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SYSTEM APPROACH AS A KEY IMPERATIVE FOR IMPROVING STRATEGIC PROCESSES IN UKRAINE AT THE MESO-LEVEL

The purpose of this article is to substantiate the need to use the system methodology to ensure the transition from regional strategic planning to forming of some integrated "system of processes", which is understood as the formation of a complex multi-level and multi-object system that is bringing together a whole set of processes for the working out of strategies and the mechanisms for their implementation at the meso-level. This "system of processes" is single technological complex software and project tools of the region's development strategy (including conceptualization, forecasting, communicative foresight, development of strategic scenarios, goal-setting, planning, design, modeling, programming, situation analysis, involvement of stakeholders, formation of regional private partnerships, controlling, etc.). This problem is extremely urgent for Ukraine, where the process of strategic management is just beginning to take shape; it is methodologically not homogeneous and does not allow uniting all participants in the process on the basis of agreed strategic documents and mechanisms for their implementation.

Keywords: system approach, strategic planning, the system of processes, meso-level, region as a system.

Introduction. The current development of the social and economic system in Ukraine is characterized by a long-term preservation of crisis phenomena and a significant loss of the strategic approach in reforming. In this regard, the problematic of searching for new approaches in the formation of the model of economic and social-legal policy, carrying out structural transformations in the economy and the social sphere is being actualized. Sustainable social and economic development and increased competitiveness of Ukraine and its regions is impossible without improving the effectiveness of public administration at all levels. At the same time, for practical implementation of regional goals, it is necessary to create a fundamentally new system of regional governance, in which the important place would belong to strategic regional planning, as an integrated tool for managing regional development. It is "the strategic planning that could play the role of a consolidating, coordinating and stabilizing factor, a means of organizing and supporting of the innovative economic growth"¹ in the system of strategic management.

At the same time, according to the analysis of the real practice of applying strategic planning in Ukraine at all levels (national, regional, municipal and district), planning as a key element in the strategic management system is fragmentary and declarative, and the strategic documents do not contain real ways to achieve the stated objectives, are not coordinated in a hierarchical vertical by the terms and availability of the necessary resources and do not meet the real needs of the population. There are no mechanisms for effective control over the implementation of the adopted strategies and their adjustment, taking into account the changed conditions of the social and economic environment. For example, today there is an urgent need to adjust the goals of strategic development of regions in accordance with the new strategic priorities and development goals of the regions of Ukraine, put forward after signing of the Association Agreement with the EU, and taking into account the new conditions of economic management, downward dynamics of the main macroeconomic indicators and the trends of the new regional strategy of the EU.

Thus, the process of strategic management in Ukraine is just started; it is not homogeneous methodologically and does not allow uniting all participants of the process into a single entity on the basis of agreed strategic documents and mechanisms for their implementation.

¹ Клейнер, Г.Б., Качалов, Р.М., Нагрудная, Н.Б. (2007). *Формирование стратегии функционирования инновационно-промышленных кластеров*. Москва: ЦЭМИ РАН, 21.

The aim of the article is to substantiate the need for use of the system methodology to ensure the transition from strategic planning to some integrated “system of processes” (which in Russian and Ukrainian scientific discourse is often denoted by the term "strategirovanie") as the combination of complex processes of managing the social and economic development at meso-level.

Analysis of researches and publications. At the origins of the system movement and the creation of the general theory of systems were M. Petrovich, A.A. Bogdanov, who have published the book “Tectology” (General Organizational Science)¹ in 1912, which later began to be regarded as the conceptual basis of cybernetics, and the Austrian biologist L. von Bertalanffy², who in the 30s of the last century attempted to develop the so-called general theory of systems. His theory of open systems marked a turn from the scientific recognition of a purely analytic function to system-theoretic views recognizing the task of synthesis as the initial principle of research to a view of the systems theory, recognizing the task of synthesis as the initial principle of research.

