

Problems and Perspectives of Development of Innovative Entrepreneurship in Kazakhstan

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Abstract: Development of scientific, technological and innovation potential of enterprises plays an important role in the economic development of the country. The main problem of innovation activities of enterprises of Kazakhstan is generally low demand for innovation in the economy of Kazakhstan, as well as its inefficient structure - excessive preponderance to side purchases of finished equipment abroad to the detriment of their own implementation of new developments. The article deals with the questions of increasing innovative activity of enterprises of Kazakhstan in the condition of globalization evaluated and determined retaining facts by enterprise innovative activity, recommendations to promote and improve the innovative activity of industrial enterprises.

Key words: Innovation • Innovative activity • Demand for innovation globalization • Innovation potential

INTRODUCTION

An innovation directly depends on the country's level of involvement in the global market and global competition (the economy in general, regions, industries, organizations and businesses). Inability to profit within the tight budget constraints and global trends, adapt to the requirements of their potential, including price, market is a major challenge for economic players, the answer to which cannot be reduced to a linear increase of funding.

Currently innovation activities of enterprises of Kazakhstan has not yet become the basis of socio-economic development of the country since no significant technological breakthroughs is observed in the domestic economy, no signs of mass development of intensive research and development results. Low innovation activity is a characteristic for all economic activities, as well as for all types of innovation (technological, organizational and marketing). The global financial crisis of 2008-2009 complicated an achievement of the objectives, which led to a reduction in private sector spending on innovation and exacerbated the structural weaknesses of the Kazakh national innovation system. The level of innovation activity of enterprises is significantly poorer than the leading countries in this

field. As is well known, generalizing synthetic indicator of the intensity of the flow of innovation processes in the economy as a whole, i.e. innovative activity is the ratio of spending on science and the value of gross domestic product (GDP). Innovative activity can be regarded as a comprehensive characterization of innovation enterprise, including the degree of intensity of their actions and for the relevance, ability to mobilize the necessary capacity, including its hidden hand, the validity and the progressiveness of the methods used, the rationality of technology innovation process on the composition and sequence of operations”.

Innovative activity can be determined as “the intensity of the economic stakeholders in the development and inclusion of new technologies or products in enhancement of economic circulation” [1].

The Main Part of Research: The main problem of innovation in enterprises of Kazakhstan is a low demand for innovation in the economy of Kazakhstan, as well as its inefficient structure - excessive preponderance toward purchases of finished equipment abroad to the detriment of their own implementation of new developments. Most of the industrial enterprises of Kazakhstan carried out technological innovation through the acquisition of new machinery and equipment (67% of the total number

Table 1: The ratio of the volume and costs of innovative products, million KZT

Capacity	74718,5	120408,4	156039,9	152500,6	111531,1	82597,4	142166,8
Costs	35360,3	67088,9	79985,9	83523,4	113460	61050,9	235501,7
Costs efficiency coefficient to MIT	2,29	2,15	2,18	2,00	1,14	2,66	0,65

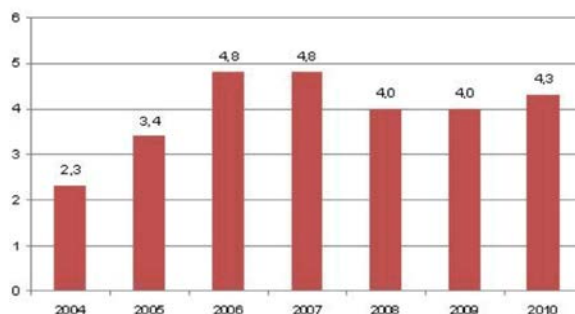


Fig. 1: The level of innovation activity of Kazakhstani enterprises in 2004-2010

engaged in technological innovation). To buy ready imported innovative equipment is much easier for Kazakhstani enterprises, rather than developing its own. Furthermore, the data in Figure 1 testifies a low innovation activity of Kazakhstani enterprises.

