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**Economic processes management at microlevel**

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**SYSTEMATIC APPROACH TO THE FORMATION OF  
MANAGEMENT MECHANISM OF CONSTRUCTION  
ENTERPRISES INNOVATION ACTIVITY**

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*In the article offered at development of methodical approach to formation of mechanism of management of innovations at constructive industry enterprises. For achieving the goal the following research methods were used: method of theoretical generalization, abstraction, systematic approach, logical. For improving competitiveness and consolidation in the market enterprises of constructive industry should work in the direction of increasing effectiveness of management of business on innovative basis. With the aim at achieving appropriate effectiveness we suggest applying systematic approach which is based on the concept of mechanism of management. Categorical apparatus is developed and generalized. The mechanism of management of innovations is suggested to consider as a set of methods, instruments and technologies of management which enable implementation of economical, technological, administrative, legal and social measures and achievement of goals and tasks permits to achieve the target level of innovations and economic growth of an enterprise. We suggest methodical approach which presupposes sequence of stages in identification of factors for*

*formation of system of indicators and evaluation of level of innovations at enterprises, choice of their target level, optimization of indicators, developing support and action mechanism. We developed a survey questionnaire for revealing factors which have negative influence on innovations at enterprises of constructive industry.*

**Keywords:** *mechanism of management, construction industry, effectiveness, questionnaire.*

**Introduction.** The dominance of innovation development concept in the post-industrial economic theories defines the strategic priorities in management of most enterprises. Including the construction industry companies with target objectives and tasks focused on innovation development. In the conditions of looking for ways out of the current transformational construction enterprises crisis, an important and urgent task is to develop a systematic approach to the formation of mechanism of innovation activity management based on advanced technologies, which will enable business entities not only to achieve high development index, but also increase competitiveness, export potential and contribute to the solution of economic, environmental and social problems. Therefore, in the conditions of looking for ways out of the current protracted economic crisis, the chosen direction of research is relevant and timely.

**Analysis of recent researches and publications.** The issues of development of theoretical and methodological foundations of innovation efficiency of enterprises have been investigated by national and foreign scholars, including: A. Asaul [1], O. Adamenko [2], V. Heiets [3], P. Druker (2003) [4], L. Fedulova [6], J. Shumpeter (1982) [7], and so on; and the problems of formation of mechanism of innovation activity management of construction enterprises, have been investigated by Ya. Vytvytskyi [8], N. Verkhohliadova [9], N. Demchuk [10], B. Kandieieva [11], P. Mykytiuk [12], A. Stelmashchuk [13], A. Chekulaieva [14], B. Shkromyda [15] and so on.

**Previously unsettled problem.** At the same time, because of the dynamics of socio-economic processes, development in the context of globalization, complementarity and multiplicativity, many issues related to the development of systematic approach to the formation of management mechanism of construction enterprises innovation activity, are not disclosed enough. Therefore, there has become apparent a need for theoretical and methodological basis of systematic approach that would meet the needs of management theory and practice.

**Main purpose of the article.** The aim of the study was to develop the systematic approach to the formation management mechanism of construction enterprises innovation activity as the basis of formation of the effective management mechanism of enterprises.

**Results and discussions.** Globalization of the external environment requires constant transformations in the internal organizational management. For an enterprise to be successful, it is not sufficient to be just efficient, achieve the goals, objectives, indices, but it is necessary to be effective – always find the best and the most advanced management tools and methods for achievement of thereof. The company can be efficient without being effective in terms of delivery of a unique product or service, taking monopoly niche on the market, or working on exclusive terms that do not depend on the condition and development of the market, dominating and dictating their conditions both on the market regarding customers and suppliers and regarding the economic policy of the enterprise. However, even successful businesses face the need to respond quickly to the rapid changes in modern economic space. In the conditions of material security and full control over the resources, the enterprises still face the challenge of keeping the existing ways of monitoring and methods that will establish and maintain the position on the market, and make management of the enterprise more operative and adaptive to changes, more flexible and competitive.

To increase competitiveness and consolidate on the market, the construction industry enterprises have to work constantly towards improving the effectiveness of business management

based on innovation as an innovative way ensures their long term viability. Based on the fact that in Ukraine the cost of innovation is less than 1% of the GDP (this figure reaches 3% in the developed countries), there is an urgent need to develop the systematic approach to the formation of management mechanism of construction enterprises innovation activity aimed at their development and ability to counter the threats at the present stage of economic development.

