IMPROVEMENT OF THE METHODOLOGY FOR ASSESSING THE LEVEL OF INNOVATIVE ACTIVITY IN THE REGIONS OF THE REPUBLIC OF KAZAKHSTAN

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ABSTRACT

In the Republic of Kazakhstan, the economic environment in general not yet favorable for innovation. The main tasks of the scientific sector of industrial enterprises should be the creation of new goods and services of science-intensive content that is, obtaining new knowledge in the field development of nature and society. To develop an innovation, it is necessary to conduct market research, research and experimental work, organizational and technological preparation of production, to carry out production and formalize the results. The article analyzes the state of innovation activity in the regions of the Republic of Kazakhstan. Identified factors, which influenced the stimulation of innovative activity and sustainable development of enterprises in the regions of the Republic of Kazakhstan. Despite the measures taken by state, level of innovation activity and regional actors of sustainable development remains low. In order to build a regional innovation strategy, taking into consideration the strengths and weaknesses in the innovation sphere of the region, an effective methodology for assessing the innovation activity of the region's subjects is needed. In the article methods and indicators related to the measurement of innovation activity are studied and direction for sustainable development are presented. However, the existing methods of measurement and analysis of this indicator depend on the purpose of the research and therefore not all aspects of innovation activity can be uncapped and sustainable development depends on politics and its state support. Accordingly, the authors suggest to use integrated assessment methods, where the coordinated system of index and indicators acts as a basis, and apply the recommendations of international experts for sustainable development.

Keywords: Innovative Activity, Evaluation Methods, Factors, Innovative Potential, Region, Sustainable Development.

INTRODUCTION

According to international agencies, the Republic of Kazakhstan has the necessary conditions for the development of innovations - in particular, human resources, promising higher educational institutions, measures of state support, the presence of industrial facilities, etc. However, in fact, the Republic of Kazakhstan demonstrates weak results of innovative development.

In the context of globalization of the world economy, the creation and development of a competitive innovation economy constitutes one of the priorities for Kazakhstan. In 2019 the Republic of Kazakhstan ranked 55th place in the Global Competitiveness Index of the World Economic Forum, 4 positions higher than last year's results. The factors that led to the increase in

positions were «labor market» (25th place), business dynamism (35th place). Over the last four years the share of innovative active enterprises and the volume of innovative products has increased by 2,5 p.p and 3,1 times. However, current indicators of innovation development show weak dynamics. So, over the past 10 years, the share of R&D expenditure in the GDP structure has declined from 0,3% to 0,17%, the number of innovation patents has decreased from 478 to 1 unit in three years. Nevertheless, the volume of innovative production continued to grow steadily – the proportion of GDP increased in five years from 1.46% to 1.98%.

To increase the level of innovative development in the Republic of Kazakhstan, seven proposals were submitted to the draft State Industrial Innovation Development Programme of the Republic of Kazakhstan for 2020-2025: *First* – formation of a unified vision of the country's scientific and technological development based on the results of technology foresight. This will facilitate the coordination of all major drivers of the innovation ecosystem. *Second* – creation of the National System of Scientific and Technological Information, which will make it possible to establish a unified information and analytical base. *Third* – systematic implementation of technology foresight, which will determine the priorities of scientific, technological and innovative development of the country in accordance with global trends and existing competencies. *Fourth* – establishment of the Technology Policy Council as a consultative and advisory body on science development, technology and innovation under the Government of the Republic of Kazakhstan. *Fifth* – implementation of targeted technology programs as a mechanism of public-private partnership in the scientific and technological sphere. *Sixth* – development of a company support program, participants in the value chain to enhance Kazakhstan's competencies through international cooperation with transnational companies. *Seventh* – creation and development of competence centers in priority areas.

