WAYS OF FORMATION OF INDUSTRIAL AND INNOVATIVE MONOTOWNS OF THE REPUBLIC OF KAZAKHSTAN, ON THE EXAMPLE OF THE CITY OF BALKHASH

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Abstract

Stable and systematic creation and implementation of innovations, development of innovative activities - the main factor of success in the competition and accelerated socio-economic development of the country - these are the main functions of an innovative economy. The purpose of this study is to determine the scenario (direction) of innovative development of the city of Balkhash, taking into account the level of development of the monoterritory. As an object of research in this paper, the basics of innovative development of the monotown of Balkhash in the Karaganda region were considered. The research method is a systematic logical and comparative analysis. The novelty of this study is the formation of an effective interaction of subjects of management, all prospective directions of innovative development of monotowns, the evaluation indicator system development in modern conditions. The main elements of the region of the Karaganda innovation infrastructure have been determined and highlighted. The promising competitive positions of the monocity strategy are outlined. The innovative activity and innovative potential of a monotown are assessed. The article is addressed to employees, specialists involved in making managerial decisions of an innovative nature of the regions.

Keywords: monotown, innovation, transformation, modernization, diversification

Introduction

The innovative development of monotowns involves the transition from the use of limited natural, financial, production resources to an economy oriented towards new technologies, education and innovation. The main goal of an innovative development is the transition from a raw material to a post-industrial economy through technological transformation and diversification of economic sectors, achieving an increase in the competitiveness of territories [1].

The issue of economic recovery in monotowns is also actual for Kazakhstan. The population of monotowns in the country often face a drop in living standards, lack of regular income, precarious employment and a low quality of life. Balkhash is one of the industrial cities of the Karaganda region and Kazakhstan [2]. The city was chosen due to its significant production, transport potential, resource base, etc.
Literature Review


The problems of managing the development of monotowns were studied by: T. V. Uskova, G. V. Kutergina, E. A. Rybkina, K. I. Trusova, T. A. Oruch. The works of the following authors of the Russian Federation are devoted to the issues of content, innovation policy, innovation activity and innovation activity in monotowns: A.I. Lytkin, Yu.G. Tyurin, N. Zamyatin, etc.

Problems and prospects of managing modern development and issues of state support for monotowns in Kazakhstan are devoted to the works of the following domestic scientists: AK Turniyazov, BS Myrzaliev, LT Taizhanov, NK Nurlanova, LL Bozhko, LG Leskova, AM Dauletova, DT, Aliaskarov, S. Adai, EV Varavin, RU Rakhmetova, etc.

Methodology

The largest number of monotowns in the republic is concentrated in the Karaganda region. There are 8 monotowns in the region, 44% of the region's population live here. Balkhash is one of the most important non-ferrous metallurgy in the region and a classic example of a monotown in Kazakhstan [3].

The negative side is the mono-directionality of the development of industrial potential and the strong dependence of the city's economy on large enterprises of the mining and metallurgical complex. In industrial production, 90% of the volume falls on the subdivisions of the Balkhash site of the backbone enterprise Kazakhmys Corporation LLP [4].

![Figure 1 - Dynamics of the volume of industrial production in Balkhash, for 2015 - 2019](image)

Source: based on official statistics

41
The analysis shows that compared to last year, in 2019 the volume of industrial production in Balkhash decreased by 45%. The decline in the production system in the city is due to the repair work at the Balkhash copper smelter [6]. And the share of a monotown in the total production of the region in 2019 was 13.1%.

The industry employs the largest share - 27.3% (11.4 thousand people) of the total economically active population of working age (41.8 thousand people). About five hundred young specialists work at the mining enterprises of the Balkhash production site. If we analyze the activities of the enterprises of the Balkhash site of Kazakhmys Corporation LLP, which annually invest sufficient funds in innovative development, improving the technology of using copper and technological cycles. The corporation has already worked out the projects «Smart quarry», «Automated processing plant». From the standpoint of sectoral affiliation, the city's economy is dominated by the processing (non-ferrous metallurgy, food industry) and mining industries. This factor makes it possible to create educational innovation bases aimed at servicing business data. It is also necessary to develop other sectors of the economy, capable of economic and innovative development of a monotown.