The peak of system researches falls into the 60-80s of the twentieth century. Problems of the analysis of system methodology, the construction of variants of the general theory of systems and the theory of adoption of system solutions were handled by R. Akoff and E. Emery³, I. Blauberg, M. Mesarovich⁴, S. Optner, A. Uemov^{5,6}, Y. Urmantsev, A. Hall, G. Shchedrovitsky and other scientists. The synergetic direction of the system methodology was developed in the works of I. Prigozhin, I. Stengers, G. Haken, and others. The problems of economy within the meaning of the system model and the attempt to create the system economy are considered in the works of J. Kornai⁷, G. Kleiner⁸, Y. Chernyak⁹ and others.

The field of systems research is a diverse picture of various concepts, approaches, intertwining of system methods and theories with the methods of related scientific fields (operations research, engineering psychology, theory of organizations, etc.). The number of publications in this area is huge and it is difficult to consider and study everything. As a result, many variants of the developed system methods differ by the definition of the “system” concept by the depth of analysis of system properties and regularities, and also in the way of their symbolic description.

Although there was not created any joint basic general theory of systems, still a huge methodological reserve was created within this system movement, including the methodological provisions of the logical nature of such concepts as “system”, “structure” and “organization”, “target setting”, “analysis and synthesis of systems”, etc., as well as the most important system laws and principles of great importance in the development and adoption of strategic and management solutions in complex systems. Therefore, it is difficult to agree with the statement that at present the “general theory of systems has exhausted its methodological possibilities”¹⁰.

The system approach provides the analysts, experts and managers dealing with strategic management tools that allow to structurize the management system and its corresponding problem field, identifying directions, strategic priorities and objectives of management initiatives and impacts.

Today in dynamically changing conditions the terms “strategic management”, “strategic planning”, “strategirovanie” in the context of their application as the basic elements of the strategic management methodology of the social and economic systems development require systematization and generalization.

That is why the use of the methodology of the system approach is the main imperative of effective strategic planning and management of regions and territories. The theoretical basis of the system approach

¹ Богданов, А.А. (1989). *Тектология: (Всеобщая организационная наука)*. Москва: Экономика, 351.

² Bertalanffy, L. von, (1968). *General System Theory*. New York: George Braziller, 289.

³ Ackoff, P., Emery, E.F. (1972). *On Purposeful Systems: An Interdisciplinary Analysis of Individual and Social Behavior as a System of Purposeful Events*. Chicago: Aldine-Atherton.

⁴ Mesarović, M.D., Takahara, Y. (1975). *General Systems Theory*. New York: Academic Press.

⁵ Уемов, А.И. (1978). *Системный подход и общая теория систем*. Москва: Мысль, 271.

⁶ Uemov, A., Sarajeva, I., Cofnas, A. (2001). *Ogólna Teoria Systemów dla Humanistów*, Warszawa: Wydawnictwo Universitas Redivia.

⁷ Kornai, Ja. (2000). The System Paradigm. In: *Paradigms of Social Change: Modernization, Development, Transformation, Evolution*, eds. Waltraud Schelkle, Wolf-Hagen Krauth, Martin Kohli and Georg Elwert, 111-33.

⁸ Клейнер, Г.Б. (2011). Системный ресурс экономики. *Вопросы экономики*, 1, 89-100.

⁹ Черняк, Ю.И. (1975). *Системный анализ в управлении экономикой*. Москва: Экономика, 193.

¹⁰ Золотухина, Г.И. (2006). Очерк современных представлений о системной парадигме в экономике. *Экономические проблемы и решения*, 5, 20.

to the formulation of promising documents for the regions development is the point of view of many scientists for planning as for the open complex system that includes many interrelated elements. Thus, in the work of Saaty and Kearns it is noted that “Planning itself is a system. It has a purpose (to achieve desired ends), functions (to study environments and situations, structure, select alternatives and evaluate performance), flows (of information among planners and users) and structure (a format within which the planner aligns the likely with the desired outcome using learning and feedback in the form of judgments and data to re-evaluate the outcome)”¹.

Methodology. The system approach is one of the forms of methodological knowledge related to the research, design and construction of objects as systems that imply a sequential transition from the general to the particular, when the purpose lies at the basis of the examination, and the object under study is isolated from the environment.