With the purpose of sustainable development in the Republic of Kazakhstan, on August 15, 2018 the Coordination Council for the sustainable development goals of the Republic of Kazakhstan was established. The coordinating body of the Council is the Ministry of National Economy, which has put forward 5 key areas: poverty eradication, gender equality, ensure healthy life, education; management of terrestrial ecosystems and water resources, climate change; inclusive growth and economic transformation; secure and peaceful society, strong institutions, justice; global partnership for sustainable development, the mobilization of resources, technology, capacity development and trade.

LITERATURE REVIEW

At the current stage of economic development, the state of innovation is the most important indicator of the development of society and economy in any state. The results of numerous studies on innovation (Sabden, 2008), innovative development of regions (Nurlanova, 2011), innovation mechanism (Kenzeguzin, 2005; Dnishev, 2012) confirm the fact that enterprises that are actively engaged in innovation activities obtained higher incomes and have more opportunities for growth.

The main characteristic of innovation development is the indicator of innovation activity. The understanding of the term «innovative activity» in the economic literature is ambigious. Most researchers understand this term as a complex characteristic of innovation activity (Kuprin & Zhuk, 2013; Baranchev, 2005), others suggest understanding as the intensity of innovation and the mobilization of the innovative potential of enterprises (Zitz, 2011) as a resouce for the country's competitiveness (Lebedeva, 2010) as an indicator of innovative development (Bugubaeva & Begezhanov, 2015), as a dynamic purposeful activity to create, develop in production and promote innovations to the market (Abalkin, 1999); as creative activities (creativy energy) of producers or service, as a resource for increasing a country's competitiveness.

METHODOLOGY

In modern conditions, arise a need for adequate assessment of innovation activity. The research showed that the most common assessment methods are: correlation regression model,

rating analysis, comparative analysis, statistical analysis, index analyzing and graphical analysis. However, all the listed methods depend on the purpose of the research and therefore not all aspects of innovation activity can be disclosed. Therefore, the assessment of innovation activity requires the use of integrated assessment methods, where the basis is a coordinated system of index and indicators. These methods were used in our research, and only a part of them is presented in this article. The methodology of the study of sustainable development of the regions of the Republic of Kazakhstan was based on the deduction method, in particular, the experience of the European Union and the United States was considered.

Case Studies

The indicators most widely used in domestic and foreign practice and characterizing the innovative activity of the organization, its innovative competitiveness, can be divided into the following groups: costly; by time; renewability; structural.

Cost Indicators:

- unit costs for R&D in the volume of sales, which characterize the indicator of the Science intensity of the company's products;
- unit costs for the acquisition of licenses, patents, know-how;
- acquisition costs of innovative firms;
- Availability of funds for the development of initiative developments.
  Renewability indicators:
- number of developments or implementation of product innovations and process innovations;
- Indicators of the dynamics of updating the product portfolio (the proportion of products manufactured for 2, 3, 5 and 10 years);
- The number of acquired (transferred) new technologies (technical achievements);
- The volume of exported innovative products;
- The volume of new services provided

Structural Indicators:

- composition and number of research, development and other scientific and technical structural units (including experimental and test complexes);
- composition and number of joint ventures engaged in the use of new technology and the creation of new products;
- number and structure of employees engaged in R&D;
- Composition and number of creative initiative temporary teams, groups.

According to the authors, innovative development is an important part of sustainable economic development. So, how exactly is an innovative approach in its desire to create innovations that improve people's lives in the most effective way and usually aimed at reducing costs by using resource-saving technologies, advanced materials, more economical equipment, and often environmentally friendly, which generally reduces the burden of the most pressing problem related to climate change. Despite the fact that Kazakhstan's sustainable development program is aimed at eliminating poverty, fight against inequality and injustice, improving the ecological state through innovative development, nevertheless there is a significant differentiation of Kazakhstan's regions in terms of the level of innovative development. The reduction of measures to stimulate innovation processes in the regions leads to further differentiation of actors of the Republic of Kazakhstan.

To assess the innovative activity of an organization and its innovative competitiveness in domestic and foreign practice, indicators of the organization's innovative activity are widely used.

