

**Kovalchuk V. G.**

*Doctor of Sciences in Public Administration, Associate Professor,  
Kharkiv Educational-Scientific Institute  
of SHEI «Banking University», Ukraine;  
e-mail: covveron@ukr.net; ORCID ID: 0000-0001-5321-8300*

**Naipak D. V.**

*Ph. D. in Economics,  
Kharkiv Educational-Scientific Institute  
of SHEI «Banking University», Ukraine;  
e-mail: dennaipak@gmail.com; ORCID ID: 0000-0002-5097-7579*

**Ivanova A. S.**

*Ph. D. in Economics,  
Associate Professor of the Department of Management,  
Odessa State Agrarian University, Ukraine,  
e-mail: allaserg.ivanova@gmail.com; ORCID ID: 0000-0002-0641-6408*

**Volkova M. V.**

*Ph. D in Economics, Associate Professor,  
Associate Professor of the Department of Management and Public Administration,  
O. M. Beketov National University of Urban Economy in Kharkiv, Ukraine;  
e-mail: milaha7432@gmail.com; ORCID ID: 0000-0002-2590-9005*

**Svitlychna K. S.**

*Ph. D. in Pharmacy, Associate Professor,  
Associate Professor of the Department of Management and Administration,  
National University of Pharmacy, Kharkiv, Ukraine,  
e-mail: karinasv77@gmail.com; ORCID ID: 0000-0003-0766-7513*

## **INNOVATIVE MANAGEMENT IN REGIONAL DEVELOPMENT: METHODOLOGICAL ASPECTS**

**Abstract.** Formation of innovative economic model and effective regional policy necessitates the justification of methodological foundations of modern region`s management system. The purpose of the article is improving the components of the methodology of organizational and institutional development of the regional administration system that will promote the introduction of innovative management of socio-economic processes in regions. This article explores the structural differentiation, functional subsystems and process control systems to regional development, the necessity of reorienting its essence — content elements. Established that the underestimation of competence, creative and cultural aspects in modern system of innovation management is the most important reason for low level of professionalism and effective implementation of management functions. It is grounded most important components of innovation management in the region, institutional, cultural, cognitive, competence which use for modern development, make and implement strategic decisions on which can improve procedural and resource subsystem. Scientific novelty author has proposed a fundamentally new system — integration model of Regional Development. Its use will facilitate the formation of complex of integrated totality, which forms the system that has synergistic properties and able to provide the strategic development of the region. Practical significance has strategic integration of all subsystems of Innovation Management and proposed by the author organizational and institutional approach to ensure the future development of the region. The consistent use of these key components of the proposed model can provide science-based approach to innovation development of the strategic management of the economy of the region in conditions of modernization, introduction the effective regional policy.

**Keywords:** organizational and institutional development, regional management, innovative management, strategic integration, system integration model.

**JEL Classification** R5

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**Ковальчук В. Г.**

доктор наук з державного управління, доцент,  
Харківський навчально-науковий інститут  
ДВНЗ «Університет банківської справи», Україна;  
e-mail: covveron@ukr.net; ORCID ID: 0000-0001-5321-8300

**Найпак Д. В.**

кандидат економічних наук, доцент,  
Харківський навчально-науковий інститут  
ДВНЗ «Університет банківської справи», Україна;  
e-mail: dennaipak@gmail.com; ORCID ID: 0000-0002-5097-7579

**Іванова А. С.**

кандидат економічних наук,  
Одеський державний аграрний університет, Україна;  
e-mail: allaserg.ivanova@gmail.com; ORCID ID: 0000-0002-0641-6408

**Волкова М. В.**

кандидат економічних наук, доцент,  
Харківський національний університет міського господарства  
імені А. М. Бекетова, Україна;  
e-mail: milaha7432@gmail.com; ORCID ID: 0000-0002-2590-9005

**Світлична К. С.**

кандидат фармацевтичних наук, доцент,  
Національний фармацевтичний університет, Україна;  
e-mail: karinasv77@gmail.com; ORCID ID: 0000-0003-0766-7513

