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**TENDENCIES OF INNOVATIVE MANAGEMENT  
OF KAZAKHSTAN**

In this article the formation and development of innovation processes in the Republic of Kazakhstan, as the introduction of innovations and their effective use, promote the competitiveness of the national economy and economic development of the country. The innovative activity of the Republic of Kazakhstan, based on the introduction of new ideas, scientific knowledge, technologies and types of products in various fields of production and the sphere of society management, is one of the most important factors for the development of the republic's economy. The need to create in the future a competitive innovative economy in the Republic of Kazakhstan. To improve the economy of the country in the future, the Kazakhstan-2050 Strategy proclaims a policy of diversifying the economy, developing industries with high surplus value, and an accelerated industrial-innovative development has been approved to achieve this. Resource opportunities and technological potential, as well as financial means for modernization of the country.

**Key words:** innovation, state strategy, innovation policy, idea, an innovative system, innovative program.

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**Қазақстанда инновациялық менеджменттің үрдістері**

Осы мақалада Қазақстан Республикасындағы инновациялық үдерістердің қалыптасуы және дамуы, ұлттық экономиканың бәсекеге қабілеттілігі мен елдің экономикалық дамуына игі ықпал ететін инновацияларды енгізу және оларды тиімді пайдаланудың жайы қарастырылады. Өндірістің әртүрлі салаларына және қоғамды басқару саласына жаңа идеяларды, ғылыми білімдерді, технологияларды енгізуге негізделген Қазақстан Республикасындағы инновациялық қызмет экономиканы дамытудың маңызды факторларының бірі болып табылады. Болашақта Қазақстан Республикасында бәсекеге қабілетті инновациялық экономиканы жасаудың қажеттігі туындап отыр. Болашақта елдің экономикасын жақсарту үшін «Қазақстан-2050» Стратегиясында экономиканы диверсификациялау, жоғары қосылған құны бар салаларды дамыту саясаты жарияланады, ал бұған жету үшін жедел өнеркәсіптік-инновациялық даму назарға алынып, қабылданды. Елді жаңғырту үшін ресурстық мүмкіндіктер және технологиялық әлеует, сондай-ақ ақша қаражаттары бар.

**Түйін сөздер:** инновация, мемлекеттік стратегия, инновациялық саясат, идея, инновациялық жүйе, инновациялық бағдарлама.

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### Тенденции инновационного менеджмента Казахстана

В данной статье рассматривается формирование и развитие инновационных процессов в Республике Казахстан, внедрение инноваций и их эффективное использование, способствующие повышению конкурентоспособности национальной экономики и экономическому развитию страны. Инновационная деятельность Республики Казахстан, основанная на внедрении новых идей, научных знаний, технологий и видов продукции в различных областях производства и в сфере управления обществом, является одним из важнейших факторов развития экономики. Необходимость создания в будущем конкурентоспособной инновационной экономики в Республике Казахстан. Для улучшения экономики страны в будущем в Стратегии «Казахстан-2050» провозглашается политика диверсификации экономики, развития отраслей с высокой прибавочной стоимостью, а для достижения этого было принято ускоренное промышленно-инновационное развитие. Ресурсные возможности и технологический потенциал, а также финансовые средства для модернизации страны.

**Ключевые слова:** инновации, государственная стратегия, инновационная политика, идея, инновационная система, инновационные программы.

### Introduction

The development of innovative processes in modern conditions is an important integral part of the activities of enterprises and the national economy as a whole.

Development and introduction of new technologies, innovative activity are one of the fundamental factors for ensuring the competitiveness of both the company and the economy.

National economy (or enterprise) can successfully compete in the market on condition of constant improvement of the produced goods and services, development of new directions. After all, the world trend of development is such that under the influence of scientific and technological progress large industrial corporations are formed and the scale of the world market is expanding. As a result of these objective processes, competition at the interstate level is increasing.

In this article used theoretical methods of investigation. Which consist in observation, calculation and measurement, description. Also used is a protective method of research, which manifests itself in an analytical generalization. What is manifested in the transition from one judgment to another, carried out in the mental process without the use of empirical reality.

Competition in the conditions of globalization can meet the challenges of the latter only when the national economy becomes competitive in the acute struggle with the transnational corporations of the

world's leading industrialized countries. So, according to available data, the G-7 countries own 90% of high-tech production and 83% of world income. There appeared the theory of classification of countries in 3 groups. The first group includes innovating countries that innovate, the second group includes countries that use innovations to their advantage, and the third group includes countries that use known processes of innovation and technological progress [1].