As a general scientific concept, the system approach implements the principle of system approach in solving complex problems of regional social and economic systems, based on the consideration of the phenomenon as a system, that is, the study of the system elements, its subsystems, a certain order of building a hierarchy of management, integrativity and decomposition by isolating the complex and private.

In contrast to the empirical approach, the system approach proceeds from the premise that the system has properties that are not unambiguously deducible from the properties of the elements.

The system (from ancient Greek, σύστημα – “combination”) means “single entity composed of pieces”. In other meaning of this term is the order determined by the planned correct arrangement of the parts as a whole, defined by the interrelationships of the parts. In the process of analysis, the system is separated from the environment and the composition and structure of the system, its functions, integral characteristics (properties), system-forming factors, relationships with the environment are determined. In the process of synthesis, a model of a real system is constructed.

It should be noted that there is no single generally accepted definition of the term “system” at present. Many authors tried to present their definition of the system, based on the terminology of their scientific discipline. So, for example, within the framework of constructing a parametric general theory of systems A. I. Uemov² presents about 35 definitions of the term “system” proposed by different researchers at different times, and then, based on their logical generalization, formulates the own variants of direct and dual definition of the term “system”.

In the author’s interpretation³ a system is any object m in which there is some relation of R having some in advance set property of P , that is, schematically:

$$\text{Property (P)} \rightarrow \text{Relation (R)} \rightarrow \text{Object (m)} \quad (1)$$

Thus, every object (phenomenon, event, etc.), regarded as a system, has several levels of organization:

1. Conceptual (P-level), that is, the level of system-forming properties (properties of relations);
2. Structural (R-level), that is the level of system-forming relationships;
3. Substrate (m-level) is the level of the system elements.

The methodologically proposed scheme determines the order of presentation of a complex object in the form of a system.

Strategic management of the social and economic system of a certain level includes the development of the strategy as a system that forms a set of economic solutions balanced according to the available potential and aimed at stable harmonious development of the integrated system and its subsystems in the long-term period, defining the goals and directions for development, and the development of regulatory mechanisms for their implementation through economic and non-economic management impacts⁴.

Considering the process of building a regional strategy as a system in accordance with the scheme (1), first of all a mission shall be formulated and goals defined (for example, “to increase

¹ Saaty, T.L., Kearns, K.P. (2014). Analytical Planning: The Organization of System. *International series in modern applied mathematics and computer science*, 7, 89.

² Уемов, А.И. (1978). *Системный подход и общая теория систем*. Москва: Мысль, 271.

³ Op.cit., 117.

⁴ Никонова, А.А. (2015). Системность управления как основной императив в переходе к устойчивому развитию. *Стратегические решения и риск-менеджмент*, 6, 62-76.

the economic wealth of the region and convert it into comfortable and safe living conditions for its residents, to ensure the competitiveness of the local economy”), then to determine the structure and necessary implementation mechanisms (for example, “ensuring of the effective interaction of legal, organizational, economic and financial mechanisms of the state regional development, and implementation of the appropriate implementation of the monitoring strategy”) are developed. Finally, for implementation of these processes a set of actors shall be formed (regional and national authorities, local governments, business structures and associations, representatives of industrial and business groups, public organizations, members of territorial communities, etc.).

In a dual definition, the system is supposed to be an object in which there are several properties contained in some in advance set relationship:

$$\text{Relation (R)} \rightarrow \text{Property (P)} \rightarrow \text{Object (m)} \quad (2)$$

The proposed definitions can serve as methodological regulations for the implementation of the system paradigm for the study of complex objects that define such main stages of the system approach:

1. Consideration of the object of study as a system, highlighting the purpose of its functioning, structure, elements, basic subsystems, boundaries and determining the level of system research.

2. Content definition and investigation of relations (P, R) , (m, R) , (P, m) , (P, R, m) and others, and defining the integrity type of the object at this level.

3. Determination of the general direction of research from the system-forming property (in particular, the goal) to the structure (the set of system-forming relations) and further to the elements $(P \rightarrow R \rightarrow m)$ in the direct determination scheme or from the system-forming relation to the properties and further to elements $(R \rightarrow P \rightarrow m)$ – in the dual.

