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e-mail: bekenova_1@mail.ru**INNOVATION POLICY OF KAZAKHSTAN
UNDER CONTEMPORARY CONDITIONS**

Abstract. *The goal of the work* is estimation of the innovative policy efficiency of the Republic of Kazakhstan and elaboration of suggestions on its improving. The work considers the suppositions of forming and stage of formation of the innovative economy in Kazakhstan including laws and regulations, and the national programs. The dynamics of some indicators related to innovative economy is analyzed, the innovative activity in regional context is considered. The creative economy potential in Kazakhstan is investigated, and main problems and development prospects are outlined.

The results of the conducted research can be applied for development of the national and regional programs on supporting the innovative activity as well as those can be used as a base for more thorough investigation.

Key words: innovative policy, creative economy, innovative development.

Introduction

For over ten years the problem of diversification of Kazakhstan economic structure and decrease of its dependence on natural resources is on the agenda of economic policy of the Republic of Kazakhstan. Even in favorable, pre-crisis years there was a widely distributed understanding that the economic growth was due to short-term factors, and the world economic crisis of 2008 showed the vulnerability of such model. Kazakhstan needs to transit to sustainable growth based on innovations.

The Address of the President of the Republic of Kazakhstan, N.A. Nazarbayev, to the nation of Kazakhstan “New decade – New economic growth – New opportunities of Kazakhstan» says that the sustainable and balanced development in the nearest decade will be ensured due to accelerated diversification and increase of competitive ability of the national economy. In President’s opinion the rewarding and effectively functioning national innovative system should form a base for “economy of future”, and only innovations will provide a sharp increase of labor efficiency [1].

The following universal methods of perception were used as methods of this research: analysis and synthesis, induction and deduction, empirical description, unity of historical and logical, graphical analysis, historical method on the base of statistical data.

Main body**Forming of Kazakhstan innovative economy**

The contemporary phase of industrial and innovative policy development of Kazakhstan is characterized, on the one hand, by apprehension of reasons and results of the world financial and economic crisis of 2007 – 2009, and on another hand, by forming of bases of post-industrial economy and increase of its competitive ability. The crisis events in the global economy have again showed weak viability of innovative component in economic medium. It is not deduced to an individual scientific discovery or invention, but represents a whole segment of economy having its infrastructure, institutes of development, complex built-in communications that needs a substantial support from the State.

Therefore, establishment, in the first half of XXI century, of post-industrial technological structure under the conditions of forming of global innovative and technological space has determined the contemporary national economic policy of the Republic of Kazakhstan aimed at achieving of sustainable dynamic development of the country by diversification of economic branches and departure from raw-material trend of development.

The economy of the independent Kazakhstan counts a little over quarter of a century. Economic solutions in the period when Kazakhstan was a part of the USSR should not be considered as solutions of the independent State. For the years of independence, the country was in complicated situations several times. The system crisis of the USSR continued by Asia crisis in 1998, and 10 years later, the financial and economic crisis came up. In addition, the crisis situation was also the fall in oil prices in 2015 as oil revenues constitute two-thirds of the budget income. The first economic crisis was the key one for the strategy of economic development – transition from planned economic system to independent market subsistence, it was complicated and multi-staged.

As a result of 4 stages of privatization (small, mass, and individual) in 1991 – 2000 the new private owners have purchased for coupons, rubles, and tenge via commercial, investing, open competitions 34.5 thousands facilities of the national property for the total sum 215.4 billion tenge. If in the USSR the main customer was the State, and the performers were specialized national structures (SRI, DB), then under the market economy the customer for innovations is the market itself – innovations are potentially more competitive, and the performers are scientists and business owners. However, the process of necessary capital accumulation had not been finished yet, and the first-priority task was attraction of investments [2].

The main reason for foreign investments attracting was absence of large national capital in the country at the initial period. Privatization did not lead to appearance of enough amount of capital. The case is that the main production forces of Kazakhstan were represented by the branches of heavy industry – capital-energy consuming enterprises requiring the significant part of the basic and current capital. This was the formed heavy structure of the national economy. The production, financial relations existed at the moment did not correspond in its potential to the size of real production power. And to run the large industry, strike life into them, the adequate large capital was needed. Under the conditions of the utmost deficit of financial resources and complete refuse, lack of the former centralized long-term allocation of capital contributions, it was necessary, at whatever cost, to attract the corresponding investments.