Table 1. Analysis of the innovative potential of Balkhash.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Current state</th>
<th>Opportunities and development prospects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry</td>
<td>Mining and manufacturing industries with a specialization of metallurgy</td>
<td>Transformational transformations enterprises based on innovation, development of other sectors of the economy</td>
</tr>
<tr>
<td>Diversification level</td>
<td>Mono-branch nature of production</td>
<td>Increasing diversification based on the development of other sectors of the economy</td>
</tr>
<tr>
<td>Target focus</td>
<td>Mainly export directions</td>
<td>High potential for the development of domestic markets, the development of innovative infrastructure and other industries</td>
</tr>
<tr>
<td>Innovation management system</td>
<td>There are separate programs and management approaches</td>
<td>A city development strategy is needed based on innovative legal regulation and a system of support for local and regional enterprises</td>
</tr>
</tbody>
</table>

Source: developed by author [7].

To determine the degree of mono-profile of a monotown, we recommend using the previously developed method.
\[ Im = 0.35ShCP + 0.35ShECf + 0.1P, \] (1) where, \( Im \) – mono-profile index; \( ShCP \) – the share of the city-forming enterprise in the citywide production volume, \%; \( ShECf \) – share of employed at the city-forming enterprise, \%; \( P \) – distance to the regional center (degree alternative employment center), km. The index will help to determine the degree of monoprofile territory: 0–20 - this is a very low index; 20–40 - low; 40–50 - below average; 50–80 - above average; 80-100 - high.

Table 2. The degree of monoprofility of the monoton of Balkhash [5].

<table>
<thead>
<tr>
<th>Monoprofile</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The share of the city-forming enterprise in the citywide production volume, %</td>
<td>90</td>
</tr>
<tr>
<td>Share of employed at the city-forming enterprise , %</td>
<td>27.</td>
</tr>
<tr>
<td>Distance to the regional center (degree alternative employment center), km.</td>
<td>380</td>
</tr>
<tr>
<td>Total</td>
<td>79.1</td>
</tr>
<tr>
<td>Source: based on official statistics</td>
<td></td>
</tr>
</tbody>
</table>

And so, the obtained result shows that the degree of mono-profile of Balkhash city is above average. In conditions of economic instability, a city-forming enterprise from a source of vital activity and development of a mobile phone is turning into a source of its existence. For example, as is known in 2007-2008, due to the economic crisis in the Karaganda region, metallurgy monocities suffered the most. One of them is the monoton of Balkhash, where delays in payments began, especially on housing loans. In this period, there is a decrease in the tariff for the use of products of export-oriented enterprises of Kazakhmys Corporation LLP. In addition, in the city for the period from 2007 to 2011, there was a trend in the industry towards the outflow of workers to other sectors of the economy. The underdevelopment of processing industries makes the monoton directly dependent on the emerging conjuncture of prices for metals [8].

The instability of the socio-economic development of a monoton necessitates the intensification of innovative activity within the monoton of the region under study, which will allow its sustainable functioning in an innovative economy.

**Case Studies**

One of the directions of activation of an innovative and investment monocity is the
development of its innovative infrastructure. An effective innovation process in a city is possible only if there is a developed innovation infrastructure in the region, the formation and development of which is influenced by numerous factors [3] (Figure 2).
Figure 2- Management model of the innovation infrastructure of the city of Balkhash
Source:developed by author [3,4].

The innovative infrastructure of the city of Balkhash is at the stage of formation and establishment of high-quality feedback between its elements.

An important direction in the development of innovative and investment monocities is the development of small and medium-sized businesses, assistance in the development of industrial and innovative small enterprises. The most favorable indicators of innovative development in monotowns are observed in cities that are focused on stimulating entrepreneurship [9].

Figure 3 - Dynamics of growth of small and medium-sized businesses in Balkhash for 2017-2019 [5].
Source:based on official statistics

According to the data in the table, in 2019 the number of operating SMEs decreased. The number of employed in SMEs in 2019 amounted to 9704 tenge with the number of the last year's level by 6%. The output of SME products in 2019 amounted to 37,271 million tenge with an increase of 10% compared to last year.

The next factor on which the innovative development of territories depends is the investment attractiveness of monotowns. The most important direction in the development of monotowns is to improve the quality of their investment policy. The development of the economy of any monoton is impossible without a competent investment policy. Currently, the main share of investments in the monoton of Balkhash is investments in a city-forming enterprise. While maintaining the existing dynamics of investment inflow only for the modernization of existing production, the existing structure of the city's economy is preserved.

Table 3. Main indicators of investments in Balkhash city for 2016-2019 [5].

<table>
<thead>
<tr>
<th>Years</th>
<th>Fixed capital investments, thousand tenge</th>
<th>Costs of technological (product and process) innovations, million tenge</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>41,102,573</td>
<td>90,9</td>
</tr>
</tbody>
</table>
As can be seen from Table 3, investments in fixed assets in a monotown have increased over the past 5 years, in 2019 they amounted to 41,102,573 thousand tenge with an increase to the level of 2016 by 69%, and the cost of technological innovation by 73%. The main source of financing for innovative activities in 2019 is the own funds of enterprises - 80% of all costs for product and process innovations. In 2019, investments aimed at research and development in the region are observed only in the city of Balkhash in the amount of 7256 thousand tenge.

