ინოვაციური ეკონომიკა და მართვა

INNOVATIVE ECONOMICS AND MANAGEMENT

სისტემის მეთოდოლოგიის გამოყენების რამდენიმე ასპექტი ქალაქის კრიზისის მართვის კონტექსტში

SOME ASPECTS OF THE USE OF SYSTEM METHODOLOGY IN THE CONTEXT OF CRISIS MANAGEMENT AT THE CITY LEVEL

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Received: July, 2019
Accepted: August, 2019

ABSTRACT. The article discusses the theoretical concepts that, in the author's opinion, can serve as a basis for developing theoretical approaches and practical recommendations for building a crisis management system at the city level. The theoretical foundations of the systematic methodology methodology for describing the city as a dynamic, open system, large non-equilibrium system are analyzed. Since the XIX century.the countries of the western world entered the era of the industrial revolution. The new way of life, the development of science and industry have had a tremendous impact on all aspects of society. At this time, the problems of social, economic and environmental nature have sharply escalated in major cities of the world. Architects and urban planners of the time began to propose various urban planning concepts that sought to solve new problems arising from the development of technical civilization. Similar theories and concepts continued to emerge later, throughout the XX century. Note the main trends that characterize the development of cities in this period.

For better understanding, it will be convenient to divide all concepts into two main groups: urban and anti-urban. Such a separation may seem rather conditional, and for some concepts it can be applied with great tension, but it does help to identify two different approaches. The difference is that the urbanist approach proposes to solve the environmental problems of the modern city at the expense of population concentration, whereas in the anti-urbanist approach it is done at the expense of the dispersal of people in the natural environment. In each case, it offers its rational justification for choosing one or the other approach.

Factors that may contribute to the sustainability of such a system have been identified. It is pointed out that the processes of self-organization of city residents reduce the likelihood of crisis occurrence at the city level. And this, in turn, increases the possibility of city development on the basis of sustainability.

Keywords: city, system, authorities, city development processes, crisis management, crisis phenomena, city management.

ტატიანა პახომოვა,
მეცნიერებათა დოქტორი საჯარო ადმინისტრირებაში, პროფესორი, რეგიონალური განყოფილების ხელმძღვანელი ოდესის პოლიტიკისა და საჯარო ადმინისტრირების სახელმწიფო ადმინისტრირების რეგიონალური ინსტიტუტი, უკრაინის პრეზიდენტის სახელმწიფო ადმინისტრირების ეროვნული აკადემია ოდესა, უკრაინა
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ანოტაცია. სტატიაში განხილულია თეორიული ცნებები, რომლებიც, ავტორთა აზრით, შეიძლება გახდეს საფუძველი თეორიული მიდგომებისა და პრაქტიკული რეკომენდაციების შემუშავებისთვის, ქალაქის დონეზე კრიზისული მართვის სისტემის მშენებლობისთვის. გაანალიზებულია სისტემატური მეთოდოლოგიის თეორიული საფუძვლები ქალაქის, როგორც დინამიური, ღია სისტემის, მსხვილი არაწონასწორული სისტემის აღწერისათვის. XIX საუკუნიდან მოყოლებული დასავლური სამყაროს ქვეყნები ინდუსტრიული რევოლუციის ეპოქაში შემოვიდნენ. ცხოვრების ახალმა მეთოდმა, მეცნიერებისა და ინდუსტრიის განვითარებამ უდიდესი გავლენა მოახდინა

ირინა ხრამტისიოვა,
ოდესის პოლიტიკისა და საჯარო ადმინისტრირების სახელმწიფო ადმინისტრირების რეგიონალური ინსტიტუტი, უკრაინის პრეზიდენტის სახელმწიფო ადმინისტრირების ეროვნული აკადემიის ასპირანტი ოდესა, უკრაინა

შემოსულია რედაქციაში:
ივლისი, 2019
რეცენზირებულია:
აგვისტო, 2019

JEL Classification J21. R11.

