



Innovation Process Management as the Basis of Enterprise Development

Nurlan Kurmanov^{1*}, Amangeldy Dogalov², Sungat Toktasynov³, Assem Baktymbet⁴, Saule Baktymbet⁵, Assel Rakhimbekova⁶, Aizhan Satbayeva⁷

¹Kazakh University of Economics, Finance and International Trade, Astana, Kazakhstan, ²L. N. Gumilyov Eurasian National University, Astana, Kazakhstan, ³Kazakh University of Economics, Finance and International Trade, Astana, Kazakhstan, ⁴Kazakh University of Economics, Finance and International Trade, Astana, Kazakhstan, ⁵Kazakh University of Economics, Finance and International Trade, Astana, Kazakhstan, ⁶Kazakh University of Economics, Finance and International Trade, Astana, Kazakhstan, ⁷Kazakh University of Economics, Finance and International Trade, Astana, Kazakhstan. *Email: n.a.kurman@mail.ru

ABSTRACT

The purpose of this study is to examine the peculiarities and development of practical recommendations for the further improvement of management mechanisms of innovative processes in Kazakhstan. The utilized methodology: A systematic approach, comparison, a scientific abstraction, collection, analysis and synthesis of information, expertise and statistical methods. The main value of the work: The theoretical justification of the support system of activities of Kazakhstani enterprises by promoting innovative activities and development of knowledge-consumptive technologies.

Keywords: Knowledge-consumptive Technologies, Commercialization of Technologies, The Demand for Innovation, Innovation Process Management

JEL Classifications: M 13, O 32

1. INTRODUCTION

In the XXI century the key to rapid progress of socio-economic development is an effective innovation policy aimed at introduction of high, “breakthrough” technologies, new forms of work organization and management, advanced inventions and achievements of scientific and technical progress.

Formation of innovative economy in Kazakhstan is a complex economic, social and political challenge. The most important condition for the successful competitiveness of Kazakhstan, for ensuring high economic growth, for improving quality of life and the implementation of other innovative priorities is the effective use of the results of researches and developments in the real economy sector. In these conditions, the development of innovative process management as a basis for the development of Kazakhstani enterprises is becoming increasingly important, defined by a set of relevant technical, operational, organizational, marketing and financial operations.

The innovative development of the country is largely determined by the degree of business involvement in innovation. Innovation is a factor that will ensure long-term competitiveness of enterprises, the development of high-tech industries, the expansion of the production of knowledge-consumptive products.

Today, the intensity of innovation is mainly reflected in the level of economic development: In global competition, the countries, which provide favorable conditions for innovation benefit the most. Thus, the development of innovative economy is one of the most effective ways to improve the country’s competitiveness.

From the experience of foreign countries, we can conclude that the national innovation system will be effective and produce high returns if only in the country there is a developed business sector and society’s perception of culture of innovation. Innovations embodied in the new scientific knowledge, products, technologies, services, skills, management techniques are the main factors of competitiveness in all economically developed countries.

However, in the whole the content of the state scientific-technical and innovation policy in Kazakhstan still in fact remains as only unproductive declaration of unfulfilled common intentions. State policy in the sphere of innovation is still deprived of effective structural arrangements for its effective implementation.

Kazakhstani producers lack the experience of bringing scientific research to the level of market goods and there is a scarcity of highly skilled specialists in the field of management, marketing and analysis.

Increased competition, associated with the formation of the Eurasian Economic Union (EAEU) with the Russian Federation, the Republic of Belarus, the Kyrgyz Republic and the Republic of Armenia, as well as the entry of Kazakhstan to the World Trade Organization, determine the way forward and it is an accelerated transition to an innovative economy.

2. BRIEF LITERATURE REVIEW

Many economists and practitioners focus their attention on the scientific support of innovation management in the economic and social spheres. Individual theoretical and practical aspects are considered in the works of Bianchi et al. (2010), Rothwell and Dodgson (1991), Jenkins (2009), Çakar and Ertürk (2010) and others.

A great contribution to the theory of innovation within the changing paradigm of education is made in the works of Ozturk (2001), Kurmanov et al. (2015), Yeleussov et al. (2015).