It is difficult to achieve proper management efficiency under present economic conditions and we should use a systematic approach considering the concept of management mechanism as a basis of its successful application. For this, one has to create the appropriate mechanisms of enterprise management (financial, administrative, social, legal, political, motivational, technical, informational) and use them to create the effective management system.

In the context of developing the systematic approach to the formation of an effective management mechanism of innovation activity of the construction industry enterprises, the urgency of understanding the essence of «management mechanism» concept is growing as precisely through management mechanism all enterprise management systems are operated, implemented and put into function.

The dictionary of foreign words defines this category as follows: «Mechanism is a set of intermediate states or processes of any phenomena» [15, p. 431]. The word «mechanism» is translated from Greek as weapons, machine. Nowadays, this concept has the following basic meanings:

- device for transmission and transformation of movements that is a system of bodies (units) where the movement of one or more bodies (principal) causes certain movements of the other bodies of the system; mechanisms can be different by design and purpose, they are the basis of most machines, devices and other technical equipment;

- set of conditions and processes that make up certain physical, chemical, physiological, economic, psychological, etc. phenomenon, for example, the mechanism of thinking [16, p. 204-208].

In the Economic Dictionary the concept «mechanism» is defined as «a sequence of states, processes, that characterize any activity or phenomenon», or «system, device that determines the order of any kind of activity» [17, p. 45]. The business mechanism is defined as «a set of economic structures, institutions, forms and methods of management that serves for conjunction and coordination of public, collective and private interests and provides for functioning and development of the national economy». Also, the authors of Modern Economic Dictionary consider this category as a «set of organizational structures, concrete forms and methods of management as well as legal standards used for implementation of economic laws and reproduction process under concrete circumstances» [17, p. 56].

A. Kuhlman affirms that «the economic mechanism is determined either by the nature of the initial phenomenon, or by the end result of a series of phenomena» and specifies that «the constituent elements of the mechanism always are the initial and end phenomena, and the whole process that takes place in between» [18, p. 12]. In other words, any organizational-economic mechanism is a certain set or sequence of economic phenomena. One of the definitions pinpoints that management mechanism is a combination of means and strategies (methods, techniques, technologies) of interaction between two organization subsystems – managing and managed [17, p. 124]. Another definition indicates that management mechanism is a set of objectives, functions, principles and methods whose interaction ensures the efficient operation of organization [19].

Each of these definitions has its own palette and adds to the concept of «mechanism». But none of them, individually or together, is comprehensive enough to reflect the modern interpretation of the concept of «management mechanism».

