

# Paradigm of the Transformation of Potential-Forming Space Under the Impact of Intellectual-Innovation Determinants

Semen Khanin<sup>1</sup>, Marta Derhaliuk<sup>2</sup>, Serhii Stavroyany<sup>3</sup>, Olga Kudlasevych<sup>4</sup>, Lesia Didkivska<sup>4</sup>

<sup>1</sup>PHEI "Academician Yuriy Bugay International Scientific and Technical University", Kyiv, Ukraine

<sup>2</sup>National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Kyiv, Ukraine

<sup>3</sup>Kyiv National University of Construction and Architecture, Kyiv, Ukraine

<sup>4</sup>SO «Institute for Economics and Forecasting of the NAS of Ukraine», Kyiv, Ukraine

## Abstract

The article examines the formation of the scientific paradigm of transformation of the potential-forming space of the regional economy under the influence of intellectual and innovative determinants. Based on the study of different scientific views on the nature and properties of potential-forming space through the study of approaches to understanding the concept of "space" clarified the complexity and multifaceted nature of the phenomenon and found that its characteristics are relevant to the industrial development model. It is revealed that the leading modern trends related to the spread of globalization and regionalization, rapid development of information and communication technologies, diffusion of innovations accompany the transition from industrial to post-industrial development and its development, which leads to new development: changes production, nature and relations between business entities, etc. It is proved that under such conditions, the region as a key element of the economic system, acquires a leading role in achieving sustainable and balanced development. These processes significantly affect the potential-forming space of the regional economy under the influence of intellectual and innovative determinants, leading to the need for its transformation and change in accordance with modern realities, which is reflected in thorough research on the formation of scientific paradigm based on the formation of its theoretical foundations and methodological basis. This study reveals the essence, role, functions, structure, process of formation of the scientific paradigm of transformation of the potential-forming space of the regional economy under the influence of intellectual and innovative determinants. It is proved that the formation of the modern scientific paradigm of transformation of the potential-forming space of the regional economy under the influence of intellectual and innovative determinants occurs in the context of building a post-industrial model of development, accompanied by consideration of the region as a spatial object territories from the physical plane to the spatial environment in which the development of human capital, innovation and self-development of the region. Taking into account the above, the article outlines the prerequisites and factors of formation of the scientific paradigm of transformation of the potential-forming space of the regional economy under the influence of intellectual and innovative determinants.

## Key words:

*paradigm, space, transformation of potential-forming space, intellectual-innovative determinants, potential-forming space, post-industrial model of development.*

## 1. Introduction

Due to the spread of current leading trends related to the intensification of globalization and regionalization, development of informatization, dissemination of innovations, increasing importance of intellectual capital, accompanying the post-industrial development and network economy, there is a need to use the possibilities of spatial potential in reviewing traditional views on the potential-forming space of the region under the influence of intellectual and innovative determinants, finding the latest tools, approaches and mechanisms for its transformation.

Changes that gradually permeate the economy and society, lead to the formation of new relationships and connections that become free from the territorial factor of economic entities, and hence the application and implementation of territorial approach to the transformation of potential-forming space in the region under the influence of intellectual-innovation determinants in the era of post-industrialization and globalization is becoming insufficient. Against the background of defining changes, there is a need for theoretical justification and determination of the process of formation and formation of the scientific paradigm of transformation of the potential-forming space of the regional economy under the influence of intellectual and innovative determinants high level of development.

The main task of this study is to study the spatial aspect of regional economy, expand the theoretical foundations and methodological basis of the process of forming a modern scientific paradigm of transformation of the potential-forming space of the region under the influence of intellectual and innovative determinants.

The methodological basis of this study were theories of regional economy and regional development, taking into account the spatial aspect, as well as such general and specific methods of scientific knowledge as analysis, synthesis, generalization, systematization, etc., based on which the spatial aspects of regional economy principles of formation of the scientific paradigm of transformation of the potential-forming space of the regional economy under the

influence of intellectual and innovative determinants and the main preconditions and factors of its formation are outlined.