The use of the dual scheme for the system research of complex objects $(R \rightarrow P \rightarrow m)$, according to which the general direction of research begins with the specification of a backbone relationship and then to elements (subsystems) with some properties between which this relation takes place, seems to be methodologically promising for building a system economy by G. Kleiner, stated in his main works¹²³.

In accordance with the main provisions of the system economy, any stable economic system is a kind of combination of four interacting systems of different types (projects, objects, processes and environmental), which together form an economic complex capable to autonomous existence and independent development. There are regularities of behavior and conditions of effectiveness for each type of such systems, as well as for their interaction. For the normal functioning of any economic system, the parity (harmony) of all the listed generating systems and their balanced joint development is necessary. In the context of the dual representation of the system, the harmony relation acts as a backbone, which project, object, process and environmental economic subsystems must satisfy.

Using the theory of system economic, Kleiner have studied the interrelationships of regional structures at the macro and meso levels, and also pointed out theoretical and methodological approaches to their harmonious functioning and development. Thus, it is noted that in the “region-state” relations “cooperative-type connections” prevail rather than rivalry and competition⁴.

Depending on the orientation to support the functioning and development of the certain types of systems, the types of economic policy that can be emphasized are “object-oriented strategy” (regions, industrial complexes, organizations, etc.), “environment-oriented strategy” (institutions), “process-oriented strategy” (innovations), “project-oriented strategy” (support and financing of projects)⁵. Focusing on the spatial concept of development of the social and economic system, Kleiner makes changes in the definition of the system, treating it not as a set of elements that are connected endogenously, but as an integral part of the surrounding world (exogenous approach) that is stable in time and space⁶.

¹ Клейнер, Г.Б. (2011). Системный ресурс экономики. *Вопросы экономики*, 1, 89-100.

² Клейнер, Г.Б. (2008). *Модернизация экономики и общественное развитие*, 2. Москва: ГУ-ВШЭ, 6-15.

³ Клейнер, Г.Б. (2011). Новая теория экономических систем и ее приложения. На пути к созданию целостной экономической теории. *Вестник РАН*, 9, 794-809.

⁴ Клейнер, Г.Б. (2011). Системный ресурс экономики. *Вопросы экономики*, 1, 9.

⁵ Клейнер, Г.Б. (2008). *Модернизация экономики и общественное развитие*, 2. Москва: ГУ-ВШЭ, 7.

⁶ Клейнер, Г.Б. (2011). Новая теория экономических систем и ее приложения. На пути к созданию целостной экономической теории. *Вестник РАН*, 9, 794-809.

In the 90s of the twentieth century during the period of transformational changes in the economic science of the post-Soviet space, the system paradigm was replaced by the mass mastering by economists of the achievements of “mainstream economics” and attempts to transfer them to the domestic soil for analysis of the transition economy. However, at the present time the system approach starts to be intensively used again as a methodology in economic science, which is connected with the awareness of the increasing fragmentation of empirical generalizations in the economy. That is why “the traditional factorial analysis of the economy on the basis of four factors of production must be supplemented by an analysis of its system structure. Labor, capital, natural resources, entrepreneurial abilities create values not by themselves, but only in the composition of these or those economic systems. Proceeding from this, it is necessary to consider social and economic development from a new angle – through the prism of creation, interaction and transformation of economic systems”¹.

For the first time this position was formulated in general terms by Kornai in the well-known work “System Paradigm”², in which the system paradigm, proposed as a complement to the neoclassical, institutional and evolutionary paradigms considers the functioning of the economy through the prism of the processes of creation, interaction, evolution, transformation and liquidation of economic systems.

According to Kornai the essence of the system paradigm (system approach) in the economy is as follows:

1) the social system is considered as a whole, the object of study are the interrelations between this whole social system and its parts;

2) Researches have holistic character and do not reduce to any particular discipline (economics, sociology, political science). Particular attention is paid to the interaction of various spheres of functioning of the society;

3) The attention of researchers is focused on the institutions that determine the scope and the course of the specific processes. Institutions have quite a broad meaning as structures that have arisen historically and evolve by evolution;

4) There is a close linkage in the understanding of the existing organization of society and the historical process in the course of which it appeared;

5) Special attention is paid to large changes and profound transformations, rather than to small, constant changes;

6) It is noted that the systems inherent dysfunctions are intrinsic. They are embedded into those systems and can only be mitigated, but not eliminated, since their ability to self-reproduction is deeply rooted into the system itself;

7) The comparison is the most typical method in the system paradigm. It is carried out mainly on a qualitative level.