საზოგადოების ყველა ასპექტზე. ამ დროისთვის, მსოფლიოს დიდ ქალაქებში მკვეთრად გადაიზარდა სოციალური, ეკონომიკური და გარემოსდაცვითი ხასიათის პრობლემები. იმდროინდელმა არქიტექტორებმა და ურბანული დამგეგმავებმა დაიწყეს ურბანული დაგეგმვის სხვადასხვა კონცეფციის შემოთავაზება, რომლებიც ცდილობდნენ ტექნიკური ცივილიზაციის განვითარებიდან გამომდინარე ახალი პრობლემების მოგვარებას. მსგავსმა თეორიებმა და კონცეფციებმა კვლავ იჩინა თავი, მოგვიანებით, XX საუკუნის განმავლობაში.

კვლევის პროცესში გამოიკვეთა ის ფაქტორები, რომლებმაც შეიძლება ხელი შეუწყონ ამგვარი სისტემის მდგრადობას. აღინიშნება, რომ ქალაქის მაცხოვრებლების თვითორგანიზაციის პროცესები ამცირებს კრიზისის წარმოქმნის ალბათობას ქალაქის დონეზე. ეს კი, თავის მხრივ, ზრდის მდგრადობის საფუძველზე ქალაქის განვითარების შესაძლებლობას.

Solution of the problem in general. The processes of political, economic and social transformation taking place in Ukraine, the challenges of a turbulent and dynamic external environment have actualized the problems of introducing crisis management into the city system along with the spread of decentralization processes, the implementation of democracy by public participation in the processes of local government self-government.The city is a complex multilevel system that has internal dynamics and is an essential element of the national economy. The economic system of the city is characterized by a combination of social, economic, environmental, information and other components, a large number of various elements and connections, the circulation of significant flows of material, financial and information resources.

The urgency of putting into practice the activities of local self-government bodies at the city level of crisis management is conditioned by the absence of models, functions, competencies, mechanisms, systems of anti-crisis management in the city management system (except for specialized units for emergency management), which leads to unpreparedness, lack of timeliness city government bodies on the emergence and overcoming of crisis phenomena of different levels of scale and danger.

Analysis of recent research and publications. Crisis management issues have become the subject of attention of many domestic and foreign scholars who study management, scientific and practical problems of regional policy and management of the local economy and finances, etc. Today there are a number of theories explaining the causes and development of crisis phenomena in nature and society, which have been reflected in the works of R. Akoff, V. Arnold, O. Bogdanov, N. Kondratiev, J. Keynes, K. Marx, I. Prigogin, P. Samuelson, P. Sorokin, A. Toffler, F. von Hayek, J. Schumpeter and other researchers.Some well-known scientists like Y.P. Bytyak, V.I. Bordeniuk, R.L. Brusak, V.M. Vakulenko, G.O. Drobenko, S.S. Maksimenko, V.V.Mamonova, M.M. Mykolaychuk, Yu.B. Newlyweds, I.V. Nagornaya, V.I. Nudelman, S.E .Sakhanenko, O.F. Tkachuk, O.I.Cheban, I.A. Chikarenko and more. All this testifies to the relevance of the development of theoretical and organizational foundations of anti-crisis management of the city.

Highlighting previously unresolved parts of a common problem. But despite the wide range of domestic and foreign studies in the field of anti-crisis management, in the modern science of public administration has not been paid sufficient and due attention to the complex study of theoretical and organizational principles of anti-crisis management of the city. The problems of creation of a system of anti-crisis management of the city on which crisis management in activity of local self-government bodies at the city level is based are insufficiently considered. The above, as well as the need for research to improve anti-crisis management processes in the context of city governance, specific methods that can provide risk analysis and crisis prevention at the city level, determine the relevance of the article.

Formulating the goals of the article. The purpose of the article is to analyze theoretical concepts of city consideration in the context of directions of crisis management at the city level.