## **ІННОВАЦІЙНИЙ МЕНЕДЖМЕНТ У РЕГІОНАЛЬНОМУ РОЗВИТКУ: МЕТОДОЛОГІЧНІ АСПЕКТИ**

**Анотація.** Формування інноваційної моделі економіки та ефективної регіональної політики зумовлює необхідність обґрунтування методологічних основ сучасного розвитку системи менеджменту регіонів. Мета статті — удосконалення складових методології організаційно-інституційного розвитку системи регіонального управління, що сприятиме запровадженню в регіонах інноваційного менеджменту соціально-економічних процесів. Досліджено розмежування структурної, функціональної і процесної підсистем системи управління регіональним розвитком, доведена необхідність переорієнтації її сутнісно-змістовних елементів. Установлено, що недооцінка компетентнісних, творчих і культурних аспектів у сучасній системі інноваційного менеджменту є найважливішою причиною слабого рівня професіоналізму та ефективного здійснення управлінських функцій. Обґрунтовано найважливіші складові інноваційного менеджменту регіону: інституційна, культурна, когнітивна, компетентнісна, які покликані формувати сучасний розвиток, ухвалювати і реалізовувати стратегічні рішення, на основі яких отримують удосконалення ресурсна і процедурна підсистеми. Наукову новизну має запропонована принципово нова системно-інтеграційна модель органів управління розвитком регіону. Її застосування сприятиме формуванню складної інтегрованої сукупності, яка утворює систему, що володіє синергетичними властивостями і здатна забезпечити стратегічний розвиток регіону, Практичне значення має стратегічна інтеграція всіх підсистем інноваційного менеджменту та запропонований організаційно-інституціональний підхід для забезпечення перспективного розвитку регіону. Послідовне використання основних складових запропонованої моделі здатне забезпечити науково обґрунтований підхід до інноваційного розвитку системи

стратегічного управління економікою регіону в умовах модернізації, впровадженню ефективної регіональної політики.

**Ключові слова:** організаційно-інституційний розвиток, регіональне управління, інноваційний менеджмент, стратегічна інтеграція, системно-інтеграційна модель..

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**Ковальчук В. Г.**

*доктор наук по государственному управлению, доцент,  
Харьковский учебно-научный институт  
ГБУЗ «Университет банковского дела», Украина;  
e-mail: covveron@ukr.net ORCID ID: 0000-0001-5321-8300*

**Найпак Д. В.**

*кандидат экономических наук, доцент,  
Харьковский учебно-научный институт  
ГБУЗ «Университет банковского дела», Украина;  
e-mail: dennairak@gmail.com; ORCID ID: 0000-0002-5097-7579*

**Иванова А. С.**

*кандидат экономических наук,  
Одесский государственный аграрный университет, Украина;  
e-mail: allaserg.ivanova@gmail.com; ORCID ID: 0000-0002-0641-6408*

**Волкова М. В.**

*кандидат экономических наук, доцент,  
доцент кафедры менеджмента и публичного администрирования,  
Харьковский национальный университет городского хозяйства  
имени А. Н. Бекетова, Украина;  
e-mail: milaha7432@gmail.com; ORCID ID: 0000-0002-2590-9005*

**Светличная К. С.**

*кандидат фармацевтических наук, доцент,  
доцент кафедры менеджмента и администрирования,  
Национальный фармацевтический университет, Украина;  
e-mail: karinasv77@gmail.com; ORCID ID: 0000-0003-0766-7513*

## **ИННОВАЦИОННЫЙ МЕНЕДЖМЕНТ В РЕГИОНАЛЬНОМ РАЗВИТИИ: МЕТОДОЛОГИЧЕСКИЕ АСПЕКТЫ**

**Аннотация.** Исследованы разграничения структурной, функциональной и процессной подсистем системы управления региональным развитием, доказана необходимость переориентации ее сущностно-содержательных элементов. Обоснованы составляющие инновационного менеджмента региона, способные формировать современное развитие, принимать и реализовать стратегические решения. Предложена принципиально новая системно-интеграционная модель органов управления развитием региона, использование которой будет способствовать функционированию исполнительной власти в регионах, обеспечению инновационного развития системы стратегического управления экономикой региона в условиях модернизации, внедрению эффективной региональной политики.

