

Commercialization of innovation as an element of business strategy

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Abstract: The article contains analysis of the Russian innovation dynamics with an estimate of cost structure on R & D, number of researchers and organizations involved in innovation, types of innovation. Authors critically reflect on the positive and problematic aspects of Russian innovation system. There is the exploration of the role of innovation potential in the enterprise economic opportunities in the article. The main characteristics of the costs of innovation in modern economy and approaches to evaluating the effectiveness of the creation and commercialization of innovations are provided in the paper. Costs in innovation activities are concentrated in the field of design development and the acquisition of elements of technology for the production of new products, which accounted for about 75% of total spending on research and development. Clearly insufficient spending on marketing research takes place that is the cause of business necessity for rising the potency of commercialization in innovative sphere.

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Introduction

According to numerous studies the economic return on investment in innovation is higher than in any other applications and financial resources at the level of 35-50% [1]. However, in the global economy the percentage of commercialized innovative ideas is estimated below 50% [2]. Conductions of innovative development of Russian enterprises largely shaped by public policy in the field of science and research: Unlike European countries, where most of the investment in innovation is carried out by business, in Russian share of the government budget in the research and development cost is more than 50% and significantly increased over the past years (Fig. 1).

According to experts [4] Russian innovation system has such positive traits as:

- significant natural resources and intellectual capital;
- high level of education and science and technology outlook of population;
- formed scientific and engineering culture;
- availability of creating centers of best practices with high international reputation in key areas of science and technology;
- increase in the number of firms, including the new ability to win competitive advantages and exploit market opportunities through innovation;
- Government's commitment to modernization and innovative development model;

- high returns on the use of most instruments of innovation policy;

- qualitative and relevant innovative strategies in a number of pioneering regions.

On the other hand, it has peculiar and problematic areas such as:

- low absolute level of investment in innovation;

- obstacles to business development, underdeveloped market environment;

- the lack of effectiveness of government organizations that receive significant amounts of funding for research and development;

- immature and not actively introducing innovative institutions and infrastructure (networks of knowledge, legislation for the protection of intellectual property) [5];

- unbalanced international relations;

- subordination objectives of the innovation system of the current political situation.

The main part. Russia is gradually exhausted the possibility of rapid recovery growth based on existing material resources and human capital. Being in dependence of world prices for oil and gas innovation activities of Russian enterprises should focus on labor productivity growth, diversification of economic sectors, improving the quality of resources and produced products, environmental sustainability, including improved energy efficiency. However, a number of resourcing innovation indicators show

stagnating which is accompanied with decreasing the share of spending on research and development in the GDP structure (Fig. 2), reducing the share of researchers in the structure of employment in the Russian economy, stabilizing the share of research

organizations in the total number of organizations. However, the size of spending on research and development has increased in absolute terms in 9.1 times since 2000, amounting 699.9 billion rubles (about U.S. \$ 20 billion) in 2012.

