

## **Review**

**By Dr. Sc. (Econ.), Prof., Professor of the Department of  
Marketing and Logistics Olena Nifatova  
on the dissertation by Xu Weidong**

**"State Support for Innovative Projects for the Development of the  
Social Infrastructure of Territories,"  
submitted for the Doctor of Philosophy degree in the field of  
specialization 073 "Management."**

### **Relevance of the Chosen Dissertation Research Topic**

The state support for innovative projects in the development of social infrastructure in territories is highly relevant. In today's rapidly changing world, where technologies, urban structures, and demographic indicators are evolving swiftly, ensuring the well-being of communities requires strategic investments and cutting-edge solutions. State support is crucial for catalyzing innovation, providing necessary financial, regulatory, and institutional frameworks to stimulate innovative initiatives. By investing in innovative projects for social infrastructure, the government can enhance the quality of life, foster economic growth, and address pressing social issues. This support is particularly important as it aligns with the broader goal of creating resilient, sustainable, and inclusive communities for the present and future generations. Therefore, the thematic focus of Xu Weidong's dissertation is both timely and significant in today's context.

### **The Connection of the Dissertation with Scientific Programs, Plans, and Themes**

The dissertation has been conducted in accordance with the thematic focus of research at Sumy National Agrarian University: "Enterprise Competitiveness Management based on Innovative Marketing" (0119U100250). The research proposes a theoretical and methodological approach to the formation of interaction among key stakeholders based on the identified degree of involvement of relevant interested parties actively participating in the planning, development, and implementation of social policies. This can be achieved through the application of an institutional responsibility map in shaping the policy for the development of social infrastructure in territories.

### **The degree of justification and reliability of scientific positions, conclusions, and recommendations.**

Familiarization with the content of the dissertation provides grounds to conclude that the scientific positions, conclusions, and recommendations formulated by the author are credible and well-founded. The dissertation exhibits a logical structure, and the author systematically approached problem formulation, task definition, and appropriately selected methods for research.

The research is based on a contemporary methodological framework, encompassing fundamental principles of economic theory, theoretical and applied aspects of regional management, and territorial governance. The credibility of

scientific results and the justification of the conclusions presented by the dissertation author are ensured by the judicious use of a scientific apparatus, relying on the following research methods: axiomatic (for defining the initial propositions of regional management theory), historical-logical (for investigating the genesis and international experience, conducting a retrospective review of theoretical foundations and the evolution of problem formulation), generalization and scientific abstraction (for forming and disclosing the conceptual-categorical apparatus of the researched problem), analysis and synthesis (for identifying cause-and-effect relationships), sociological survey (for conducting surveys to determine the significance of various types of material and non-material incentives), scenario forecasting (for developing scenarios and modifying economic development), economic-mathematical modeling, expert assessments, statistical (for studying economic development processes, calculating the integral indicator of economic stimulation effectiveness, and determining the main factors affecting their parameters), and graphical (for visual representation).

The justification of the author's scientific propositions, conclusions, and developed recommendations is corroborated by their validation at international and national scientific-practical conferences and scientific publications.

### **Structure and Content of the Dissertation. Compliance with Established Requirements**

The dissertation comprises an introduction, three chapters, and conclusions. The total volume of the work is 202 pages, with the main text occupying 170 pages.

The dissertation explores the state of innovation processes in the social sector of Ukraine, allowing for the identification of prioritized directions for the development of social infrastructure in the context of modern challenges and innovative orientations. These include the expansion of the circle of social activity participants, digitization of the social sphere, individualization of social services, increased diversity of organizational forms and technologies for meeting social needs, orientation towards the strategic objectives of sustainable development, and environmental conservation. The standardization of social infrastructure in accordance with EU requirements is also emphasized.

The adaptation of social development in the conditions of European integration into the system of social mechanisms for implementing innovative processes requires Ukraine to reconsider the effectiveness of organizational and economic mechanisms for managing innovation activities, focusing on the use of the toolkit of public-private partnerships as a means of optimizing innovative processes and activating innovation activities at all levels.

In our opinion, such a mechanism, firstly, involves the formation of a system of interaction among key stakeholders to ensure the efficiency of innovative processes in the social sector. Secondly, it involves a well-founded system of scientific support for innovations, considering the logic and specificity of implementing not only innovations themselves but also the characteristics of perception, assessment, mutual adaptation of elements of the social system, and specific subjects to new living conditions. Thirdly, the implementation of innovative

social technologies should be realized through the engagement of a set of techniques and methods aimed at studying, updating, and optimizing innovative activities. This results in the creation and materialization of innovations that induce qualitative changes in various areas of life, oriented towards the rational and sustainable use of material, natural, economic, and social resources.

The comparative analysis of China's and Ukraine's positions on the "Infrastructure" indicator in the Global Innovation Index-2022 has provided insights into the achievements, progress, and problematic areas in the innovative development of countries in general and, specifically, in the social sector. Both countries have made significant progress in implementing government online services and electronic participation as tools to engage and strengthen collaboration between governments and citizens, improving access to information and public services.