**Ключевые слова:** организационно-институциональное развитие, региональное управление, инновационный менеджмент, стратегическая интеграция, системно-интеграционная модель.

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**Introduction.** An effective construction management uses for supporting consistency, integrity, balance, internal consolidation, adaptability and sustainability of the regions. All the components of specific reproductive potential such as economic, natural resource, scientific, social,

environmental should be balanced in each region.

Obviously, rates of economic growth in the region in the near future are possible only on the basis of structural changes, diversification of the regional economy, decreasing dependence on exports of natural resources, clustering competitive activities forming innovative economic model and effective regional policies on the stage of modernization. Its components need to study methodological foundations of modern management system regions in general and its individual components.

**Literature review and the problem statement.** The problem of management of state for territorial development in classical economics and national give much attention. Review of the methodological and theoretical nature is in the works of G. Atamanchuk, V. Bakumenko, A. Balashov, M. Dolishnij, V. Vorotin, V. Mamonova and many other scientists from different historical periods. General conceptual problems of the region and regional economy are in the works of local scientists as S. Povazhnyi, Z. Varnalij, M. Laty`nin, V Kravciv, V Petrenko, A. Polyans`ka, I. Storonyans`ka and others. The article gives consideration innovatives mechanism in Ukraine. Development of theoretical bases of innovative management are described in the works of authors such as G. Androshhuk, V. Voronkova, S Illyashenko, D. Chervan`ov, M. Krupka, I. Kukurudza and others.

Recently, some attention has been paid to the consideration of innovative processes at the regional level in the light of globalization [1]; attempts to build a knowledge — based regional development model as a set of multilinear dynamics based on alternative technological paradigms [2]; coverage of strategic innovation management issues [3, 4]; innovative aspects of environmental and economic management of investment and construction activities for the sustainable development of the region [5]; definition of perspective directions of practical use of scientific and technical, and technological potential in the regions [6].

Despite the increased interest in governance issues of regional development some questions are still unsolved. They have methodological and methodical nature and affect aspects such as development and implementation at the national level an effective system of innovation management regions, improvement of its individual components.

The aim of the article is the improvement of methodology of organizational components of the institutional development of the regional administration to facilitate the introduction of innovative management socio — economic processes in regions.

**Research results.** Stability of regions system is very important in period of modernization of the national economy and society. This stability characterizes the state of the system according the reactions to effects. It means the ability to maintain the planned mode of the system, despite the outrage that affect on it. And the more resistant state is a state of the system of region, which at equal power external influences and internal changes less susceptible to changes, deviations from the previous position.

Condition of possession of resistance to external influences is intrinsic properties of the system that is the foundation of stability inside it. In order to increase stability and improve the ability of the system to react to the impact of any factor must constantly strengthen relationships and processes between all its elements. This means that the creation of regional stability system should strengthen its internal communications, proportion, reproductive potential. All components and the interactions between them in the management system region should be improved by applying innovative approaches to regional management.

Adaptability is the most important feature of any economic or organizational and management system. Increasing of efficiency (with other things being equal) in the long — term period depends on increasing of adaptability. It means that the adaptive abilities of region's economy is a condition and a result of effective management of the system.

The tasks of ensuring the flexibility and adaptability of regional economy, forming ability of economic agents to quickly and adequately respond to challenges, including the crisis and create stability become the priority tasks in modern conditions. Earlier the concentration of resources was used more often than adaptability in managing the region. But now it changed.

It means that efficiency of using resource is a determinant factor for socio — economic development. Earlier this development depended on availability of resources. These conditions can give result of effective realization of their own potential, sustainable entry into world economic relations, accelerated growth of gross regional product and improving quality of life.

Evolutionary approach is the most logical method for searching system of innovative management. At the same time socio — economic systems are seen as complex and open. According this method the investigated system can be more accurately reproduced. These conclusions can help to understand what happening outside its empirical level. In our researching we should pay attention on the method of evolutionary approach. This method uses fundamental understanding of reality, revealing the real mechanisms that are at the deepest levels of the system.