Only 500 economic entities have the technological innovations among 10,000 enterprises in the republic. According to estimates of the susceptibility of industrial enterprises in the innovation process, which is characterized by the share of active enterprises, innovative activity of enterprises in Kazakhstan in 2010 amounted to 4.3%, which is higher than in 2004 by 1.9 times. For comparison, the share of innovative enterprises in Germany is 80% in the U.S. Sweden, Italy, France is about 50% and in Russia is 9.1%. In 2010 the volume of innovative products in Kazakhstan increased significantly compared with 2009 by 72.1% while the innovative nature of the services rendered was 2.4 times more than in the previous year. This fact suggests that Kazakhstan is heavily dependent on foreign developments and already implemented and the technology used to manage and modernize its industrial base. Among the innovative products of industrial enterprises the largest share of innovative products in the occupied products newly introduced or exposed to significant technological change in Figure 2 - 89.8%, products are subject to improvement was 9.5 % and other innovative products is 0.7%

- Other innovative products
- Modified products
- Once more incorporated products or significantly modified products

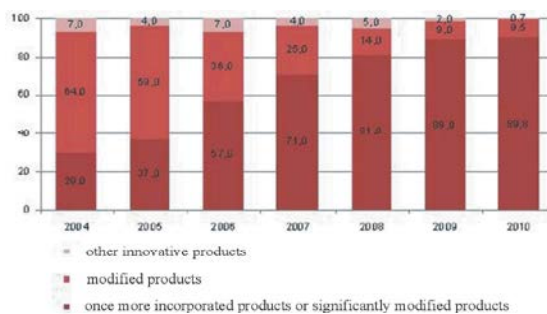


Fig. 2: Structure of innovative products in 2004-2010

This fact is a positive trend, especially since almost 90% of new or significantly modified technologies account for the manufacturing industry. Structure of acquired technology shows that only one percent is a transfer of technology, 12.8% is the results of research and know-how transfer and 30.6 % of industrial designs. Also it must be noted that the trends in the structure of the acquired technology remains negative, with a predominance of purchases of finished goods and services. The largest portion of investment in innovation projects in 2010 accounted for own funds of enterprises is 93%, foreign investment is 3% and the Republican budget is 2%.

Costs for the purchase of machinery and equipment related to technological innovation in 2010 amounted to 26.7%, for the research and development of new products, production processes was 10.9% of all costs for the purchase of all new technologies was 7%, which increases the tendency to innovation depending on industrialized countries. Insufficient level of innovation activity is aggravated by low-impact implementation of technological innovations. Nevertheless, Table 1 shows expenditure on technological innovation grow over the same period is much faster [2].

As a consequence, one tenge such costs in 2010 accounted innovative products 0.65 tenge against 2.3 in 2004. Thus, the structure of expenditure on technological innovation Kazakhstan indicators closer to the group “modest innovators” who have dominated the cost of purchasing machinery and equipment, while the leaders dominated the cost of property and custom development, whose share reaches 80%. However, keep in mind that business in Kazakhstan is under modernization of production facilities and the predominance of investment

fashion technology upgrades for it is quite natural. In the analysis of innovation Kazakhstan enterprises decrease the trend of innovative activity with increasing size of the enterprise. Among the organizations that introduces new products or improve the old, put it through a significant technological improvements, the share of innovative products in the giant organizations (more than 10 thousand people.) Three and a half times lower than for small organizations (up to 50 pers.). This is not too optimistic picture due to the specifics of the country is carried out in the privatization process and its features related to strategies of enterprises [3].

Large domestic capital can carry out investments in the production and commercialization of new knowledge; we have emerged mainly in industries inherently less innovative - extraction and primary processing of raw materials, trade and banking. Enterprises producing final finished products, more innovative in principle, most have lower profitability. Therefore, they have enough equity to ensure mostly current production and opportunities for funding research and development is extremely limited. The structure of R&D expenditures in Kazakhstan shows a relatively high level of spending on applied science, with a much lower level of funding for the final stage of development. For example, about 48 % of spending on science and technology in Kazakhstan focused on applied research in developed countries in 2012, these figures are at the level of 25-30 %, with about 55-60% of all funds are directed to the last stage of development and commercialization. Most of the activities of research organizations accounted for engineering science and R&D expenses amounted to 50.8%. For comparison, the share of total spending on research in the natural sciences was 29.9%, 9.4% of agricultural sciences, 4.4% of medical sciences, 2.5% of social sciences and 3.0% of Humanities. [3]

The Global Competitiveness Index of the World Economic Forum (WEF) ranks countries in terms of competitiveness of their economies and provides the results of the annual global competitiveness study. WEF experts estimated 148 countries in 2013, assessing the 12 performance indicators. Kazakhstan ranked 50th with an average index of 4.41, having moved on from last year on one line up (in 2012 - 51, in 2011 - 72 position). Kazakhstan has become a more effective use of its raw materials, as well as, in the opinion of experts from the World Economic Forum in Kazakhstan increased the level of welfare of citizens.