The research on the state of innovation processes in China's social sector, based on the country's positions in the Global Innovation Index and the analysis of statistical indicators of social infrastructure, has allowed for the formulation of a matrix of recommendations to enhance the inclusiveness of China's social infrastructure. The recommendations focus on the following structural elements: healthcare, education, government services, public transport, and environmental sustainability in cities and regions.

A methodological approach to assessing the level of development of social infrastructure in territories has been proposed. Its uniqueness lies in the involvement of a wide range of stakeholders (government authorities, business communities, and the public) who can utilize its results to assess the proportionality of regional development and avoid disparities in the development of specific areas of social infrastructure. It enables comparative evaluation of the development level of territories and the efficiency of investments in public-private partnership projects, as well as strategic decision-making for state social policy.

The main idea of the proposed methodological approach is to form an analytical profile of the development level of social infrastructure in different regions of China, aiming to shape targeted state support for innovative projects in the corresponding areas of social infrastructure. This will enhance the efficiency of state funding and reduce the level of regional disparities in overall social infrastructure development. The methodological approach involves the step-by-step implementation of three methodological blocks, each based on a specific computational toolkit.

The first block, the integral basis, involves applying an integral indicator of the level of social infrastructure development based on taxonomic analysis. The second block, regional clustering, includes the procedure of grouping regions based on common social infrastructure characteristics. The third block, factor-analytical, relies on the application of factor analysis tools to determine a group of factors influencing the innovative development of social infrastructure in territories.

The dissertation work is a logically consistent and comprehensive piece executed by the author independently. The research is formatted according to established requirements and contains all necessary structural components.

This ensures the effectiveness of innovation processes in the social sector based on a four-level interaction model where key stakeholders include the government, private partners, investors (sponsors), special agencies, innovation clusters, and the end consumer (the country's population). Each level of interaction has its peculiarities and corresponding impact on the efficiency of innovation processes, achievable only through compliance with the relevant requirements and criteria.

The result of forming the interaction of key stakeholders is the defined degree of involvement of relevant parties actively participating in the planning, development, and implementation of social policies. This can be realized through the application of a responsibility map of institutions in shaping the policy for the development of social infrastructure in territories.

An organizational-economic mechanism for managing the innovation activity of social infrastructure development in territories is proposed. It involves transforming the influence of the external environment, the main source of innovative changes within the functioning of an innovation cluster. Simultaneously, this cluster serves as a resource provider that the social infrastructure, as an open system, utilizes at the input of its activities to achieve the expected results. The methodological basis for state regulation in the spheres of social infrastructure includes the forms of public-private partnerships as a universal toolkit and corresponding principles, adherence to which must be a mandatory condition for making regulatory decisions on implementing innovative changes.

It is established that the object of state regulation is the subject area that unites the choice of the social infrastructure sphere for implementing innovative changes in each component of the HUB center of the innovation cluster. The proposal suggests implementing measures for introducing innovative changes in the subject area of the components of the HUB center of the innovation cluster based on the analysis and comparison of the level of social infrastructure development in different regions. The main idea is to utilize the innovative experience of leading regions in certain spheres of social infrastructure. In other words, the experience of regions with the best integral indicators can be used to implement innovative projects in less developed regions.

To determine the priority of innovative projects in social infrastructure, coefficients of multiple regression are proposed for use. These coefficients can be employed to identify the sphere of social infrastructure requiring the most significant innovative transformations and create an "Efficiency/Reliability" matrix.

### **Scientific novelty of the obtained results**

Among the scientific achievements of Xu Weidong, the following deserve special attention:

For the first time, an organizational-economic mechanism for managing the innovation activity of social infrastructure development in territories has been proposed. This mechanism involves transforming the influence of the external environment as the main source of innovative changes within the functioning of an innovation cluster. Simultaneously, this cluster serves as a source of resources that

social infrastructure, as an open system, utilizes in its activities to achieve the expected results. The methodological basis for state regulation in the spheres of social infrastructure includes forms of public-private partnerships as a universal toolkit. Compliance with corresponding principles is deemed a mandatory condition for making regulatory decisions regarding the implementation of innovative changes.

The theoretical and methodological approach to forming the interaction of key stakeholders has been improved, based on the identified degree of involvement of relevant interested parties. These parties actively participate in the planning, development, and implementation of social policies. This improvement can be realized through the application of a responsibility map of institutions in shaping the policy for the development of social infrastructure in territories.

The study of the state of innovative processes in the social sector of China has been refined based on the country's positions in the Global Innovation Index and an analysis of statistical indicators of social infrastructure. Unlike existing methods, this refinement has allowed the proposal of a matrix of recommendations to increase the inclusiveness of China's social infrastructure in the following structural elements: healthcare, education, government services, public transport, and the environmental sustainability of cities and regions.