## 2. Literature review

Many foreign and domestic scientists have devoted their research to the features of the potential-forming space, taking into account the innovative and intellectual development of the regions. Among which should be noted: Butko M. (2019) [1]; Chernyakhovskaya L. (2019) [2]; Cosmulese C. G. (2019) [3]; Mashnenkov K. (2021) [4]; Dobrenkov V.I. (2017) [5]; Hlaváček P. (2017) [6]; Kholiavko N. (2020) [7]; Grosu V. (2021) [8]; Popelo O. (2021) [9]; Zhavoronok A. (2021) [10]; Kolmakova E.M. (2020) [11]; Kopein A. (2019) [12]; Korytko T. (2021) [13]; Lazarenko I. (2020) [14]; Lebedeva T. (2015) [15]; Lubkova I.V. (2017) [16]; Lyulyuchenko M. (2019) [17]; May-Boroda G. (2021) [18]; Dubyna M. (2021) [19]; Tulchynska S. (2021) [20]; Shkarlet S. (2020) [21]; Thomas J. (2020) [22]; Vovk O. (2021) [23]; Vasilieva Z. (2020) [24]; Wang J. (2021) [25] and others.

The authors' article [25] is devoted to the study of innovative development and potential of the Hong Kong-Shenzhen region. According to the results of the study, the region has a significant innovation potential, which is based on the constant growth of the results of cooperation and effective cooperation between the subjects of innovation.

According to a study by scientists [11], the intensification of innovation and investment initiatives is a priority for the stable functioning and progressive development of the country's economy. The authors propose a new methodology for assessing the innovation and investment potential of the region's municipalities. The article argues that given the polarization of the socio-economic space of the region, it is necessary to classify municipalities by type of socio-economic policy and prerequisites for innovative development.

The article analyzes [17] the trends and problems of forming the innovation potential of the region based on the process of intensifying investment activities. The authors study the mechanism of influence of the process of intensification of investment activity on the formation of innovation potential of the region, outline the dependence of innovation potential on the intensification of investment activity.

The purpose of the article [12] is to study the innovative potential of the resource region based on indicative methods. According to the study, the authors proved the existence of a sufficiently high innovation potential in the basic industries of the industrial region, as well as analyzed the results of calculations of innovation potential and their impact on the sustainability of socio-economic development.

The article [6] provides a cartographic analysis of the results of calculating the innovation potential of the Czech Republic, Slovakia and Poland. In order to carry out a comparative analysis of regions, the authors used correlation analysis and calculation of the aggregate index. The study found that the best conditions for the growth of innovation potential are typical of cities, rather than agricultural and old industrial regions.

The scientific work [20] develops a methodological approach to forecasting the innovation activity of regions. According to the authors, the proposed approach will help focus the attention of regional authorities on the most important aspects of innovation of regional economic systems, which will contribute to achieving the goals of sustainable development.

The aim of the authors' article [13] is to improve the strategy of innovative development of industrial enterprises based on the assessment of intellectual capital of the enterprise and to develop stages of strategy selection by the method of hierarchical analysis. As a result of the study, based on the proposed methodology for assessing the intellectual capital of the enterprise and the methodological approach to determining strategies for innovative development, the authors analyzed the quantitative indicators of structural elements of intellectual capital.

The authors of the article study the socio-economic systems [18] in terms of global economic relations, resulting in the economic benefits of an effective national innovation system. The main goal of the authors' study [22] is to prove the importance of intellectual property in the development of an innovative product.

The aim of the article [2] is to develop comprehensive tools for developing an integrated model of presentation and processing of knowledge at different stages of the innovation project management process to use to implement strategies and programs to justify innovation in the regions.

## 3. Results

In the context of research on issues related to the processes of transformation of the potential-forming space of the regional economy under the influence of intellectual and innovative determinants, it is necessary to research and outline what is meant by this concept. It should be noted that these research questions relate to aspects of the study of regional economy. There are different views on the concept of "space". One common view defines space as a super system consisting of many specific points, each of which has its own program of action and direction of further development. In this case, when it comes to space, it is necessary to focus not just on the points (which may be economic entities), but on the presence and density of

relationships between them, which together will be a certain environment.