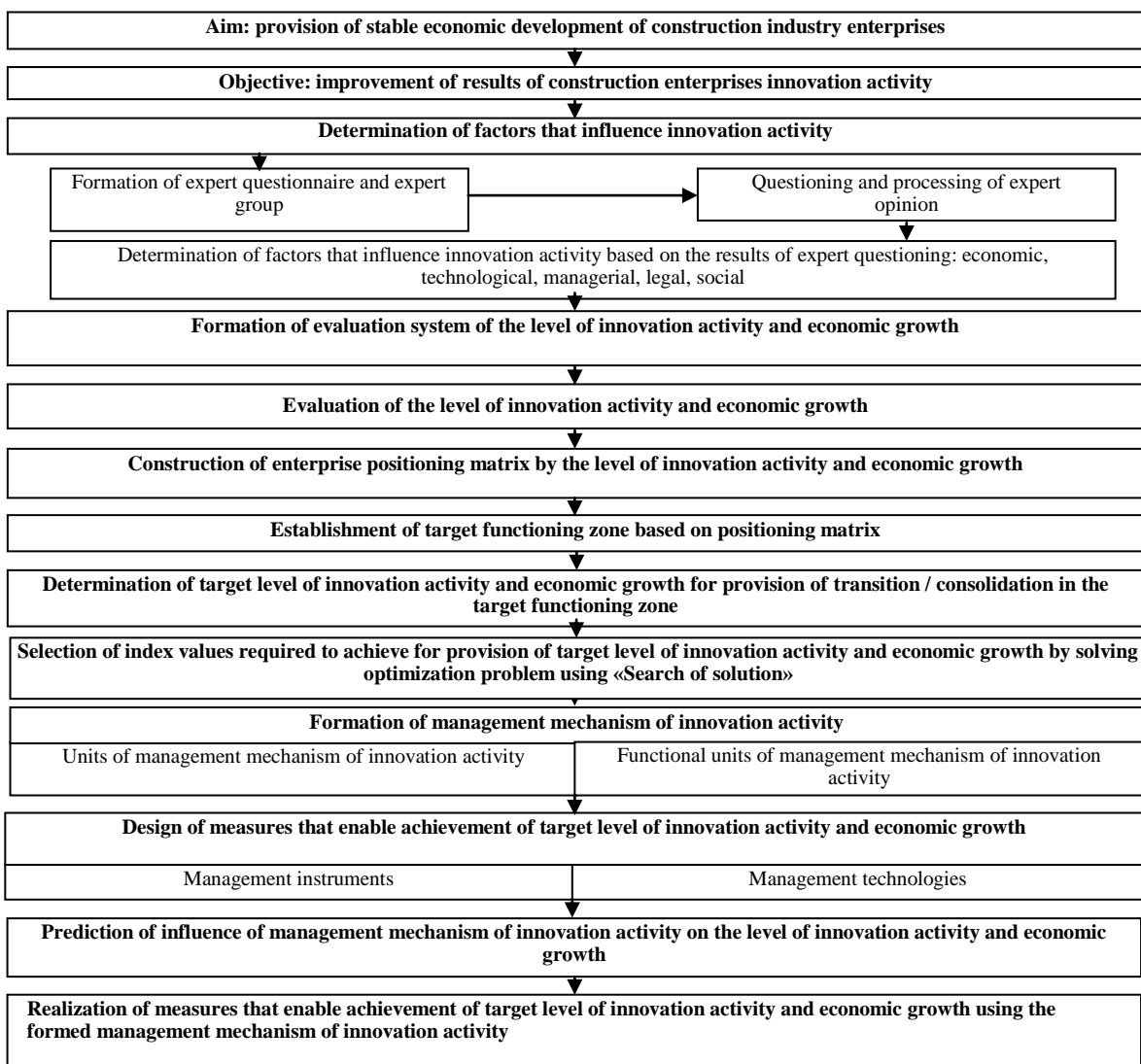
The interpretation of the content of management mechanism is also not clear. In the dictionary of foreign words «mechanism is the set of artificial and movable connected parts that realize the programmed movements and at the same time, the position of each part corresponds to a certain position

of the other parts» [15, p. 23]. It is evident that such definition has narrow technical meaning, however, it gives an idea of the general mechanism that consists of various interrelated parts.

Rumiantsev Z.P. believes that «management mechanism is a combination of elements such as organizational forms and governance structures, methods and leverage that ensure the effective implementation of the specific production goals and at this stage fulfill the social, collective and individual interests and needs to the fullest» [20, p. 265].

Based on the above cited, we consider that the described approaches narrow the understanding of the concept of management mechanism and propose our own definition of management mechanism of innovation activity as «a combination of methods, tools and management technologies used to implement the events of economic, technological, organizational, managerial, legal and social nature as well as the goals and objectives that enable achievement of target level of the innovation activity and economic growth of an enterprise» [21].

On the basis of this definition, we propose the systematic approach to formation of management mechanism of construction enterprises innovation activity. (Fig. 1).



**Fig. 1. Systematic approach to formation of management mechanism of construction industry enterprises innovation activity**

Source: designed by author [21]

Based on the considered above principles of management theory systems, we defined 12 stages in the process of formation of management mechanism of construction enterprises innovation activity in our systematic approach:

- 1) on the first stage we set the aim and determine the objectives of management for improvement of the results of innovation activity of an enterprise;
- 2) determination of factors of influence on innovation activity using the designed expert questionnaire (Table 1) and formed expert group of leading specialists in the field. It is followed by questioning and processing of expert opinion, determination of factors of influence on innovation activity based on the results of expert questioning with their further division into economic, technological, managerial, legal, social;
- 3) formation of the system of evaluation indices of the level of innovation activity on the basis of stable development concept based on three units: economic, social, environmental and evaluation of economic growth level;
- 4) evaluation of level of innovation activity and economic growth;
- 5) construction of positioning matrix of an enterprise based on the level of innovation activity and economic growth;
- 6) establishment of target functioning zone of an enterprise by the positioning matrix;
- 7) determination of target level of innovation activity and economic growth for provision of transition / consolidation in the target functioning zone;

**Table 1. – Questionnaire for finding out the factors that have negative influence on construction industry enterprises innovation activity.** Evaluate the factors that have negative influence on construction industry enterprises innovation activity in points from 1 to 5.