The main ideas of evolutionary theory are diversity as an essential feature of social and economic system; heredity, resulting in continuity (structure, function, behavior); volatility characterized the possibility of change as a new search more efficient routines that generate different mutations; adequate institutional environment; economic selection of the fittest and effective agents in the changing environment [7]. Evolutionary theory has proven itself in various fields of economics as the most adequate and effective, especially for complex social and economic systems.

According for the terms of evolutionary theory innovation management system is a complex system, which used common characteristics of complex systems, and especially their manifestations.

Some researchers [8, 9] make following characteristics of complex systems: open systems; multilevel; nonlinearity interaction between system elements; the dynamic nature of the behavior; stochastic behavior; dependence on previous development and the initial conditions of the system; heterogeneous elements; the availability of the processes themselves are supported in various states and others. In accordance with a set of properties is natural that a complex system is constantly evolving, and in the words of Arthur B. ‘it gets to an observer from an unexpected side [8, p. 107]. The evolutionary theory can understand and explain the functioning of a complex system as well as determine the nature of urgent changes in the process of happening. The current system of innovation management region includes many structural elements of different functions, a significant number of process inputs and outputs various information resources, organizational and administrative documentation, as well as a dynamic set of connections and relationships that are difficult to intertwine with each other, leading to that changes in some elements or parts of the system entail changes in others.

In practical operating control system there are different functional areas of action are organizational; prognostic, economic; information; regulatory; personnel; financial; investment; budget; property; others that permeate all structural units, but they have a different significance and degree of manifestation. System of region’s management in practical activity is a process — region system. Therefore its main task is harmonized the functions, relationships, status and interaction of all structural components in terms of internal consistency of the content of the whole system. It explains necessitates of systemic and structural, functional and system — system — process its study (analysis, synthesis, justification, explanation) and identify the underlying, important conditions and phenomena development through a systematic approach.

The overall description of the method of Internet — analysis based on the specifics of the query language that is supported by all search engines (for example, Google, Bing, and etc.) and the shapes of the query (with help of this query language). Further to this, the results based on the set of selected search engines are averaged at a given time interval (for example, during one year) [10]. The input data for the method of Internet — analysis are (for example and better understanding of work of this method):

1. Set categories (terms) of a set of categorical system, areas it’s a innovation management, regional development. Categorical apparatus may include (and often and is) a fairly large number of terms, so as the base (to reduce the size of the sample) were selected to concepts, which represent the authors’ opinion, some basis for innovation management.

2. Research period: 2001—2018 — set 18.

3. Multiple search engines are used, giving a set of results based on average data and using known search servers (for example, Google.com, Yandex.ru, Yahoo.com, Alltheweb.com, Bing.com, AltaVista.com and etc.).

Then set (or matrix) is aver — aged which is based on estimates with respect to the selection: the relevance of research, quantitative saturation of publications. The valid (this property was confirmed by a simplified verification using a form of query) results achieved using this method are shown in *Tabl. 1*.

Table 1

Relevance of research in the field of innovation management and regional development

№	Categories	Years																	
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	Innovation management	15	9	8	1	19	15	20	39	1	2	3	30	2	8	8	3	26	10
2	Regional development	6	6	37	25	11	19	40	14	18	27	37	86	1	5	3	2	5	5
1	Average %	8,33	5,00	4,44	0,56	10,56	8,33	11,11	21,67	0,56	1,11	1,67	16,67	1,11	4,44	0,00	1,67	14,44	5,56
2	Average %	1,79	1,79	11,04	7,46	3,28	5,67	11,94	4,18	5,37	8,06	11,04	25,67	0,30	1,49	0,90	0,60	1,49	1,49

*Fig. 1* shows that over the period from 2002 to 2011 there has been a mild increase in interest in scientific knowledge in the field of innovation management and regional development. In 2012, there was a significant leap in this area of research, which led to an increase in the number of publications to 86. However, in subsequent years, practically until 2016, we see a decrease in the number of relevant publications.