Kazakh scientists also try to determine factors that have a major influence on innovative activity of the SME, Kurmanov et al. (2016), Dana (1997), Smirnova (2013). However, a significant number of scientific issues that are related to effective management of innovative processes within the economy remain outstanding in the context of Kazakhstan.

3. METHODS

This Research was done to measure the variation of the economic development and innovation in Kazakhstan in times of increasing global competition. The research methodology is based on the processing of secondary data that makes it possible to conduct a preliminary analysis of the problems. The utilized methodology: A systematic approach, comparison, a scientific abstraction, collection, analysis and synthesis of information, expertise and statistical methods.

4. RESULTS AND DISCUSSION

4.1. Current State and Problems of Development of Innovative Processes in Kazakhstan

Comparative analysis of the scientific, technological and innovation activities in Kazakhstan and foreign countries have shown that the development of national support systems, and innovation in the country is at the stage of formation and thus

explains some lag from the leading countries of the world, where the national innovation system is already functioning successfully. Many technologically developed countries (The United States, European Union, South Korea and Japan) moved to world leadership more than a decade in the field of science and innovation and have a fairly consistent and long history. The start of building innovative economies in the world, usually refers to the period after the Second World War. In this context, assessing strictly the results of innovative development of Kazakhstan for such a relatively short period of time is considered to be very inefficient.

Now Kazakhstan is only at the initial stage of transition from resource based economy to an innovative type of development. For the developments of innovative activities special financial support tools have been enhanced. New tax incentives and preferences for domestic enterprises were introduced for the development of innovation.

Currently, Kazakhstani innovative system has perfected and supplemented with new tools of industrial and innovation support. For example, in 2012, the Law of the Republic of Kazakhstan "On state support of industrial-innovative activity" was accepted, which includes 14 tools to support industrial-innovative development, including 5 new types of innovation grants. Also the technological system of the country planning mechanisms are laid and the analysis in the efficiency of realization of industrial-innovation policy are presented, a new incentive mechanisms and improvements to existing mechanisms for supporting innovation is provided.

Work on the creation of venture capital funds and industrial design offices are continuing, commercialization offices are opening and a business incubation program of regional industrial parks are operating too.

At the same time, according to the Bloomberg Innovation Index in terms of innovation Kazakhstan is now located at 50th place (Jamrisko and Lu, 2016). According to the Global Competitiveness Report of the World Economic Forum for 2015-2016, by factor of Capacity for innovation Kazakhstan is on the 78th place among 140 countries worldwide (Schwab, 2015).

At the same time in recent years, Kazakhstan's expenditures on R and D range from 0.15% to 0.28% form gross domestic product (Figure 1), while the figure is 3.49% in Finland, 3.64% in Korea, 2.6% in the USA, 1.44% in China of gross domestic product (GDP), but on the average in the Organization of economic cooperation and development countries this figure is 2.24%.

In general, most of the innovation activity in Kazakhstan is stimulated directly by the state, and most of the research works are carried out in government laboratories. According to the Committee on Statistics of MNE RK, in 2016 the share of the private sector in research and experience-constructive activities is only 36.6%, whereas in Japan this figure is (78.5%), in China (73.3%) and in the United States (72.6%), most of the research and experience-constructive works are carried out by the private sector (Kurmanov et al., 2016).

This state of Kazakhstan is caused by factors that form the fundamental basis of innovation development of the country.

Firstly, a substantial part of the results of scientific and technical activity is not implemented in the real sector of the economy, it does not bring income to developers and does not provide the income due to the lack of organizational and economic mechanisms of commercialization of technologies and developments. Also, the lack of examples on successful commercialization of technologies allows us to conclude that the national system of support and introduction of innovation has gaps that do not allow the country to create an effective system of converting knowledge into national wealth.

