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INNOVATION RISKS IN THE PROCESS OF THE REGION'S COMPETITIVENESS MANAGEMENT

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Abstract: This paper is devoted to the analysis of content, systematization and consideration of possible innovative risks arising in the management of the region competitiveness. Methods of abstract-logical approach, comparative analysis, M. Porter's micro-economic approach to competitiveness at the macrolevel, and the method of structural-block simulation were used. Two groups of reasons – internal and external, contributing to the emergence of innovation risks – were identified. It is shown that the former are connected with the contradictory essence of the innovations themselves, which simultaneously contain both positive and negative potential, and the inability to predict in advance which of the two corresponding potential possibilities – creative or destructive – is put into practice. The second group includes some external factors and specific economic conditions in the region, for example, shortcomings in the organization and functioning of the regional innovation system. The group of risks that have the greatest impact on the process of formation of new innovative competitive advantages in the region is considered. The conducted study of risks allowed to formulate a model of regional competitiveness management on an innovative basis, taking into account the possibility of risks at each stage of competitiveness development.The model can be used in practice after introducing innovations of various types into the economic activity of the region and forming a system of sustainable competitive advantages of the region.

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Introduction

A significant role in the management of the competitiveness of the regional economy belongs to the implementation of policies aimed, firstly, at enhancing the innovation activity of all its economic entities, and secondly, at implementing large, region-wide innovative projects that could ensure the sustainability of the region's economic development as a whole [1]. However, the activation of innovation activity is always carried out under varying degree of uncertainty and risk associated with the possibility of obtaining a negative result.

Therefore, the problem of studying innovation risks that arise in the process of the region competitiveness management is topical. Objective of this paper, respectively, is to study the content of possible innovation risks and develop an appropriate management model.

The mentioned problem is most significant for those regions where innovations are an integral part of their economic development. The Republic of Tatarstan (RT) fully belongs to them, and is used as an example for this study. The republic has one of the most significant ratings of competitiveness among the entities of the Russian Federation (RF). It exports its products to almost all Russian regions and to 120 countries, including the United States and the European Union.

There are currently several priority areas of investment in the Republic of Tatarstan. Among them, firstly, is the extraction and processing of oil, which is an important basis for the development of a number of other industries. At the same time, in connection with the natural depletion of oil deposits, innovative technologies are widely used in the area to significantly increase their return. But the main strategic direction of ensuring the region's competitiveness in the future is due to the development of deposits of natural bitumen (super viscous oils), which deposits in the country are the largest in the Russian Federation (up to 7 billion tons). The development of these deposits alone is important innovation, and in terms of value is comparable to the basic innovations identified by H.

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Mensch in his days [2]. At the same time, in the process of this development, numerous new risks, for example, technological and ecological, arise or the previously existing risks get stronger.

The second most important sphere is the production of chemicals and petrochemicals (synthetic resins, plastics, polyethylene, synthetic rubbers, automobile tires, etc.). However, it poses very high, tending to increase risks of dependence of the country and the region on import, especially after Russia's accession to the WTO [3].

The third sphere is the machine building development (world-famous KAMAZ heavy trucks, MI-8/17 helicopters, etc.). Here, in particular, are very significant risks of violation of deadlines and poor performance of planned tasks, which require their minimization [4].

A corresponding innovative infrastructure is being formed and developing at a rapid pace in the republic, including, in particular, the largest Kama Innovative Cluster in the Russian Federation; nine technoparks and eight business incubators; the country's first nanotechnology center; special economic zones "Alabuga" and "Innopolis", where tens of thousands of IT specialists are employed and the first federal IT-university in Russia has been established.

1. Methods

The method of abstract-logical approach was used to study the nature of innovation risks, the causes and conditions of their emergence in the process of managing the region's competitiveness, since no direct experiment is possible to be conducted here; therefore, it was replaced by the process of abstraction.

