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Integration of Innovative and Strategic Management in the Field of Regional Development

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Abstract: The research aims to find ways to develop the economic sector of the subject in the Russian Federation for the long term, including innovative development, particularly the development of the technology sector and entrepreneurship as the main conductors of mass innovation. The authors apply a monographic method and the methods of economic analysis. The research object is the subject of the Russian Federation (Kirov Region). The subject of the Russian Federation needs a targeted, innovative way of improvement. It will increase the innovative activity of the considered region. This requires the use of the following tools and mechanisms: the development of legislation in the field of innovation, the creation of a new educational cluster and the development of its strategy, and the creation of innovation centers based on universities. The assessment of long-term and other legislative documents and statistics allowed the authors to develop a mechanism of innovation regulation, including tools of state

regulation of innovation development, which will increase productivity and ensure the production of fundamentally new goods and services.

Keywords: Strategic management, Innovative development, Regional development, Organizational and economic mechanism

JEL codes: O31, O32, O38

Foreign economists, such as J. Schumpeter (2008), G. Mensch (1979), W. Rostow (1975), C. Perez-Perez (1985), P. F. Drucker (2007), S. Kuznets, C. Freeman (Freeman et al., 1982; Freeman & Soete, 1997), S. Metcalf, R. Nelson (Nelson & Winter, 2002), B. Lundvall, and E. Lurie, and a Russian researcher N. Kondratiev (Kondratiev & Oparin, 1928) consider the issues of functioning innovation systems and development of innovations that stimulate economic growth.

The strategy is a tool that ensures the coordination of the entire system of strategic planning documents developed and implemented in the region. The strategy does not cancel or replace other types of territorial development plans. Federal law "On strategic planning in the Russian Federation" (June 28, 2014 No. 172-FZ) (Russian Federation, 2014) and the Law of the Kirov Region "On strategic planning in the Kirov Region" (May 12, 2015 No. 526-ZO) (Legislative Assembly of the Kirov Region, 2015) are the long-term planning documents of the subject of the Russian Federation that determine the directions of social and economic development of the Kirov Region and the main mechanisms and tools of management impact on the region.

Method and Materials

The matrix reflects the territory's demographic, political, socio-economic, scientific, and other features (Government of the Kirov Region, 2021).

1) Strengths:

1. Availability of material and personnel base for further improvements in science and technology;
2. Study of biotechnology and blood transfusion for the development of individual innovative areas;
3. The presence of scientific, research, and production organizations;
4. Interaction of enterprises located in the Kirov Region with educational organizations.

2) Weaknesses:

1. Lack of scientific ties with foreign countries in the field of innovative areas;
2. Lack of clearly defined priorities for the development of innovative activity in the Kirov Region;
3. Insufficient funds allocated by the state and organizations for technology;
4. A small number of organizations that can use innovations;

5. Low level of information provision of enterprises and organizations about innovative forms and methods of work;
6. The use of inefficient mechanisms for involving domestic technological and intellectual resources.

3) Possibilities:

1. Attracting additional numbers of research organizations;
2. Development of university science and its integration with the industrial potential of the Kirov Region;
3. Formation of the personnel base and personnel reserve for science and industry of the best world standards of education and theoretical and applied scientific fields;
4. Marketing and diversification of scientific developments;
5. Formation of a program for the accelerated implementation;
6. Creation of clusters in the field of education;
7. Development of digital technologies and industries.

4) Threats:

1. Scientific and technological lag of the enterprises in the Kirov Region;
2. Separation of scientific research from business and directions of the development of the Kirov Region;
3. Involving research potential in cooperation chains outside the Kirov Region and reorienting the research activities of institutions located in the Kirov Region to the scientific needs of other subjects of Russia.

Key data on innovation in the Kirov Region can be found on the website of the Territorial body of the Federal State Statistics Service for the Kirov Region (Table 1 and Table 2).