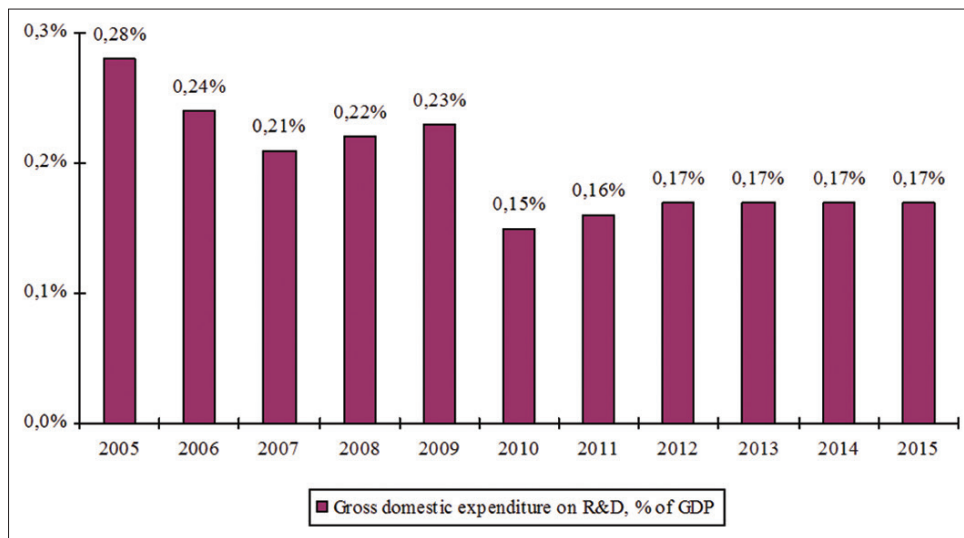
Examples of international best practices illustrate the need for such measures. At the same time both central and local public authorities should play an important role in promoting and maintaining the technology commercialization process for the creation of a flexible

network, consisting of a variety of private and public partners, interacting and complementing with each other (National Agency for Technological Development, 2013).

Despite the fact that in 2015 the innovative activity of enterprises has increased markedly to 8.1%, which is higher than in 2005 by 2.3 times (Figure 2), on the cost structure on technological innovation indicators Kazakhstan closer to the group of “modest innovators” which have dominated the expenditure on purchasing machinery and equipment. The share of innovation active enterprises in Germany the figure - 80%, in the United States, Sweden, France - 50%, in Russia - 9.1% (Kurmanov et al., 2016).

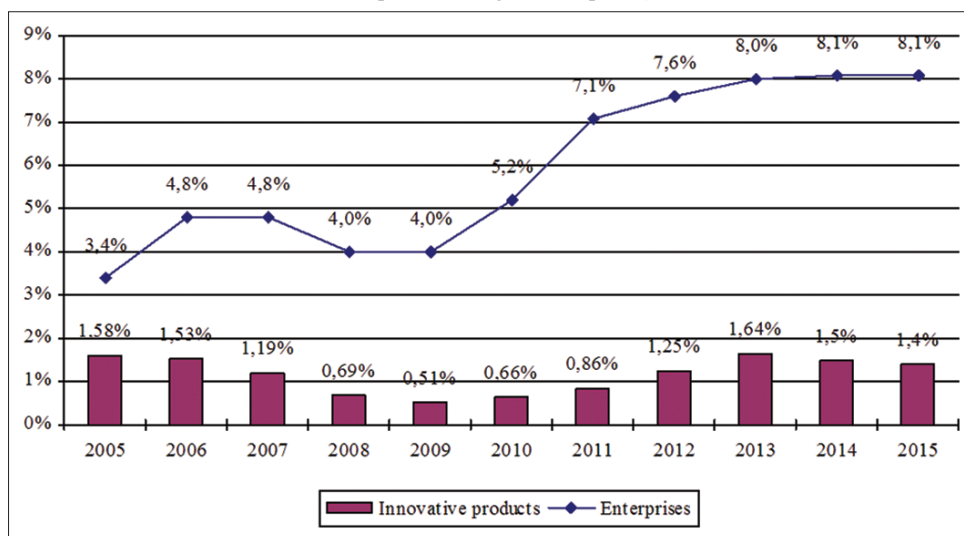
However, it should be understood that business in Kazakhstan is in the process of modernization of production facilities, and the predominance of investment way to upgrade technology is quite natural.

Figure 1: Gross domestic expenditure on R and D in the Republic of Kazakhstan for the period 2005-2015, % of gross domestic product



Source: Committee on Statistics of MNE RK, <http://stat.gov.kz>

Figure 2: Innovation activity of Kazakhstan enterprises (share of innovative products in gross domestic product, and share of innovation led enterprises among all enterprises)



Source: Committee on Statistics of MNE RK, <http://stat.gov.kz>

Today in Kazakhstan there are no special state regulatory measures to promote the demand for innovation, including through technical regulations, public procurement system and giving special status of an innovative company. Weak demand is a key factor retaining the promotion of innovation in the country (Kurmanov et al., 2016).