Factors that have negative influence on innovation activity	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5
1	2	3	4	5	6
<b>Economic</b>					
Absence or lack of funds for financing of innovation projects					
High economic risk					
High price of credit resources					
Absence of information on new markets					
Insufficient material security					
Embargo and customs limitations for export of production (Russia)					
Absence of benefits and stimuli to innovation activity					
<b>Technological</b>					
Imperfection of business processes					
Absence of own progressive production technologies of innovative production					
Out-of-date material-technical basis					
Absence of experimental basis					
Absence of idle capacity					
Domination of interests of current production					
Relative simplicity of technological processes					
High material and energy consumption					
Significant destructive influence on environment					

Table 1 (continuation)

1	2	3	4	5	6
<b>Managerial</b>					
Imperfection of existing organizational structures					
Underdeveloped innovation infrastructure					
Short-term orientation period					
Insufficient coordination of interests of the participants of innovation processes					
Insufficient cooperation and horizontal integration level					
<b>Legal</b>					
High level of corruption in the sphere of resources extraction licensing					
Instability of national legislation concerning regulation of activity of innovation structures					
Limitations of tax, patent and license legislation					
Insecurity of results of intellectual and scientific work					
<b>Social</b>					
Transition use of unqualified employees					
Absence, non-compliance or low level of basic professional training					
Absence of conditions for participation in creative, scientific work					
Imperfection of professional growth motivational system					
Absence of specialized centers of qualification advancement					

Source: designed by author [21]

\* Interpretation of evaluation scale:

5 points – factors with high degree of negative influence on innovation activity of construction industry enterprises;

4 points – factors with moderate degree of negative influence on innovation activity of construction industry enterprises;

3 points – factors with average degree of negative influence on innovation activity of construction industry enterprises;

2 points – factors with below average degree of negative influence on innovation activity of construction industry enterprises;

1 point – factors with low degree of negative influence on innovation activity of construction industry enterprises.

8) Selection of index values required to achieve for provision of target level of innovation activity and economic growth by solving optimization problem using «Search of solution»; the essence of problem is that one needs to choose the required level of factor indices from certain interval for achievement of the desired function level in compliance with the proposed mathematical model of the studied process. Solution of such problems is realized in the form of search of function parameter value that corresponds to the concrete factor value;

9) formation of management mechanism of innovation activity that will consist of two units: 1) provision: innovative, scientific-systematical, managerial, resourcing, institutional-environmental, motivational, financial, design, human resources, informational; 2) functional: planning and prediction of work of enterprise, update of technical and technological basis, innovative improvement and modernization of technological production processes, formation and development of information technologies of construction industry enterprises, implementation of innovative

investment projects, mobilization of own and attracted funds for innovative development of construction industry enterprises;

10) development of measures that provide for achievement of target level of innovative activity and economic growth (implementation of modern instruments and management technologies, in particular: reengineering of some imperfect business processes on micro level; benchmarking – for realization of strategic management; «foresight» that allows not only to predict future, but also correct it according to the target goals of enterprise involving a broad circle of specialists as well as the public based on the novel scientific-technical developments; outsourcing – stimulates increase of competitiveness of business entities without additional big investments into new expensive technologies and enables focus on priority activities; controlling – as its effectiveness has been approved for use in the system of managerial decision making.

11) prediction of influence of innovation activity management mechanism on the level of innovation activity and economic growth, which has to demonstrate the results of prediction of influence of the proposed management mechanism of innovation activity and substantiated measures on the enterprises studied, and also to confirm the tendency towards improvement / deterioration of innovation activity level and increase / decrease of economic growth coefficient;

12) realization of measures that provide for achievement of target level of innovation activity and economic growth using the purposefully formed management mechanism of innovation activity. It is appropriate to structure this process by the following stages:

1) carrying out SWOT-analysis for determination of «narrow places» in the activity of construction industry enterprises for further elimination of thereof with aim of improvement of their innovation activity;

2) evaluation of the capacity of implementation of innovation measures and their types (economic, technological, managerial, legal, social);

3) calculation of effectiveness of innovation event;

4) analysis of results: determination of level of innovation activity and economic growth.