Table 1

Innovation development indicators of the Kirov Region in 2015–2021

Indicators	2015	2016	2017	2018	2019	2020	2021	Increase rate, %
Number of organizations implementing innovations, units	47	52	46	56	109	117	98	**109**
Number of used advanced productions and technologies, units	2337	2429	2449	2735	2835	2758	2730	**17**
Number of organizations providing postgraduate training, units	8	7	7	7	7	7	7	**-13**
Number of personnel involved in development, people	1729	1672	1776	1744	1493	1495	1589	**-8**
Number of organizations	27	23	25	24	25	25	25	**-7**

performing research, units								

Source: Compiled by the authors based on (Territorial body of the Federal State Statistics Service for the Kirov Region, 2022)

Table 2

Innovation development indicators of the Kirov region in 2015–2021

Indicators	2015	2016	2017	2018	2019	2020	2021	Increase rate, %
Internal costs for research and development, million rubles	1422.7	1452.7	2157.5	2119.2	3283.5	4267.7	3120.2	**119**
Innovation costs, million rubles	3543.1	3168.8	6978.1	4990.2	6425.3	6914	41175.8	**1062**
The volume of innovative goods, works, and services, million	8952.4	13883.8	13526.9	22501.2	29363.7	27168.4	22640	**153**

Source: Compiled by the authors based on (Territorial body of the Federal State Statistics Service for the Kirov Region, 2022)

According to the analysis of the innovative development of the Kirov Region, for the studied period, the increase in internal research costs amounted to 119% in 2021 compared to 2015. This is because an increase in R&D expenditure can help change the economics of innovation.

The number of organizations that provide postgraduate training fell by 13% compared to 2015. The number of graduate students fell by 51% compared to 2015 because postgraduate studies became less popular by 2021, and people did not want to continue their scientific work. Therefore, there was no reason to study in postgraduate studies if a person had a master's degree.

The number of organizations implementing innovations in 2021 increased to 109% because the new development strategy of the Kirov Region came into effect. In terms of innovation expenditures, we see an increase of 1062%, also due to adopting a new strategic plan and providing an appropriate budget. Innovation is developing, and new technologies appear in production and science. Therefore, new popular materials, products, and services enter the market. The volume of innovative goods increased by 153% in 2021.

In terms of the number of advanced industries and technologies, there was an increase of 17% in 2021. The number of personnel involved in R&D decreased by 8%. This decrease may be because scientists or R&D personnel were not motivated to work in the region. Improving the legislative base and making the working conditions more comfortable are necessary. In 2021, the number of R&D organizations decreased by 7% compared to 2015. The Kirov Region does not have enough funds for the mass popularization of scientific research; the material and technical base is insufficient.

To form a unified innovation and technology sector, the following innovation clusters are being created and developed in the Kirov Region:

1. Biotechnology cluster of the Kirov Region (new types of products bioenergy). Biotechnology and biomass production are being developed in the region.
2. Biopharmaceutical cluster "Vyatka-Biopolis" (biopharmaceutics). The region creates an association of industrial, scientific, and educational organizations for the development, production, and sale of medicines, medical equipment, and medical devices in accordance with international standards, combining existing industries and attracting new investors.
3. Tourist and recreational cluster (production of tourist goods and souvenir products). This cluster includes the opening of new tourist and recreational sites in the Kirov Region, their development and promotion among other territories, the exchange of tourists, financing of tourist and recreational development, and the development of local brands.
4. Information technology cluster (web development, automation of process control systems, business programming, entertainment industry, and information technology infrastructure). This cluster aims to create a progressive environment for implementing innovative projects, developing an innovative economy in the region, ensuring the competitiveness of IT products in the region, strengthening of ties and their deepening between the participants of this cluster, ensuring innovative developments in the field of IT, promoting the entry of companies into the markets of the Russian Federation and other countries, and creating new jobs at the enterprises of the Kirov Region.
5. Light industry cluster (association of market participants in tailoring hats, shoes, clothes, bags, etc.). This cluster aims to create conditions for cluster participants and their dynamic growth and ensure the growth of production and sales of light industry products.
6. Food industry cluster (production of bread and flour confectionery, cakes, pastries, drinks, pasta, and other food products; processing and preservation of fruits and vegetables; restaurant activities and food delivery services; retail and wholesale trade in food products). This cluster aims to attract additional budget funds and investments to support and develop the food industry. Another goal is to organize cooperation and effective interaction between food industry enterprises of the region and the scientific sector.
7. Cluster in the agro-industrial complex (food and agriculture). This cluster aims to create a strong interconnection between all cluster participants, namely agricultural producers and scientific, educational, infrastructure, and service organizations in the agricultural and food markets.