The nature of economic development in the 21st century demonstrates the growing importance of innovation as a development factor, and the prospects for the development of the world economy are associated with the formation of the so-called innovative economy. Characteristic features of the innovative economy are:

- recognition of the economic value of knowledge;
- focus on the practical application of knowledge;
- availability of special financial institutions and instruments;
- developed innovative infrastructure;
- a coordinated system of mechanisms to support innovation;
- the relationship of knowledge with the social problems of the development of society [2, p. 3, 6].

It is obvious that the formation and development of an innovative economy requires an appropriate professional approach to management both at the macro- and microeconomic level. This approach is innovative management [9].

Innovative management is one of the important areas of strategic management, since it is innovation activity through the development and introduction of new products, technologies, and their improvement contributes to the competitiveness of an individual enterprise or the economy as a whole [10].

One of the founders of the innovation theory in the economy is the Austrian scientist Josef Schumpeter, who in the 30s of the 20th century introduced the notion of innovation into economic science. Schumpeter interpreted innovation as the economic impact of technical change. In his work *Theory of Economic Development* he wrote: «The production function describes the quantitative change of a product taking into account the changes in the totality of the factors affecting it. If in the sum of factors we change the form of the function, then we get an innovation» [3, p. 6].

For the development of innovative activities, especially at the initial stage, comprehensive support of the state is needed. The market economy in itself is not yet a guarantor of the development of an innovative economy. According to the experience of such foreign countries as Singapore, Korea, China, Israel, active state participation in innovation processes is mandatory. Also, foreign experience shows that it is necessary to carry out targeted public policy in order to stimulate innovation [11].

For example, in developed countries, state intervention takes place at the earliest «seed phase – SEED». In the United States, as part of the SBIR (Small Business Innovation Research), the government grants funds for the initial phases of commercial high technology development. In Finland, the National Research and Development Fund (SILRA) operates, which finances companies at the initial stage of commercializing innovation [4, p. 122].

According to international standards, innovation is the end result of innovation, embodied in the form of a new or improved product introduced on the market; a new or improved technological process used in practice, or a new approach to social services [12].

Article 1 of the Law of the Republic of Kazakhstan «On State Support of Innovative Activity» means innovation as the result of scientific and technical activity that is an object of intellectual property, the introduction of which into economic and social spheres is economically efficient and (or) socially important [5].

Innovative management in our country began to develop more actively with the adoption in 2003 of the Strategy of Industrial and Innovative

Development of the Republic of Kazakhstan for 2003-2015 approved by the Decree of the President of the Republic of Kazakhstan of May 17, 2003 N 1096. and further the State Program on Forced Industrial and Innovative Development of the Republic of Kazakhstan on 2010 – 2014 years [6].

The main goal of the program is to achieve sustainable development of the country through diversification of economic sectors, contributing to a departure from the raw materials orientation, preparation of conditions for a long-term transition to a service-technological economy. At the same time, innovations are defined as the main factor determining the competitiveness of the national economy. Full use of innovations for the further dynamic development of the economy and society is possible when the state pursues a purposeful innovation policy. The program is an event of great historical significance for our country, as it is a decisive turn from the extensive use of non-renewable natural «storerooms», from the raw materials orientation of the economy to a new economy based on knowledge and intellectual potential. The core of modern economic policy is the strategic course of transformation of the country's economy, outlined in the Strategy «Kazakhstan – 2030», which defines the general line, goals and socio-economic development of the state until 2030 [7, p. 10].

The notions of technological paradigms and technological trajectories are central to the interpretation of innovation as an evolutionary process and to the understanding of invariances in the knowledge structure and in the ways technological knowledge accumulates and, together, what distinguishes different fields and different periods of technological advance [13].

Now, in *The Shock of the Old*, David Edgerton offers a startling new and fresh way of thinking about the history of technology, radically revising our ideas about the interaction of technology and society in the past and in the present. He challenges us to view the history of technology in terms of what everyday people have actually used-and continue to use-rather than just sophisticated inventions [14].

For Kazakhstan in the current conditions of toughening competition in international markets and intensive development, introduction of advanced innovative technologies in world markets, and also the priority of a project-oriented market economy, the importance of effective implementation of the State Program on Forced Industrial and Innovative Development of the Republic of Kazakhstan for 2010-2014 is being strengthened [8].

This program is designed not only to activate innovative processes in the country, but also to ensure the transition to the formation of a new approach to the management of the national economy as an innovative economy, a knowledge-based economy and new technologies.