Presenting main material.As determined by V.M. Babayev, in the management of a big city lies the main social contradiction - between the processes of managing the functioning, on the one hand, and development management, on the other, that is, between the present city (functioning) and its future (development), which is able to either stimulate and ensure full development and vitality of the city system, or significantly slow them down, because in a situation of constant resource constraint (and even more so in the conditions of drastic changes in the political, economic, social, cultural spheres of Ukrainian society) «m ybutnye "diverts significant resources today, but the desired result can be far removed in time, in fact - is not always guaranteed [1, p. 9].

The city can be broadly defined as the place of compact living of people, which satisfies their needs for life support, safety, communication and personal development on the basis of common cultural, social, national and other interests.

Analyzing scientific sources, one can define the essence of the concept of «city management» as a set of actions undertaken by the city representative government and its executive bodies and intended to help create a comfortable environment for living in the city, its functioning in the system of settlements of the state.

From the point of view of city management, this approach is typical, when using the city is considered through the combined activities of managers and business structures. In this context, the main success factors are the development of various urban development programs and forms of governance . For the builders and managers, the basic approach is the engineering approach, which represents the city as a complex mechanism for ensuring the lives of citizens and as a functional space for production activities. The city in this case is considered in the form of drawings and diagrams. In this approach, the major factor in the development of the city is the change of generations of engineering systems, planning structures of the city, which is reflected in the master plans, topographic plans, land cadastres, etc. In the study of urban development management, the approach is often used to consider the city as a certain ideal object.

This approach is characteristic of economic-geographical studies. This approach explores and describes the city in the form of graphs, tables characterizing the change in various parameters that are used as justification for city spatial and economic planning projects, social policies and more.

For architects, the approach that describes the city as a form and making it a major task is closer. Valuable characteristics in this case are originality, novelty, conceptualism. The history of the city is a change of principles of organization of urban space and demonstration of it in specific objects and complexes. City residents carry a whole range of approaches.In our opinion, non-governmental organizations have a more specific approach that views the city from the point of view of organizing life processes. In this context, the city acts as a kind of environment for the cultivation and existence of "natural" urban organisms [2]. In this context, the main factor is the perception and understanding of the city residents by the forms of organization and functioning of the city. In [3], it is argued that the city can be seen as a place in which the rights of citizenship need to be constantly fought in the context of the need to create an environment and new conditions for the development of public and public sphere. The development of the city, in this case, should be understood as a result of the process of social innovation, in which all its inhabitants are involved [3, p.141]. From the point of view of the city's development, as a certain socio-economic integrity, it is first and foremost a market settlement that emerged and developed as a result of social, territorial division of labor

It can be defined that the city is: a system of territorial division of labor, which is carried out through a constantly existing market, diversification, cooperation and concentration of types of production; concentration of residents who interact in production, consumption, housing, etc .; accumulation of material funds, buildings, structures, utilities, green spaces, etc .; territory that has a statutory status. andcharacterized by a specific environment (social, industrial, natural, architectural, political). A city may be considered a settlement on the territory of which there are industrial enterprises, communal facilities, housing stock, a network of socio-cultural institutions with a population of more than 10 thousand inhabitants, the vast majority of which are employed in non-agrarian activities [4] .

The city can be considered as such a settlement that is formed historically or created on the state initiative, which is categorized as a city according to the current legislation, within the territory of which a self-organizing and functioning urban territorial community has a corresponding economic, ecological, technical, social- cultural infrastructure,

the organization of political and public life and the rights to resolve issues of functioning and development, defined and enshrined in the Constitution, laws of Ukraine and the statute erytorialnoyi community.

The city as a complex dynamic system, which is developing by itself, can no longer develop today only on the basis of administration and non-systematic monitoring of information coming to the city council. D. Forrester points out that the city is a dynamic system that is sensitive to administrative innovation. The long-term (long-term) reaction to any administrative innovation is often manifested in the opposite reaction to it [5].

But it is not even as information, because it is not the main obstacle to improving the efficiency of city management. The obstacle is still the lack of readiness in the city-level management structures and the ability to analyze and organize information in a form that reflects the structure of the real city system, willingness to cooperate with business representatives and public organizations in solving important problems on the basis of partnership, participatory interaction. To do this, first of all, it is necessary to increase the motivation of representatives of different subsystems of the city to cooperate, to provide an opportunity to use resources of different sectors of the city community effectively to solve problems [6].

