Business Trends of Entrepreneurial Behavior in Ensuring Sustainable Development of the Region

Olga Ruban1,*, Andrey Voloshin1, Julia Suslova1, Svetlana Demchenko1, Denis Guts1, and Zuzana Šimková2

1 Siberian Federal University, 660075 Lida Prushinskaya St. 2, Krasnoyarsk, Russia
2 Technical University in Kosice, Institute of Earth Resources, Faculty of Mining, Ecology, Process Control and Geotechnologies, Park Komenského 19, 0420 00 Košice, Slovakia

Abstract. The main criterion for the sustainable development of social-and-economic systems is the efficiency of functioning, taking into account the current environmental conditions. At the same time, favorable opportunities for carrying out activities, performing a certain role, confirming the significance in the future period are created. The analysis of the organization of enterprises’ innovation activities made it possible to establish the main trends in entrepreneurial behavior, to identify the features of innovation implementation, taking into account modern business conditions. As a result of the study, the authors found out the reasons for the low innovation activity at the enterprises in the Krasnoyarsk Territory, identified restrictions on the introduction of new technologies, the promotion of innovative products, the influence of factors on changes in the structure of financing innovations. Based on the opinions of specialists, the article highlights favorable opportunities for sustainable development of the region in the course of technological transformation, its resource provision, taking into account the increase in the innovation potential of organizations with the active assistance of the state to the innovation infrastructure development. The ongoing innovation processes determine environmentally oriented social changes leading to the development of society, contribute to increasing the innovations’ receptivity, the life quality and become the main tasks of sustainable development of the regional economy.

1 Introduction

Currently, a digital infrastructure is being formed that will promote flexibility, predetermine the work of ecosystems, and support the readiness of enterprise leaders to innovations in transforming markets.

The innovation environment is determined to look for needs, and then a quick response to consumer wishes follows by reinforcing monitoring processes with commercial components.

* Corresponding author: farafa@mail.ru
© The Authors, published by EDP Sciences. This is an open access article distributed under the terms of the Creative Commons Attribution License 4.0 (http://creativecommons.org/licenses/by/4.0/).
External factors dictate the conditions for organizing activities; under their influence a methodology is developed, adhering to which the innovativeness and profitability of the enterprise are ensured. At the same time, the flexibility of business entities is manifested in the reduction of the innovative process, the timing of launching new products to the market, that is, the period from the innovative idea to the success of its application, in compliance with the planned indicators and the quality of the innovative product.

For successful innovation, an important condition is the willingness to innovate and the availability of resources. The ability of staff, which is presented in a team of professionals who know how to effectively use the innovation potential with the necessary technical support, who are able to explore the possibility of compatibility of various components that ensure the innovation process.

The real environment determines the economic efficiency of enterprises’ commercial activities. The degree of reflection can be traced in the need to replace, update software and hardware, which become the basis for the implementation of technological innovations. This circumstance accelerates the automation of business processes, contributes to the digital transformation of the economy. Further development of organizations is based on reducing the influence of the human factor and should reduce adaptation errors in the field of commodity circulation.

To ensure innovative activities, organizations conduct research and development; spend a lot of money for these purposes, in order to create favorable opportunities for strengthening the competitive position of the existing business in the future.

The environment creates the characteristics of the innovation process; they determine its goals, focus, intensity, duration, distribution in the market space. Dynamic changes in the partner environment lead to the modernization of interactions, during this period a favorable environment for the promotion of innovative solutions is emerging.

2 Materials and Methods

The study is based on a specific area of economic relations connected with the organization of companies’ innovative activities in the region, which have introduced and use modern scientific and technological achievements in the environment of partnership.

The presented materials in economic journals made it possible to identify the features of the implementation of innovative solutions by organizations, the automation and digitalization of processes. The information presented in the collections containing innovation indicators is of great importance for identifying trends in entrepreneurial behavior. These indicators confirm the beginning of innovative transformations, an increase in the involvement of people, manifested in innovative activity. On the basis of the indicated effective factors, the objective necessity of ensuring competitiveness and long-term sustainable development of social-and-economic systems has been determined.