According to the report on the implementation of the strategic plan

Ministry of investment and development of the Republic of Kazakhstan

for 2014-2018 in the graph of risk management analysis, according to the goal «Assistance in the development of the national innovation system,» several events were noted.

In the development of the innovation cluster «Park of Innovative Technologies»: attracting foreign innovations there is such a possible risk as high competitiveness of foreign innovations. However, according to the report,

- Within the framework of the Autonomous Cluster Fund «Park of Innovative Technologies» (hereinafter – ACF «PIT») the program «Startup Kazakhstan» is being implemented.

- It is planned to attract 500 local and foreign start-ups. To date, ACF «PIT» has selected more than 600 innovative projects in Kazakhstan, Russia, Belarus and Ukraine.

- The planned effect is the emergence of 30 high-tech SMEs that will export more than half of their products and services. By 2020 it is planned to create at least 200 highly qualified jobs.

- At present, ACF «PIT» is an active participant, developing venture investments in Kazakhstan. ACF «PIT» together with GVA Capital LLC open a joint investment fund for investing in start-ups in the territory of the Republic of Kazakhstan.

- Within the framework of the TechGarden business incubator, based on the results of two seasons, 22 startup teams successfully completed a three-month accelerating program. Of these, 5 start-up projects attracted private investments for a total of about 172 million tenge (about 500 thousand US dollars).

- One of the strategic tasks of ACF «PIT» is the establishment of technological development centers in conjunction with transnational companies. In 2016, together with the company «McKinsey & Co» will be opened the first competence center of the mining and metallurgical complex (MMC). Within the framework of the Center, 3 pilot projects have been completed with such major companies as ERG at Donskoy GOK (Khromtau), LLP Corporation Kazakhmys (Zhezkazgan), JSC NAC Kazatomprom (Astana), and a pilot project with Polymetal JSC

(North- Western Kazakhstan) is at the stage of completion.

Such measures as the reorientation of research activities to solve industrialization tasks and the development of platforms (technological) for the synergy of elements of the national innovation system (subjects of research and industry) have a possible risk – fragmentation and looseness of elements of the national innovation system [15].

In order to develop platforms (technological) for the synergy of the elements of the national innovation system, a new grant is provided for the implementation of the targeted technological program that provides for solving the tasks of consortia (enterprises, universities or research institutes).

Currently, materials are being prepared for the meeting of the Council for Technology Policy to receive recommendations on the provision of innovative grants for selected 13 projects in the amount of 3.078 billion tenge.

In addition, to meet the challenges of industrialization, an additional financial measure is the obligation to annually fund subsoil users of R & D projects and projects of the Innovation Cluster «Park of Innovative Technologies» in the amount of 1% of the SRS.

During the year 2016, bilateral agreements were signed with LLP «Voskhod-Oriel», LLP «Ertai», JSC «SSGPO», JSC «Shubarkolkomir», LLP «Komarovskiy mining enterprise», JSC «Varvarinskoe», LLP «AngrenEnerg» for a total of 874 million tenge [25].

In 2016, contracts were signed for the financing of 13 projects of the Innovation Cluster members.

Today, Kazakhstani scientists have a lot of interesting developments based on original ideas and the results of many years of research. But until now the problem remains the introduction of them into production. Meanwhile, Kazakhstani scientific and technical ideas in the case of their successful implementation, which project management can contribute, cost consumers much cheaper than foreign ones. they take into account the natural-climatic and socio-economic characteristics of Kazakhstan.

To partially solve this problem, as well as within the framework of the State Program on Forced Industrial and Innovative Development of the Republic of Kazakhstan for 2010-2014, various events are periodically held in Kazakhstan, for example, the republican action «Innovative Kazakhstan».

The purpose of this action was to activate and attract domestic innovation potential, to create a

database of inventions, promising developments and projects with a view to their introduction into production.

In conclusion, I would like to note that in a market economy, innovations play an important role: at the microeconomic level, innovations serve as a factor of survival and commercial success; at the macroeconomic level, the introduction and effective use of innovations contribute to the competitiveness of the national economy and the economic development of the country.

In order to determine the trends of innovative development in the Republic of Kazakhstan, I would like to talk about the implementation of the State Program for Industrial and Innovative Development of the Republic of Kazakhstan for 2014-2019[20].