The city can be attributed to complex, dynamic, adaptive systems that are characterized by synergistic development. In the late 60's in the work of J. Forrester "Dynamics of city development" the city referred to the systems of the twelfth order, where the "order" of the system was determined by the number of equations of a certain level used in the description of the system to which the city belonged [5, p.118]. Belgian scientist I. Prigozhin and Greek scientist G. Nicolis present results that illustrate the dangers of city planning based on statistical methods of extrapolating past experience directly. They propose a method of dynamic modeling of the city, when adaptation opportunities are the main source of development of such a system as a city, which allows society to exist for a long time, to update itself and to find original ways of development [7, p.93].

Today, cities are developing new subsystems and types of activity that are directly related to the city. A multitude of functioning subsystems of systems, each with its own goals, objectives, conditions of operation and development, combined by multilateral links, all located in one territory, constitute the system of a modern city.

Complicating the structure and processes of the city without proper improvement of management tools and methods leads to a decrease in the effectiveness of its management, unpredictable negative consequences. The lack of holistic scientific approaches to considering a city as a large complex dynamic system causes its subsystems to lose their integrity, cease to be effectively organized. This is manifested, first of all, in the development of master plans of cities, comprehensive targeted programs of social and economic development, in the formation of a coordinated impact on their development.

One example of the complication of city functioning as a system is the problem of agglomerations. As the city grows and develops, it is difficult to maintain its size and at low rates it overcomes natural and territorial boundaries. The dynamic growth of the industrial and economic complex, the resulting development of infrastructure, the increase in the standard of living of the local population create conditions for the growth of the population in need of quality, the level of management, and, as a consequence, requires the development of even more territory, which is generally only possible at the expense of adjacent territories. n the current conditions of social development the city is a multifunctional complex settlement. Number of functions [8, p. 31-32] performed by the city increases depending on the size of the socio-economic, geopolitical potential of the city. As noted in their works M. Lesechko, A. Chemeris [9], a large city is inherently a powerful information, transportation and energy structure. Big cities are agglomerations with different levels of development. Taking into account the surrounding settlements, their population increases by 115 - 140% compared to the city's own population [9, p. 194]. Typical for the development of large cities is a linear arrangement along the thoroughfares, then filling the space and returning to a compact shape, but already in a much larger area, that is, radial-annular filling.

Therefore, the city is a complex system whose management problems can be considered in various aspects. Urban management remains one of the most complex and undeveloped problems associated with urban growth and trans-

formation into urban systems [6]. City management is impossible without taking into account the requirements of the laws of operation and development of systems. Of great importance is the law of necessary diversity, which results in the conclusion that it is impossible to create a typical and simple management system capable of effectively managing such a complex dynamic system as a city (especially a large and a large city). Taking into account the requirements of the law of feedback allows on a scientific basis to manage the city, make informed decisions about various problems of its development.

The most appropriate, in our opinion, is a combination of socio-economic and legal aspects of governance, ie a systemic and economic-legal approach. The goals of the city governing bodies determine the main functions of these bodies. Conditionally, management functions can be divided into the following groups: management, economic, economic, environmental, socio-demographic and socio-cultural. Each of these groups contains functions of managing a specific sphere of urban economy (city subsystem).

Therefore, according to the purpose of the study, the organizational structure of the city crisis management system should provide:

- managing the city as a single economic complex (single system);
- managing the operation of the city's subsystem
- prompt decision-making;
- widespread involvement of residents in urban governance through a partnership system.

The organizational management mechanism as a process should include:

- setting goals;
- determining the means of achieving the objectives;
- management decisions;
- monitoring the implementation of decisions and providing feedback.

With regard to the management of such a specific entity, which is a city, the following main groups of goals are identified:

a) the first group of goals is related to improving the living standards of the city residents both in material and spiritual aspects;
b) the second group of goals is related to the exercise of powers delegated by the state;
c) the third group of objectives relates to the capitals of the states and cities with special status [11].