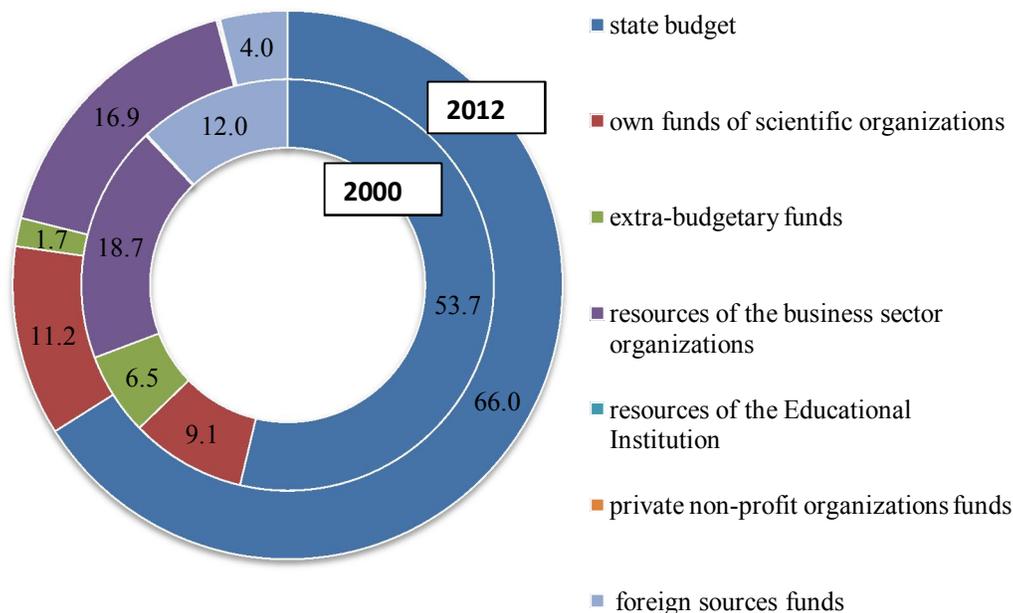


Fig. 1. The internal structure of spending on research and development in the Russian Federation in 2000 and 2012, % [3]

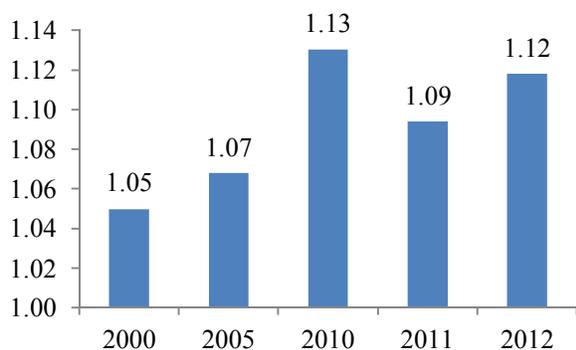


Fig. 2. Share of R&D costs in the Russian GDP, % [6]

For investments in R&D insufficiency of resources becomes a global problem. The growing level of global competition in a transparent borders necessitates a significant investment in the development and protection of new products and technologies. Generating sufficient budgets of innovation activity becomes possible for enterprises

generating new organizational forms in the framework of economic integration.

Costs in innovation activities are concentrated in the field of design development and the acquisition of elements of technology for the production of new products, which accounted for about 75% of total spending on research and development. Clearly insufficient spending on marketing research takes place, which, in our opinion, is the main cause of low commercialization of innovations in Russia. Over 77% of all marketing spending in innovation activity carried out in industries with a strong focus on the end user - in the food industry and in the manufacture of electrical and optical equipment. Simultaneously, in the structure of spending on research and development spending on marketing occupy no more than 2.1%, regardless of the field and branch of enterprises.

The number of employed in the economy Russian researchers reduced by 1% per year and in 2012 is 726 thousand people (Fig. 3).

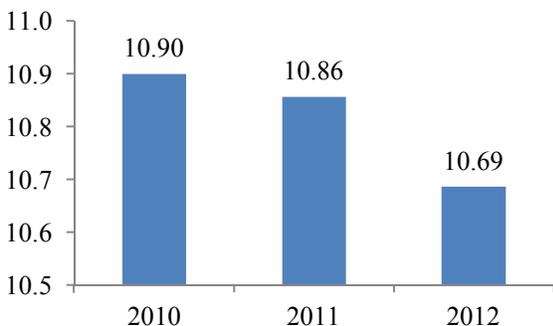


Fig. 3. Number of researchers per 1,000 workers in the economy of the Russian Federation [6]

The number of organizations involved in research and development in Russia decreased by 13% compared to 2000 (Fig. 4). However, in the short-term trend is seen positive dynamics: the number of research companies increased since 2010 by 2% and amounted to 3566 units in 2012.