In its turn, government business support programs sometimes include very complex processes affecting the participation of a wide range of entrepreneurs in these programs.

Secondly, the current status of the development of regional innovation systems do not provide the formation of innovative companies. Creating full-length regional innovation systems in the Republic of Kazakhstan will allow to focus on the development of a particular region in view of its specific features, to approach comprehensively to solving the problems of local businesses, to work more closely with entrepreneurs, scientists and inventors. This generally gives a significant effect in increasing innovation across the country.

Thirdly, there is no easy access for scientists and innovators to the elements of the innovation infrastructure, as well as the instruments of state support of innovation activity.

One of the main directions of development and innovation policy is the creation of innovative infrastructure. Today in Kazakhstan 9 commercialization offices operate, 8 regional technology parks and 4 industrial design offices, 2 centers of technology transfer have been set up, the special economic zone “Park of innovative technologies “Alatau” was opened in 2007.

Fourthly, it is necessary to strengthen the integration into the global innovation system. Kazakhstani scientists and innovators are limited in participation at international scientific and business projects, as well as in access to foreign services and capital, provided by international development institutions and investors.

4.2. The Reasons Reducing the Effectiveness of Innovation Processes in Kazakhstan

Based on the analysis of institutional changes in Kazakhstan we identified the main reasons reducing the effectiveness of innovation processes in Kazakhstan, which are schematically shown in Table 1.

4.3. Funding for Innovative Entrepreneurship

Economic diversification is a well-established area of Kazakhstani government, which is reflected in the large-

scale tasks set by the State Program of Industrial Innovative Development (SPIID) of Kazakhstan for 2015-2019 years (SPIID, 2014). This program provides the sustainable development of innovation. The main objective of the program is to stimulate diversification and enhance the competitiveness of the manufacturing industry.

The objectives of the program include:

- Anticipatory development of the manufacturing industry;
- Improving the efficiency and increase in the added value of the priority sectors;
- Expansion of markets for non-primary goods;
- An increase in productive employment;
- Giving a new level of workability to the priority sectors of the manufacturing industry and providing a basis for future development of sectors through the formation of innovation clusters;
- Encouraging entrepreneurship and the development of small and medium businesses in the manufacturing industry.

Achievement of the goals and objectives will be implemented step by step (Figure 3).

The first phase includes the launch of events to develop the national cluster of basic resource sectors of the economy, 3 clusters of market-oriented sectors of the economy, and two innovative clusters of “new economy” sectors. In order to support industrial development in priority sectors, pilot instruments of industrial development support will be implemented.

In the second stage of the implementation the whole set of industrial development support tools will be involved in the priority sectors. Measures aiming at the development of the priority clusters of the basic resource sectors, market-oriented sectors, and innovative clusters will be fulfilled. Renovation of system of development institutions will be completed. Besides, in the case of necessity the policy will be actualized, and in the final phase of this stage third 5-year program of industrial-innovative development of Kazakhstan will be developed. Moreover, for clusters of basic and market-oriented industry sectors, as well as innovative clusters of the “new economy” sectors, it is necessary to achieve international competitiveness in the macro-region, which includes countries of the CIS and Central Asia.

In order to ensure compliance of policy with changing external conditions the revision will be carried out, moreover strategic

Table 1: Causes reducing the effectiveness of innovation processes in Kazakhstan

| Economic | Organizational | Legal | Infrastructural |
|---|--|---|---|
| Low scientific-technical and innovation potential | The absence of the relationship between science and industry, the public and private sectors | Imperfection of legislative and regulatory framework to promote and regulate innovation, protection of intellectual property rights and patent laws | Underdevelopment of the technology market |
| Lack of own resources | The lack of new forms of cooperation development and production of complex products | | Underdevelopment of the market information and communications |
| Unacceptable loan conditions | The low level of regional and global integration | | Lack of development of innovative infrastructure |
| The high cost of innovation | | | |
| Low payable demand for new products | | | |
| High economic risk of innovation | | | |
| A long payback period | | | |