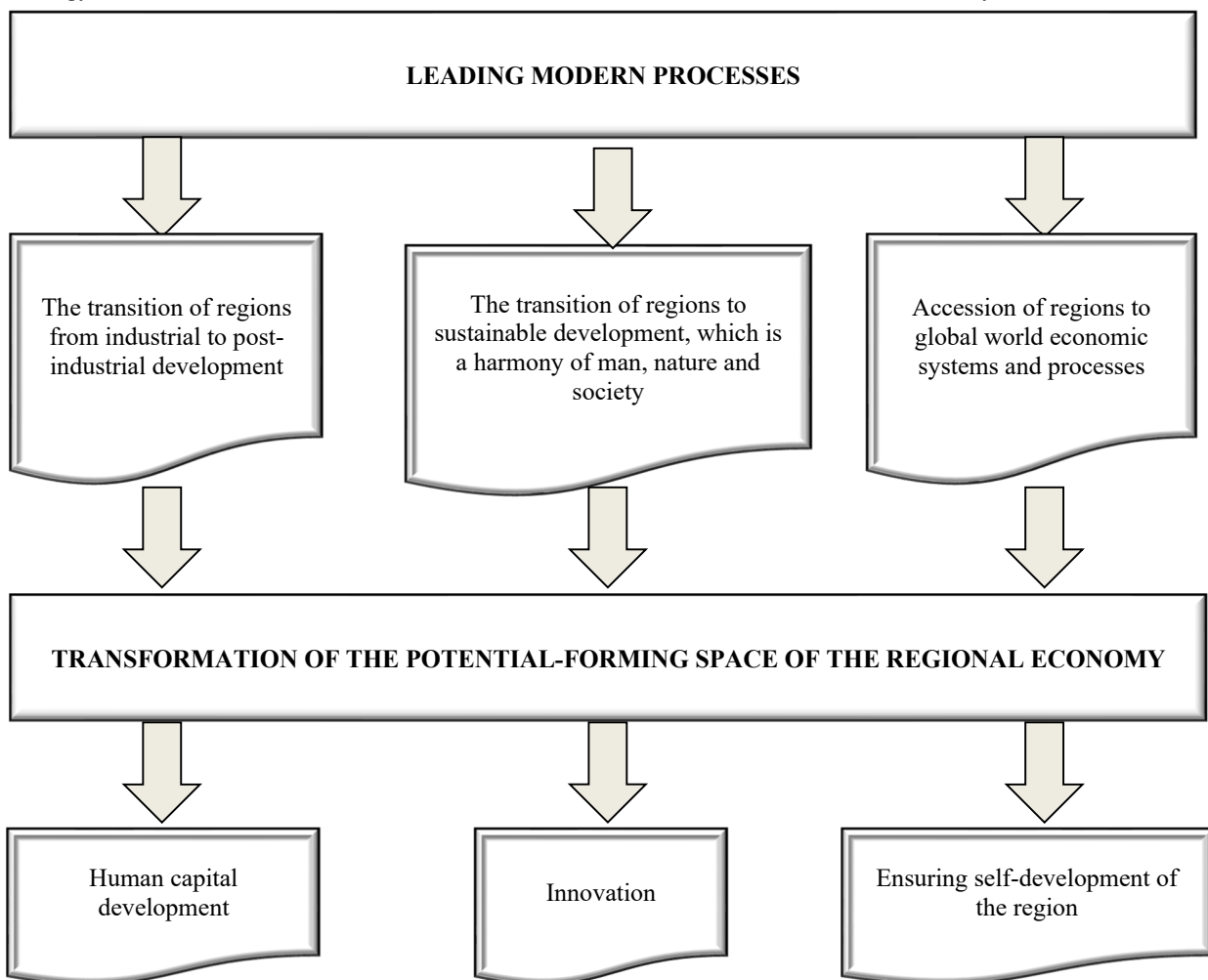
From another point of view, space is studied as a dynamic system that includes:

- heterogeneous flows of all available development resources;
- infrastructure channels that enable the distribution of resource flows;
- localized centers of logistics management of existing flows.

This outlines the opportunity to argue that spatial development is a reproductive process of the elements of space, which functions as a complex system of material and energy flows.

From another point of view, space is considered as an organized environment, which is formed as a result of close interaction of material objects in a certain area. This leads to the emergence of certain relationships in the use of tangible and intangible objects, including the functioning of the potential of such an environment, which brings us to the concept of potential-forming space (Fig. 1).

Potential-forming space, due to the fact that it includes the concept of "space" also has two points of view on understanding its essence, as potential-forming space can be considered from the standpoint of physical location of objects, resources and their interaction with limited use of the latter, which brings his understanding closer to the definition of "territory".



**Fig. 1** The impact of modern processes on the transformation of the potential-forming space of the regional economy  
Source: built by the authors.

Also, the potential-forming space can be considered in the context of establishing relations in a certain environment, which arise as a result of the interaction of

economic systems that operate on the same principles and norms, rules, postulates, etc.

The clarified characteristics of the potential-forming space reveal its versatility, but they are relevant for the industrial model of development. While the main processes taking place in the world today are the rapid development of information and communication systems and technologies, the global Internet, the elimination of barriers to international trade, international exchange, leading to large-scale combination of social and economic structures, to establish a high level correlations between the socio-economic development of certain countries and its individual regions. The leading modern trend in the economic sphere is the transition from the national to the global economy, against the background of which the regions are gaining new content.