In the context of the system approach, the main properties of the region as a complex social and economic, organizational-production and economic system are:

1) Integrity (emergence) – internal unity, the principle irreducibility of the system properties to the sum of the properties of its constituent elements;

2) Hierarchy – in its turn each component of the system can be regarded as a system, and the system itself is only one of the components of a more complex system;

3) Purposefulness – “aspiration” to achieve the goal, which expresses the tendency to preserve and strengthen the main process leading to the goal;

4) Sustainability (homeostasis) – observance of some dynamic equilibrium, which guarantees the maintenance of parameters in a certain range that determines the existence of the system;

5) Openness – interdependence of the system from the environment and the need for interaction with it.

The region, as a hierarchical system, is located at the meso-level of economy in the structure of the country’s economy.

Recently, more and more attention has been paid to the meso level of the economy in foreign and domestic economic research. Economists Dopfer, Foster and Potts developed the macro-, meso- and

¹ Клейнер, Г.Б. (2011). Системный ресурс экономики. *Вопросы экономики*, 1, 89.

² Kornai, Ja. (2000). The System Paradigm. In: *Paradigms of Social Change: Modernization, Development, Transformation, Evolution*, eds. Waltraud Schelkle, Wolf-Hagen Krauth, Martin Kohli and Georg Elwert, 111-133.

micro-theory of the evolutionary economy, in which “the economic system is a population of rules, the structure of rules and the process of rules”¹. In the development of the country’s economy, an important role is played not only by the enterprises themselves, but also by the space between them and above them, what connects the microeconomic level with the macroeconomic level. In the socialist system, the industry structure acted as a transfer link for central planning and management. The fragmentation and loss of control in the domestic economy observed nowadays is to a certain extent a consequence of the uncertainty of the position and functioning of the meso-level economic entities². Meso economics is an intermediate level between macro- and microeconomics, on which economic processes of interaction of regions, industries, infrastructures, large economic complexes (clusters, holdings, large interregional and intersectoral corporations), intersectoral and inter-regional technological chains and networks are synthesized³.

Key findings. The hierarchy and positioning of the region at the meso-level are the main system characteristics that determine the requirements for the construction of strategies for its development (Figure 1).