Compiled by the authors

Figure 3: The State Program of Industrial Innovative Development of Kazakhstan

| | |
|------------------|---|
| The third stage | The third stage: the results of a complex assessment of the implementation of policy, development of the third five-year program of industrial-innovative development of Kazakhstan for the period 2020 - 2024 years. |
| The second stage | The second stage: the development of the priority clusters of the basic resource sectors, market-oriented sectors, and innovation clusters. Completing the upgrade system of development institutions. Achievement of international competitiveness in the macro-region, which includes countries of the CIS and Central Asia |
| The first stage | First step: the launch of measures to develop the national cluster of basic resource sectors of the economy, 3 clusters of market-oriented sectors of the economy and the two innovation clusters of the “new economy” sectors |

Source: Compiled by the authors

plans, 5-year and 3-year (taking into account the budget cycle) plans of activities of the ministries, as well as the development strategy, 5-year and 3-year (taking into account the budget cycle) action plans of development institutions involved in its implementation will be reviewed.

On the final third stage of implementation the complex assessment of policy implementation outcomes will be carried out. Along with this the plan of the third 5-year SPIID of Kazakhstan for the period 2020-2024 years will be organized.

4.4. State Financial Institutions

At this stage SPIID provides managing principles and legal framework for the development of financial support of innovation activity in the country. This is a part of the strategic development plan of the Republic of Kazakhstan until 2020.

In Kazakhstan there are a number of institutions involved in the financing and management of the modernization process that includes funding for investment, attracting in infrastructure projects and resources for innovation. The most important institutions in this area are: Development Bank of Kazakhstan, Damu Entrepreneurship Development Fund, Investment Fund of Kazakhstan, JSC “Science Fund,” JSC “NATD.”

5. CONCLUSIONS AND RECOMMENDATIONS

To ensure the further development of innovative activity of the enterprises the following measures are recommended.

5.1. The Development of Effective System of Technology Commercialization

Commercialization of the technology should be directly linked to the practical application of the results of scientific and technological activities in order to market new or improved products, processes, services, and to get positive economic effect.

A systematic approach to the development of technology commercialization will provide significant impetus to rapid establishment of results of scientific and technological activities in the economic cycle that will eventually allow the state to create new jobs, to return to the budget through the tax system invested in scientific research and development works, and overall

to improve the competitiveness of Kazakhstan in the global technology market.

To create a normative-legal framework for the development of commercialization system of intellectual property objects in the Republic of Kazakhstan the interests of all stakeholders in the commercialization of intellectual property should be taken into account to ensure the stability and security of investment. This measure would allow scientific research institutions to participate in all forms of commercialization of intellectual property, and allow researchers to work in public research institutions, as well as to manage and own part of shares in innovative companies, thereby reducing the risk for the scientific community creating its own intellectual property-based business.

In particular, according to the experience of European countries we should develop measures of state support for application of commercial potential of scientific research institutes/universities, for stimulation and motivation of scientists/institutions to commercialize their knowledge/technology, for continuous transfer of knowledge from the public sector to the private. It is necessary to carry out measures for recognition of national patents abroad, for development of system implementation of intellectual property into economic turnover, for planning state assessment system of intellectual property.

It is also necessary to create an information exchange system - the network created by the state institutions of innovation development supporting innovative projects at all stages. Within this a system of information exchange, a mechanism for information transmission should be organized on perspective innovative projects between innovative development institutions. Information exchange system should also be an effective tool for “joining” the sphere of research and development with business, for formation of new enterprises based on applied research outcomes.

The development of national human resources and the accumulation of competence in the field of technology commercialization. Building competences in the field of technology commercialization by the staff of support structures of commercialization and their main beneficiaries is one of the development priorities.

The development of human resource capacity needed for successful commercialization through training, exchange of

experience and targeted outsourcing of professional consultation will play a central role in the creation of stable system of technology commercialization in Kazakhstan. In this regard, there is a need to encourage the participation of local experts in various programs to increase the competence in the field of innovation commercialization, visiting foreign commercialization structures of technologies for the study of best practices.

5.2. Promoting the Innovation Activity of Enterprises

The change-over of innovative system of Kazakhstan from the model driven by state to the stable system driven by the private sector should be provided through the reduction of administrative barriers and tax incentives, the expansion of access to finance, the creation of innovation clusters, the business environment development and formation of the demand for innovation.