The number of small business representatives – individual entrepreneurs, workers of small and medium business, farmers – increased significantly. From 19,0 thousands of small enterprises in 1993 to 67,0 thousands in 2000, and 1,162 thousand of small and medium business as of March 1, 2018. The employment in this field has increased from 132,4 thousand people in 1997 to 2.5 mln. Among them as of September 1, 2011, 699.2 thousand people worked at medium enterprises, 661.7 thousand people at small enterprises, 697.1 thousand at individual enterprises, and 429.5 thousand at farm enterprises [3].

There was a transition to another system of social and economic relations, the sources for social service, the rules of economic agents behavior, and the role of the State have been changed. The most important was the creation of medium for free enterprise and protection of private ownership. There was necessity to establish a new legal base for market operation, to develop strategically important branches related to food security, production of primary resources. Therefore, it can be considered that the start of gradual development of innovative potential of the country was put by the Program of Innovative Development of the Republic of Kazakhstan that came into effect on May 10, 2001. The goal of the Program was creation of necessary conditions and favorable medium for the country economy development on the base of scientific and technical achievements application, forming of balanced production infrastructure and gradual replacement of raw material share in the gross national product of the country with high-technological export products. The Program was terminated in 2004 [4].

In 2003, the Strategy of industrial and innovative development of the Republic of Kazakhstan for 2003 – 2015 was issued. In the Strategy the focus has shifted to departure from raw-material trend of economy via diversification, and only in long-term period it allowed for transition to service-technological economy. It was assumed that the Strategy will be implemented in three stages – from 2003 to 2005, from

2006 to 2010, and from 2011 to 2015. However, later its implementation was postponed due to the global financial crisis of 2008, and the first-priority task was preserving the stable operation of the bank sector and repression of negative consequences for the country inhabitants.

Later, the State Program of Accelerated Industrial and Innovative Development for 2010 – 2014 (hereinafter SPAIID) was adopted. The main goal was diversification of economy, increase of non-resource-based sector share in economy. The SPAIID has integrated the main approaches of the Strategy of Industrial and Innovative Development for 2003 – 2015, and the Program “30 corporate leaders of Kazakhstan”. Nevertheless, the mass technological upgrade was assumed.

Contemporary innovation policy of Kazakhstan

At the present time, Kazakhstan successfully implements the innovation policy as an important component of the State economic policy. For the implementation of this policy the national programs are developed and performed. The implementation of five main institutional reforms related to leading economic branches and the State management system has been started; the staged algorithm of the Government actions “100 concrete steps” was developed, and other. Owing to exercise of these documents, and mainly to development of the State Program of Industrial and Innovative Development for 2015 – 2019 (SPIID), Program of infrastructure development “Nyurly Zhol” the goal sets of Strategy-2050 were corrected considering the conditions of the contemporary crisis situation in global economy.

For less than 10 years the national and regional innovative systems with a network of techno-polises, technological parks, technological business-incubators were created, the innovation clusters are formed, the national institutes of development including the National Agency on Technological Development “NATR” JSC are operating.

The country has formed and is creating the base innovative platforms a part of which has gained the international status. These are G-Global, Astana Economic Forum, EXPO-2017, Nazarbayev University, and other.

The main trends of the industrial and innovation policy have been definitely outlined – necessity of all-round modernization of existing production capacities, development of as much wide as possible list of branches, enhancement of labor efficiency and productivity. In 2016 the growth of exports of manufacturing production reached 90.2%, ahead of the plan by 4.2%, and the growth of labor productivity in manufacturing production reached 131.7%. There are 10 running projects on modernizing and enlargement of operating enterprises, 6 large facilities were constructed, among which is the plant on fuel production of ecological grade K5 at the west Kazakhstan area, and the house building factory in Astana. The number of employed in the manufacture production has increased by 2.7%. The number of new technological companies incubated by the cluster of special economic zone “PIT” – 8 [5].

There is a thesis made by Bokizhanova F.I. in her paper “Regional aspect of industrial and innovative policy in Kazakhstan” stating that as regional initiatives of innovative development, first of all, are aimed at enhancing the level of living standards, then the economic component is of the same high priority as the scientific one [6]. Basing on the economic point of view, the innovative development of regions is constrained by non-efficient economic infrastructure created during grave upheavals after the USSR collapse, when only goal of economic measures of the State was ensuring of economy survival. And here, the investments play a significant role to improve the situation at the regions. The context implies the foreign direct investments, and governmental dotation, and internal investments of home economics. The volume of investments is one of the indicators showing the potential of the region in short-term perspective as they reflect not only the capacities of innovative and industrial development, but prospectivity of the branches stated at the area as show the investors’ interest to these areas. For Kazakhstan, the pattern of investments distribution is shown in Figure 1. Let’s consider it with respect to connection of investments and innovations.