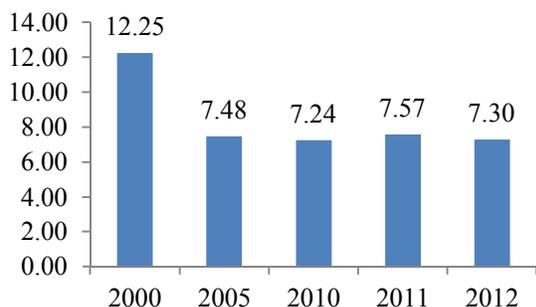


Fig. 4. Organizations that invest in research and development, units in the 10,000 organizations operating in the economy of the Russian Federation [7]

Proportion of organizations implementing innovation increases over a period (Fig. 5).

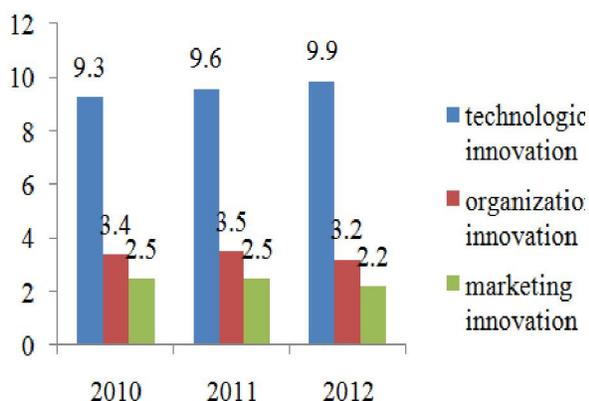


Fig. 5. Share of organizations engaged in different types of innovation in total number of organizations [8]

The state's innovation policies aimed at transforming the economic structure, improving productivity and economic security, rising the contribution of high-tech industries to GDP focuses on stimulating technological changes. Industries, which has a relatively higher percentage of companies engaged in technological innovations, include oil production (over 30%), chemical industry (over 21%), metals (13%), machinery (over 14%), electronics manufacturing, electrical equipment and optics (over 25%), production of vehicles (over 20%). It should be noted that the areas of economic activity with greater innovation activity are characterized by deeper integration intra-communication.

Conclusion.

So, the main problems of the Russian innovation policy are insufficient funding, lack of market-oriented science research and development, lack of business interest in financing the creation and promoting the innovation. These challenges arise because of insufficient saturation of markets and opportunities for sustainable business growth without the same level of intensity of innovative implantation as in global companies. Nevertheless, the expansion of trade ties between Russia, its entry into the WTO need to find business strategies recasting in the short term.

The economic potential of the enterprises forms of a plurality of elements [9, 10], but it is possible to allocate a relatively stable components and components that affect the rate of development, which are the drivers of growth - dynamic components, which include the possibility of development of innovative activity (Fig. 6).

Awareness of enterprises need to compete on the basis of innovation commercialization accompanied by the formation of innovative infrastructure sphere; transformation processes of the organizational structure of enterprises with innovative activities. Successful implementation of the long-term development plans for companies in highly competitive markets is determined by the speed of novelty promotion, the ability to form mutually beneficial relationships with all stakeholders in the innovation process on the basis of cost accounting innovation. In this regard it should be noted actual cost characteristics in the processing and commercialization of innovations (Fig. 7).

It is useful to distinguish the difference between the costs of creating innovation, and expenditures for promoting innovation. The success of the commercialization of innovations depends on the efficiency of their promotion, during which the company provides a choice of three alternatives: 1) to commercialize its own, due to their capacity; 2) to carry commercialization through intermediaries (possibly with partial loss of rights); 3) invest in

resources for commercialization (eg, to invest in starting a development company). The criteria for selecting solutions include speed, costs and benefits of implementation. Prioritization of criteria is different in each case. Entrepreneur determines what is important in the innovation process at the moment: quick profit, multiplicative propagation effect, the amount of revenue, innovator reputation, etc. Importance of priorities depends on who are the consumers, what are the competitive environment and market conditions, what is life expectancy of innovation, etc. It is also important to note that the profits from the commercialization of innovations includes a portion of the profit that is generated from the internal application of innovation (innovation), that is, for their own needs.