The State Program of Industrial and Innovative Development of the Republic of Kazakhstan for 2015-2019 (hereinafter referred to as the Program) was developed in accordance with the long-term priorities of the Kazakhstan-2050 Strategy, the implementation of the key direction «Accelerating Economic Diversification» of the Strategic Development Plan of the Republic of Kazakhstan until 2020, on the entry of Kazakhstan in the number of 30 developed countries of the world, as well as in fulfillment of the order of the Head of State given at the XXVI plenary meeting of the Council of Foreign Investors under Pres. Identify the Republic of Kazakhstan, and within the framework of the implementation of the Address of the President of the Republic of Kazakhstan to the people of Kazakhstan «Kazakhstan Way – 2050: common goal, common interests, common future» of January 17, 2014.

The program is a logical continuation of the State Program on Forced Industrial and Innovative Development of the Republic of Kazakhstan for 2010-2014 (hereinafter referred to as GPFIIR) and takes into account the experience of its implementation. The program is part of the industrial policy of Kazakhstan and focuses on the development of the manufacturing industry with a concentration of efforts and resources in a limited number of sectors, regional specialization with a cluster approach and effective sectoral regulation [26].

The program is developed on the basic principles and approaches of the Concept of Industrial and Innovative Development of the Republic of Kazakhstan for 2015-2019, approved by the Decree of the Government of the Republic of Kazakhstan dated December 31, 2013 No. 1497, taking into account the principles and provisions of the Concept of Innovative Development of the Republic of

Kazakhstan until 2020, Republic of Kazakhstan dated June 4, 2013 No. 579, the Concept of the formation of perspective national clusters of the Republic of Kazakhstan until 2020, approved by the Decree of the Republic of Kazakhstan of the Government of the Republic of Kazakhstan dated October 11, 2013 № 1092, and other policy documents in the field of industrialization, as well as guided by the norms of international agreements to which Kazakhstan is.

The program is sensitive to aspects of public policy affecting the business climate. The success of the Program is related to the achievement by the Republic of Kazakhstan of the tasks set for improving the business environment (Doing business), increasing the country's competitiveness (Global Competitiveness Index), reducing the share of state participation in the economy through planned privatization, taking into account the «Yellow Pages» principle, the entry of Kazakhstan into the FDI Confidence Index by AT Kearney, indicators of human capital. In addition, the effectiveness of the implementation of the Program depends on the financing model, the completeness and timeliness of budget allocation for its implementation [27].

Purpose of the Program: to stimulate diversification and improve the competitiveness of the manufacturing industry.

Target indicators:

The implementation of the Program will allow in 2019 to achieve the following economic indicators to the level of 2012 (Table 1):

- 1) the growth in output of manufacturing products by 43% in real terms;
- 2) growth of gross added value in the manufacturing industry by at least 1.4 times in real terms;
- 3) growth in labor productivity in the manufacturing industry by 1.4 times in real terms;
- 4) growth of the value of non-raw (processed) exports by at least 1.1 times;
- 5) reducing the energy intensity of the manufacturing industry by at least 15%;
- 6) employment growth in the manufacturing industry by 29.2 thousand people.

A small increase in the volume of non-raw (processed) exports is connected, on the one hand, with the task of the oil refining sector, which, in turn, is linked to the full provision of petroleum products by the domestic market by 2020. At the same time, the preservation of the export volume of the oil refining sector at the 2012 level would, on the whole, increase the non-raw export of the manufacturing industry by 20.7% in 2019, and by 37.0% towards the level of 2014.

**Table 1** – Overall target indicators in the manufacturing industry [7]

№	Targets	Units	2012 report	2013 report	Report and forecast for 2012						2019 for 2012, in %
					2014	2015	2016	2017	2018	2019	
1	Volume of output	%	100,0	101,6	108,0	117,1	119,5	133,4	138,8	143,0	143,0
2	Gross value added	%	100	101,8	108,3	117,7	120,1	134,2	139,7	144,6	in 1,4 times
3	Labor productivity by GVA	%	100	100,8	105,5	113,2	114,4	127,1	132,4	137,0	in 1,4 times
4	The volume of non-raw (processed) exports	%	100	93,1	91,5	106,3	107,8	90,5	100,8	109,2	in 1,1 times
5	Energy intensity of GDP	%	100	103	101	97	93	90	87	85	by 15%
6	Number of employees	thousands of people	543,5	548,0	557,8	563,9	569,3	572,9	572,3	572,6	by 29,2

On the other hand, within the framework of the Program implementation, special attention will be paid to meeting the needs of the domestic market at the expense of its own production and then, as the domestic market becomes saturated, ensuring export. With this approach, the task of developing domestic products of the manufacturing industry will be substantially resolved. Currently, the volume of imports of manufacturing products exceeds the volume of GVA manufacturing by 1.8 times.