The method of comparative analysis, which includes analogy, analysis and synthesis, segmentation, etc., as basic methods of research, was used to compare both different types of innovation risks and the same types but at different times and in different regions and countries. For example, the technological and economic risks associated with the extraction and processing of bitumen oils in the Republic of Tatarstan and the Canadian province – Alberta – were compared.

M. Porter's microeconomic approach to competitiveness at the macro level, based on his assertion that the market competitors are not the countries but companies was used as a

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methodological basis for research of not only region-wide innovative risks, but also risks of certain significant companies and enterprises of the region.

In accordance with the method of structural-block simulation, the whole process of managing the region's competitiveness was divided into 12 separate independent interrelated functional units, including blocks of innovative risks, anti- and pseudo-innovations, and leveling of innovation risks, each of which has its own input and output, and ultimately all converge to a single resulting goal.

2. Results

Today, in accordance with M. Porter's methodology, it is customary in the development of competitiveness to single out four independent but interrelated stages: factors of production; investments; innovation; and wealth. But a special role, from the point of view of the topic of this work, belongs to the third stage, when competitive advantages are actively formed by the economic entities themselves. For this period, it is typical to use investment strategies in all spheres of economy and management [6], innovations, creation of incentives for the use of new technology.

In parallel with these processes, the probability of occurrence and implementation of new risks increases. It is usually associated either with the action of external factors or with anti-innovation. However, this paper expresses another point of view, according to which uncertainties and risks in the process of innovation are determined by the internally contradictory essence of any innovations that always combine traditions and innovations, old and new, progressive and reactionary. In this case, any innovation, contrary to expectations, can be destructive, and can turn into its complete opposite, an anti-innovation or pseudo-innovation, which incurs losses instead of success [7; 8]. At the same time, external factors and specific economic conditions in the region exert a considerable influence on the possibility of creating innovative risks and obtaining negative results from innovations, along with the inherent contradictory nature of innovations, among which it is particularly worthwhile to distinguish several of the following:

- significant activation and intensification of investment and

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innovation activities, which expansion with all other things being equal inevitably leads to an increase in the likelihood of these risks;

- a rather common instability of the regional financial market that causes the risks of falling asset values, and, in combination with macroeconomic instability in the country in general - the risks of long-term investments;

- shortcomings in the organization and functioning of the regional innovation system, generating the risks of mistakes in assessing the possible effectiveness of innovative projects, in the duration of the development of innovations.

The variety of reasons for the emergence of innovative risks in managing the competitiveness of the region determines, in turn, a significant variety of their types. The scientific literature provides a large number of their classifications according to various criteria. For example, based on the degree of completeness of innovative projects, there are very high, high, average, relatively low, and low risks [9].

Classifying risks by types of innovation - technical, technological, organizational, economic, managerial - is possible and even sometimes necessary [10; 11], because different types of these innovations have different impacts on the efficiency and competitiveness of economic entities.

Interesting in terms of the objective of this study is the classification of risks by the stages of the innovation creation and promotion. Risks arise already at the initial stage - when conducting exploratory studies in the region, meaning, for example, the probability of obtaining a negative result. But the maximum number falls on the stage of performing research and development work, where, in particular, risks of a possible refusal to certify the results are added [9].

Risks may also arise at the last stage - product marketing, where it can be either partially or completely rejected, for example, due to design errors or the availability of analogs.

However, risks that directly influence the formation of new competitive (innovative) advantages in the region are of the greatest importance in the competitiveness management. Among them are:

- the risk of improper choice of an innovative project or failure to use its results. The main reason here is a

reassessment of the degree of significance of the project or the capacity of the regional research potential, as well as an inadequate assessment of the role of long-term and short-term economic interests of the region. This risk often reduces the possible value of the emerging competitive advantages;

- the risk of failure to provide an innovative project with resources. In this case, the causes of risk may be either marketing miscalculations, or unaccounted technical or organizational features of the project;

- the risk of failure to achieve the project results, which may be associated with a poor market segmentation or errors in the calculation of money demand in the regional market. This risk may necessitate the introduction of serious adjustments to innovation development plans aimed at increasing competitiveness;