Therefore, in determining the effects of commercialization of innovation must take into account the opportunity costs, ie those costs that would carry the company if acquired this know-how or technology secret side for use in its own business:

$$I - E_c - E_p - (I' - E')$$

I – direct revenue from the commercialization of innovation;

I' – loss of income from the use of the acquired know-how;

E' – alternative costs of acquisition and use of third party know-how for use in its own production;

E_c – cost of creating innovation;

E_p – spending on promotion of innovation.

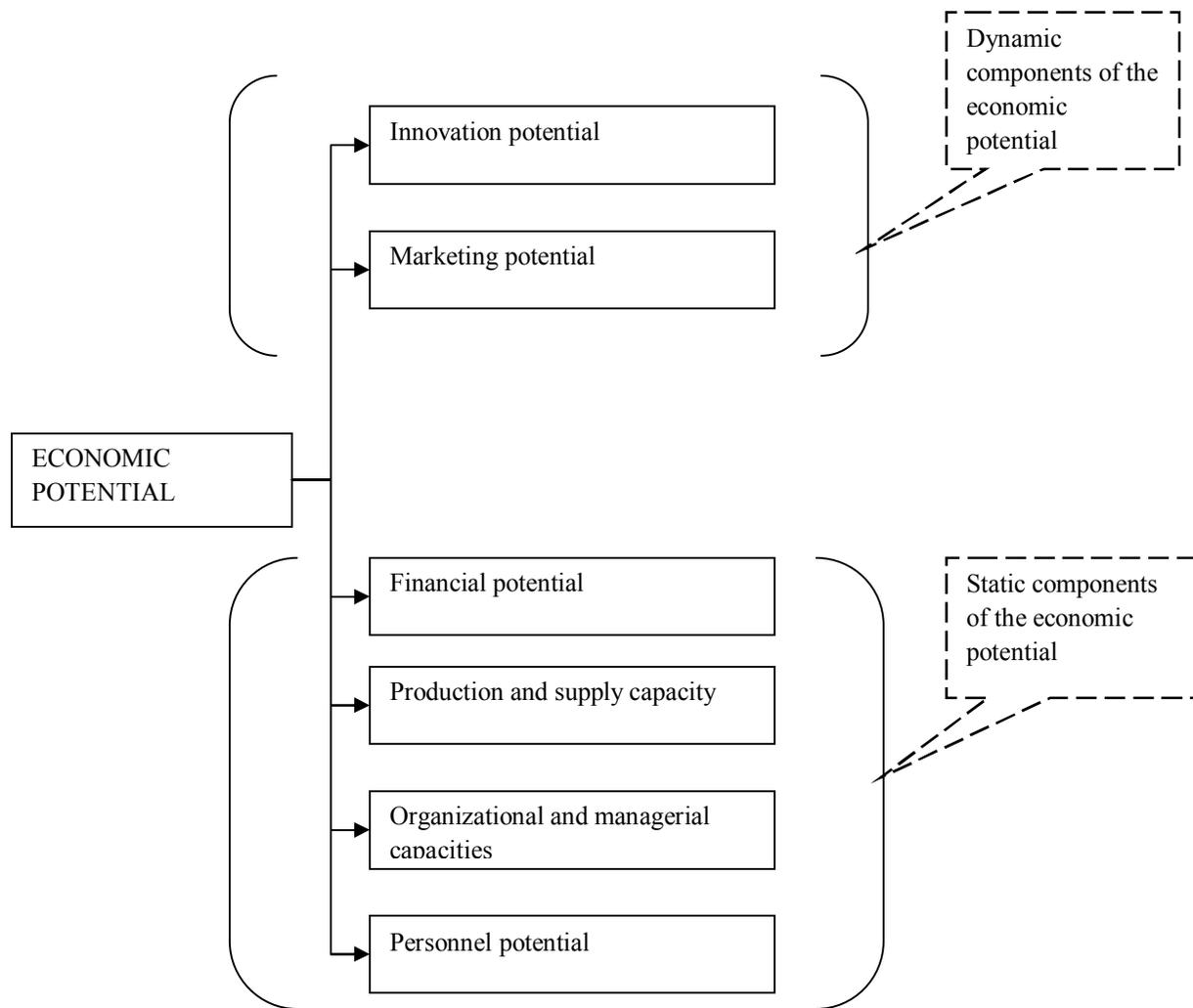


Fig. 6. Generalized scheme of enterprise's economic potential

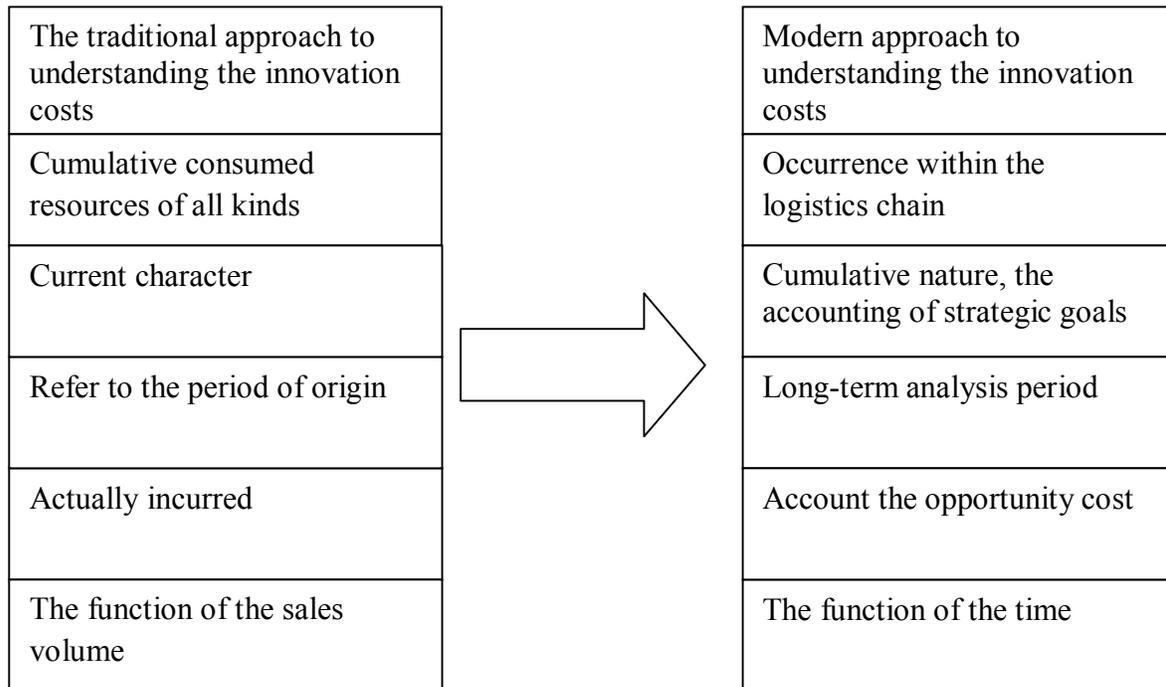


Fig. 7. Main characteristics of innovation costs

Consequence

Thus, it is determined that the economic return on investment in innovation is rated higher than in other areas of investments, which sets targets for managing the commercialization process and accounting variety of factors of innovation using effectiveness, of its promotion and of its creation. Every organization functioning in Russian reality must take into account existing features associated with a predominant share of budgetary sources of funding for research and development, the immaturity of the innovation system and at the same time a high level of coverage of education in science and technology and the increasing number of firms that are able to win competitive advantages and exploit market opportunities through innovation commercialization. In recent years, Russian companies have come to realize the superior importance of creating and implanting innovation in the operation processes, because it is the core drivers of economic growth, aside from marketing activities. Assessment the effectiveness of the commercialization of innovations is associated with the account of imputed income and the opportunity cost of creating and promoting innovation.

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