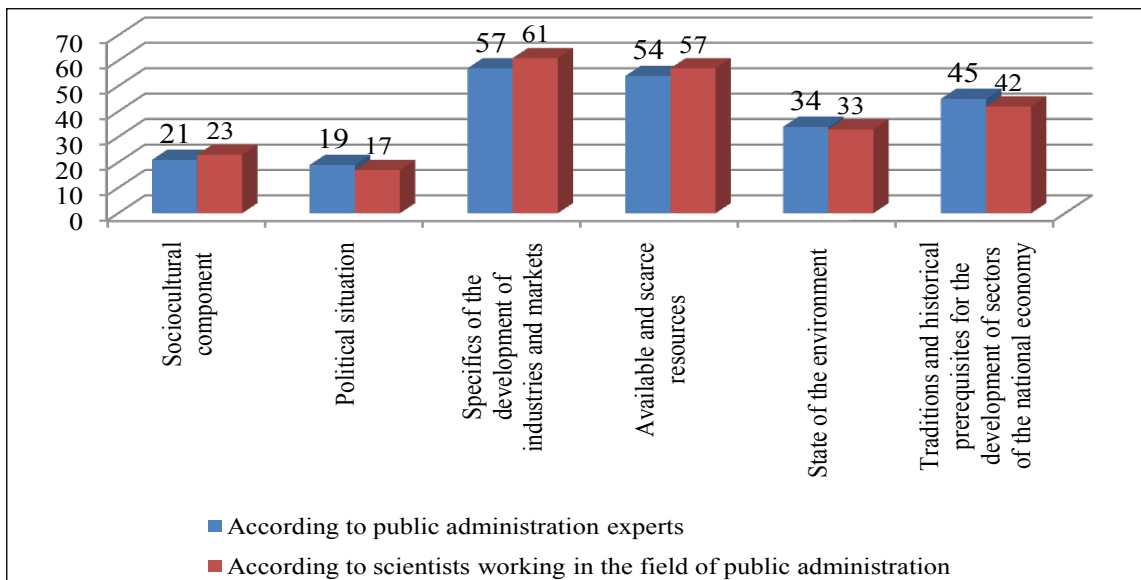
At the same time, the aspects of infrastructural support for innovation and information activities that require increased attention from scientists who are active in the field of public administration are (Fig. 4):

- ◆ specifics of the development of industries and markets;
- ◆ available and scarce resources.



Source: Built by the authors.

Fig. 3. Priority of stages of implementation of economic projects in terms of problems of application of infrastructural elements of support of innovation and information component of public administration, %



Source: Built by the authors.

Fig. 4. Areas of infrastructure support for innovation and information activities that require increased attention from scientists who are active in research in the field of public administration, %

DISCUSSION

The study of scientific literature on the research topic allows us to conclude that the goals of public administration are always specific and, as a rule, are determined by the subjects of public administration themselves. At the same time, the democratic form of state regulation allows for the achievement of a balance between coercive, regulatory, prohibitive, protective, and permissive methods of management. The necessary balance can be achieved if public administration bodies, within their competence, organize a quality process for making the necessary decisions and ensure their proper implementation (Buhmann and Fieseler, 2021).

The dominant characteristics in the organization of the public administration system are the rational construction of relations both within the state administrative system and between the administrative system and the social, economic, and political environment surrounding it (Delacroix & Wagner, 2021).

The theoretical and methodological understanding of the role of the innovative aspect of development in the activities of state institutions today is an important sector of public administration research, while in recent years there has been a change in the disposition of research approaches, which is expressed in the transition from alternatives to their parallel implementation (Vinuesa *et al.* 2020).

This opinion is shared by F. Bannister and R. Connolly (2020), who note that today a system of knowledge about new ways of social development, and features of the emergence and implementation of social innovations is being formed. Accordingly, such branches of knowledge as the sociology of innovations, logistics of innovations, and statistics of innovations are developing, with the state being an important subject of the above relations. Humanization of innovation research involves the emergence of new approaches to understanding innovation as a social phenomenon to be studied in terms of public administration theory (Truby, 2020).

Nowadays, the use of such types of innovations as organizational innovations is becoming increasingly popular, including in the field of public administration. They include the development and implementation of new business models and management practices. This can have no less impact

on economic development than the introduction of new technologies or the use of other types of resources (Torfing *et al.* 2020).

It is essential to introduce modern organizational methods into the business practice of enterprises. This is expressed in the creation of jobs, changes in the management structure, and the introduction of methods to encourage and stimulate work. Organizational innovations can increase the efficiency of the enterprise by reducing administrative and operational costs and increasing the satisfaction of subordinates with the state of the workplace. This, in turn, leads to increased productivity, expansion, access to information, and reduced procurement and logistics costs. With the help of such innovations, the management in the company's management structure manages to achieve its strategic goals and get a positive effect from its activities, considering its interests and environment. Organizational innovations can be introduced with the initiative and full support of government agencies, which, in turn, require proper infrastructure support for such activities (Ulnicane *et al.* 2020), (Wamba *et al.* 2021).

In general, the analysis of literature sources and the results of the survey allowed us to establish that the innovative development of the economic sector requires the following types of support from the public administration: development of the legislative, regulatory, scientific, and methodological framework for the promotion and development of innovative structures, creation of science parks and other innovative infrastructures, budget support for development. The implementation of these areas of work should contribute to the creation of favorable conditions for the intensification of innovation activity in the country. This should result in the creation of a holistic, multifunctional, and effective national innovation model of economic development (Kuhlmann, Stegmaier and Konrad, 2019).

In general, currently, we can talk about the underdevelopment of innovative infrastructure, the development of which is often hampered by the lack of mechanisms for its functioning.

The problem of interaction between the components of the innovation infrastructure is the uncertainty associated with the management and regulation of its elements. Currently, several state structures

are involved in the system of coordination of scientific, technical, and innovation activities. They in one way or another influence the functioning of the innovation infrastructure, but there is no clear division of functions and tasks between them. Consequently, there is no reasonable distribution of responsibility for ineffective regional innovation policy, lack of innovation programs, unsystematic development of innovation infrastructure, problems in technology transfer, database development, etc (Wang, Medaglia and Zhen, 2018), (Kankanhalli, Zuiderwijk and Tayi, 2017).

CONCLUSION

Thus, in the current conditions of rapid globalization of society, the implementation of innovative activities has become a central task in the organization of activities of both individual enterprises and industries and economies of countries. Increasing the competitiveness of business entities is quite a serious challenge. Therefore, an effective system of support from public administration is an important prerequisite for its successful and efficient provision.

As evidenced by the analysis of scientific literature on the topic of the study and the results of the survey, today one of the main tasks of equal competitive partnership in the system of international trade, and economic, social, and political relations is to ensure the qualitative transformation of the existing administrative infrastructure in the country. It serves both public administrations and is an important participant in global logistics and information links.

Despite the general tendencies of rapid development of economic, social and political processes, today it is of great importance to increase the efficiency of information and innovation development. The lack of innovative changes in the economic complex is the result, among other things, of inefficiency and inconsistency of support from public administration in the field of support and stimulation of innovation processes both at individual enterprises and in specific industries in general.

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