Taking into account the information published on the official websites of statistics, we analyzed the structure of costs, sources of financing for innovations.

According to the data of the Krasnoyarsk statistical yearbook, there are positive changes in the volume of sales of goods, works, services that meet the criterion of product innovation, depending on the types of economic activity in the field of innovation. The basic values were used to conduct a comparative analysis of activity level and intensity of innovation activities of Russian and regional organizations.

The publications of scientists in the field of innovation development on the territory of the country helped to determine the system of assessment indicators of innovations, to highlight the main problem areas and limitations of the development of new technologies, and, accordingly, favorable conditions for the technological transformation of organizations.
3 Results

The changing business model of entrepreneurship is aimed at adapting to an innovative environment as soon as possible at the lowest cost. The reaction of the company's administration, based on monitoring the economic situation, contributes to the adjustment of activities and a real response to changes in the parameters of innovation. Change management involves focusing efforts on reducing the time of the innovation process, supporting initiative ideas by the project team, increasing the involvement of personnel in the company's innovative activities.

The rationale for making a decision to implement an innovation is efficiency, improved results. Innovations contribute to the development and increase of the competitiveness of goods and enterprises. Competitiveness integrates technological, technical, economic, managerial and other aspects of an organization's activities. Currently, innovation manifests itself in significant changes in the system in which the innovation is introduced, providing a competitive advantage. The top advantages are new products, unique technology, optimized management structure, perfect marketing, rational organization of production, good company reputation. The listed elements characterize the constituent parts of the technological transformation of the ecosystem.

For this, much attention is paid to the search for new knowledge in the training of specialists who have a systematic understanding of modern technologies capable of improving and replenishing them [1]. The totality of the organization's resources necessary for the implementation of innovative projects that determine the ability of the enterprise to function in order to create and apply the innovation, reflect the innovative potential of the organization.

When choosing an innovative project, the investor expects a high profit because of the successful implementation of innovations. Research is an integral part of innovation, and as a type of work, it requires funding. The efficiency of investments will be influenced by the conditions of state support, legal support, and legislation in this area. Companies are not always interested in investing in long-term projects involving the development of technological solutions, which take much time, and the payback period increases. State funding is possible only for fundamental and applied research in priority areas, promising state programs with provided funding [2].

A significant role in innovations’ application belongs to the sphere of trade, as it ensures the movement of goods and interactions between buyers and sellers.

Each participant in the supply chains, typical for trading companies, exerts mutual influence through the presentation of certain conditions when concluding transactions [3, 4]. In this regard, there are many opportunities for the implementation of successful innovative projects affecting digitalization.

The increase in the growth of the number of business entities involved in digitalization makes it necessary to analyze a huge array of information and data, which contributes to the innovative activities of telecommunication companies, developing online analytics. Experts note that the structure and budget of IT projects have remained the same, the requirements for the results of information technology departments of companies have changed for the inclusion of information technology in all business processes and ensuring the operability of subsystems. Today, IT projects build taking into account the cooperation of suppliers and consumers, a large number of departments with the involvement of specialists are being implemented. There was a transition to constant interaction between partners. Large companies have focused their efforts on creating their own services for communication with other market participants [5].
Companies with high-tech production fully determine their development strategy only by automating more operations, managing them with digital technologies, connecting artificial intelligence and robotization. In economy, the automotive industry is referred to innovative.

However, according to researchers, companies in the core industries are not striving for digital transformation for various reasons. For example, many regulatory components hinder the digitalization of the fuel and energy complex. The instability of the economic environment increases the amount of investment required to adapt to the digital environment of metallurgical enterprises. Full digitalization is impossible for healthcare and pharmaceutical companies due to the specific regulatory framework. In mechanical engineering, there is no incentive to innovate due to the low level of competition in the industry and customer requirements for product innovation.