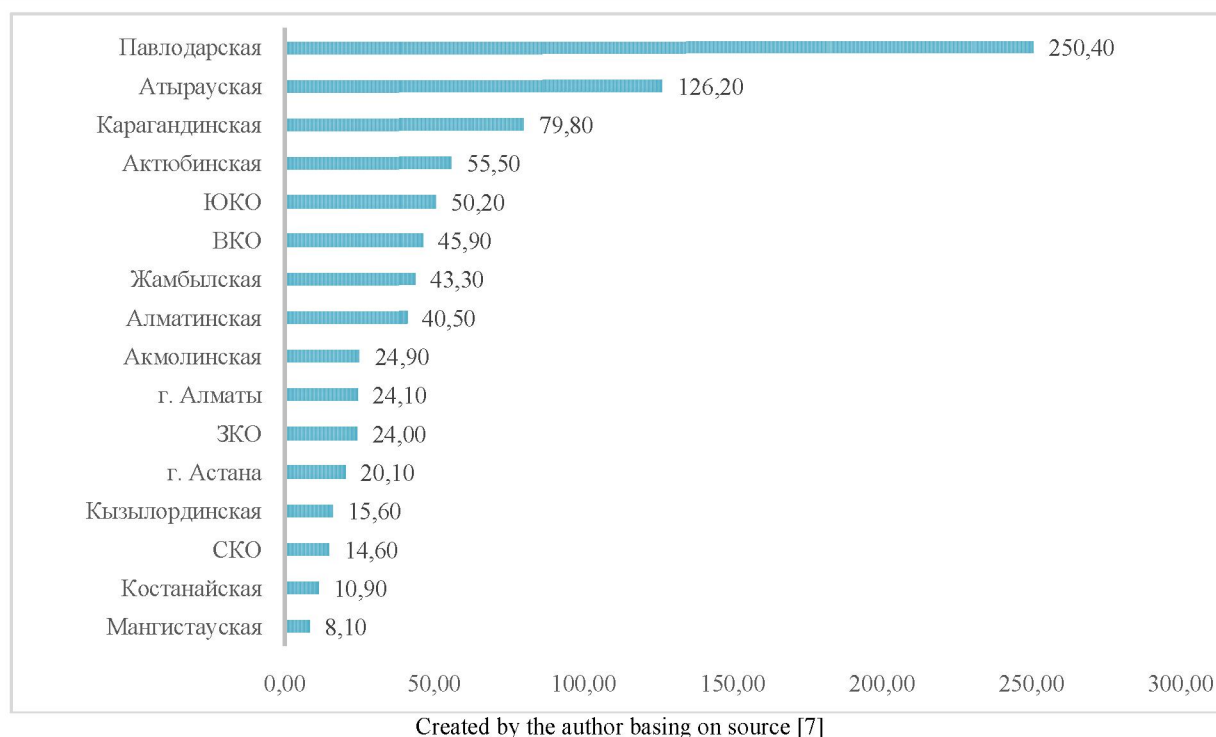
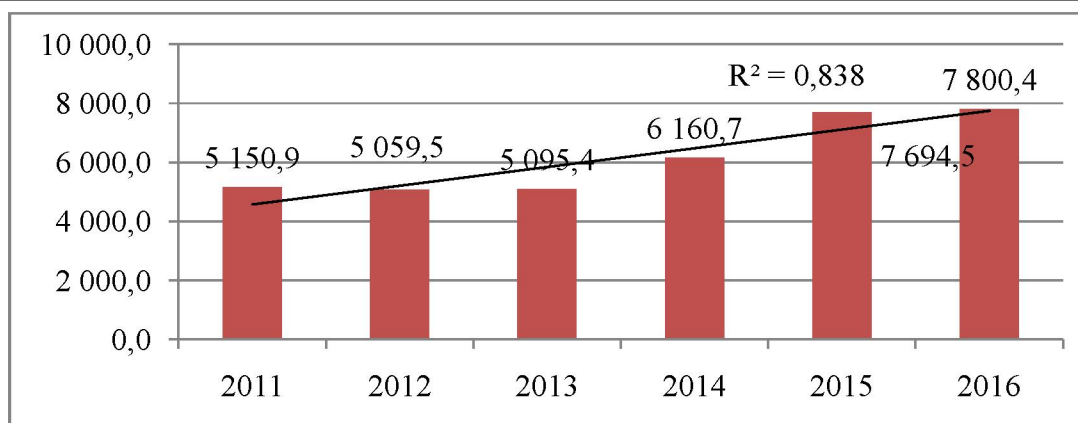