Tasks:

1) advanced development of the manufacturing industry;

2) increase of efficiency and increase of value added in priority sectors;

3) expansion of markets for the sale of non-primary goods;

4) maintenance of productive employment;

5) giving a new level of technology to the priority sectors of the manufacturing industry and creating the basis for the development of the future sectors through the formation of innovative clusters;

6) stimulation of entrepreneurship and the development of small and medium-sized businesses in the manufacturing industry.

The small mobile innovative complex (SMIC) is a set organizational economically and the small economic entities which are socially interconnected and interacting among themselves created at the universities and in their territory, university complexes, temporary on-stage performance

research groups of developers on the basis of matrix organizational structure and design and target approach for the period and for development and realization of the concrete innovative idea. SMIC represents a part of the scientific-industrial complex acting as an element of the innovative SB environment which creation purpose, accumulation of new knowledge in the innovative ideas and development of ready innovations acts. SMIC includes temporary on-stage performance research group of developers, the material and technical resources formed by the consolidating center of material resources of the research universities interested in development of the concrete innovative idea. SMIC are formed on a temporary basis, for development and implementation of the specific innovative project under the reasonable innovative idea from specialists of branch (regional) enterprise networks or innovative clusters in offers of the consolidating center and are operated by the consolidating center of forming of system of interrelations of SMIC which includes heads of the small innovative enterprises at the research universities and the leading invited experts at interaction with the consolidating center of scientific-industrial complex. Such democratic control system allows to use advantages of scientific knowledge of the faculty, freshness of their scientific thought and breakthrough opportunities of students and graduate students of the research universities and also experience of the experts working in this branch and as much as possible to bring closer

needs of real producers to research base of the universities. Upon termination of implementation of the innovative project the experts involved in SMIC not just come back to the former work, and head or form within the primary place of employment or on others of economic entities of branch (regional) enterprise network new small economic entities on bringing to readiness, skilled release, introduction, production or a transfer of a new innovative product which they have developed through joint efforts in SMIC. New small economic entities open as division of already existing economic structures. In new small enterprise structures students of the research universities can do practical training and come to work new graduates. At emergence of need for involvement of experts for development of the new innovative project within SMIC distracted the young specialists who have got certain experience at a shortcoming replace with research work of experts and young specialists replacement are selected by the consolidating center of scientific-industrial complex.

Thus, the flexible system of rotation of experts with increase in their qualification, experience in different spheres, including in research and in management of economic resource interrelations is offered what allows to increase flexibility of thinking, qualification skills and will give the chance

to grow to experts including to young specialists, in different fields of activity.

SMIC carry out the functions of the consolidating center of strategic development of the innovative SB environment using and realizing the unsolved potential opportunities of Higher education institutions, the small innovative organizations created at Higher education institutions which are stirring up activity of elements of innovative infrastructure and function according to stages of financial planning of innovative process on the basis of design and target approach.

For activation of organizational economic factors of development of the innovative SB environment it is necessary to create branch innovative clusters on the basis of innovative activity of large and average enterprise structures with inclusion in a cluster chain of SBE with the providing functions and to build interaction with scientific-industrial complex. Formation of branch innovative clusters means division of types of innovative activity (a scientific research, development and a transfer of innovations) into stages between small economic entities of branch. The operating influence at the regional level is aimed at formation of the consolidating center of forming of system of interrelations and the innovative center (figure 1), with creation of a branch and interindustry innovative cluster.