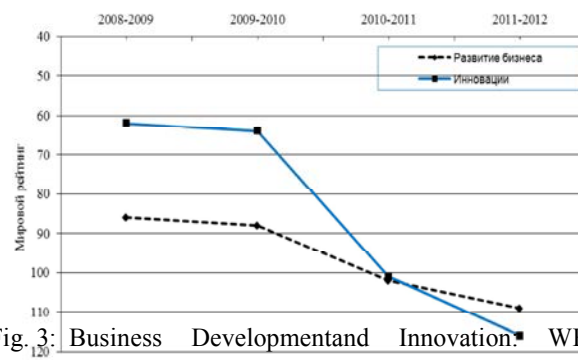


Fig. 3: Business Development and Innovation. WE Franking.

In addition, the WEF report noted that Kazakhstan is an advantage in a flexible and efficient labor market (15th position) and a stable macroeconomic indicators (23th line). Kazakhstan can be considered as countries in transition from economy -driven factors, where the outcome depends on the increased use of labor and finance, the economy, driven by efficiency. Figure 3 shows progress, estimated on two key during the transition from an economy driven by efficiency, the economy, driven by innovation, performance indicators - business practices and innovation, was negligible in recent years. Slight rise in these rates partly reflect the fact that Kazakhstan's economy remains largely resource.

- Business development
- Innovations

Local businesses does not encourage to innovation and state of the domestic competitive environment, which largely determines the prevailing business ethics. In Kazakhstan industry competition as a whole is not yet palpable. Its development is constrained by the continuing dominance of the Soviet era in the production and marketing of natural, industrial and territorial monopolies.

Innovative development of Kazakhstan along with other factors hampered shortage of personnel capable of managing innovation processes and projects. Insignificant rates increased proportion of organizations engaged in technological innovation, the share of the cost of their implementation and the share of innovative products. Comparable situation in our country on such indicators as the number of population engaged in research and development, the share of expenditure on technological innovation and the share of innovative products in the total volume of production. At the same time, Kazakhstan is significantly inferior to the world's

leading countries on indicators such as the level of spending on research and development as a percentage of GDP, the proportion of organizations producing innovative products and technology export revenues. Overall, despite some positive developments in the scientific sphere cadre of science in Kazakhstan requires effective state support. One of the key performance indicator of research and development is patenting activity. In recent years, Kazakhstan has conducted extensive work to harmonize national patent laws in line with modern international requirements. According to the strategic objectives of cross-sectoral plan of scientific and technological development of the country until 2020, the number of patents should be increased by 2014 to 1000 and by 2020 to 2000. Weak competitiveness of the country in terms of technology is explained by the practical absence of the country's world-class development. Kazakhstan registered 1 international patent in 2008, then, for example, in Finland in which the population is 3 times less, 775 international patents were registered. Inventive activity is closed mainly for the domestic market: the export share does not exceed 12% of the total transfer of technology. Kazakhstan's share in the number of patents registered in the U.S. and Europe is only 0.07%. Level of patent activity is another indicator of innovation. The number of documents that recognize patents and other intellectual property rights, has increased in recent years, reaching 1850 in 2010 compared to 1157 in 2006. In Kazakhstan 93 patent applications are served per million population, which is less than the more developed countries (195.9 in Russia, 582.6 in Germany and 2 591.5 in Korea). [4]

Main reason for the lag in Kazakhstan in terms of patent activity is that for Kazakh natural persons and legal bodies patenting abroad is often quite cumbersome process. This is due primarily to a substantial limitation of funds and partly by features of their legal status, as well as with low competence in the field of intellectual property. This situation was in Soviet period and has not yet been overcome, despite the marked upward trend of patenting in the country.

All the above facts demonstrate a low level of innovation activity of the Kazakh economy, lack of funding and low competitiveness of domestic innovation in the international arena. Activities of the research sector in Kazakhstan is complicated not only indicated problems (the main of which can be regarded as insufficient funding), but also continuing with its Soviet period institutional and organizational features. According to some surveys, only 27% of managers consider

Kazakhstani enterprises compete in the domestic market and 13% of acute - noticeably sharp. Approximately 15 % of industrial enterprises do not experience severe competitive pressures. These companies formed a stable circle of suppliers and purchasers and they are absolutely not interested to change anything in their activities. Almost a third of the companies are competing with producers only in post-Soviet space. Consequently, more than half of the enterprises is out of global competition and is focused on the domestic market, 25% of them come true most of its products to customers of their same region. In manufacturing, 10-15% enterprises can be attributed to competitive in Kazakhstan. However, among these companies, about half was not involved in the recent years, technological innovation, only one quarter of the companies' fleet of vehicles and equipment can be considered acceptable.

RESULTS AND CONCLUSIONS

Thus, the analysis of the level of development of innovative activity in Kazakhstan, in general and particularly in the manufacturing sector in particular, gave the following results.