Reduction of the administrative and technical barriers with improvement of access to finance will contribute to the emergence of a large number of innovative companies.

The openness of the internal markets will lead to increase of access to global knowledge and technology. This transfer of advanced knowledge and technology will be implemented through the creation of positive environment and incentive tools, including the following important trends:

- Involvement of small and medium-sized innovative companies overseas and the creation of common production with them;
- Maximum use and attracting of scientific potential of scientists-compatriots successfully working in foreign scientific research institutions;
- The disclosure of foreign patents and licenses at the transfer of advanced technologies to improve the competence of local specialists.

In order to promote more effectively Kazakhstani high-tech products in the international markets it will be necessary to strengthen the regular interaction among stakeholders (export-oriented innovative and high-tech enterprises and companies, joint-stock company “National Technological Development Agency”, Joint-Stock Company “Damu” development fund entrepreneurship,” joint-stock company “National export and investment agency”).

Reduction of administrative barriers and tax incentives. Nowadays in Kazakhstan there is a unity principle of the tax legislation, which provides a single regime for all businesses regardless of their innovative component products.

At the same time, innovative businesses require unprecedented legal regime that will minimize administrative barriers.

In order to identify possible trends of administrative and tax incentives of innovative activity it is necessary:

- To study the possibility of development and implementation of mechanism encouraging enterprises to work in the legal field;
- To consider the expediency of the introduction of a special tax regime facilitating the conditions for innovative enterprises in the first 5 years of development.

Improving access to finance. Access to finance remains a key limiting factor for the development of entrepreneurship in Kazakhstan. This is due to the reluctance of banking sector to finance risky and innovative projects. In particular, these are projects belonging to small and medium-sized businesses, which, in most cases, can only provide limited resources to provide the loan.

In our opinion, for these purposes there is a need to conduct the following measures:

- Increase in amount of microcredit issuance and small grants to promote pilot implementation of potential and entrepreneurial initiatives;
- Development of stock tools of finance and instruments aimed at financing at an early stage of company development;
- Development of corporate venture capital through the promotion of major companies, including foreign companies, to acquire packet of shares of the new innovative companies.

Creating innovation clusters will help to increase innovation activity of business subjects, as well as lead to the emergence of synergy: Participating companies clusters are motivated to create new products much more than single enterprises. At the same time the activity of enterprises can intersect and complement each other. Formation of innovation clusters at the same time contributes to the interchange between related industries and intense competition within each sector.

5.3. Formation of Demand for Innovation

Building an effective national innovation system should be focused on the implementation of measures to increase demand for innovation. Most of the countries that rapidly develop their innovative systems, did not succeed due to lack of demand for innovation.

As world practice shows the central subjects of the national innovation system are commercial enterprises that have their own potential for the research and development, enabling them to inculcate innovation successfully.

Today the weak demand is a key factor retaining the promotion of innovation in the country. Formation of demand for innovation should be provided by the state regulating and encouraging measures.

5.4. Development of Innovative Infrastructure

The activity of the innovative infrastructure should be aimed at providing the necessary financial, methodological and information support at all stages of the innovation process, at the creation and promotion of new plans, at providing advanced development of knowledge-consumptive industries and the introduction of high-tech industries. The main elements of the innovative infrastructure are special economic zone “Park of innovative technologies;” regional parks; venture capital funds; industrial design offices; international centers of technology transfer.

Interacting with each other, mentioned elements of innovative infrastructure will provide an integrated system of support of

innovative activity at all stages of its implementation, which will allow:

1. To cover maximally the subjects of innovative activity by public support tools;
2. To establish an effective system of commercialization and promotion of innovation based on national scientific researches;
3. To create a transfer system, localization and distribution of the necessary foreign technology.

Integration processes provide Kazakhstan with opportunity to expand sale markets and to increase its innovation potential. Competitive pressure creates a huge for incentive Kazakhstani businesses to innovation. In order to profit these opportunities fully we should take effective measures of economy policy to support further modernization and diversification of the economy.

