

## **SMALL AND MEDIUM INNOVATION BUSINESS AS A MECHANISM TO DIVERSIFY THE RUSSIAN ECONOMY**

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### **Abstract**

Based on the analysis of the secondary data and the results of the authors' research on Russian innovative infrastructure, the goal of the paper is to analyse and discuss the innovative entrepreneurship in small and medium-sized businesses with a focus on the problems of financing of the development and implementation of innovative activities, the government regulation of innovative activities or the management of the development of innovative businesses. The innovative activities of small and medium-sized businesses are seen as a mechanism of diversification of the national economy. The results of the paper support the assumption that innovative small and medium-sized businesses are able to develop and implement innovations very quickly and effectively, however, the important step in the development of innovative small and medium-sized businesses should be their entrance into innovative regional clusters that can generate and develop unique innovative environment of the region. The effective and efficient functioning of small and medium-sized businesses within the clusters should be ensured through appropriate organizational, financial and technical measures.

**Key words:** small and medium-sized businesses, innovative development, diversification of the economy

**JEL Code:** L26, O32

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### **Introduction**

The competitiveness of the Russian economy and prospects of its development in conditions of the current turbulent geopolitical and economic situation are determined by the dynamics and effectiveness of the diversification of the national economy and its transition to an innovative path of development. These processes should become a base of activities of all the structures of the economy, including small and medium-sized businesses (Boyko, Sekerin

& Šafránková, 2014). The world experience shows that the most dynamic and leading element of innovation systems of developed economies are small and medium-sized businesses.

Small and medium-sized businesses are considered as technological leaders in the diversifying economy as they contribute to the development of new industries, products and markets. They stimulate the development of existing knowledge, skills and abilities, support the improvement of organizational competitiveness and contribute to the application of new technologies (Šikýř & Bušina, 2014). Even in the industries with the high-risk activities and very uncertain results, small and medium-sized businesses provide about half of all the significant technological innovations, using no more than 5-10 percent of the total amount spent on research and development. In a situation when Russia took the twelfth place in the ranking of innovative economies in the world in 2015 (Innovation Index 78.85), the role of small and medium-sized businesses in the Russian economy grows.

The authors' research is based on the results of the international research focused on the design of business models of interaction of stakeholders during the creation of technological innovations (Zhang & Yang, 2013), the application of the process approach to management of innovations (Park et al., 2013), the contribution of new technologies in increasing the efficiency of industrial enterprises (Gorokhova, Šafránková & Sekerin, 2015) or the role of the government in the innovative development of the economy (Sun, 2015).

## **1 Goals and methods**

The goal of the paper is to analyse the innovative entrepreneurship in small and medium-sized businesses as a mechanism of diversification of the national economy, focusing on the problems of financing of innovative activities, the government regulation of innovative activities and the management of the development of innovative businesses. Achieving the goal of the paper is based on the analysis of the secondary data and the results of the authors' research.

The importance of this work is given by the need to develop a mechanism of formation of a diversified economy based on activation of innovative activities of all its subjects, especially small and medium-sized businesses. In favour of the effectiveness of innovative activities of small and medium-sized businesses speaks the following data: small and medium-sized businesses introduce seventeen times more innovations for a dollar of costs than large businesses that develop only 10% of new technologies. The remaining 90% is developed by small businesses and independent inventors. At the same time, according to the

Russian Federal State Statistics Service (Rosstat, 2015), the proportion of organizations that deal with technological innovations is only 9.1%, which is very low in comparison with developed countries. For example, in Germany the proportion of such organizations exceeds 60%. According to the directors of Russian companies, the main problems that limit innovation activities of small and medium-sized businesses are: legal protection of intellectual activities (36.2%), low level of development of innovative infrastructure in Russia (30.3%), uncertain economic prospects of introduction of innovations (22.0%), lack of information about innovative technologies (19.7%), or poorly developed business partnerships (14.7%).