Considering the city as a system, it is advisable to turn to the ideas of V.G. Afanasieva, which names a number of basic features by which systems can be described as integral entities: integral properties (systematic), that is, those properties that are not possessed by any of the elements forming the system; the elements, components, parts of which the system is formed; structure, that is, defined relationships and relationships between parts and elements; the functional characteristics of the system as a whole and the characteristics of its individual components; communicative properties of the system, which are manifested in two forms: in the form of interaction with the external environment and in the form of interaction of the system with the sub- and supersystems, systems of lower or higher order, in respect of which it acts as part (subsystem) or as a whole; historicity, or connection of the past, present and future in the system and its components [12]. Management is carried out in systems in which there is a network of cause and effect relationships that are able to move from one state to another within a given basic quality. This process ensures the stabilization and development of the system, maintaining its qualitative certainty, maintaining a dynamic interaction with the environment. As such systems operate under conditions of continuous changes of the internal and external environment, the task of management is to respond as expediently and as quickly as possible to these changes, which is ensured by timely restructuring of the functional and organizational structures of the system in accordance with its inherent regularities and trends.

With the help of general system properties and features, we will describe the city that the dissertation belongs to socio-economic systems. Like other social systems, the city is an open system because there is a constant exchange of

people, energy and information between it and the external environment. In this context, the city is a dynamic system because it functions in the conditions of dynamic changes of the external and internal environment (changes in the internal states of such a system are caused by changes in the external environment). The process of functioning of the city takes place in the context of changing strategic and operational goals, the emergence of new tasks, in accordance with changes in the external and internal environment. The city's subsystems and components emerge, form and operate in accordance with defined goals, which contain a conscious need for city residents to improve their quality of life, achieve political and economic stability, high levels of social development, etc. The target characteristics of the system are essential features of systems with active behavior, which involves the transformation of the environment according to existing needs and goals. Active behavior systems have been termed targeted [7]. These include the city in the modern period of state development. The main difference between all purposeful systems, including cities, from others is that they are inherently "multifunctional". This means that in different external environments, both the system itself and its elements and subsystems can alter goals and methods for achieving results. Due to the variability in their actions and the results obtained, these systems can gain relative independence from the environment and the environment.

Within purposeful and dynamic systems, the city can be classified as developing. This is because in the process of social, social and economic development it is also improved and developed in structural, functional, historical and other aspects. It is clear that the city as a system must function and develop not spontaneously. Changes occurring within it must be orderly in nature through management. The orderliness of existing structural and functional components, their integration and interaction with the environment should be ensured by the city itself and its management mechanisms.

From the standpoint of system methodology, one can consider the process of city management as a process of ordering elements of the system in order to reduce uncertainties in the processes of functioning and development caused by destructive influences on the elements of the system from the outside and from the inside. The result of such a process depends on the quality of the system's connections with the external environment and the connections between the elements and components of the system. P.K .Anokhin emphasized that for the formation of the system, it is not so much the simple interaction of any set of elements as their interaction in obtaining the integral, general effect, result, purpose for which and through which the elements are organized into the system [13, p .143].

It is known that the same system object (in our case this city) can be viewed from different sides, it allows many principles, principles and criteria for its division into elements. The choice of criteria for such distribution is usually determined by the tasks and purpose of the systematic review, by certain conditions, or by the strategy for the development of the system. When studying a city as a system, both the factor-forming factor and the initial and boundary conditions of its functioning must be given at the same time. Since the city as a system is purposeful, all structural transformations in it - composition, degree of participation in its activity of different elements, are determined primarily by the extent to which certain elements and components contribute to the achievement of a certain result - the goals of its functioning. Therefore, the functional aspect of city development must be taken into account when allocating system-forming factors. The absence of such system-forming factors may lead to the replacement of one system by another, which may consist of the same elements but will require consideration from another position.