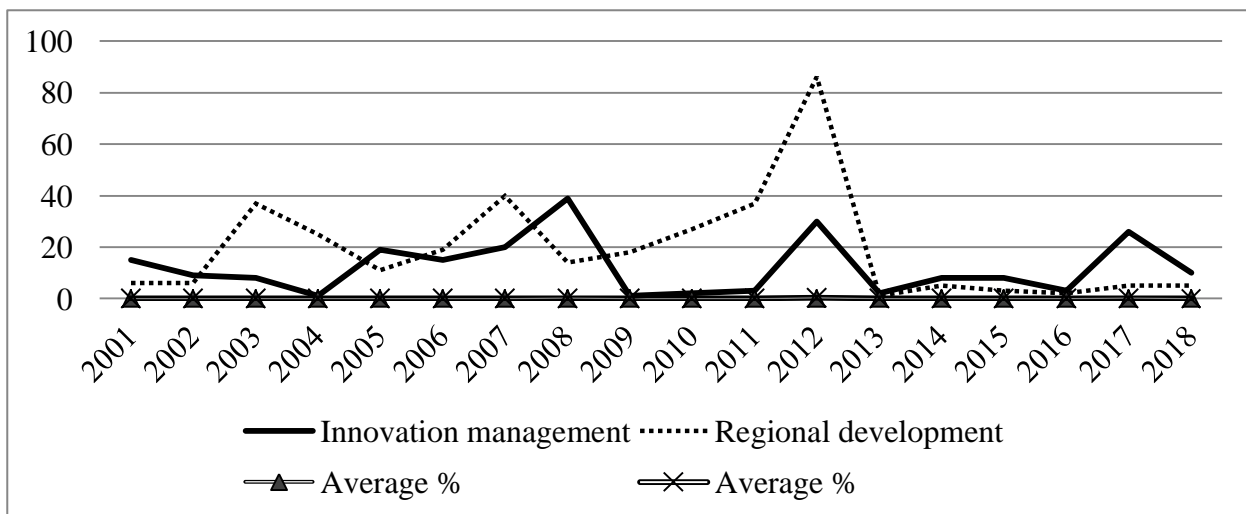


Fig. 1. Relevance of research in the field of innovation management and regional development  
Source: created by the authors, based on [10].

The general trend of researchers' research in the field of innovation management and regional development is very negative, which indicates a gradual decline in scientific interest. From 2017 and this year 2018, the situation is some what improved. This confirms the need for further methodological substantiation of innovation management in regional development. There fore, the proposed system — integrative model of regional development management authorities actualizes the subject of this study in modern conditions.

In the course of the conducted research it is possible to conclude that in order to study the processes of development of regional management systems, introduction of innovative management of the region, it is advisable to use a system integration approach. At present, system integration theory, which is based on the systemic paradigm, is not sufficiently applied by researchers to the regional level, including regional governance systems.

Analysis of life practices of management of socio — economic development at the regional level (local administrations) allows the author to provide a number of features of their system characteristics, which include:

- 1) blur blurred objectives;
- 2) rigid hierarchy levels, structures, office;
- 3) bureaucratic organizational culture; weak relationship and interaction between the structural units of the central and regional levels (ministries, departments, committees, departments, divisions);
- 4) detailed regulation processes, procedures and measures;
- 5) the relative independence of the structural units of the central and regional levels (ministries, departments, committees, departments, divisions);
- 6) opacity activities (internal processes, information, quality of execution functions, personnel decisions) to the public;
- 7) weak invigorating activity, improve processes stiffness, low capacity for self — development;
- 8) weak relationship and interaction between the structural units of the central and regional levels (ministries, departments, committees, departments, divisions);
- 9) low adaptatsiynist and flexibility;
- 10) the ability to multi assessments of the effectiveness of individual parts and the system as a whole.

These characteristic properties are associated with the essence of life meaningful bases of management of regional development.