The authors' research on Russian innovative infrastructure, based on methods of scientific modeling, analysis of economic and statistical indicators, comparative analyses and expert appraisals, showed that a large proportion of business incubators (49%) operate under the regional administration – 28% operate under the university administration and 21% operate under the municipal administration; only 5% of business incubators operate under the private entities. About 50% of residents operate in the field of information technologies and 22% in the field of high technologies such as nanotechnologies, biotechnologies, laser technologies, etc. (Veselovsky et al., 2016a). The analysis of the operation of business incubators showed that the main problems that limit the development of business incubators are: the weakness of the mechanism of the government regulation of their activities, the problem of financing of innovative activities with regard to their effectiveness, or the dispersion of strategic goals of innovative activities (Veselovsky et al., 2016b).

## **2 Results and discussion**

The results of the authors' research are summarized and discussed in three parts, focusing on 1) the government regulation of innovative activities, 2) the problems of financing of innovative activities in small and medium-sized businesses, and 3) The strategic approach to the management of the commercialization of innovations of small and medium-sized businesses.

### **2.1 The importance of human resources and human resources management**

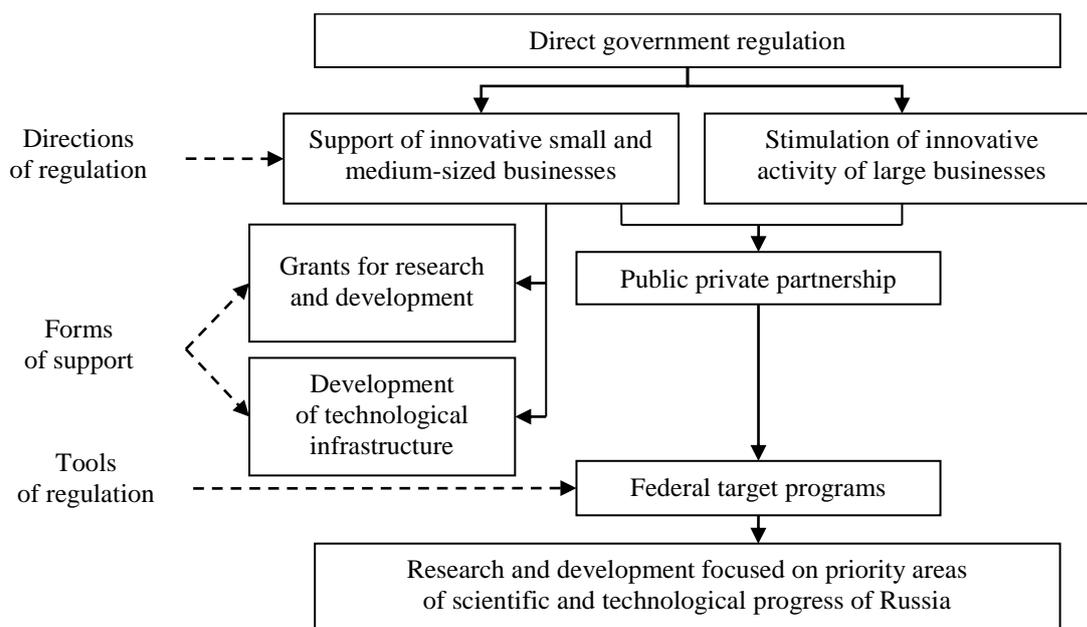
To ensure the technological transformation in the conditions of the diversified Russian economy, it is necessary to support innovative small and medium-sized businesses that are able to develop and implement innovations very quickly and effectively. The leading coordinator of innovative activities is still the government that develops innovative policies,

specifies trends of innovative development and defines a legal framework for innovative activities (Carayannis & Grigoroudis, 2014). Supporters of a strong government involvement in innovative activities believe that at the level of the national innovation system the effective management of innovative activities requires various types of organizations that strengthen the links between the science and the real economy (Sun, 2015).