State support measures include the following:

- Provision of marketing;

- Assistance to cluster participants in entering Russian and international exhibitions and fairs;
- Promotion of information about the products of cluster participants;
- Training cluster participants in various innovations;
- Assistance in certification, declaration, and product certification;
- Holding webinars and round tables on industry topics;
- Scoring services;
- Positioning of cluster members in the markets of the region and the country;
- Organization of various consultations and training workshops for cluster participants;
- Organization of knowledge and skills exchange among cluster participants, including foreign experience;
- Assistance in choosing the target audience and conducting marketing research for cluster members;
- Introduction of new goods and services created in the cluster to the market;
- Implementation of various programs and projects of cluster participants;
- Allocation of support from the state, including from budgets of all levels;
- Assistance in assessing the activities of participants and performance indicators of clusters (Center "My Business" in the Kirov Region, n.d.).

Results

Based on the Law of the Kirov Region "On the development of innovative activity in the Kirov Region" (May 24, 2008 No. 243-ZO) (Legislative Assembly of the Kirov Region, 2008), an economic and organizational mechanism for regulating innovative activity was formed, which is a certain procedure for the application of tools and measures by the public authorities of a constituent entity of the Russian Federation within the established powers, realized through the formation of conditions and incentives for innovators (Snigireva et al., 2017, 2019) (Figure 1).

