Analysis of the development of small innovative enterprises in the construction industry

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Abstract. The activity of small innovative enterprises in the construction industry of universities and scientific institutions was analyzed. The main two problems of low growth of these companies are identified. Various mechanisms for raising funds in the implementation of innovative projects of a small enterprise have been identified and considered. After analyzing the functioning of a small innovative business, it can be said that most enterprises cannot compete with other market participants, and their technologies become unclaimed. To make a big leap in innovation development, the government needs to force business structures to invest in innovation.

A universal tool for innovation is small and medium-sized businesses. World experience shows that small business is most motivated to innovate. It plays an important role in the development of new directions of development of science and technology.

In foreign countries, small and medium business is the main sphere of employment of the population; it contributes to the development of innovative potential, the search and implementation of new forms of production, as well as sales and financing.
Innovations are one of the main factors that allow enterprises to gain competitive advantages over other economic societies. In countries such as South Korea, Japan, China, more than 90% of the country's enterprises are small and medium-sized businesses. They play an important role in the economy and the socio-political stability of their state. In 2016, there were more than 4.2 million small and medium-sized enterprises in Japan, which involved more than 40 million people (70% of the working population of the country). In Russia, according to Russian Federal State Statistics Service, at the beginning of 2013, more than 6 million small and medium-sized enterprises were registered, including 4.1 million individual entrepreneurs, where about 16.8 million people worked (25% of the working population of the country). At the same time, the share of small and medium-sized businesses in Russia's GDP is annually at the level of 20-23%, while in Japan this figure is more than 55%, in the USA it is 50%, and in China it is more than 70% [1].

The share of a small innovative enterprise in Russia among small and medium-sized enterprises remains quite low. According to various estimates, it varies from 1.5 to 3%, while in foreign countries this figure is significantly higher than the Russian one. For example, in Japan the share of small innovative businesses in the total number of small and medium-sized enterprises is about 57%, in Germany it is 62%, in Norway it is 49%, in France it is 38%.

In Russia, the role of small innovative business in the country's GDP increases annually. In 2007, Federal Law No. 217 was adopted; it allows universities and scientific institutions to be founders of small innovative enterprises. However, the possibility of creating a small innovative enterprise (SIE) did not decide two main problem factors for the successful growth of such companies:

1) fundraising.
2) the search for professional managers who are able to ensure the business process of the development of a high-tech company.

The solution of the first problem factor is feasible by seeking sources of funding for the implementation of innovation activities. Consider the main ways of attracting investment in the activities of small innovative companies, which are presented in picture 1.

It is not realistic to use your own funds of a small enterprise for the implementation of activities. New enterprises are created without large start-up capital. As a rule, the founders of an enterprise contribute 10,000 rubles to the authorized capital, established by law in the form of a minimum contribution to the enterprise’s activities.
The possibility of attracting a private investor is more realistic. Business angels began to appear in Russia. They are private investors who invest their own funds in start-up projects. For this they get a share in the company. However, an analysis of their activities shows that they are reluctant to invest in an innovative business because of the high risks and the underdevelopment of the innovation economy in the country. [7].

![Diagram](image)

**Figure 1.** The main ways of attracting funds to the activities of a small innovative enterprise.

The most attractive way to attract venture capital funds by small innovative companies is to receive investments in venture funds. However, among all the diversity of venture funds, at the seed financing stage (Pic. 2), investments can be attracted only in the “Fund for the Promotion of Small Business in the Scientific and Technical Sphere” and the “RVC Seed Investment Fund”.