In the countries of the European Union and the United States, active regional policies can compensate for unfavorable external conditions. At the same time, they should not only develop forms of support for innovative businesses, but also actively invest in the development of human capital, which is an important factor for their success in innovation policy.

Development and implementation of new technologies – a three-way process, which should

be interested by state, scientists and business, be able to master these developments and offer the market a competitive product. In other words, the innovative activity of enterprises is crucial. The share of knowledge-intensive products and expenditures on science in total GDP are key indicators of the knowledge-based economy. Innovation development is directly linked to the state of basic and applied science and the commercial demand for scientific and technological development. In 2018, funding for Research and Development (R&D) reached 99.7 billion tenge, while productive assets were formed at the expense of the private sector (73%). World practice shows that with a 0.1% increase in R&D expenditure, GDP growth could reach 1.2% in the long run. In the Republic of Kazakhstan, however, the share of R&D expenditure in relation to GDP has been declining over the past decade, from 0.3 per cent to 0.17 per cent.
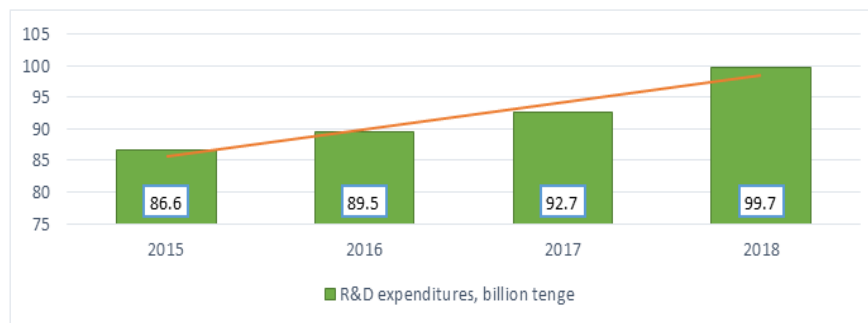

FIGURE 1
EXPENDITURE ON R&D

In the Republic of Kazakhstan, innovation spending declined from 0.2% in 2018 to 0.1% of GDP in 2019. Whereas Germany's innovation leader spends 2.9% of GDP on R&D, Singapore 2.2% and Russia 1.1%.

This compares with 0.5 to 4.3 per cent in developed countries. At the end of 2018, 384 R&D organizations with a total staff of 22.4 thousand employees were registered in the Republic of Kazakhstan. The main number of employees is researchers (17.5 thousand people), including 1.7 thousand doctors of science, 4.4 thousand candidates of science and 0.9 thousand PhD doctors.

According to the calculations of international experts, for the sustainable development of the state, it is necessary to allocate from 2 to 4% of GDP to finance science. The threshold value of spending on research and development in relation to GDP as one of the indicators of economic security of the country is considered to be equal to 2%. The International academic Council's recommended share of spending on science for developing countries is 1-1. 5% of GDP.
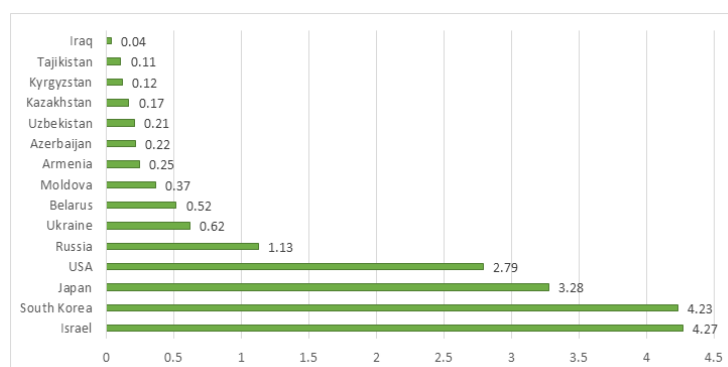

FIGURE 2
R&D EXPENDITURES OF COUNTRIES, AS A PERCENTAGE OF GDP.