In addition to conventional separation of structural, functional and process subsystems with the system approach in the internal environment (body) existing control systems can distinguish several major underlying subsystems are closely interrelated: mental-hereditary; institutional; simulation; resource; technology (procedural); cognitive; competence; creative; cultural. If these subsystems are arranged in a pyramid, according to the study authors, three subsystems (mental-genetic, simulation, institutional) be on the foundation. These systems, in fact, prevalent, have the most significant impact on the functioning of the system. At the same time resource and technology (procedural) subsystems play very important role too. Finally, nowadays competence, creative and cultural subsystems are of particular importance. Such correlation of subsystems is typical of different administrative structures (ministries, departments, committees, departments, divisions) in the regional management.

Author's research shows that this underestimation of competence, creative and cultural aspects of modern innovation management system is a major cause of low level of professionalism and effective implementation of management functions. As it known, the human resources are the basis of effective innovation management in regional development. In this context considered substantive elements in the control system should be shifted away.

If we want to ensure qualitative development of the whole system of innovation management in the region and its administrative units we should pay more attention to competency, creative and cultural processes, events, trends, and not-historically inherited and simulation models and moods. In such case the construction of subsystems get another meaning.

Institutional, cultural, cognitive, competence components must be taken into account when we speak about the foundation of life and the considered management system. These components are designed to be the important part. They must be able to form modern development, create and implement strategic plans and decisions based which will improve procedural and resource subsystem.

If society want to develop innovation management in the region, it will require the formation of appropriate organizational culture (free of bureaucracy, cronyism, rank, servility, personal loyalty management, corruption and other vices); creating an effective cognitive subsystem, which forms the body of knowledge and learning of conditions; ensuring the growth of expertise and creativity in order to prevailing creative thinking.

The formation of such ideological platform means that perspective, the effectiveness and efficiency of innovative management of social and economic processes at the regional level is provided by media competence and organizational skills — creative business civil servants-managers and specialists of management, decisions and actions which largely determine the path, speed and quality regional development. Style of management and innovative culture as factors of innovation as well as the motivation and stimulation of innovative activity staff get particular important meaning.

As is known, the system of regional management decisions can be classified in this way: routine (current, daily), associated with the public procedures; tactical (operational) caused by any disabilities and require corrective action; strategic (long-term). All are important in terms of life and smooth functioning of the control system. However, if we have a look at the development of management system and further regional development the most important and difficult are strategic decisions.

Therefore, the above-mentioned subsystems, which play a fundamental role in modern management system, are extremely important for innovative regional development.

According the results of the research the author offers a fundamentally new system — integration model of Regional Development (government, ministries, departments, committees, departments, divisions), which is presented in *Fig. 2*.