The large companies are adapting to the new real conditions of economic relations. According to the research carried out, RBK-500 implements electronic technologies, which make it possible to improve business relations in changing conditions. The situation is manifested in the development of intercorporate relations of B2B participants. This is due to the high proportion of online business operations and the search for new channels of interaction [6].

The indicators of innovation activity are values reflecting the development of innovation, resource provision and its effectiveness.

The innovativeness of a novelty is a period of time, the initial moment of which is the calculated value of demand and the life cycle of sales growth with increasing demand.

The innovativeness of a product is a period of time from the moment a decision was made about its benefits and the need for implementation until a favorable result is obtained.

Digital technologies are innovative, help to reduce the time spent on preparation procedures, executing a transaction, initiating the need for contract management.

Profit is an economic indicator that allows assessing the results of the enterprise operations. This indicator is a probabilistic criterion, since its value is influenced by many factors [7]. The value of profit characterizes the quality of the management decision, and profitability reflects the success of its implementation. Profit is the driving force behind the implementation of the innovation process and the guarantor of the activities’ development.

However, in practical application, it is difficult to calculate the profit from the innovation in gross margins [8]. When implementing innovative projects, the team strives to achieve the expected results from innovations that reflect the effectiveness of innovative activities. In statistics, upon receipt of tables filled out by organizations, it becomes possible to calculate the proportion of enterprises implementing innovations. The calculation methodology and explanations are contained in the reporting forms. This indicator characterizes the level of innovative activity in the region for a certain period. Therefore, statistical compilations take into account technologies that differ from the previous versions of the corresponding business processes used in the company [9].

The organizations performing research and development include research organizations (19), universities and educational institutions (15), design and development centers (6).

The share of industrial companies (11) is 15.7% of the number of organizations engaged in research and development. The largest number of innovators is in the business sector 69.58% of the total number of innovators.

The number of staff associated with innovation decreased by 4.42%, while the number of technicians working with researchers increased by 8.87%. The largest number of inventors work in technical research areas – 75.7%.

In the reporting period, every seventh organization was engaged in innovative activities, or 14.6% of the surveyed organizations.

Among industrial companies implementing technological innovations, the smallest number was in agricultural enterprises – 1.4% (in Russia - 4.2%). The share of such
organizations in mining industry is 15.9% of the total number of surveyed organizations of the corresponding type of economic activity. Innovative activity in the field of information technology was carried out by 21.4% of organizations, in the field of telecommunications - 14.3% [9].

In the Krasnoyarsk Territory, 31.8% of organizations that had expenses for innovative activities, of which 48.2% of organizations invested in the purchase of machinery and equipment, the smallest number of organizations (2.4%) spent money on the introduction of new enterprise management technologies.

The innovation and investment costs of companies in the Krasnoyarsk Territory increased by 13.5%; in Russia as a whole, the increase in investment in innovation was 26.8% (Fig. 1).

![Fig. 1. Costs of the organizations for the implementation of innovations in the Krasnoyarsk Territory.](image)

Funding for work on the innovation process in 2019 increased by 19.7% and there is an increase in capital investments by 1.4 times for scientific and technical work.

The main sources of financial support for innovations in priority areas [2], which are determined by the Government of the Russian Federation, were funds from the federal budget – 67.5%; own funds accounted for 6.3% and funds of public sector organizations – 21.5%.

Most of the budgetary funds (90.7%) were spent on development and improvement of transport and space systems. For other areas of development of science, technology and technology (total costs in 2019 – 27,103.4 million rubles), except for those indicated in the list – 3,956.1 million rubles.

The development of innovative activity in the regions united into the Siberian Federal District is uneven. In some constituent entities of the district, the indicator of innovative activity reached 14.8% (the Tomsk region); the lowest value of the indicator in 2019 was 3.4% in the Republic of Khakassia. In general, the overall indicator of the results of innovation activity decreased to 7.5% [10-11] (Fig. 2).
The Government of the Krasnoyarsk Territory as the main goal of the innovation policy [12] has identified the provision of development based on competitive industrial innovations, taking into account the regional structure of economy. The most innovative industry is manufacturing – 23.4%. Within three years, organizations in this industry have introduced 22 technologies out of 38 advanced technologies recorded in statistical reports, which correspond to the sign of innovation [9].