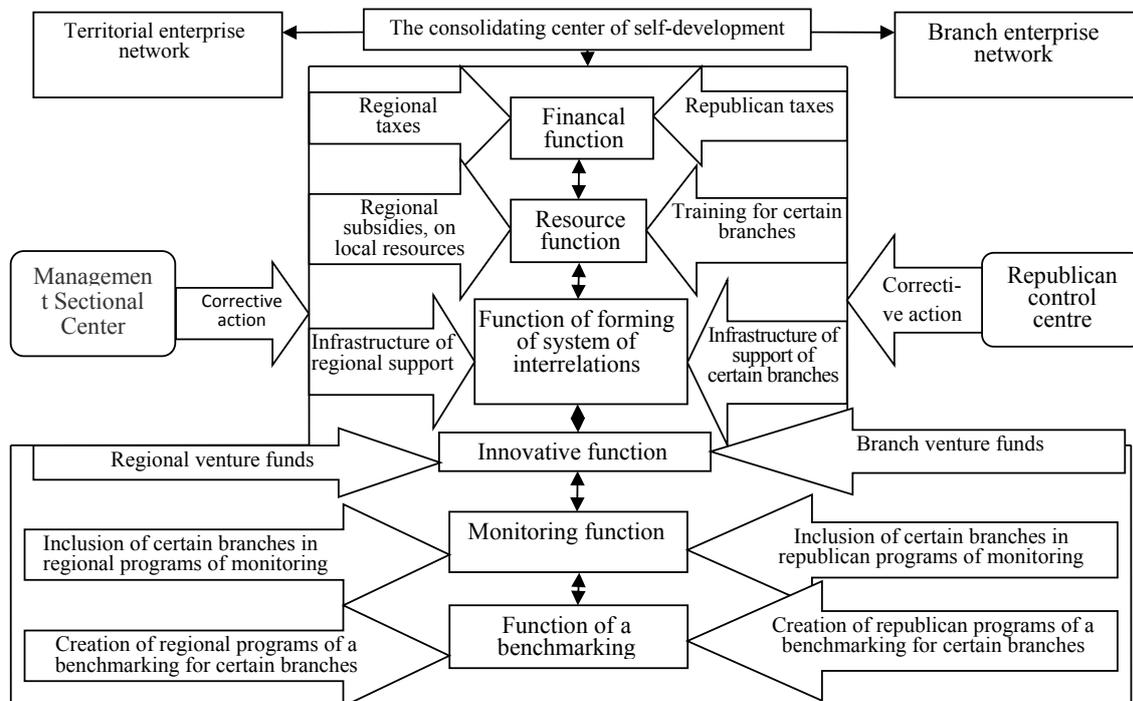
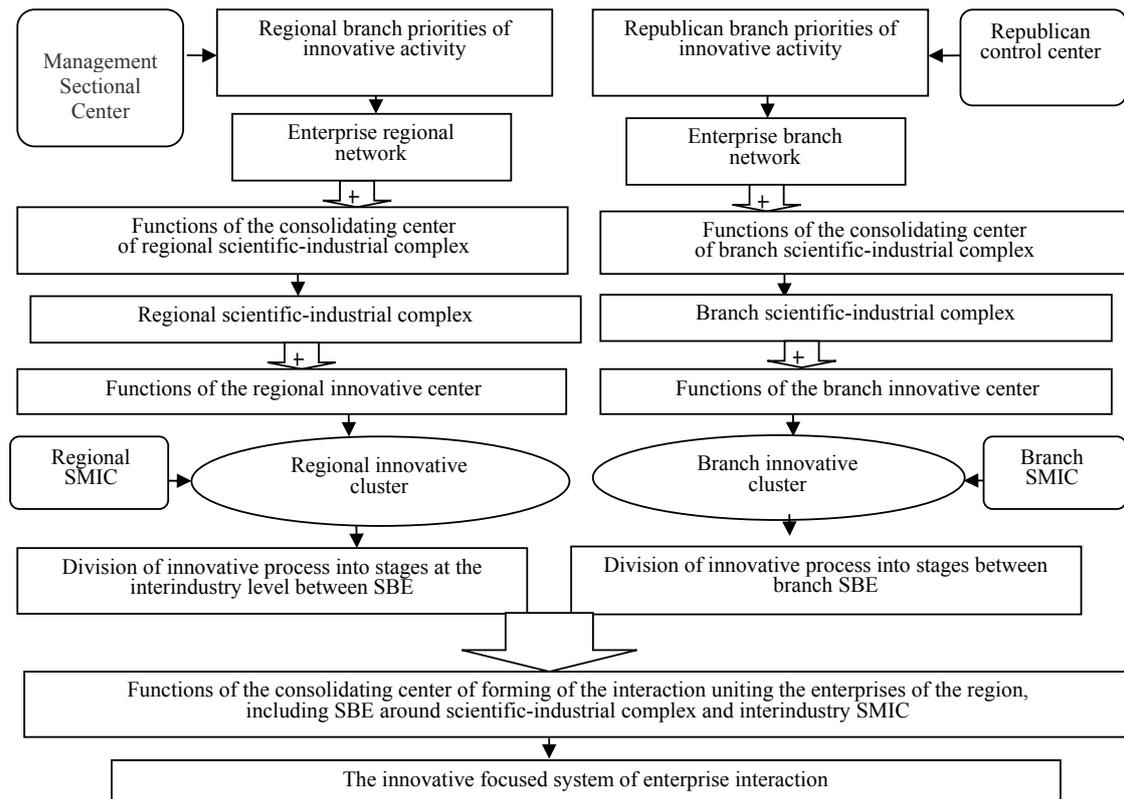