- Minor share of innovative products in total output, reducing the number of personnel engaged in this field and a low level of patent activity Kazakh entrepreneurs;
- Most part of organizations involved in innovation are specialized and are state-owned;
- The main direction of innovation in business is extensive: technological innovation (primarily the acquisition of machinery and equipment abroad). At the same time an active interest in the development of innovation shows a small business, not big companies;
- The current situation is aggravated by the action of negative factors such as a lack of funding and institutional and structural features of development - the first factor is manifested in the fact that in our country the level of costs of implementation of innovation is only about 1% of GDP.

Becoming a modern model of the economy in both developed and emerging countries is largely due to the changing role of innovation. Formation of innovative economies as the result of the acceleration of progress in science and technology as a result of globalization and fundamental changes in the global labor division: while

industrial assembly actively developing less-developed countries, the technologies themselves are becoming a commodity produced by mostly developed countries [5].

Effects of the global crisis of 2008-2010 have further increased focus on business, government and society to innovate. The crisis has become a new landmark in the reorientation of developed countries on innovation. Many countries have adopted recovery plans to provide incentives for the use of modern technologies and a variety of innovations. Interdependence of developed and developing economies, the new situation in the international labor division and global competition are important for understanding the nature, significance and objectives of innovation sphere in Kazakhstan.

Due to the high internal costs, including labor costs, competitiveness of the domestic economy in the mass production sector is limited. At the same time a sufficiently high quality of human capital and scientific potential of preserved open up opportunities for the country to take a certain position in the global technology market. So, if in general "Global Innovation Index" Kazakhstan in 2012 held sufficiently low 83rd position among 142 countries on the index of innovation, then the index component characteristic "human capital" Kazakhstan occupies 69th position and the Higher Education Quality only 35th place. These figures clearly demonstrate the underutilized potential in this area For comparison, the innovation index of Russia was in the same position - 51, South Korea in 21 position and Germany was leading in 14 position.

Thus, the place of Kazakhstan in the global innovation processes is not the sufficiency of the country's intellectual and educational potential.

One of the reasons, it should be pointed out that, as is known, an innovative process includes a development stage of growth and production of new goods. Reproductive cycle of creation and innovation in the 90s Kazakhstan had ruptured and the relationship between the development and dissemination of innovations was not formed. Thus, Kazakhstan was not ready for massive development and introduction of innovative products. To stop the growing backlog of Kazakhstan from leading countries in terms of innovation, it is necessary to significantly increase the share of innovative industrial products. This is possible only by creating a national innovation system. The first step in this direction is to develop a proper innovation strategy, set goals and major long-term goals, as well as providing the means to solve them.[6]

Table 2 shows powered SWOT- analysis conducted in Kazakhstan conditions, can help in the development of Kazakhstan's innovation strategy more clearly represent the internal innovation resources, opportunities and potential threats in the field of innovation development.

In recent years, Kazakhstan has established the basic elements of innovation infrastructure; innovation involved a significant number of scientists and entrepreneurs. A decision to establish territories of innovative development, expanding incentives for innovation, etc are implemented. However, significant progress is so far failed: innovative processes have slight effect on the economy. They are in a state of stagnation and sustainable long-term, due to unfavorable macroeconomic conditions, the existing structure of markets, the quality of corporate governance, lack of efficiency of the national innovation system (NIS) and its institutions [7].

Table 2: SWOT-analysis

Strong internal side (S)	Weak internal side (W)
Budget spending on scientific and technical sphere.	Patenting.
State Research potential.	Using the results of scientific research budget.
Quality of higher education.	Low level of participation in research programs funded by the EU.
The share of high-tech exports.	
Favorable external opportunities (O)	External threats (T)
Costs to industry for research.	Aging population, aging researchers.
A good trend of small and medium-sized enterprises / networking.	The complexity of the administrative system.
Growing interest in networking, promotion of public- private partners.	Inflexibility research system.
Internet access, use of information and communication technologies.	Regional imbalances, the concentration of scientific potential in the metropolitan area.
High-tech venture capital funds "seed" capital.	Political commitment to innovation.
Potential for increasing the role of financial markets.	The "brain drain", the low attractiveness of scientific careers.
	Low level of internationalization.

Kazakhstan is still focused on high-tech industries that support the traditional “high-tech myopia”, (defined by OECD experts). In the eyes of a large part of society that makes innovation a purely technological phenomenon that obviously limits the space of choice - making. More preferred is a setting on the innovation in all sectors (high-, medium - and low-tech). In the last two segments a most massive effect can be achieved on their development and implementation, covering the whole economy and society in large.

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