It should be noted that the activities of a small enterprise must comply with the scientific and technical areas of the country's development in order to receive funding from the RVC Seed Investment Fund. Also, a mandatory condition for the provision of investments is the presence of a co-investor with a share of investments of not less than 25% of the necessary funds. These criteria significantly narrow the range of potential stakeholders. Most small innovative enterprises, as noted above, lack any start-up capital. From this it follows that the possibility of attracting seed investments in this fund is very difficult.
At present, small innovative companies with a promising innovative project have the opportunity to participate and receive non-refundable investments (up to 6 million rubles) under the “START” program of the Fund for the Promotion of Small Business in the Scientific and Technical Sphere. It should be noted that about 90% of all business societies created at the university submit applications for participation in its competitions [6]. Of course, these funds are incomparable compared to foreign seed funds, where much more substantial money is allocated in the form of a grant, but the ability to attract start-up capital in this Fund is the most demanded and relevant among economic societies.

The possibility of attracting venture capital funds at the early growth stage of the company is quite diverse. There are a sufficient number of venture funds, such as Skolkovo, Rosnano, RVK, regional venture funds, etc., however, the indicators of innovative companies invested by them in recent years indicate a low potential of venture investment in Russia. For example, the Russian Venture Company (RVC), 100% of whose shares are owned by the state, since its foundation in 2006 and until the end of December 2018, has created 26 venture funds together with private investors with a capital of more than 25 billion rubles, who managed to invest only 218 businesses projects for 12 years [3]. It should be noted that the RVC fund was created by analogy with the Israeli venture fund Yozma, which is having a huge success in the formation of venture funds with the involvement of foreign partners. Today, only in the field of IT-technologies, Israel has more than 4,000 successful companies [4]. Evaluating the results of the work of RVC OJSC and the Yozma Foundation, it should be noted that copying foreign experience and mechanisms for building venture infrastructure has not yet produced tangible results in Russia. Experts say that the fundamental role of Israel’s
technological breakthrough was played by the Jewish state’s opposition to military conflicts, which was dictated by the need to form its own military-industrial complex, producing high-tech products that are in great demand on the world market, as soon as possible. Israel does not have huge reserves of raw materials, which are the guarantor of the stability of economic development and bring a steady income. Therefore, Israeli venture capital funds have to take more risks and invest in ideas, unlike their Russian colleagues, who need to have big guarantees that the innovative project will achieve the expected result.

In some regions of Russia, regional venture funds have been created to increase the region’s innovative potential. The main form of participation in the financing of projects is carried out by the purchase by the fund of a part of the company’s shares or a share of the authorized capital, which is sold to interested parties in the event of successful development of the company. However, the analysis showed that the level of support for small business by regional venture funds still remains low. So, in the Venture Fund of the Republic of Bashkortostan, in 12 years of its activity, it has invested only 8 projects, and in the 14 years of its existence, the venture fund of the Republic of Tatarstan has invested 23 projects [2, 5].

Experts of many venture funds say that the main reason for the rejection of projects is due to the lack of competitiveness of projects and the lack of sufficient competence in preparing applications for receiving venture funds. The low competitiveness of innovative projects compared to world peers is due to the large outflow of Soviet scientists in the 1990s, as well as the poorly financed scientific activities. The costs of research and development in Russia’s gross domestic product remain quite low at 1.16%, yielding to many innovatively developed countries: Israel - 4.4%, Finland - 3.9%, USA - 2.9%. At universities and academies of sciences, where scientific and innovation activity is just beginning to develop rapidly, the authors of developments who are not able to draw up a business plan, prepare a feasibility study, correctly assess the potential market for their product, prepare proposals for obtaining venture capital funds. As a result, most applications do not pass the initial examination.

Some elements of the innovation infrastructure, such as a technopark and a business incubator, find a solution to this problem by creating a structure of consulting managers (franchisers) who, for a certain percentage of funding, can competently make and submit an application, as well as they can accompany further operations on the project. Such a scheme of interaction between the developers of scientific and technical products and consultants is effective, it contributes to obtaining the necessary funding, the development of small innovative enterprises and the release of products to the market.
Another opportunity to attract financial resources in the development of small business can be realized by obtaining a loan from a bank. Moreover, the struggle for lending forces banks to reduce the interest rate and greatly facilitate the possibility of obtaining a loan. The main criteria for obtaining credit in a bank are as follows:

- having of collateral or surety;
- having a good credit history of the company;
- stable financial position in the market.