The methodical approach to assessing the level of development of social infrastructure in territories has further evolved. Its uniqueness lies in the involvement of a wide range of stakeholders (government and local authorities, business communities, and the public), who can use its results to assess the proportionality of regional development and avoid disparities in the development of specific areas of social infrastructure. This approach is applicable for making comparative assessments of the level of development across regions, evaluating the efficiency of investment in public-private partnership projects, and adopting strategic decisions for state social policies.

The justification of the interaction of key stakeholders to ensure the effectiveness of innovative processes in the social sector has further developed. This is based on a four-level interaction model where key stakeholders include the government, private partners, investors (sponsors), special agencies, innovation clusters, and the end consumer (population of the country). Each level of interaction has its peculiarities and corresponding influence on the efficiency of innovative processes, achievable only under specific requirements and criteria compliance.

### **Practical significance of the research results**

The scientific and practical significance of the dissertation lies in the development of a set of scientifically substantiated provisions and conclusions regarding the solution to the research task – the formation of state support for innovative projects in the development of the social infrastructure of territories. The results of the dissertation research, conclusions, and recommendations presented in the work can be considered and utilized in the activities of various organizations involved in the management of the innovation development sector. The obtained results and formulated conclusions can serve as a basis for decision-making in these

organizations.

### **The comprehensiveness of presenting the scientific results of the dissertation in published works.**

As a result of the research, 10 scientific works have been published, including a chapter in a collective monograph, 4 articles in specialized journals and collections of scientific papers, and 6 publications in materials from scientific conferences. The total volume of publications is 5.48 academic hours, of which the author contributed 4.27 academic hours.

The scientific publications comply with the requirements outlined in points 8 and 9 of the Procedure for awarding the degree of Doctor of Philosophy and canceling the decision of a one-time specialized academic council of an educational institution, a research institution on awarding the degree of Doctor of Philosophy, approved by the resolution of the Cabinet of Ministers of Ukraine dated January 12, 2022, No. 44.

### **Adherence to academic integrity norms.**

Based on the analysis of the provided materials, no instances of academic misconduct were identified. The dissertation author adhered to academic integrity and complied with copyright laws, and no violations, including academic plagiarism, were detected. The dissertation includes references to relevant sources, as listed in the bibliography, and acknowledges the author's individual contribution to co-authored works.

### **Comments and discussion points regarding the content of the dissertation.**

While acknowledging the high level of the dissertation research, the following comments and discussion points should be noted.

1. In section 1.1 of Chapter 1, it would be advisable to justify your own authorial approach to interpreting the key definition of "social infrastructure development" and analyze whether there are differences in the interpretation of this concept among Chinese, Ukrainian, and Western scholars.

2. In section 1.2, the author compiled a consolidated dataset from the Scopus and WoS databases and formed 11 clusters with 108 elements, which have 488 connections, distributing aspects related to the mention of the concept of "social infrastructure" into respective groups. However, it would be advisable to further justify how objective this approach is, considering that a significant portion of scholarly literature today does not belong to these two bibliometric databases.

3. In section 2.1, the author notes that the main sources for addressing socio-economic needs of the population through the development of social infrastructure by implementing social innovations could include budgetary funds, external and internal loans, and indirect financing. At the same time, recent events indicate that among the important sources of funding, grant funds from leading sources can be considered.

4. Section 2.2 should be supplemented with information on how unification

at the provincial level of the pension administration of the People's Republic of China can help address the deficit and surplus issues in different regions, considering the aging and young population.

5. In Chapter 3, it would be advisable to provide calculations of the economic efficiency resulting from the implementation of "State Support for Innovative Projects for the Development of Social Infrastructure Territories."

The above-mentioned comments and discussion points do not hinder the overall positive assessment of the work.

### **General Conclusions and Evaluation of the Dissertation**

The dissertation on the topic 'State Support for Innovative Projects for the Development of the Social Infrastructure of Territories' is an independent and completed work, demonstrating scientific novelty and practical significance. The dissertation research corresponds to the specialty 073 'Management.'

In terms of content, structure, volume, and formatting, the dissertation complies with the requirements outlined in the Order of the Ministry of Education and Science of Ukraine No. 40 dated January 12, 2017, 'On Approval of the Requirements for the Formatting of the Dissertation' (with amendments), and the 'Procedure for awarding the degree of Doctor of Philosophy and canceling the decision of a one-time specialized academic council of a higher education institution, a research institution on awarding the degree of Doctor of Philosophy,' approved by the resolution of the Cabinet of Ministers of Ukraine No. 44 dated January 12, 2022.

Based on the above, it can be concluded that Xu Weidong, the author of the dissertation on the topic 'State Support for Innovative Projects for the Development of the Social Infrastructure of Territories,' deserves to be awarded the degree of Doctor of Philosophy in the specialty 073 'Management.'

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