To avoid such substitution when considering the city as a system, the choice of the system-forming factor can be considered one of the important points. In the work [15] suggested such system-forming factors for considering the city as a system: population, natural anthropogenic environment, space and economy. Presence of integrative properties, integrity, emergence are the features that distinguish social system objects from non-system ones. Depending on the purpose, place in society, type of state and relations between citizens and the state, it is possible to determine the following basic levels of consideration of the city as a system: the first level, the widest and the most difficult it is concrete - the historical society, the totality of all elements of society, the whole complex of social ties. relationships (economic, political, social, religious, national, cultural, spiritual, etc.); the second level of consideration is the

association of smaller people (social and ethnic groups, social associations, institutions, industrial and communal property, etc.). In any social system of appropriate complexity, at any level of organization, a person usually acts as an individual who sets certain goals and seeks to achieve them; man is the main subject and object of management, the main element of the social system.

The second group of components of the social system, which we consider the city, can be attributed to processes (economic, social, political, spiritual, communicative, cultural, transformational, etc.), the totality of which is a change in the states of the system as a whole, or some of its subsystems. These processes can be progressive and regressive, but they are triggered by the activities of people, social and professional groups, organizations, and others.

The third group of components of the social system consists of objects, that is, such things that are involved in the economic, social, political component of social life, the so-called objects of a second nature (structures, tools that are created; residents of the city and used in the processes of activity). Social systems (to which we refer to the city) fit the definition of tectological systems.The tectological mechanism of their functioning is the formation of a systemic complex, that is, the combination of a set of elements in a certain ordering. Within this system there are processes of regulating the interaction of the elements that comprise it. Such processes are aimed at developing and enhancing adaptation to the external environment. It can be argued that adapting the city to the conditions of modern reform is not just an adaptation, but always a development that goes the way of systematic differentiation towards maximizing the city's sustainability as a system by forming additional connections inside and outside it.

The fourth group of components of the social system are components of the spiritual nature (that is, social ideas, theories, cultural, ethical values, guidelines, attitudes, beliefs), which are conditioned by the actions and actions of different social groups and individuals. In social systems, including in the city, conscious management is complemented by self-organization, which is generated by natural influences on the processes that take place in the system. The city system is an open nonequilibrium system. The processes of self-organization in such systems begin with random external influences or fluctuations, which are not suppressed in the nonequilibrium system, but on the contrary, intensify, leading to the formation of a new dynamic structure.

When creating new systems through self-organization, cooperative processes based on the coherent interaction of the elements of the new system play an important role. Self-organization, which can usually be done on the principle of negative feedback, establishes a new spontaneous order in the system, since it is not created by external forces, as in the ordinary system, but is created by other reasons. Equilibrium support in the new system will already be based on the principle of positive feedback. Any social system, including the city, is prone to fluctuations or random deviations from equilibrium. And when it is in an unstable state, through interaction with a dynamic external environment, these fluctuations will intensify and, eventually, will change the existing structure and order.

Conclusions from this study. However, this destructive aspect is usually supplemented by a constructive one. The content of this statement is that, as a result of interaction, the elements of the old system produce concerted, collective behavior, so that processes of cooperation emerge in the system and spontaneously form a new order and a new equilibrium. Due to the interaction of a large number of random factors in open nonequilibrium systems, their mutual harmonization occurs and new structures emerge. Taking into account the analysis of levels, social sections, structure of components and subsystems of a city, as a social system, it is possible to determine its system-forming factors that can increase the effectiveness of its sustainable development:

- overall strategic goal of city development;
- subordination of the goals of each component to the overall purpose of the city development and awareness and understanding of the city by the residents of the overall purpose of its development;
- existence of organization and coordination between elements, components, subsystems of the city.

The city can be broadly defined as the place of compact living of people, which satisfies their needs for life support, safety, communication and personal development on the basis of common cultural, social, national and other interests.

These recommendations can be useful in developing urban development strategies that will enhance sustainable development in a particular city and in the world.

Prospects for further research. In the future we plan to consider the organizational principles of the city crisis management system in the context of the analyzed conceptual approaches to city development.

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