World experience shows that in developed countries, expenditures on research and development are constantly growing, reaching 2.5-3.7% of GDP in many of them, while the state's share in these expenditures is on average 25-34%. These countries primarily include Israel (4.27%),

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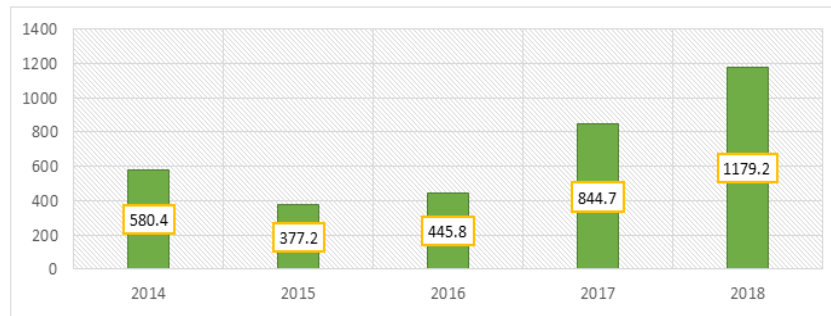Finland (4.01%), Sweden (3.75%), Japan (3.28%) and Korea (4.23%).

FIGURE 3
VOLUME OF INNOVATIVE PRODUCTS IN THE REPUBLIC OF KAZAKHSTAN, BILLION TENGE

The volume of innovative products in Kazakhstan increased 1.4 times in 2018 compared to 2017, which amounted to 1,179 billion tenge, in 2017-844.7 billion tenge, and in 2016-445.8 billion tenge.

The level of patent activity is another indicator of innovation action. The level of patent activity in the Republic of Kazakhstan is significantly lower than in other developed countries, and the results of research are mostly uncompetitive in the international market. An innovative economy cannot develop effectively if an innovative product that is the result of intellectual activity is not protected by a patent.

FIGURE 4
SUBMISSION OF APPLICATIONS AND ISSUANCE OF PROTECTION DOCUMENTS FOR INVENTIONS IN THE REPUBLIC OF KAZAKHSTAN (UNITS)

Kazakhstan has issued 2,680 innovative patents over the past five years. The largest number of patents was in 2014 and 2015 — 1093 and 1096, respectively, but only 1 patent was issued in 2018. The number of documents recognizing patents and other intellectual property rights has declined in recent years. Kazakhstan has 93 patent applications per million inhabitants, which is less than the level of more developed countries (195.9 in Russia, 582.6 in Germany, and 2,591. 5 in Korea). As of 2018, 30.5 thousand organizations engaged in innovative activities are registered in the country, among them 3.2 thousand own innovations. The level of innovation activity of enterprises was 10.6%.

In the regional context, innovation activity prevails in East Kazakhstan region (15.5%), Karaganda region (14.7%) and Nur-Sultan (14.7%). Over the past five years, funding for product and process innovations in the country has increased almost twice due to a sharp increase in private funding in 2015. As a result, in 2018, the volume of investments reached 856.5 billion tenge, with 86% of funds invested by the private sector, 11% — by foreign enterprises, and 3% — by the state. The main source of financing was and remains the enterprises own funds. However, there is an impact of the state budget, which is mainly due to the implementation of various industry Programs.

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An analysis of the activities of business entities has shown that there is a number of pressing problems that affect, in particular, innovation. The main factors hindering innovative development include: low technological complexity of production; high degree of physical depreciation of fixed assets; low profitability of production and products of non-resource enterprises, insufficient professional level of most entrepreneurs, obsolete infrastructure of production facilities, low level of cooperation between science and business; unclaimed domestic technological solutions undeveloped venture capital financing market, limited finances in the private sector; unsystematic and insufficient public funding for science and innovation, unsatisfactory existing system of financing internal and investment capital expenditures of scientific and innovative activities today do not meet the priorities of industrial and innovative development of the Republic of Kazakhstan.