**Conclusions and further researches directions.** Considering the received results, we have proposed the systematic approach to construction of management mechanism of construction industry enterprises innovation activity that, in contrast to traditional approach, anticipates the sequence of stages of identification of factors of indices system formation and evaluation of level of innovation and economic growth, positioning of an enterprise and determination of functioning zone, selection of target level of innovation activity and economic growth, optimization of indices level, construction of provision units and management mechanism work with further specification of measures, instruments and management technologies for prediction of its action and realization of measures for achievement of target level of innovation activity that will provide the scientific basis to the issue of appropriateness and effectiveness of formation of management mechanism of construction industry enterprises innovation activity. The *future research* should be focused on realization of the proposed effective management mechanism of construction industry enterprises innovation activity.

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**МЕТОДИЧНИЙ ПІДХІД ДО ФОРМУВАННЯ МЕХАНІЗМУ УПРАВЛІННЯ  
ІННОВАЦІЙНОЮ ДІЯЛЬНІСТЮ ПІДПРИЄМСТВ БУДІВЕЛЬНОЇ ГАЛУЗІ**

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*У статті запропоновано розробка методичного підходу до формування механізму управління інноваційною діяльністю підприємств будівельної галузі. Для досягнення поставленої мети використано наступні методи дослідження: теоретичного узагальнення; абстрагування; системного підходу, логічний.*

*Для підвищення конкурентоспроможності та закріплення на ринку підприємства будівельної галузі повинні працювати в напрямі підвищення ефективності управління господарюванням на інноваційній основі. З метою досягнення належної ефективності запропоновано застосовувати системний підхід, який ґрунтується на концепції механізму управління. Узагальнено та розвинуто категорійний апарат. Запропоновано механізм управління інноваційною діяльністю розглядати як сукупність методів, інструментів та технологій управління, за допомогою яких реалізація заходів економічного, технологічного, організаційно-управлінського, правового та соціального характеру і поставлених цілей та завдань дозволяє досягти цільового рівня інноваційної діяльності та економічного зростання підприємства.*

*Пропонується методичний підхід, який передбачає послідовність етапів ідентифікації факторів з формування системи показників та оцінювання рівня інноваційної діяльності підприємств, вибір їх цільового рівня, оптимізацію показників, побудову блоків забезпечення та дії механізму. Розроблено анкету опитування для виявлення чинників, які негативно впливають на інноваційну діяльність підприємств будівельної галузі.*

**Ключові слова:** механізм управління, будівельна галузь, ефективність, анкета.

**МЕТОДИЧЕСКИЙ ПОДХОД К ФОРМИРОВАНИЮ МЕХАНИЗМА  
УПРАВЛЕНИЯ ИННОВАЦИОННОЙ ДЕЯТЕЛЬНОСТЬЮ ПРЕДПРИЯТИЙ  
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*В статье предложена разработка методического подхода к формированию механизма управления инновационной деятельностью предприятий строительной отрасли. Для достижения поставленной цели использованы следующие методы исследования: теоретического обобщения; абстрагирования; системного подхода, логический.*

*Для повышения конкурентоспособности и закрепления на рынке предприятия строительной отрасли должны работать в направлении повышения эффективности управления хозяйствованием на инновационной основе. С целью достижения надлежащей эффективности предлагается применять системный подход, который основывается на концепции механизма управления. Обобщен и развит категориальный аппарат. Предложен механизм управления инновационной деятельностью рассматривать как совокупность методов, инструментов и технологий управления, с помощью которых реализация мер экономического, технологического, организационно-управленческого, правового и социального характера и поставленных целей и задач позволяет достичь целевого уровня инновационной деятельности и экономического роста предприятия.*

*Предлагается методический подход, который предусматривает последовательность этапов идентификации факторов формирования системы показателей и оценки уровня инновационной деятельности предприятий, выбор их целевого уровня, оптимизацию показателей, построение блоков обеспечения и действия механизма. Разработана анкета опроса для выявления факторов, негативно влияющих на инновационную деятельность предприятий строительной отрасли.*

**Ключевые слова:** *механизм управления, строительная отрасль, эффективность, анкета.*