Figure 1 - The volume of investments into the basic capital in 2016 by the regions of the Republic (billion tenge)

By the volume of investments into the basic capital the regions can be divided into three groups: the first group includes the investment volume from 8.10 to 24.90 billion tenge, the second group – from 40.50 to 55.50, and third – from 79.80 to 250.40. The first group in comparison to other has received the smallest amount of investment volume into the basic capital, probably due to poor development of the region in whole (Kyzylorda, Mangystayu regions), or due to specific peculiarities inherent to every region. For example, despite high scientific potential of Almaty especially in the field of information technologies, the level of investments does not exceed that allocated for Akmol and west Kazakhstan area, as well as for Astana city possessing the lower potential. This is explained by weak development of infrastructure that could support the development of information technologies in the city. Almaty technological park located within the city, despite its large capabilities for projects implementation, does not inform on any successful projects. The similar situation is at the west Kazakhstan area – poorly developed infrastructure slows down the potentially high development of the area. The second group receives the volumes of investments higher than average by the Republic, it means that the policy on investments attracting and industrial development conducted there is quite effective. Finally, an example of the most effective attracting of investment is the third group that includes Pavlodar area, its volume of investments is at least twice larger than for other regions. Such effect is explained by effective focusing of the region on oil refining that interested investors and provided with the largest inflow of investments.

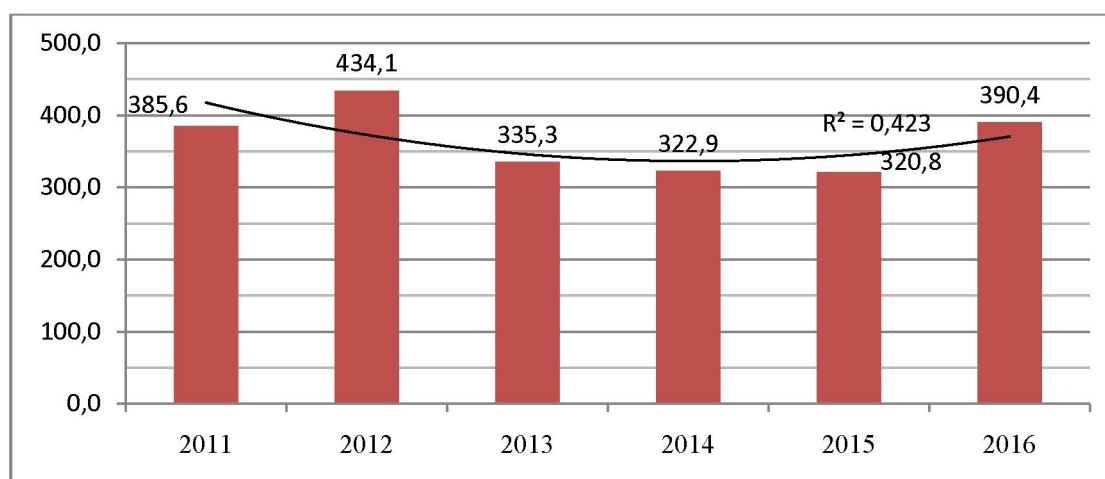
Further, it is necessary to determine the extent to which the investments and improvement of economic situation at the region ensure its innovative development. For this purpose, let's compare two regions: Pavlodar and Mangystayu as these are extreme points in the chart. Let's show in Figure 2 and 3 the indicator of internal expenditures on R&D in the regions as one of reference regarding the investigation object.



Created by the author basing on source [7]

Figure 2 - Internal expenditure of Mangystayu region on R&D (million tenge)

As seen in Figure 2, in whole the volume of expenditure on R&D, even in the lower by investments area, increase, and the general trend is positive with high reliability and accuracy. In addition, such stability tells about gradual and sustainable policy of local authorities in the field of innovative development. To compare with Pavlodar area let's look at Figure 3.