Poor performance of enterprises is too low to attract external investors, as well as investigate own resources for development.

Therefore, a long-term science-based regional innovation policy and an effective financial mechanism for its implementation are necessary. Increased requirements on research and development should be the key to sustainable development in most countries of the world. In other words, if states want to have a technological reserve, they must spend themselves and do everything possible to ensure that private companies also invest more in scientific development. There is practically no culture of venture capitalists or «business angels» in the Republic of Kazakhstan. Instead, innovation grants are distributed by the state represented by the National Agency for technological development and several start-up platforms, such as TechGarden and AstanaHub, operate. The state also has a high share of participation in them. However, it is the latter that can help the innovator in finding an anchor investor with whom it will be possible to reach the international level. Innovators, as you know, need competition, otherwise there is a high risk of getting a deliberately uncompetitive product.

In our opinion, the main directions of activation of innovative development are as follows: development of motivational mechanisms for the development of public-private R&D; preferential taxation of R&D (deferred tax payments in part of expenses from profit for innovation purposes), reduction of the tax on the increase in innovation costs, exemption from taxes on profits received as a result of the implementation of innovative activities, etc..

In accordance with the technique on forming of statistics research and development projects and innovation indicator "the level of activity in innovation" is formed once a year based on the survey of innovation activities of enterprises in the Republic, in regions, capital and city of Republican significance, as well as by industry.

The level of activity is determined by the ratio of the number of innovative-active enterprises, that is, engaged in any types of innovative activity, to the total number of operating enterprises and multiplied by 100:

$$Lact = Nhi/Ntre * 100, \qquad (1)$$

where: *Lact* - level of innovation activity; *Nhi* - number of enterprises with innovations; *Ntre* - total number of operating enterprises.

We propose a model for evaluating the innovative activity of an enterprise, taking into account the above-mentioned features. The main indicator of the intensity of innovation activity is the share of volume of innovative goods (works, services) in total volume of sold products (works, services) own (IA). Let's represent it as a multi-factor model:

Where $\frac{Vи}{V}$ – share of the volume of innovative products (works, services) in the total volume of products sold (works, services), made by own forces; $\frac{П}{В}$ – profitability of sales; $\frac{3}{V}$ – innovation and investment knowledge intensity (the ratio of costs for technological innovations to the volume of products sold (works, services); $\frac{Ф}{N}$ – capital-to-capital ratio (cost of the OPF per 1 employee); $\frac{В}{Ф}$ – capital productivity.

Indicators of innovation activity are mixed.

The model for evaluating innovation activity is shown in table 1.

Table 1
INDICATORS FOR ASSESSING THE INNOVATIVE ASSESSMENT OF BUSINESS ENTITIES
Innovation performance indicators
Intensities
X1- Volume of innovative products;
X2 – Costs of technological innovation;
X3- R&D costs
X4- Number of issued patent applications;
X5- Number of used advanced technologies;
Efficiencies
R1- Ratio of innovative products to the volume of expenditures on technological innovations
R2- Ratio of innovative products to R&D
R3- Ratio of innovative products to the number of researchers
R4- Ratio of the number of issued patent applications and protection documents to the number of R&D activities
R5- Ratio of the volume of innovative products to the size of production assets

Assessment of the intensity of innovation activity is based on the calculation of relative indicators of the dynamics of private indicators of innovation activity, which characterize the main trend in the rate of change of their values (Endovitsky D. A., 2013). Indicators of the intensity of innovation activity characterize the degree of implementation of innovative activities of an enterprise or region for a certain period. Evaluation of the effectiveness of innovation is based on the calculation of private indicators that characterize the ratio of the final effect of innovation to the resources to ensure it.