In order to expand the possibility of obtaining a loan, regional guarantee funds are being created in many regions. Guarantee funds help small businesses to get a bank loan, acting as a guarantor. For example, in the Irkutsk region there is a regional guarantee fund, which acts as a guarantor to small and medium-sized businesses in the region, where the size of one guarantee of the fund should not exceed 70%, and the company should have 30% of the funds.

It should be noted that the guarantee fund can significantly expand the possibilities of lending to small and medium-sized businesses, but it does not sufficiently meet the requirements of innovative entrepreneurship. An innovative business has the highest risk of project failure; therefore, it needs not a loan, but a subsidy with co-financing conditions or a gratuitous basis.

Another way to attract investment in an innovative project is the currently popular direction of crowdfunding and crowdinvesting. The key difference between crowdinvesting and crowdfunding is that investors receive a share in the company's share capital and the risk of losing investments [1]. However, in Russia, this direction is poorly developed and is just beginning to develop. The reasons for weak crowdinvesting in Russia are as follows.

1. Problems of legislation. The legislation of our country regulates this area very poorly.
2. The possibility of fraud.
3. High risks that the project will not collect money and will not be successful in the future.
4. A small number of successfully implemented innovative projects that have been implemented in this way.
5. Lack of tax incentives for investors.
6. Lack of quality crowdinvesting sites.
7. Failure to understand investors of venture financing.

Thus, it can be said that obtaining venture funds is a problem for most small companies, despite the large number of mechanisms for attracting financial resources.

The second problem is the low competence of directors and managers of innovative business enterprises. In most cases, the directors of enterprises are
scientists, authors of innovative projects who lack entrepreneurship experience. A scientist, in addition to his main activity, is engaged in work not typical of his profession: enterprise management, marketing, and economics. The need for the liberation of scientists from their unusual work and the granting of the right to carry out only scientific work and part of marketing work, in its ideology, is the experience of innovative development in many foreign countries.

The skill level of the head of the company is a key factor in the success of an innovative company. Today, in our country, there is an acute shortage of such kind of successful specialists. It is assumed that this problem can be solved in the following ways:

1. Attracting highly qualified professionals from the business.
2. Professional development of enterprise managers.
3. Training young professionals at the university.

The first way to solve this problem seems to be the most successful and hard to implement. Financial investments are needed in attracting and paying first-class managers. The need for first-class managers is a pressing problem worldwide. As a rule, such highly qualified managers have their own business, and they do not feel the need to build an innovative business. They may be interested in innovative projects and technologies that are related to their core business. In order to attract business managers to small innovative enterprises, serious prerequisites are needed from the current legislation. If managers understand that creating and managing a small innovative enterprise is much more profitable and more reliable than managing a regular business, the problem of attracting first-class specialists to the activities of small innovative companies will be solved.

More realistic is the preparation and advanced training of scientists who are directors of enterprises. This entails significant financial costs, but it is not always a fairly effective way. Many successful leaders believe that scientists pay more attention to the technical side of their project, rather than the commercial one, they should be engaged in their professional activities and not retrain as managers.

The third way is the most necessary. The main goal of the educational institution is to train high-class innovative managers, future project managers, directors of small innovative enterprises. This direction is especially important for students of economic specialties, as it will help to be an expert in writing feasibility studies, business plans, evaluating the results of intellectual activity for selling licenses and alienating exclusive rights to them. Many educational institutions of the country are following this path, opening up new educational programs in the “Innovation Management” specialization.
Thus, analyzing the functioning of a small innovative business, we can say that most enterprises cannot become market participants and their technologies become unclaimed. In order for the state to make a jump in innovation development, it is necessary to force business structures to invest in innovation. The incentive to investing can be a preferential taxation of enterprises, a reduction in property tax, transport taxes, a reduction in the tax rate for self-employed, which will be introduced in Russia next year.

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