Created by the author basing on source [7]

Figure 3 - Internal expenditure on R&D at Pavlodar region (million tenge)

In Pavlodar region the dynamics of expenditures on R&D is less stable and does not allow for an opportunity to predict its further development; however, the total volume of expenditure on R&D against Mangystayu region differ by more than 20 times in favor of Mangystayu region. It means that the investments increase only does not ensure the stable innovative development as it is also necessary to distribute innovative flows into science-driven and manufacture industries. In addition, if we consider the contribution of regions into development of manufacturing industries, then here also Mangystayu region is ahead of Pavlodar region: 44% of contribution against 29%, respectively [7].

All this information deduce to one common conclusion: the largest contribution into development is made by pinpoint investments into definite projects as is done within implementation of SPIID in contrast to distributed investment into improvement of variety of existing structures. This kind of approach allows for simultaneous solving of several problems: the first problem related to technological inferiority is solved at the stage of project creation as on the stage of the project discussion the technologies to be used for its implementation will be selected. The second problem is establishment of new manufactures with high value-added and marginal return from the manufacture. The high value-added is ensured due to focusing on refining industry and manufacture of ready products, and high marginal return – from the manufacture novelty that is unachievable by capacity increment of existing industries.

Potential of creative economy in Kazakhstan

Innovations as phenomena do not appear from nowhere – they all are based on ideas. The idea can be implied as a notion or image reflecting the reality in human conscience. A man can change this reflected reality in his mind to solve the problems in reality. The idea under this context becomes as guidelines for action, an image of desirable result. The ideas that solve the problems and implemented in practice become innovations. The ability to generate such ideas is called creativity. At its margin the innovative economy is the economy where the main value is ideas able to become innovations, i.e. the economy of creativity or creative economy. The importance of qualitative development via innovations increases year by year as the need in qualitative development grows too. This is also urgent for Kazakhstan.

One of the “creative economy” developers, Richard Florida, has written that: “Types of creativity... not only base on general thinking process, but strengthen each other by mutual enrichment and stimulation. That is why, during the whole history of the mankind, people engaged in different types of creative activities always united and encouraged each other at large centers full of various creative life” [8]. Thus, it is underlined that a place factor, namely people accumulation place having skills and commitment to creative labor is of primary importance. The place should have definite qualities, for example, capabilities for self-arrangement of space, flexible infrastructure. If we consider Kazakhstan potential in the context of places of possible accumulation of creative class, then the most appropriate are the cities – Almaty and Astana. This is stipulated by a range of factors – large amount of cultural, research, innovative enterprises, and availability of special economic zones. Also an important factor can be an opportunity to earn money by providing the ideas and innovations that is much larger at big cities with developed infrastructure. However, there are some communication difficulties between the State and incipient creative class, particularly in the process of consideration, agreement and implementation of creative projects, legal standards on creative economy regulation.

Further Florida writes that “Creative process sometimes takes much time before it starts to yield fruits”. There are a lot of stories how great mathematicians and scientists had been thinking over the solution of this or that task, and finally it suddenly dawned upon them when they entered a bus or looked at fire in the fireplace. Nevertheless, even this, at first sight, magic result can be achieved owing to long-term preparation only. Florida cites the famous saying of Louis Pasteur: “Chance favors the prepared mind”. And also Wesley Cohen and Daniel Levinthal who studied the innovation process in Companies stated that “Fortune favors the prepared firm” [11]. In Kazakhstan practice we can observe a tendency to underestimate time necessary to receive a result of creative labor – the ideas cannot be created in strictly defined dates, the problem solution can take a little or much time. Therefore, the practice adopted in many technological parks of innovative universities, for example Al-Farabi KazNU, says that a project should start to get regained in three months after its beginning that can diminish the number of potentially successful projects. However, there is also a problem of delayed dates aimed at receiving additional allowances from a technological park or similar Organizations – this is also a communication problem between a creative class and Organizational structures. Possible option to solve this issue can be a competitive base, adoption of competitiveness into the field of innovations generation. Florida wrote about this: “With no doubts, for some creative people a large stimulus is money, but, according to research data, true creative persons including painters, writers and open-source software developers are mainly guided by internal motivation wishing to have true reward and satisfaction from their work. Too strong outside press can even hamper them”. Basing on the research results in the field of motivation and reward, a psychologists of Harvard Business School, Teresa Amabile, has concluded that: “Internal motivation favors the creative process, but external harms it. Probably, if a stimulus for the creative work is, first of all, interest and enjoyment a person receives from it, then the level of his creativity can be even higher than if he is motivated by a goal imposed by someone” [9]. Development of internal motivation is a long-term process related to education system that within the creative economy should not be directed on adoption of actual knowledge, but on training the skills to work with knowledge, bringing possible talents of pupils to light to develop it as earlier as possible.