Innovation activity allows to assess the nature of an enterprise's innovation activity, being one of its most important components; it largely determines the quality of the system's economic growth. Therefore, the assessment of an enterprise's innovation activity should be aimed at identifying the intensity and effectiveness of work on the entire spectrum of innovative changes, including the creation of new products and the introduction of new services, the use of new technologies and resources, the formation of new organizational structures, and the development of new financing mechanisms and sales channels.

The integrated indicator reflects the dynamic measure of innovation activity. So, if the innovation activity is not carried out at all, then the coefficient is 0, if the coefficient is 1, then the innovation activity is carried out intensively and efficiently.

The study of the degree of innovation activity of regions is characterized by the following indicators: the level of innovation activity of enterprises, the volume of innovative products, the share of innovative products in GRP; internal research and development costs; costs of technological innovations.
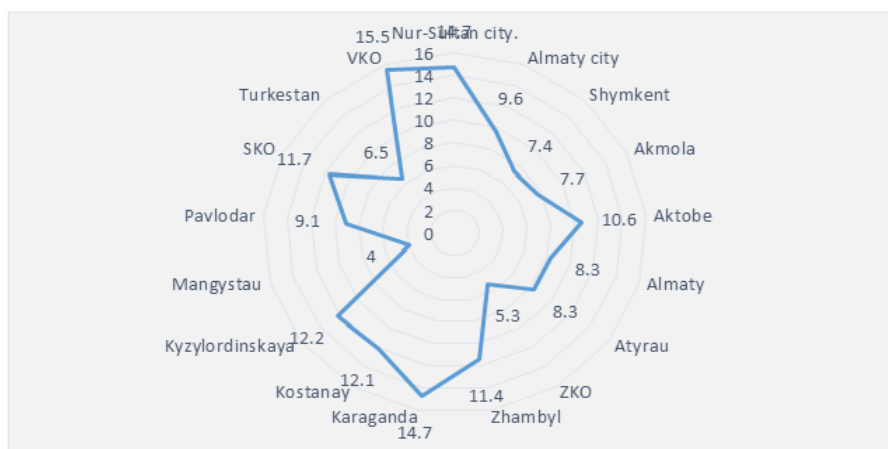

FIGURE 5
THE LEVEL OF INNOVATION ACTIVITY OF ENTERPRISES IN THE REPUBLIC OF KAZAKHSTAN.

2018, %the level of innovation activity of enterprises in the Republic of Kazakhstan in 2018 was 10.6% (2017-9.6%, 2016-9.3%). The Ministry of Investment and Development of Kazakhstan expects that by 2020, the innovative activity of enterprises will double, due to " reducing the technological gap in traditional industries." The largest share of innovative and active enterprises, taking into account management technologies, is observed in East Kazakhstan, Karaganda and Nur-Sultan (15.5%, 14.7 % and 14.7%, respectively). The lowest level of the indicator is in Mangistau (4.0%), West Kazakhstan (5.3%) and Turkestan (6.5%). Almaty, Nur-Sultan and EKO are the leaders in terms of the number of innovative and active enterprises.
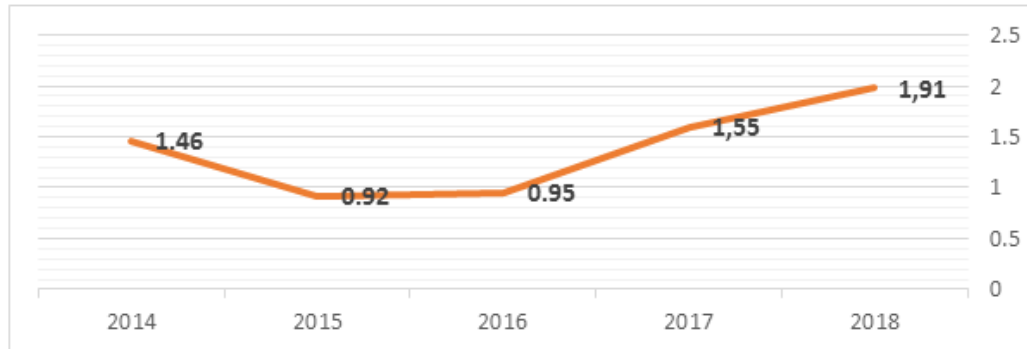