There are currently three types of such organizations (Zhang & Yang, 2013): 1) the hybrid agents of innovation – technology parks, incubators, research consortia, joint ventures – focused on creating innovations and introducing of new technologies; 2) the innovation intermediaries – government institutions, coordinating committees – providing interaction among companies, universities and research organizations; 3) the innovation coordinators – providing transfer of technologies. The development of such forms of interaction is based on the diversification of the national economy and on the co-existence of large, medium-sized and small businesses. The development of small and medium-sized businesses can take place through the proactive creation of small businesses or through the division of organizations. According to Rosstat (2015), by January 2014, there were registered 5.6 million small and medium-sized businesses in Russia. These businesses employ 25% of all employees and produce about 25% of all goods and services in the economy. They include 62.8% of natural persons and 37.2% of legal entities. The main types of their activities are trade (over 39.6%) and services (35.4%). The proportion of innovative businesses in the overall structure of small and medium-sized businesses is from 1.4 to 3.5%. The operation of small and medium-sized businesses should be based on using all available tools of direct and indirect regulation (fig. 1): provision of grants, development of infrastructure, introduction of tax advantages, or reduction of bureaucracy.

The successful development and implementation of innovations should be financed from both public and private sources (Veselovsky et al., 2015). The basic source of financing of the development of innovation infrastructure should be the regional or municipal budget. In fact, this process is usually co-financed by the government of the Russian Federation. The development of relationships between research institutions and businesses, including small and medium-sized businesses, should be based on the liberalization of the researchers' working conditions and the support of joint research projects with businesses (Park et al., 2013).

**Fig. 1: Direct government regulation of innovative activities**



Source: authors

## 2.2 The importance of human resources and human resources management

The problems of financing of innovative activities belong to the most serious problems of small and medium-sized businesses. The difficulties in obtaining financial resources are one of the most limiting factors in the development of small and medium-sized businesses, especially in the early stages of their existence. The successful development and implementation of innovations requires the efficient allocation and use of financial and other sources. The possible sources of financing of innovations include (Veselovsky et al., 2016c): self-financing (net profit, depreciation reserves or accounts payable), debt financing (bank credit, commercial credit, securities, factoring, leasing, or franchising), attracted financing (equity shares of operating and investing activities, proceeds from securities issues or contributions of employee, legal entities and natural persons), government financing (investment tax credit or funds from the budget), and other sources (sell of properties, settlement of insured events or interest-free loans from other firms).

The results of the authors' research (Veselovsky et al., 2016a) and official statistics (Rosstat, 2015) showed that from 1999 to 2013, there was a tendency of a decrease in the proportion of own financial resources of businesses and an increase in the proportion of other financial resources in the structure of financing of innovative activities. The proportion of investment in innovations peaked in 2012. In 2013, there was a tendency of a decrease in the proportion of investment in innovations. The year 2013 was also the first for the last fourteen years, when there was no foreign investment in the Russian market of innovations.

In times of crisis, the problem is to find out an optimal proportion between the public and private sources of financing of innovations. At present, the budget (63.4%) remains the main source of financing of innovations in the structure of domestic expenditures on research and development, which is essentially contrary to the ideology of innovative activities. In 2013, it was allocated more than RUB 122 billion from the budget to support innovative activities (in 2012 about RUB 950 billion, in 2011 about RUB 750 billion, in 2010 about RUB 470 billion). The proportion of private sources was only 16.4%. In developed economies, the innovative activities are financed mostly from the private sources. The proportion of public sources is about 7%, in OECD countries about 15%. According to the National Association of Innovation and Development of Information Technology, the commercial sector in Russia covers no more than 25% of costs of the development and implementation of innovative technologies.

A related problem is the evaluation of the effectiveness of the financing of innovative activities from the public sources. The state is not focused on making a profit. The profit is one of the main goals of any business, which stimulates private investors to finance promising innovative activities. This explains that financing of innovative activities by private investors is much more effective and efficient (Veselovsky et al., 2015).

### **2.3 The strategic approach to the management of the commercialization of innovations of small and medium-sized businesses**

In the literature, the process of the commercialization of innovations is discussed in two ways – in terms of the innovative development of companies in accordance with the stages of the life cycle of innovations and in terms of the stages of the commercialization of innovations. The commercialization is associated with a particular innovation, not taking into account the size of an innovative company and the stage of its development (Jiřinová & Scholleová, 2015). The company may initiate the process of the commercialization of innovations at any stage of their development. In addition, the company can simultaneously realize more innovations in various stages of their commercialization. To increase the efficiency of the commercialization of innovations, it is necessary to use a two-tier system of defining strategies: the basic innovative strategy of the company and the strategy of the commercialization of innovative projects. According to the results of research (Gorokhova, Šafránková & Sekerin, 2015), the determining factor of the selection of an innovative style is the size of the company. The difference in the ownership of companies determines the difference in the approach to innovative activities (tab. 1).