- the risk of failure to determine the implementation strategy of a commercialized innovation, for example, due to insufficient organization of the system of its promotion to consumers;

- the risks of breach and non-fulfillment of contracts, for example, the risk of the partner refusing from his obligations under previously reached agreements. As an example, an unexpected and unreasonable refusal in 2010 of Shell, a company with the most extensive experience in heavy oil production, from cooperation with OJSC Tatneft in the development of bitumen deposits in the Republic of Tatarstan, despite the fact that both sides signed a preliminary agreement and announced the coordination of all issues related to the creation of a joint venture between OJSC Tatneft and Shell. The production of bitumen oil within the framework of this agreement was to reach 1.5 million tons per year by 2017, but these plans had to be substantially adjusted to a level of only 200,000 tons [12];

- the risk of failure to fulfill mutual contractual obligations in a timely manner, which could lead to serious losses due to disruption in the delivery schedule, slowdown in progress, etc.;

- the risk of damage to third parties caused by a violation of the environment, which can compromise the innovative project in the eyes of others and reduce interest to it, as it happened in the 1980s with a highly innovative project for the construction of nuclear power plants near Kamskaya Polyana in

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the Republic of Tatarstan;

- the risk of costs not foreseen by the innovative project and a corresponding reduction in revenues;

- the risk of unforeseen increase in competition during the implementation of an important innovative project in the region, such as the leakage of confidential information or industrial espionage. The reasons can also be due to the use of methods of unfair competition, as well as the appearance of new sellers in the market;

- the risk of insufficient provision of an innovative project with highly qualified personnel;

- the risk of possible protests of patents protecting fundamental technical, technological or other decisions necessary for the implementation of a regional innovation project.

3. Discussion

Considering all the foregoing, it is possible to propose the following structural model of regional competitiveness management (Fig. 1).

As mentioned above, it consists of 12 function blocks. The first three of them correspond to a set of necessary preparatory works for the processes of introducing innovation in the region and the formation of innovative competitive advantages, while blocks 4, 5 and 6 are the processes themselves. The model provides for the possibility of the emergence of innovation risks, caused both by the contradictory nature of the innovations themselves (block 8) and by external causes (block 8a), as well as the possibility of their leveling (block 7). The model, in addition, contains feedback (block 9), which allows minimizing risks and ensures the growth of the region's competitiveness (blocks 9, 10, 11, 12).