FIGURE 6
SHARE OF INNOVATIVE PRODUCTS IN RELATION TO GDP,%

The share of innovative products (goods, services) in the total GDP in 2018 increased by 1.25 times and amounted to 1.98 % compared to 2017-1.59 %, and in 2016 - 0.95 %

Table 2
DYNAMICS OF INDICATORS FOR ASSESSING THE INTENSITY AND EFFECTIVENESS OF INNOVATION ACTIVITY IN KAZAKHSTAN'S REGIONS

Year	Growth rate of intensity indicators					Growth rate of performance indicators				
	X1	X2	X3	X4	X5	Э1	Э2	Э3	Э4	Э5
2013-2014	100,4	100,6	107,6	100,5	111,45	100,0	93,3	92,2	86,2	114,3
2014-2015	65,0	150,8	104,4	100,0	104,1	43,0	62,2	68,0	92,1	110,1
2015-2016	118,0	233,3	96,1	67,0	119,2	50,0	123,0	126,8	79,7	111,8
2016-2017	189,0	58,8	103,4	86,0	1,225	324,0	183,0	197,4	97,5	110,4
2017-2018	139,6	95,2	104,8	90,0	0,615	145,0	133,0	137,6	87,5	137,6

Analyzing the dynamics of indicators of the intensity of innovation activity in the regions of the Republic of Kazakhstan for the analyzed period 2013-2018, we observe that there is no clearly defined stable growth trend.

To determine the degree of real return on innovation, we used the formula (3) based on a comprehensive indicator of innovation activity)

$$KI.a. = \frac{I1I + I2I + I3I + I4I + I5I + I6_{э} + I7_{э} + I8_{э} + I9_{э} + I10_{э}}{10}$$

Where, I- a composite index of indicators
I1i - volume of innovative products;
I2I- costs of technological innovation;
I3I- R&D costs;
I4I- number of issued security documents;
I5I- the number of used advanced technologies;
I6e- The ratio of innovative products to the volume of expenditures on technological innovation
I7e- Relation of innovative products to R&D
I8e- Ratio of innovative products to the number of researchers

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I9e- Ratio of the number of issued security documents to the number of researchers

I10e - The ratio of the volume of innovative products to the size of production assets

Год	Intensity indicators, million tenge					Efficiency indicators				
	X1	X2	X3	X4	X5	E1	E2	E3	E4	E5
2013	578263,1	431993,8	61672,7	1497	404700	1,34	9,38	24,4	0,073	0,188
2014	580386,0	434602,5	66347,6	1504	451050	1,33	8,75	22,5	0,063	0,165
2015	377196,7	655361,0	69302,9	1504	469510	0,58	5,44	15,3	0,058	0,100
2016	445775,7	1528645,9	66600,1	1011	559690	0,29	6,69	19,4	0,041	0,103
2017	844734,9	899681,8	68884,2	869	685690	0,94	12,26	38,3	0,040	0,177
2018	1179220,0	856449,5	72224,6	778	421828	1,38	16,3	52,7	0,035	0,180

Table 3
SHOWS PRIVATE INDICATORS OF INNOVATION ACTIVITY IN THE REGIONS OF THE REPUBLIC OF KAZAKHSTAN.

The information base for the analysis was the data of the MIRK CS.

Table 4-Basic data for assessing the intensity and effectiveness of innovation activity in Kazakhstan's regions

Calculations of intermediate values for private indicators of integrated assessment of innovation activity in the regions of the Republic of Kazakhstan are shown in table 4.