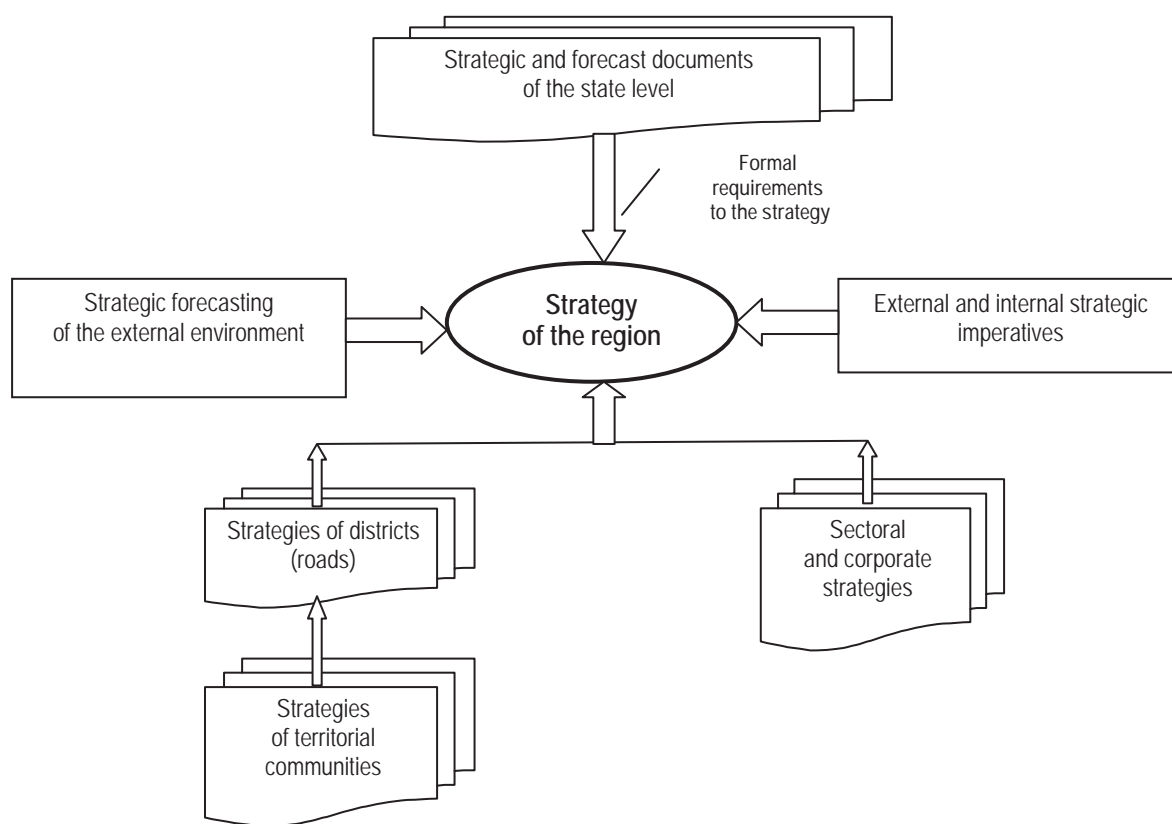


Fig. 1. The meso level space of strategirovanie
(Source: own work)

Framework restrictions on the region’s strategic location are set by national strategic documents, formal requirements for the strategy, and products of district and community strategies. While developing the strategy, it is necessary to take into account strategic forecasts of changes in the external environment and take into account the sectoral and corporate strategies of the structure-forming enterprises.

¹ Dopfer, K., Foster, J. (2004). Micro-meso-macro. *Journal of Evolutionary Economics*, 14, 263-279.

² Клейнер Г.Б. (2011). *Мезоэкономика развития*. Москва: СJeMI RAN.

³ Марков, Л.С., Ягольницер, М.А. (2008). Мезоэкономические системы: проблемы типологии. *Регион: экономика и социология*, 1, 18-44.

The lack of a system understanding of the present and strategic vision of the future became the main reason why the strategies of social and economic development of the regions of Ukraine that had been developed during the last decade did not take into account the global economy trends related to world crises and integration of the country's economy into the system of global economic ties (in particular, Ukraine's accession to the WTO, the choice of the European integration vector of economic development, the severance of cooperation ties with countries CIS, etc.), as well as adequately internal patterns and prospects of regional socio-economic development, which made the implementation of these strategies to be very problematic.

The methodic, legislative, personnel, informational and resource support for strategic management at the meso level (at the levels of regions, districts, settlements and communities) is not systematic, and the necessary regulatory, economic, information, organizational mechanisms for regional strategic management are not formed, strategic documents are not aimed at solving urgent problems of the development of local communities. The legislation of Ukraine which have been formed during 2005-2017 years, does not have a single holistic system for effective institutional support of implementation of the regional projects, that would allow to systematize all the set of strategic and planning documents in the field of regional development, as well as the sources of their financing. There are no mechanisms for external and internal coordination and integration of the strategic documents of different levels, goals, priorities, objectives, indicators, results of target programs, etc. at the national, regional and local levels. There is no effective system for monitoring, evaluating, control over the strategic documents to coordinate their implementation processes.

Everything suggests about the need to move from standard strategic planning to strategirovanie^{1,2,3} which is based on the system paradigm of the formation process of an integrated multi-level and multi-object system of regional strategic management with a strong internal structure that encompasses and unites all the components of the strategic process (including strategic planning (SP) objects, SP entities, strategic institutions, strategic stakeholders, SP results as integrated, holistic and interrelated strategies of the objects functioning of different levels, from the enterprise or the region and the country as a whole and the mechanisms of their implementation) in a single system of strategic planning and management.