Thus, at the present stage of development, the potential-forming space of the region is significantly influenced by three leading processes that lead to its change in accordance with modern realities.

These transformations are caused by the increase of international economic relations, spatial changes in the system of the global world market and its potential. Thus, we can now talk about the development of post-industrial civilization, characterized by a large number of transformation processes under the influence of intellectual and innovative determinants and crises of the world economic system, which requires a real, thorough study of spatial aspects formation of its theoretical and methodological base and scientific paradigm. The need to form a paradigm of transformation of the potential-forming space of the regional economy under the influence of intellectual and innovative determinants is the result of profound structural changes against the background of modern socio-economic spatial development.

At the present stage of development of economic thought, the scientific paradigm means a set of basic, leading theoretical views, the original conceptual scheme, model of problem statement and solution, research methods prevailing in science, including basic prerequisites, starting points, and techniques and approaches to solve the identified problems.

The role of the paradigm as a universal tool is to outline, provide, argue and adapt innovative ideas, methods and approaches to streamline and disseminate their application, which will comprehensively reveal the essence of the proposed application of well-known, clear examples.

The formation and further formation of a certain paradigm as the leading and priority causes the dominance of the really chosen research methodology, the formation of theoretical models of economic processes and phenomena, indicating the vector of movement and the

corresponding leading nature of economic activity (Fig. 2). This allows:

firstly, a good understanding and thorough study of all aspects of socio-economic phenomena, to clarify and describe the characteristics, features and patterns of development of objective reality in order to form an effective strategic course of action in the future;

secondly, this state of affairs allows to draw sound conclusions, leading them to absolutism, and on their basis to provide theoretical and methodological recommendations, which allows to transfer empirical data to the plane of theoretical ideas with a certain, mostly far from specific practice that affects the level and the rapid transformation, updating knowledge of the current state and trends of the economic system, leads to differences between theoretical developments, practical activities and empirical data. The result is the inability of the leading paradigm to reflect the systematic, real and adequate representation of causation, factors and conditions of economic processes and economic activities, to develop policy documents and strategic directions aimed at promoting socio-economic development. One dominant paradigm is replaced by another and its next stage is realized - formation.

The post-industrial model of development is based on such intangible, virtual resources as information, communication, innovation, intelligence, creativity, post-industrial social institutions. This leads to the fact that the modern economic system acquires a number of new properties and attributes, which are to change the factors of production, the emergence and development of new management methods and organizational aspects of the business environment, transforming the nature of relationships and relationships between businesses. There is a coordination of these changes with globalization processes, and their success depends on the knowledge, skills, intellectual abilities of human capital.

Human capital is becoming a leading component, a determining factor in the knowledge economy as an element of the post-industrial model of development, so for the potential-forming space of the regional economy and its transformational aspects the issue of creating an environment for human resources restoration and sustainable development. The process of forming the infrastructure is accelerating, which has a positive impact on the processes of greening the activities of economic entities, informatization of management and business environment, capitalization of human resources.