<table>
<thead>
<tr>
<th>Year</th>
<th>Investments (thousand tenge)</th>
<th>Increase (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>12 886 356</td>
<td>343,5</td>
</tr>
<tr>
<td>2016/2019</td>
<td>68%</td>
<td>73%</td>
</tr>
</tbody>
</table>

Source: based on official statistics

Figure 4 shows a tendency towards an increase in the costs of technological innovation, but the costs of organizational and marketing innovations are not provided, which leads to the localization of sales markets for manufactured products.

The innovative development of monotowns depends on a number of factors that determine its basis: the creation and development of a regional innovation system; innovative activity of enterprises; the state of science and education; creating conditions for the integration of science, education and business; main investment indicators (investment attractiveness of monotowns) [10]. Considering the above, let us consider the innovative activity in Balkhash in recent years. (Figure 5).
Figure 5. Innovative activity of organizations in Balkhash for 2015-2019 [5].

Source: based on official statistics

As can be seen from Figure 5, innovative activity appeared up to 9% in 2019, while in 2016 it was 3.4%. In two years, there has been an increase in the latest innovation enterprises. Unfortunately, there are no enterprises and organizations performing research and development in the city.

The decline in innovation activity in the city can be explained by the use of innovative products in the metallurgical industry. If we talk about the source of financing for innovative activities at enterprises, then we can say the following points: financing of innovative activities from their own funds limits the use of companies' capabilities; if possible, companies do not have enough for large-scale investments and restructuring of the necessary financial investments [11].

Within the framework of the state program for supporting business development "Business Road Map-2025", as a priority, support for entrepreneurship in monotowns, with a focus on diversified economic development (processing industry, tourism, folk crafts, deep processing of agricultural products) [12].

The main direction of innovative development of monotowns is to reduce dependence on the city-forming enterprise. Development program Balkhash city for 2021-2025 is aimed at ensuring the stabilization of the population, improving the quality of life of the population, creating conditions for attracting investments, doing business and entrepreneurial activity. In the third direction of this program, "High-quality social sphere and social entrepreneurship", the Balkhash resort zone was identified as a point of tourism growth, which entered the TOP - 10 priority tourist areas, the primary task is to improve the infrastructure for further development, improve the quality of service [13].

To strengthen the competitive position of the sectors of the economy of the city of Balkhash, we propose to hold events in the following areas:

1) An innovative approach - diversifying the city's economy. Diversification with a certain overcoming of mono-profile assumes [14]:

- an increase in the number of economic activities other than the core business, for example, food production, food production and production of non-metallic building
materials, production and distribution of electricity, gas and water;

- restructuring of the city-forming enterprise, expansion of capacities, expansion of the range and range of goods produced by the city's enterprises;

- an increase in small and medium-sized businesses in the total volume of production;

- active introduction of innovative technologies in the production and service sector;

- to create innovative modernization of the city-forming enterprise and the formation of a new specialization by local startups;

- attracting investors to the economy in monotowns (not only for the modernization of existing production).

2) The creation of a tourist and recreational zone (development of the service sector) is possible only if there is a tourist place in the monotown [15]. It can be concluded that Balkhash in comparison with other cities of the region is attractive due to a natural reservoir - Lake Balkhash, favorable weather conditions in the summer season.

The advantages of the city for the development of tourism are the diversity of landscapes, the richness of flora and fauna, architectural and historical monuments as well as the geographical location of the region. It is planned to develop business, sports, beach tourism and increase the critical mass.

In general, when transforming the economy of monotowns, it is necessary to use the reserves and advantages (tourist and recreational, transport and logistics potential, etc.). The tourism industry today is becoming one of the most promising sectors of the economy.

Conclusion

Thus, the city of Balkhash is a monotown, functioning mainly by the resulting indicators of production and economic activity of the town-forming enterprise Kazakhmys Corporation LLP, Balkhashstvetmed Production Association. At the same time, the existing dependence of all spheres of the economy on the well-being of the city-forming enterprise, which sets the task of enhancing the diversification of the economy and creating conditions for increasing the activity of all business entities, aimed at developing the infrastructure of industrial markets. Also, the creation of a tourist and recreational zone is a priority for the city, since the monotown has a great tourist potential.

Despite the large amount of efforts to develop the innovation component in the city of Balkhash, at the moment it is not enough if it has the potential in the field of innovation and industry that the city has.

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