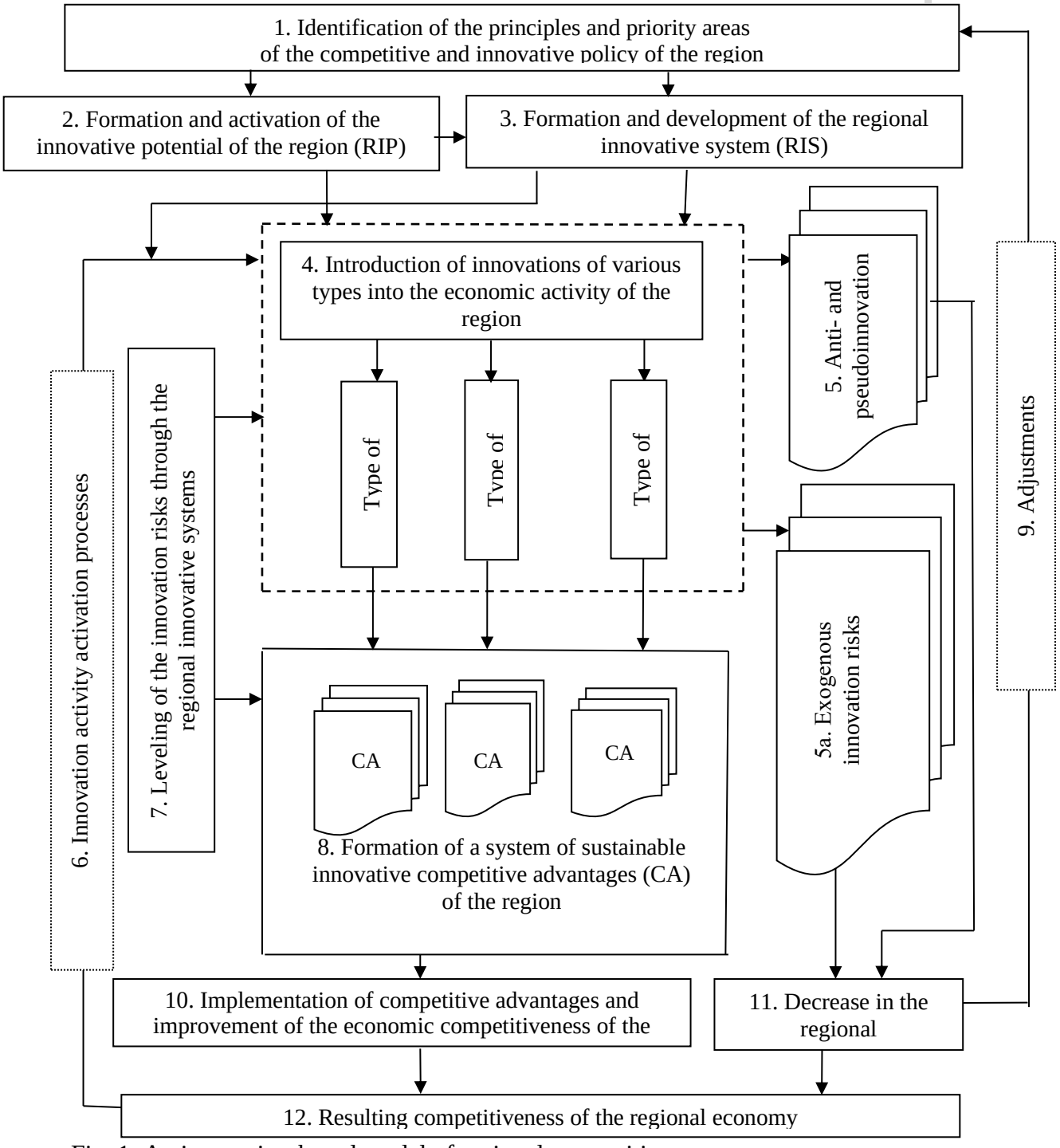

Fig. 1. An innovation-based model of regional competitiveness management

4. Conclusion

The conducted study allows us to make the following conclusion:

1. Activation of innovative activity in the region is always

accompanied by an increase in the degree of uncertainty and risk, which is associated with an increased likelihood of obtaining a negative result from this activity. The latter is determined not only by the general state and conditions of functioning of the economic complex of the region, but also by the contradictory essence of the innovations themselves, which simultaneously contain the potential of both positive and negative changes. This presents special, yet insufficiently considered requirements for the structure and quality of the functioning of regional innovation systems, consisting in the ability to foresee and assess the likelihood of negative aspects of innovation and to resist their possible implementation.

2. The impact of innovation on the regional competitiveness occurs mainly through the formation of new innovative competitive advantages limited in their potential impact only by a parallel increase in the number and variety of innovative risks, so their identification and systematization is an important mandatory step in improving the management of the region's economic system and ensuring its sustainable development.

3. Implementation of high-tech innovative projects in the region that are particularly important for ensuring its long-term competitiveness, but at the same time are high-risk, requires large investments and, as a rule, is unprofitable, at least at the initial stages of implementation. Therefore, such implementation is impossible only through the efforts of private investors and requires serious state support.

4. The difference in the content of innovation risks at the level of enterprises and at the regional level, consisting in the fact that for the former it means the possibility of direct losses instead of income from invested funds, and for the second - failure to achieve the planned growth rates and the level of the gross regional product, requires taking this circumstance into account and eliminating disagreements within the framework of a special innovative and strategic approach to managing the competitiveness of the region.

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