**Tab. 1: Innovative style in different stages of development of companies**

Innovative style and stage of development of companies		Annual turnover of companies (million euros)					
Innovative style	Annual turnover of companies (million euros)	Micro companies		Small companies		Medium-sized companies	
		RF	EU	RF	EU	RF	EU
Radical innovations with the support of external experts or academics.	from 0 to 0.5 (early stage)	≤ 1*	≤ 2	≤ 8*	≤ 10	≤ 19*	≤ 50
Incremental innovations that improve existing areas of activities created through radical innovations.	from 0.5 to 20 (early development)						
Radical and incremental innovations, but at the upper limit of turnover range.	from 20 to 100						
Radical, incremental and open innovations.	above 100						

Source: Veselovsky et al. (2016b)

The analysis of data in tab. 1 is very important because it allows: 1) to identify an innovative style typical for small and medium-sized businesses, and 2) to identify at what stage of development small and medium-sized businesses are, using the criterion of annual turnover. It is obvious that European small and medium-sized businesses have a tendency to commercialize radical innovations and this innovative style will be very useful for Russian companies, which are in the early stages of innovative activities (tab. 2).

Tab. 2 shows that small and medium-sized businesses can only be assigned to two phases of the development of innovative companies – start-up phase and early stage of growth. This finding allows defining the approach to the identification of required resources and to the evaluation of their actual availability at given stages. . Many studies confirmed that most companies in the early stage are in the “valley of death”. According to the Global Entrepreneurship Monitor 2013, only 3.4% of small businesses in Russia survive more than three years. More than 40% of businesses were forced to close down due to the unprofitability and the difficult access to finance. In view of the fact that the innovative activities are very risky – in practice, from 80 to 100 ideas for new product is realized only one and the product is profitable on average in 3 to 4 years – the chances of innovative small and medium-sized businesses to realize the commercialization of innovations is very low.

**Tab. 2: Innovative style in different stages of development of companies**

Stage	Content	Result
Seed	The initial analysis and business plan focused on technical feasibility, market potential and economic contribution.	Generation of ideas, companies do not exist as entities of small and medium business.
Start-up	The development of a prototype of a product, the initial market research, market activities and the creation of a formal business organization.	Companies exist as entities of small and medium business.
Early stage	The beginning of the commercialization and growth, the foundations for future growth	Small and medium-sized companies.
Expansion*	The significant development and growth of companies.	Medium-sized and large companies.

\* Because of significantly different criteria small and medium companies in the Russian Federation and the European Union, the Russian medium-sized companies do not fit into this category.

Source: Veselovsky et al. (2016b)

It is therefore important for small and medium-sized businesses to start with the definition of the basic innovative strategy. After that it is necessary to define the strategy of the commercialization of particular innovative projects. This two-tier system of defining innovative strategies allows small and medium-sized businesses to more effectively and efficiently develop and realize their innovative activities.

## Conclusion

The current stage of socio-economic development of Russia in conditions of diversification and innovative development has to be assessed in terms of transfer of small and medium-sized businesses to a qualitatively new level of their evolution. From this perspective, the important step in the development of small and medium-sized businesses seems to be their entrance into innovative regional clusters. The effective and efficient functioning of small and medium-sized businesses within the clusters may be ensured through the following measures:

- The creation of regional institutions to support the development of clusters, including centres of development of clusters of small and medium-sized businesses.
- The definition of long-term strategies for the development of clusters, including innovative opportunities for small and medium-sized businesses.
- The creation of infrastructure (educational, technical, social, transport, energetic, financial, etc.) to improve the functioning of businesses in clusters.
- The support of businesses in clusters, including exchange of key experiences, purchase of modern technologies or improvement of innovative management.

The creation of innovative regional clusters of small and medium-sized businesses focused on the development and implementation of innovative activities should be the basis of the mechanism of diversification of the national economy.

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