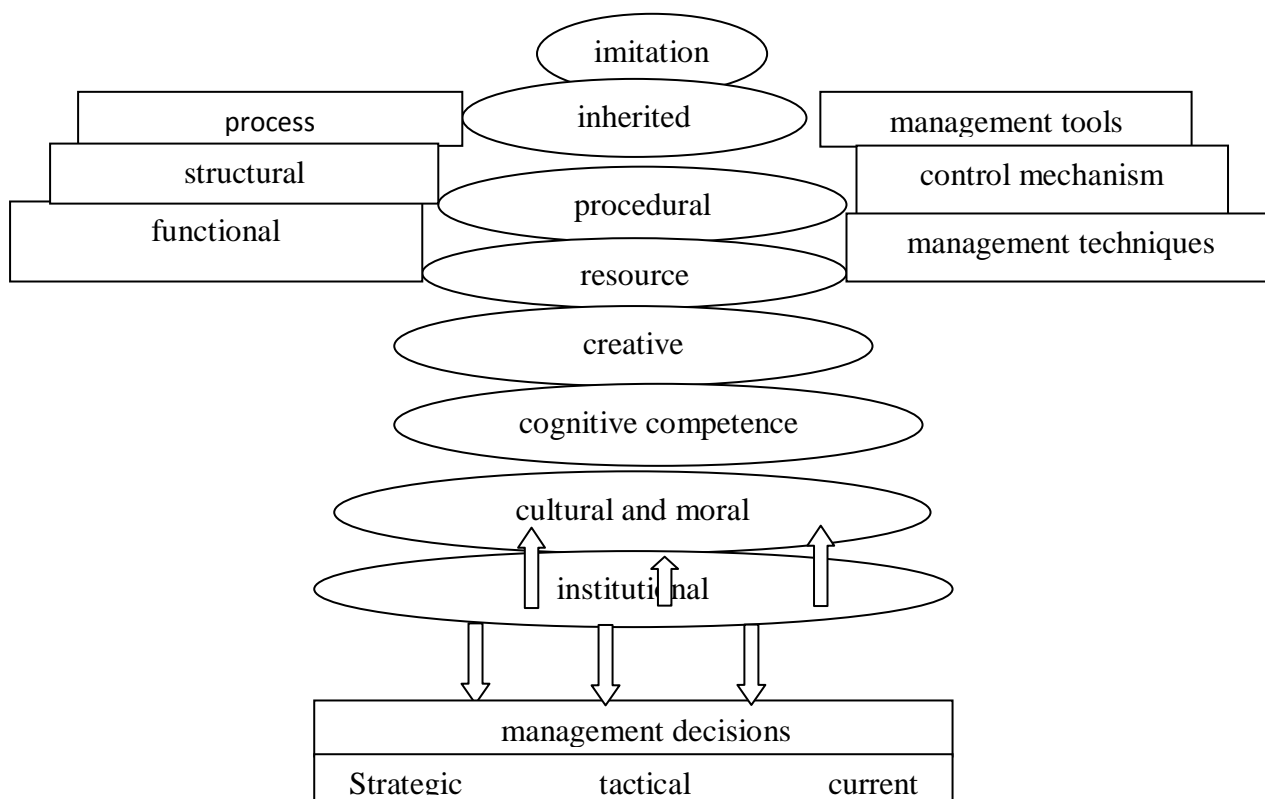


Fig. 2. System — integration model of Regional Development

Source: created by the authors.

It is important to understand and take into account that each designated subsystem exists and is not in isolation but in close interplay with other on the interpenetration and inseparability.



In such a case we make a **complex set of integrated management model that forms** a system of synergistic properties and can provide the strategic development of the region. In fact we are talking about a strategic integration of all subsystems innovation management, organizational and institutional approach to ensure promising development.

**Conclusions.** Thus, in this article we've made following consideration of characteristics related to the essence of life meaningful bases of management of regional development and after that we've drawn following conclusions.

1. In today's regional development policy, innovation, knowledge and learning are central, and the ability of regional authorities to obtain, absorb and disseminate relevant information and knowledge is crucial to the prospects for regional development management.

2. Research the conventional distinction structural, functional and process management subsystems allow regional development of the system approach identified in the internal environment of the existing management subsystems that are closely interrelated: mental-hereditary; institutional; simulation; resource; technology (procedural); cognitive; competence; creative; cultural. It brings to relationship between subsystems and their role in the construction and operation of the entire system of governance. In this context, we should note that increasing the role of competence, creative and cultural aspects of regional management system will contribute to the growth of professionalism of civil servants, increasing the effectiveness of management actions on innovative management of regional development.

3. Conclusions of research have allowed to offer a radically new system — integration model of Regional Development, which can be extended to structural units of the central and regional levels: government ministries, departments, committees, departments, divisions. We believe that the consistent use of these main components of the proposed model can provide a scientifically sound approach to the innovative development of the strategic management of the economy of the region in terms of modernization, introduction of an effective regional policy.

Overall, the results of the research help to make next conclusion: it's better to deal with renewed construction of the regional administration and use innovative approaches. His construction helps to reduce the number of employees of the state apparatus and thus reduce various expenses. At the same time we'll be able to increase the efficiency, flexibility, adaptability, creative content, quality and diligence of management decisions, and action that beneficially affect the socio-economic processes in the region.

In addition, it was found that the system of regional management are still undervalued competence of employees, which are understood knowledge, experience, skills, behaviors critical to achieving strategic outcomes of the organization. It is this trend can be considered promising for future research.

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