Figure 1 – The control system of formation of enterprise network in the course of forming of the innovative focused system of enterprise interaction

Enterprise networks (branch and regional economic systems) are the interconnected enterprise structures across or down, a form of intercompany interaction and business partnership of the interconnected enterprise structures across or down which are offered to be formed on the basis of identification of regional and branch factors of growth, using the permanent branch (regional) coordinating centers of self-development

stimulating forming of economic interrelations with elements of the innovative environment in enterprise networks and with external contractors widespread in industrially developed countries. As a result of formation of the interindustry innovative center and expansion of his interrelations and the interaction directed not only on branch, but also on regional enterprise networks, the innovative focused system of enterprise interaction (figure 2) is formed.



**Figure 2** – Management of transformation of enterprise networks in the innovative focused system of enterprise interaction at the regional level

Enterprise networks are offered to be formed on the basis of identification of regional and branch factors of growth for what it is expedient to use the permanent branch (regional) coordinating centers of self-development building economic interrelations in enterprise networks and with external contractors.

Methodical recommendations about forming of the innovative focused system of enterprise interaction in process of management of formation of the innovative SB environment are based on determination of susceptibility by small enterprise structures of the state administrative influence. The state administrative influence in the course of organizational and economic development is

defined by formation of structures of support of the innovative SB environment in the direction of the branches needing stimulation of large and small enterprise structures to forming of organizational and economic interaction according to the revealed branch priorities in regional development. Criteria for a research of susceptibility of the innovative environment of small enterprise structures to the state administrative influence, including appeal of the direction of support, lifting of restrictions in development, development of innovative infrastructure and management of interaction of enterprise structures by means of which the most attractive measures of the state support of the

innovative SB environment in the direction of forming of organizational and economic interaction of enterprise structures are revealed are proved.

Formation of a control system of stimulation of large and small enterprise structures to forming of organizational economic interaction means identification of branch and intra-branch priorities of the state managing director of influence on the basis of a method of the analysis of hierarchies [233] with use of quality indicators (sufficiency of a source of raw materials, innovative potential, the available basic technologies, offer saturation, stability of demand, etc. What proves expediency of inclusion of regional (branch) innovative infrastructure in the innovative focused system of enterprise interaction (the mechanism of the organization of interaction of large and average enterprise structures with scientific and innovative focused by SBE in operating conditions of elements of the innovative environment at the stimulating direction of the state support taking into account the revealed priorities and assessment of level of susceptibility of types of support). Now branch priorities are defined by local authorities on the basis of statistical data of development of branches (profit volumes, a market share, etc.). The author suggests to build branch priorities of development of branches taking into account the market capacity of specific industry in the region which decides on the basis of quality standard of identification of branch priorities of development and according to priorities for the state managing director of influence on use of a method of the analysis of hierarchies.

The control system of ensuring organizational and economic support of the innovative SB environment means identification and forming of branch and intra-branch priorities from a position of subjects of business activity and the choice of branch priorities for the operating influence of the state. Can act as the key quality indicators for the choice of priority branches in the direction of preference of the state support of process of formation of the innovative SB environment: sufficiency of a source of raw materials, innovative potential, the available basic technologies, offer saturation, stability of demand, etc. What proves expediency of inclusion of regional (branch) innovative infrastructure in the innovative focused system of enterprise interaction (the mechanism of the organization of interaction of large and average enterprise structures with scientific and innovative focused by SBE in operating conditions of elements of the innovative environment at the stimulating direction of the state support taking into account the revealed priorities

and assessment of level of susceptibility of types of support).

Branch priorities for the choice of the direction of the state support of SBE are defined with the market capacity of specific industry in the region on the basis of the system of quality indicators of assessment of susceptibility of SBE of the state administrative influence (determination of weight of indicators and assessment of their alternatives). Can make the decision on the choice of priority of development of branches both the head of small enterprise, and specialists of the consolidating center of self-development.