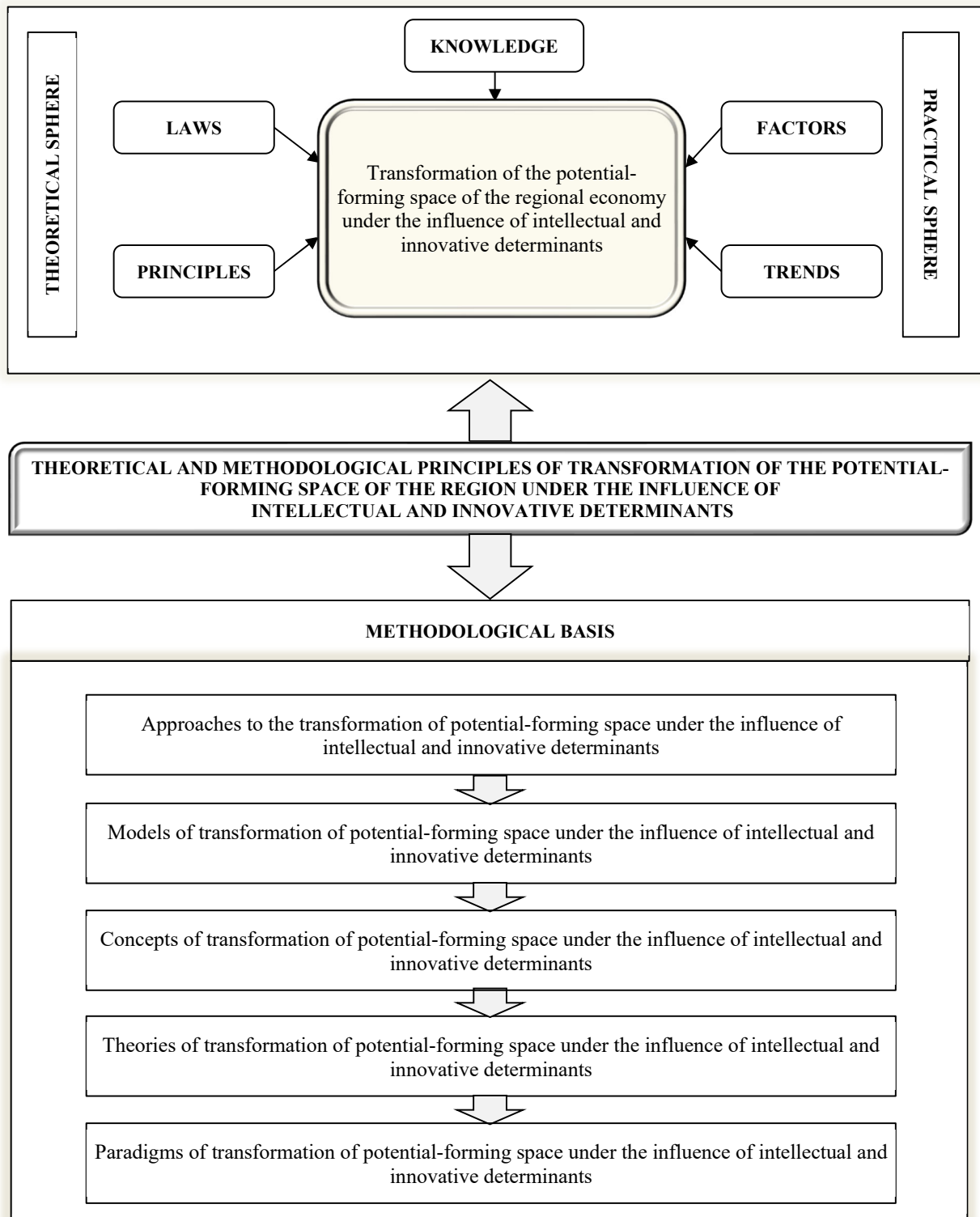


Fig. 2 The process of formation of the scientific paradigm of transformation of the potential-forming space of the regional economy under the influence of intellectual and innovative determinants

Source: built by the authors.

Thus, the above reveals the ineffectiveness of the territorial approach, which considered the region primarily as an object for the implementation of industrial processes. Current trends in global socio-economic development shift the emphasis of the region in the context of spatial development. Thus, in the modern post-industrial paradigm of transformation of the potential-forming space of the regional economy under the influence of intellectual and innovative determinants there is a significant revision of the priority of factors of production, which creates changes in the functions of the territory environment in which the development of human capital, innovation, etc. Given the above, the main prerequisites and factors of the modern scientific paradigm of transformation of the potential-forming space of the regional economy are presented under the influence of intellectual and innovative determinants.

#### 4. Conclusions

In the course of this study, the characteristic features of potential-forming space under the influence of intellectual and innovative determinants were outlined through a thorough study of approaches to the concept of space and found that they are inherent in the industrial model of development. The study of the main trends characteristic of the transition period and the formation of the post-industrial era made it possible to identify the leading processes that affect the transformation of the potential-forming space of the regional economy under the influence of intellectual and innovative determinants.

The study of such theoretical aspects of the paradigm as its design, functions, purpose, orientation allowed to form the process of forming a scientific paradigm of transformation of the potential-forming space of the regional economy under the influence of intellectual and innovative determinants. The study of modern dominant processes in both global and regional economic systems allowed to study and identify the prerequisites and factors of the scientific paradigm of transformation of the potential-forming space of the region under the influence of intellectual and innovative determinants.

The paradigm of transformation of the potential-forming space of the regional economy under the influence of intellectual and innovative determinants significantly increases the base of research, and understanding its main provisions provides opportunities for thorough scientific analysis of the functioning and development of the regional economy, their genesis, the current state on the basis of the methodological contour of the paradigm, which is, firstly, the use of the whole set of methods of spatial research, secondly, the use of functional, structural, evolutionary directions of the system approach.

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