Comparison of indicators that allow analyzing innovation activity made it possible to note that Russian companies invest their own funds up to 56.3% of the amount of innovation financing.

Aggregate budget support provides about a quarter of spending on innovation (24.4%) [11].

Among the significant barriers hindering the development of companies are the lack of their own funds and the high level of taxation [12].

On the basis of the data obtained, information and analytical agency RBC identified the main problems associated with innovations. Weak organizational culture, intellectual property protection, research and development management, low demand for innovative products, lack of highly qualified specialists, difficulties in finding an investor and obtaining funding are among them.

The high business criticality of enterprise systems does not allow the rapid implementation of new projects. When introducing innovative technologies, the company is forced to adjust internal processes, which increases the likelihood of risky events and makes the future of the enterprise uncertain [14-15].

One of the promising areas is the development of an innovative infrastructure that forms a favorable environment for interactions between developers, market agents and the state [17]. Infrastructure components determine factors that contribute to the improvement of innovation activity or limit it (Fig. 3). At the same time, the state plays a significant role in enhancing innovation.
Science and innovation: scientific organizations, institutions for the development of innovations that can use knowledge to obtain a new product, useful inventions

Professionalism and education: skilled workers capable of developing, promoting, introducing the innovations

Infrastructure support of innovation interactions

Business environment: an environment providing the development of innovative ideas based on knowledge, their implementation in an innovative product

Institutional legal environment: a set of regulations of innovation, protection of intellectual property

Fig. 3. Innovation infrastructure.

A significant stimulus for innovation activity for universities, research institutes, and innovative enterprises is the state order, the fulfillment of which contributes to the subsequent diffusion of innovations.

State policy in the innovative area of training qualified specialists is aimed at implementing programs for the development of business incubators, techno policies, and techno parks for the comprehensive mastering of skills in the use of digital technologies [16].

When creating favorable conditions for their use, commercial risks are reduced, the process of generating analytical reports is accelerated, which makes it possible to make timely management decisions when developing measures to improve the efficiency of the functional areas of the enterprise. Among the proposed initiatives, we can see the integration of enterprise monitoring with the systems of ecosystem partners with the appropriate components of software and hardware tools, as well as the discussion of joint business ideas.

Employers note difficulties in selecting employees from candidates for new vacant positions that have arisen in the process of digital transformation in order to fulfill strategic plans. Business analysts, programmers or developers of IT technologies, service applications, as well as specialists in the field of artificial intelligence, robotization and machine learning are becoming in demand.

The indicated actions demonstrated a response to the ongoing changes, manifested themselves in technological transformation, including the automation of business processes. During this period of time, the share of jobs requiring innovative skills, receptivity to innovations, and readiness to promote innovations increased. Retraining promotes innovative activity; employees will be able to take part in generating ideas when developing competitive programs taking into account innovations. After a thorough study, the innovative project is accepted for implementation, and thereby the degree of personnel involvement in the company's innovative activities increases, encouraging the development of skills for using innovations, forming innovative behavior.

4 Discussion

The study made it possible to identify trends in the development of innovative activities, which are based on the positive dynamics of indicators reflecting the results of organizations in the field of innovation. Economists argue that in Russia there is low innovation activity and uneven territorial location of innovative enterprises [14], it should be clarified, that in comparison with foreign companies. However, in the article, the authors emphasize that ensuring competitiveness is manifested in the implementation of innovative transformations in the organization of enterprises’ functioning. This is confirmed by the fact that companies annually increase costs in the research component of the innovation process when developing
new products, modernizing the material and technical base to create conditions for the implementation of innovative solutions, for training personnel in order to increase the susceptibility of innovations and professionally apply innovative technologies in personal responsibility zone.