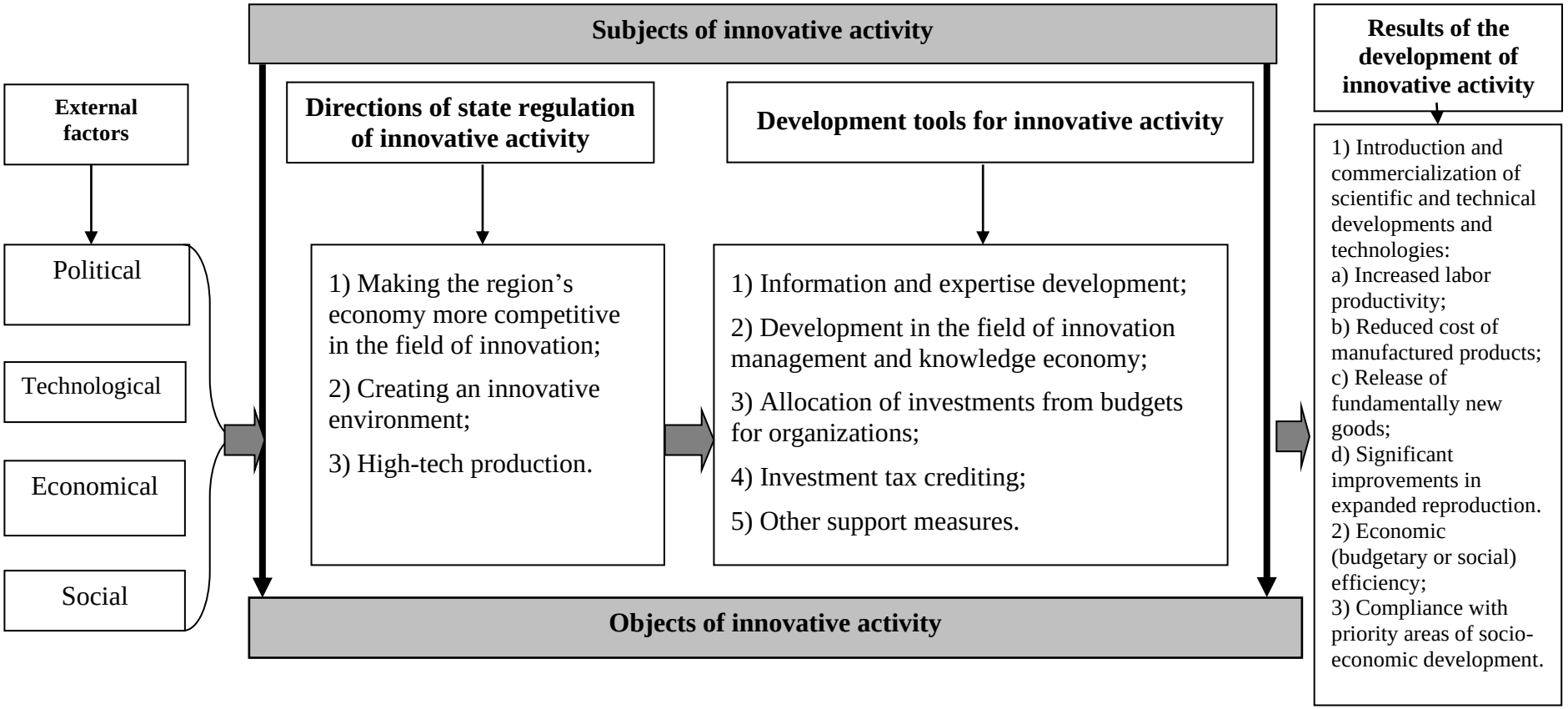

Figure 1

The economic and organizational mechanism regulation of innovative activities

Source: Compiled by the author based on (Legislative Assembly of the Kirov Region, 2008)

The construction of the mechanism is based on a system approach, which includes the following elements: login, transformation within the system, logout, and feedback.

The mechanism includes the following:

1) Subjects and objects of innovative activity;
2) Directions of state regulation.

The objectives are as follows:

1) Attraction of investments through innovations in the region;
2) Formation of the innovative environment;
3) Creation of high-tech production;
4) Other objectives.

Tools for improvement include the following:

1) Information and expertise development;
2) Development in the field of innovation management and knowledge economy;
3) Allocation of investments from budgets for organizations;
4) Investment tax crediting;
5) Other support measures.

The results are as follows:

1) Reduction of the price of the region's production;
2) production of goods and services previously unavailable in the Kirov Region;
3) expanded reproduction;
4) promotion of new goods and services in the regional market and markets in other regions;
5) obtaining greater results from the realization of innovative activity;
6) economic (budgetary or social) efficiency;

compliance with priority areas of socio-economic development, etc.

External factors include political, technological, economic, and social factors.

The application of the mechanism will improve the living conditions of the local population.

The way of life of the local population is one of the key indicators of the authorities' performance in a particular territory.

Discussion

In general, if the Kirov Region pursues a targeted innovative development scenario, it will lead to its stronger development.

It is recommended to use the following tools and mechanisms:

- mechanism of innovation centers so that they interact with leading Russian and foreign organizations and state corporations to involve scientists from the Kirov Region in international and Russian scientific projects;
- Reviewing the framework of laws on innovation, technology, and science development;
- Integration of the HR component in the Kirov Region and the development of infrastructure facilities that would form a synergetic effect for the new cluster in the region;
- Complementing technical innovations with qualitative social innovations of international level;
- Creation of a comprehensive program for introducing innovations in the territory.

Conclusion

The long-term development of the Kirov Region aims to increase the region's economic potential based on innovations. The tasks to achieve this goal are as follows:

1) To form a unified and interconnected productive sector of the economy, innovation, and technology;
2) To provide the most favorable regime for implementing innovations in production.

Thus, this research examines the issues of combining strategic and innovative development in a specific territory within the country.