In the countries that are ranked first on global rating of creativity, the education systems are constructed namely by this principle.

Table 1 – List of countries by creativity rating (2015)

Country	Index
Australia	0,970
USA	0,950
New Zealand	0,949
Canada	0,920
Denmark	0,917
Finland	0,917
Sweden	0,915
Iceland	0,913
Singapore	0,896
Netherlands	0,889
Created by the author basing on source [10]	

The index consists of such indicators as “Talent”, “Technology”, “Tolerance”, each of which indicates one of key factors of the creative class development. Talent represents a level of staff preparedness and a degree of human capital development, Technology – the level of technological development of society as without advanced technologies it is impossible to develop the technologies of next generation, Tolerance implies the need of the creative class in diversity achieved in tolerant society only. Kazakhstan is ranked 72 by index of technology, 54 by talent, and 98 by tolerance.

Conclusion

For the quarter of the century Kazakhstan made a great economic jump and should move to a new level of economic growth. Innovative Kazakhstan is the next step the country should come in to enter the list of 30 most developed countries in the planned terms and implement its global strategy.

In whole, from the side of the State it is necessary to create base conditions for appearance and concentration of the creative class, determine frame operating conditions, opportunities for the national culture and innovations interaction.

It is also necessary to move beyond the factors constraining the innovative development, such as: passive relation of business to innovative activity; insufficient measures and instruments of its governmental support; low-quality management and deficit of innovative managers, and other. Under the limited financial resources it is necessary to look for reserves for innovative growth of the country economy that do not need significant contributions from the Republican budget.

In our opinion, it is time to move from administrative reforms in the system of the State management to reforming of regional, branch management, and management of enterprises themselves and all entrepreneur structures. The innovation management level at these structures will influence significantly on the future of Kazakhstan economy.

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ИННОВАЦИОННАЯ ПОЛИТИКА КАЗАХСТАНА В СОВРЕМЕННЫХ УСЛОВИЯХ

Аннотация. Целью работы является оценка эффективности инновационной политики Республики Казахстан и выработка предложений по её совершенствованию. В работе рассмотрены предпосылки формирования и этапы становления инновационной экономики в Казахстане, ключевые нормативно-правовые акты и государственные программы. Проанализирована динамика некоторых показателей, связанных с инновационной экономикой, рассмотрена инновационная деятельность в региональном разрезе. Исследован потенциал креативной экономики в Казахстане, отмечены основные проблемы и перспективы развития.

Результаты проведенного исследования могут быть применены при разработке государственных и региональных программ поддержки инновационной деятельности, также могут быть использованы в качестве базы для более углубленного исследования.

Ключевые слова: инновационная политика, креативная экономика, инновационное развитие.

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ҚАЗІРГІ ЖАҒДАЙДАҒЫ ҚАЗАҚСТАННЫҢ ИННОВАЦИЯЛЫҚ САЯСАТЫ

Аннотация. Жұмыстың мақсаты Қазақстан Республикасының инновациялық саясатының тиімділігін бағалау және оны жетілдіре түсу бойынша ұсыныстар даярлау болып табылады. Зерттеуде Қазақстанда инновациялық экономиканың қалыптасуының алғышарттары мен құрылу кезеңдері, шешуші нормативтік-құқықтық актілері мен мемлекеттік бағдарламалары қарастырылған. Инновациялық экономикаға қатысты кейбір көрсеткіштер талданып, аймақтардың инновациялық қызметі сараланған. Қазақстандағы креативті экономика әлеуеті зерттеліп, негізгі мәселелері мен дамуының басым бағыттары белгіленген.

Жүргізілген зерттеу нәтижелері инновациялық қызметті қолдаудың мемлекеттік және аймақтық бағдарламаларын әзірлеу кезінде, сондай ақ зерттеуді ары қарай жалғастыру үшін қолданылуы мүмкін.

Түйін сөздер: инновациялық саясат, креативті экономика, инновациялық даму.

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