Company leaders understand the need to improve the organization of activities, but the limiting factor is the lack of confidence in obtaining the expected profit from innovation. Before ensuring the profitability of an innovative project, there is a need for creating certain conditions. This requires significant capital investments. There has been a trend towards an increase in own investments exceeding the amount of budget financing. Therefore, in order to reduce the possible decrease in the productive indicators of the enterprise, there is a need in the innovative potential. Even with the full resources required to implement innovative solutions, the limiting factor may be a lack of knowledge and skills to exploit the potential for innovation.

An important issue of sustainable development in the innovative aspect is government support. The state has administrative levers of influence and is able to ensure the creation of an innovative infrastructure that meets the requirements of social-and-economic systems, capable of promoting innovative products in a short time, forming new product markets.

5 Conclusions

Sustainable development of social-and-economic systems is predetermined by innovative solutions. The purpose of innovation is to ensure competition, improve the competition methods between similar enterprises in the market.

Therefore, all companies constantly show interest in innovations, study the proposed innovative projects or independently act as customers for the development of a project with the desired parameters. They are convinced that the costs of search, development, and implementation will be justified due to the effectiveness of successful innovations. In 2019, there were structural changes in the sources of financing for innovation activities, manifested in the fact that companies' investments amounted to 49% of the amount for innovation.

A systematic approach to solving specific problems related to innovations determines the formation and practical implementation of a set of interrelated and interdependent measures aimed at achieving the goals of innovations, the development of intercorporate entrepreneurship.

Careful development and implementation of successful projects will allow companies to gain competitive advantages at a high level. Limited financial resources will provide a choice of innovative solutions, in anticipation of a high return on investment. The technological transformation of enterprises becomes a necessary condition for further cooperation between partners. It involves the automation of business processes in order to integrate corporate information and technical complexes that contribute to the sustainable development of social-and-economic systems.

References

1. A.V. Voloshin, J.J. Suslova, E.A. Batrayeva, L.V. Baguzova, N.V. Ananeva, European Research Studies Journal, 21(4), 502-511 (2018)

2. On the approval of priority directions for the development of science, technology and technology in the Russian Federation and the list of critical technologies of the Russian Federation: decree of the President of the Russian Federation. Federation of 07.07.2011 N 899 (Collected Legislation of the Russian Federation, Moscow, 2011)
References

and-economic systems.

It involves the automation of business processes in order to integrate corporate

entrepreneurship.

aimed at achieving the goals of innovations, the development of intercorporate

formation and practical implementation of a set of interrelated and interdependent measures

in the fact that companies’ investments amounted to 49% of the amount for innovation.

there were structural changes in the sources of financing for innovation activities, manifested

implementation will be justified due to the effectiveness of successful innovations. In 2019,

the desired parameters. They are convinced that the costs of search, development, and

innovative projects or independently act as customers for the development of a project with

methods between similar enterprises in the market.

solutions. The purpose of innovation is to ensure competition, improve the competition

Sustainable development of social-and-economic systems is predetermined by innovative

capable of promoting innovative products in a short time, forming new product markets.

an innovative infrastructure that meets the requirements of social-and-economic systems,

support. The state has administrative levers of influence and is able to ensure the creation of

for innovation.

An important issue of sustainable development in the innovative aspect is government

limits the activities of enterprises and organizations in the basic sectors of the

Factors limiting the activities of enterprises and organizations in the basic sectors of the

Strategy of socio-economic development of the Krasnoyarsk Territory until 2030

(Krasnoyarsk Territory Government, Krasnoyarsk, 2018)

N.L. Udaltsova, Innovative development of economy, 1, 77-83 (2021)

M.S. Zlotnikov, V.V. Telnykh., S.I.Mutovin, S.K.Demchenko, J.J. Suslova, Journal of

Environmental Management and Tourism, 8(2), 366-372 (2017)

J.J. Suslova, T.P. Satcuk, European Journal of Science and Theology, 11(1), 233-240

(2015)

O. Aleshina, S. Demchenko, Y. Suslova, A. Voloshin, E3S Web Conf. 41, 04005 (2018)