References

[1] Center "My business" in the Kirov Region. (n.d.). *Strategies for the development of clusters in the Kirov region*. Retrieved from https://мойбизнес-43.рф/mery-podderzhki/centr-klasternogo-razvitiya/klastery (Accessed 25 May 2023)

[2] Government of the Kirov Region. (2021). *Strategy for socio-economic development of the Kirov region until 2035* (Approved by Order No. 76 of April 28, 2021). Kirov, Russia. Retrieved from https://www.kirovreg.ru/strategy/ (Accessed 25 May 2023)

[3] Legislative Assembly of the Kirov Region. (2008). *Law of the Kirov Region "On the development of innovative activity in the Kirov Region"* (May 24, 2008 No. 243-ZO, as amended on June 18, 2014 No. 414-ZO). Kirov, Russia. Retrieved from https://base.garant.ru/17140352/ (Accessed 25 May 2023)

[4] Legislative Assembly of the Kirov Region. (2015). *Law of the Kirov Region "On strategic planning in the Kirov Region"* (May 12, 2015 No. 526-ZO). Kirov, Russia. Retrieved from https://base.garant.ru/17115795/ (Accessed 25 May 2023)

[5] Russian Federation. (2014). *Federal law "On strategic planning in the Russian Federation"* (June 28, 2014 No. 172-FZ). Moscow, Russia. Retrieved from https://www.consultant.ru/document/cons_doc_LAW_164841/ (Accessed 25 May 2023)

[6] Drucker, P. F. (2007). *Innovation and entrepreneurship* (K. S. Golovinsky, Transl. from English). Moscow, Russia: Williams. (Original work published 1985)

[7] Freeman, C., & Soete, L. (1997). *The economics of industrial innovation* (3d ed.). Cambridge: MA: MIT Press.

[8] Freeman, C., Clark, J., & Soete, L. (1982). *Unemployment and technical innovation: A study of long waves and economic development*. London, UK: Frances Pinter.

[9] Kondratiev, N. D., & Oparin, D. I. (1928). *Large conjuncture cycles.* Moscow, USSR: RANION.

[10] Mensch, G. (1979). *Stalemate in technology: Innovations overcome the depression*. Cambridge: MA: Ballinger Pub. Co.

[11] Nelson, R. R., & Winter, S. G. (2002). *An evolutionary theory of economic change* (M. Ya. Kazhdan & V. Makarov, Transl. from English). Moscow, Russia: Delo. (Original work published (Original work published 1982)

[12] Perez-Perez, C. (1985). Toward a comprehensive theory of long waves. In G. Bianchi, G. Bruckmann, J. Delbeke, & T. Vasko (Eds.), *Long waves, depression, and innovation: Implications for national and regional economic policy* (pp. 103-108). Laxenburg, Austria. Retrieved from https://pure.iiasa.ac.at/id/eprint/2739/1/CP-85-009.pdf (Accessed 25 May 2023)

[13] Rostow, W. (1975). W. Kondratieff, Schumpeter, and Kuznets: Trend periods revisited. *The Journal of Economic History*, *35*(4), 719-753. Retrieved from http://www.jstor.org/stable/2119182 (Accessed 25 May 2023)

[14] Schumpeter, J. A. (2008). *Theory of economic development. Capitalism, socialism, and democracy* (V. S. Avtonomova, M. S. Lyubsky, & A. Yu. Chepurenko, Transl. from German). Moscow, Russia: Eksmo. (Original work published 1911)

[15] Snigireva, G. D., Kazakova, M. A., Mironova, O. A., Sennikova, I. L., Palkina, M. V., & Bespyatyh, V. I. (2017). A conceptual approach to the assessment of regional innovation environment factors based on the index method. *Espacios*, *38*(54), 30. Retrieved from https://www.revistaespacios.com/a17v38n54/17385430.html (Accessed 1 May 2023)

[16] Snigireva, G., Sennikova, I., Karanina, E., Bakhtimov, A., & Domracheva, L. (2019). Analysis of regional innovation environment factors within the institutional approach. *E3S Web of Conferences*, *91*, 08063. DOI: 10.1051/e3sconf/20199108063

[17] Territorial body of the Federal State Statistics Service for the Kirov Region. (2022). *Science and innovation.* Retrieved from http://statkirov.ru/dg/dg50/dbinet.cgi#1/ (Accessed 1 May 2023)