According to experts⁴ the need to move from strategic planning to strategirovanie shall be done due to the following reasons:

1) The need in using of new methods and tools for working with the Future (methods of foresight, "mapping" of the movement, the development of "maps of the future" etc.) that do not fully fit into the framework of standard strategic planning;

2) Actual requirements for modernization of strategic planning due to the weak feasibility of strategies of different types and levels (helplessness of SP);

3) The desire to combine the individual development management tools (software, project, planning, etc.) with different time horizons into a single complex in different ways;

4) Systemic study and solution of the whole range of problems associated with the implementation of strategies, such as structural and functional isolation of state structures of different levels, loss of strategic subjectivity, low level of ownership of software and project tools, insufficient institutional and information resources, etc.;

5) Formation of poly-subject mechanisms of strategic management on the basis of regional partnerships (state and business structures, non-profit organizations and population) and organization of communication processes and institutionalization of the activities of strategic actors to solve regional problems.

¹ Патрикеев, Н.Г. (2004). Управление территорией на основе стратегирования. *Ключевые аспекты функционирования региональной экономики: теория и практика*. Пермь: НИИУМС, III, 112-116.

² Захарченко, А.А. (2009). Стратегирование как особый подход к управлению развитием предпринимательской деятельности в муниципальных образованиях. *Вестник Университета (Государственный университет управления)*, 34, 161-163.

³ Бочкарева, Т.В., Самарцев, С.Е. (2004). Организационно-управленческий механизм реализации стратегии развития муниципальных образований. *Управление реализацией стратегий развития муниципальных образований*, 52, 42-234.

⁴ Ibid.

The genesis of the term “strategirovanie” allows us to consider it in a broader sense than the “strategic management” category. With this understanding process of the “strategirovanie” involves not only the development of a strategic plan and the organization of its implementation, but also other aspects of managerial and social activities that allow purposefully to translate an object in new quality. It is necessary to take into account the system character of the management object itself, as the region being an holistic, reproductive, social, managed, relatively independent social, ecological and economic meso-level system located on a certain territory, bounded by administrative and territorial boundaries, which unites subsystems (historical, political, geographical, natural-resource, economic, social) that are isolated in a particular way to achieve the strategic goals of its development in the internal and external (national and global environment)”¹. In the case of such a complex system, routinely applied strategic planning procedures, successfully tested at the corporate level, do not work quite adequately. Strategirovanie is a broader systemic concept that represents a single technological complex of software and project development tools for the region’s development strategy (including conceptualization, forecasting, communicative foresight, development of strategic scenarios, goal setting, planning, design, modeling, programming, situational analysis) and strategic management mechanisms (stakeholder involvement, formation of poly-subjective regional private partnerships, controlling, etc.). At the same time, strategirovanie is a continuous process, including the definition of goals, a multi-level description of the region, environmental assessment, the choice of ways to implement the strategy, the construction of strategic maps, the definition of the economic basis that must be created on the territory to form a full-fledged regional strategy, the organization of communication processes and the institutionalization of strategic subjects activities for solving the regional problems, monitoring and control over its implementation. Process of strategirovanie which is reviewed as a unified system, can be considered as a system resource for the application of innovative management in the field of social and economic development of the territories for mobilizing the internal reserves and creating conditions for the development of entrepreneurship on the basis of a constructive dialogue between business, government and society.

Conclusions. The lack of a single systematic and methodological basis for the regional strategic planning, the heterogeneity of the research elements that makes it difficult to describe the components of strategic planning, create the prerequisites for addressing the system paradigm of economic theory as a basis for forming a systemic representation of strategirovanie as a single, multilevel and multi-object implementation of complex regional strategic development. That makes it possible to use methodological regulators and a special toolkit of the system theory to reduce uncertainty in making strategic management decisions at various hierarchical levels.

Prospects for further researches are related to the development of institutional mechanisms to ensure the implementation of strategirovanie processes, methodological tools and software for its automating to improve the existing mechanisms of strategic planning and management of social and economic systems at the meso-level.

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