Table 4
DATA ON PRIVATE INDICATORS FOR ASSESSING INNOVATION ACTIVITY IN KAZAKHSTAN'S REGIONS

Index	Private indicators of intensity					Private performance indicators				
	X_1	X_2	X_3	X_4	X_5	R_1	R_2	R_3	R_4	R_5
T	1,511	1,065	1,014	0,785	0,97	1,442	1,445	1,177	0,83	1,210
O	823243	1094926	692363	886	555736	0,87	11,75	36,8	0,039	0,153
I_T	0,632	0,712	0,520	0,517	0,498	0,370	0,501	0,513	0,623	0,510
I_o	0,515	0,355	0,501	0,120	0,507	0,532	0,448	0,523	0,667	0,649
I	0,574	0,534	0,516	0,318	0,472	0,451	0,474	0,518	0,645	0,576

T - Thus, using the formula (2), we obtain a comprehensive indicator for assessing the innovation activity of the regions of the Republic of Kazakhstan:

$$Ki.a. = \frac{0,574+0,534+0,516+0,318+0,472+0,451+0,474+0,518+0,645+0,576}{10} = 0,5078$$

According to our calculations, the value of the innovation activity indicator in the regions of the Republic of Kazakhstan was 0.5078. This is the average level of innovation activity in the regions of the Republic of Kazakhstan. The indicator of innovation activity can be calculated for each subject of the region, and based on the obtained values, a rating assessment of the regions of the Republic of Kazakhstan is built. Thus, the methodology can be supplemented with a comparative rating assessment, and the basic basis of the methodology is the method of complex coefficient assessment. In our opinion, the advantage of this method is the ability to identify those factors that directly affect the growth of the overall indicator.

Effective management of innovation factors aimed at achieving the competitiveness of the regional economy should be based on an objective and comprehensive assessment, a mutually linked system of indicators of innovation activity. In our opinion, the level of innovation activity in the region is the main indicator of innovative development of the regional system, which allows to assess how dynamically and effectively innovation processes are taking place in the region. Properly managing the innovative activity of business entities in practice means competent management of the main parameters of economic growth, which will inevitably lead to sustainable development of the country.

CONCLUSION

Thus, the analysis and measurement of innovative development of the regions of the Republic of Kazakhstan showed that businesses differ in the level of innovation activity. Assessment of innovative activity of enterprises, as well as management decisions, making in the framework of the innovation policy of the region, should be carried out and the peculiarities of the development of this region should be taken into account. A fundamentally important point in monitoring the level of innovation activity in regions is that the results of research form the basis for the formation of management mechanisms of state policy.

Research has shown that the regions of the Republic of Kazakhstan are significantly behind developed countries in terms of the level of innovation activity, the place of high-tech products in the structure of production and export, the amount of funding for science, the development of innovative infrastructure, etc. indicators. The application of the methodology of assessment of the level of innovative activity of economic entities of the region RK based on the comprehensive assessment of the indicators of intensity and efficiency of innovation activities allows to assess how successful (unsuccessful) innovation in the regions.

In our opinion, the advantage of the proposed approach is the logical relationship between individual indicators of the intensity and effectiveness of innovation. The practical significance of this approach lies in the ability to obtain a model of innovation activity that is as close to reality as possible, as well as to determine and predict its level based on expert assessments. The applied method does not require highly specialized knowledge, the applied formulas are simple enough for understanding and practical calculations. Index display of quantitative and qualitative information allows to evaluate the overall dynamic picture. These calculations allow to deepen the analysis of innovation activity and to rank regions by the level of innovation activity in order to conduct systematic monitoring of changes.

Thus, the proposed method for assessing the level of innovation activity based on a comprehensive assessment of indicators of the intensity and effectiveness of innovation activity is a fairly universal tool that allows it to be widely used both in theoretical research and in the practice of economic analysis. The practical application of these methods can become the basis for forming rating assessments of the level of innovation activity in the regions of the Republic of Kazakhstan, which makes it possible to compare regions by this complex indicator.

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