The directions of susceptibility the innovative SBE environment of the state administrative influence in the course of organizational and economic interaction of enterprise structures including the financial, organizational and information directions of susceptibility (table 2) which are also offered for defining on the basis of a method of the analysis of hierarchies are formulated. The choice of the priority direction of the state support of SBE according to pair comparison of alternatives by heads of small enterprises of the directions of the state managing director of influence is carried out on the greatest calculated value.

Financial straight lines (financially dependent) directions of susceptibility show the level of susceptibility of the innovative SBE environment to financial grants and subsidies. The author suggests to carry the tools demanding allocation of additional financial means to financially dependent – constants (for example, preferential rent of rooms for SBE) and the financial privileges limited on time (for example, subsidies for preferential connection to power networks). Financially dependent directions are also connected also with certain stages of formation and functioning of the innovative environment of business activity (external and internal, providing with resources, development and realization of innovations, etc.).

Financial indirect (financially independent) directions show the level of susceptibility of the innovative SBE environment to cutting of costs for conducting the most business activity without additional allocation of money (for example, the preferential taxation of SB, preferential granting the land plots).

Organizational straight lines (organizationally dependent) the directions show the level of susceptibility of the innovative SBE environment to the organizational help of the state of SBE (for example, creation of business incubators, centers of a transfer of technologies, etc.). To organizational

indirect (organizationally independent), the author suggests to carry the tools which aren't demanding additional creation of organizational structures of support of SB (for example, creation of enterprise structures of mutual aid and support).

The information direct (data-dependent) directions show the level of susceptibility of the innovative SBE environment to information support of the state of SBE (for example, creation of the information websites available to SB and facilitating

him process of business activity). To information indirect (data-independent), the author suggests to carry the tools which aren't demanding additional creation of the state sources of information support (for example, creation of information means of support of enterprise structures within public associations of businessmen).

It is offered to estimate each direction of susceptibility of the state support on the basis of the quality and quantitative indices presented in table 3.

**Table 2** – The table for forming of priorities in the directions (forms) of susceptibility of the state support by small business entities

Directions of susceptibility		Financial		Organizational		Information	
		direct	indirect	direct	indirect	direct	indirect
Financial	direct						
	indirect						
Organizational	direct						
	indirect						
Information	direct						
	indirect						

**Table 3** – Characteristic of the directions of susceptibility innovative environment of small enterprise structures of the state support for forming of priorities of susceptibility

Directions of susceptibility		Indicators of the directions	
Financial	direct	availability	
		effectiveness (perceptibility) for small business entities (SBE) (size of financial administrative influence)	
		perceptibility (on the level of expenses) for SBE	
	indirect	availability	
effectiveness (perceptibility) for SBE (size of financial administrative influence)			
Organizational	direct	availability	
		effectiveness (perceptibility) for SBE	
		granting conditions (counter obligations of SBE)	
	indirect	availability	
effectiveness (perceptibility) for SBE (size of organizational administrative influence)			
Information	direct	availability	
		effectiveness (perceptibility) for SBE (size of organizational administrative influence)	
		granting conditions (counter obligations of SBE)	
	indirect	availability	
effectiveness (perceptibility) for SBE (size of information administrative influence)			

Indicators of «availability», «effectiveness», «perceptibility» and «granting conditions» on all directions of assessment of susceptibility direct

and indirect can be defined by the innovative SBE environment of support of the state (financial, organizational and information) on the basis of

periodic polls within periodic continuous statistical observation of SBE. The author offers an interval of change of indicators from «0» (lack of susceptibility) to «1» (full susceptibility with the planned return on the operating influence).

In the past 20-25 years in the developed countries there has been a shift to the fifth technological order. Its basis is made by such technologies as industrial robots, microprocessors, personal computers, machines with numerical program control.

Introduction of technologies of the fifth technological order allows to achieve an individualization of production and consumption, increase flexibility and increase diversification of production, integrate production and marketing, which makes it possible to take into account market requirements. As a consequence, innovation cycles of all types of innovation are shrinking. For example, in the electronics industry, new products appear with a periodicity of 1-2 years, and for 5 years there is an

update of 60% in the branches of general instrument making [8].

As the analysis shows, in addition to the general patterns of innovative development, at each enterprise this development has its own characteristics, namely:

- Innovation activity is aimed at solving specific production and commercial tasks;

- individual stages, for example, the stages of fundamental scientific research, can be carried out outside the enterprise;

- Uncertainty of the final results of innovation activity increases the importance of the risk factor when making managerial decisions on the implementation of projects for the release of new products.

These features influence the period of development of innovation, by which we mean the time during which innovation has an impact on the production process[31].

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