Generally, in our opinion, as a result of the proposed measures it will set the basis of:

1. The further development and strengthening of the national innovation system based on the system of priorities and directions of science and technology development;
2. The provision of sustainable and balanced economic growth through its diversification and increase of competitiveness of enterprises for the long term;
3. The growth of factor productivity of production, the increase of business innovation activity, the raise of the quality of human capital through the formation of an innovative environment, development and active application of information and communication technologies;
4. The creation of formation of regional innovation systems and the necessary innovative infrastructure based on the best global practices ensuring the formation of innovation clusters;
5. In the structure of the economy there will be increase in amount of proportion of non-raw sectors in total exports.

On the whole, accepted measures will improve the stability of the domestic economy and will contribute to the growth of welfare of Kazakhstan's citizens.

REFERENCES

- Bianchi, M., Campodall'Orto, S., Frattini, F., Vercesi, P. (2010), Enabling open innovation in small-and medium-sized enterprises: How to find alternative applications for your technologies. *R and D Management*, 40(4), 414-431.
- Çakar, N.D., Ertürk, A. (2010), Comparing innovation capability of small and medium-sized enterprises: Examining the effects of organizational culture and empowerment. *Journal of Small Business Management*, 48(3), 325-359.
- Committee on Statistics of Ministry of National Economics of the RK. (2016), The Official Statistical Information. Available from: <http://www.stat.gov.kz>.
- Dana, L.P. (1997), Change, entrepreneurship and innovation in the Republic of Kazakhstan. *Entrepreneurship, Innovation, and Change*, 6(2), 167-174.
- Jamrisko, M., Lu, W. (2016), Bloomberg's Global Innovation Index: These Are the World's Most Innovative Economies; 2016. Available from: <http://www.bloomberg.com/slideshow/2014-01-22/30-most-innovative-countries.html#slide31>
- Jenkins, H. (2009), A business opportunity model of corporate social responsibility for small-and medium-sized enterprises. *Business Ethics: A European Review*, 18(1), 21-36.
- Kurmanov, N., Beisengaliyev, B., Dogalov, A., Turekulova, D., Kurmankulova, N. (2016), Raw-material-intensive economy and development of small and medium-sized enterprises in Kazakhstan. *International Journal of Economics and Financial Issues*, 6(4), 1140-1445.
- Kurmanov, N., Tolysbayev, B., Aibossynova, D., Parmanov, N. (2016), Innovative activity of small and medium-sized enterprises in Kazakhstan and factors of its development. *Economic Annals-XXI*, 158(3-4(2)), 57-60. Available from: <http://www.dx.doi.org/10.21003/ea.V158-13>.
- Kurmanov, N., Turekulova, D., Doskeyeva, G., Alina, G. (2016), A research on innovation in small and medium-sized enterprises: The case of Kazakhstan. *International Journal of Economics and Financial Issues*, 6(3), 907-910.
- Kurmanov, N., Yeleussov, A., Aliyev, U., Tolysbayev, B. (2015), Developing effective educational strategies in Kazakhstan. *Mediterranean Journal of Social Sciences*, 6(5), 54-61.
- National Agency for Technological Development. (2013), Information-Analytical Report On Development Trends of Innovation in the Republic of Kazakhstan and in the World. Available from: <http://www.natd.gov.kz>.
- Ozturk, I. (2001), The role of education in economic development: A theoretical perspective. *Journal of Rural Development and Administration*, XXXIII(1), 39-47.
- Rothwell, R., Dodgson, M. (1991), External linkages and innovation in small and medium-sized enterprises. *R and D Management*, 21(2), 125-138.
- Schwab, K. (2015), The Global Competitiveness Report 2015-2016. Geneva: World Economic Forum. p403.
- Smirnova, Y.V. (2013), The innovation infrastructure of Kazakhstan: Why did the innovation "boom" not happen. *Quality Innovation: Knowledge, Theory, and Practices: Knowledge, Theory, and Practices*. Hershey, PA: IGI Global. p322-339.
- SPIID. (2014), The State Program of Industrial Innovative Development of Kazakhstan for 2015 –2019. (2014). Available from: <https://www.strategy2050.kz/en/page/gosprog3>.
- Yeleussov, A., Kurmanov, N., Tolysbayev, B. (2015), Education quality assurance strategy in Kazakhstan. *Aktual'ni Problemy Ekonomiky. Actual Problems in Economics*, 164, 142-150.