

## Classification of Factors as Grounds for Analysis of Innovative-investment Activity of Small and Medium Businesses

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**Abstract:** The article investigates endogenous and exogenous factors used for analysis of innovative-investment activity of small and medium businesses (SMBs). With due regard to specific aspects of their activity the author offers classification of factors for development of analytical methods to investigate innovative potential of enterprise with the purpose of attraction of external financing.

**Key words:** Endogenous factors influencing development of innovative potential of SMB (organizational-managerial • Production-technological • Financial and economic levels of development • Human resources and scientific/technical opportunities for implementation of innovations); exogenous factors of innovative environment (institutional and market-based factors • Socio-economic conditions • Production-technical and scientific-technological potential • Natural conditions of the country and its regions).

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### INTRODUCTION

Development of innovations is not just up-to-date issue of the activity of small and medium businesses in Russia but the direction of national economic policy. Russia is significantly lagging behind in key indicators of innovative development in comparison with other countries [1-4]. In particular, share of R andD costs in Russia is only 1.25% (in Israel - 4.27%, in Finland - 3.96%, in Sweden - 3.6%, in Germany - 2.82% and in the USA - 2.79%). Number of scientists per 1000 employees in the economy of Russia is less than in 20 states, including Finland, France, Germany, the USA and Japan. The volume of internal costs for R andD per one researcher in Russia is 1,3 times lower than in China, 3,4 times than in France, 3,4 times - than in USA [5].

Today in spite of decrease of import in Russia of food products and agricultural raw materials (in 2000 - 21.8%, in 2011 - 13.9%) and products of chemical industry, rubber (in 2000 - 18%, in 2011 - 15.1%), national economy directly depends on prices for natural resources which is confirmed by high proportion of sales of mineral products and metals, precious stones and jewellery. In accordance with Russian Agency of Statistics' data the share of mineral products in general volume of export is constantly

increasing (in 2000- 53.8%, in 2005- 64.8%, in 2009- 67.4%, in 2011- 71.1%). Besides that Russian enterprises and companies do not use home R andDs and prefer to purchase modern equipment from abroad. For example, import of machinery, equipment and transport vehicles in our country grows and in 2000 amounted to 31.4%, in 2011 - 48.2%. On the contrary, export of import of machinery, equipment and transport vehicles in 2000 was 8.8%, in 2011 - 5% [6].

Innovative development of Russia has its targets which must be reached by 2020: World Bank's "nomination" Doing business – 20th position in the list, satisfaction of people with quality of public and municipal services - 90%; average number of people employed in SMB from the total number of population - 29.3%; accessibility of users to official statistical information - 100%, number of SMBs which received state support - 760 companies from 1 000, number of SMBs per 1 000 people - 52.7, new jobs in SMB - 600 000 [7].

**Main Part:** Increase in efficiency of innovative activity of SMB can be done after identification and analysis of factors influencing this kind of activity in Russia. Economic literature provides such classification of factors: they are divided into external or exogenous and

internal or endogenous. For example, external factors in opinion of some experts are as follows: general economic conditions of enterprises activity, official regulatory mechanism, level of development of regulatory framework, etc. Internal factors, as a rule, are related to organization of work of the enterprise [8]. Other experts divide internal factors into organizational, technological and economic [9].

More detailed classification of investment activity's factors with due regard to the sphere of functioning of economic entity was given by A. Chernykh (enterprise environment, character, ability to be forecast, ability to be controlled and managed, length of impact) [10].

Taking mentioned classifications as a base and combining them with earlier specified by us specific aspects of IIA (innovative-investment activity) of SMBs (regulatory, innovative and financial) we propose to divide factors into internal and external [11]. Such classification is aimed for identification of main areas of innovative-investment policy on macro and micro levels. Combination of endogenous and exogenous factors for analysis of innovative environment of SMB should be viewed as it is shown in Figure 1.

The most significant endogenous factors which influence development of innovative-investment potential of SMB is organizational-managerial level, human resources, production and technical, financial-economic levels of development of the enterprise and scientific-technological opportunities for implementation of innovations.

Organizational and managerial level of IIA of SMBs allows to evaluate quality of informational resources and marketing strategy, which determine specifics of planning and forecasting inside the company. Low efficiency of innovative activity management results in organizational, managerial risks and risks of commercial offer. The level of qualification of human resources of the company determines opportunities for making non-standard and creative managerial decisions.

Production and technical level reflects the potential shows how well the company can solve production and technological tasks for improvement of innovative-investment potential. Use of the advanced technologies, availability of licenses and patents, the level of scientific and technical training of the personnel improve structure and the volume of innovative products (works, services). But at present time activity of SMB is characterized by low level of introduction of innovations (technology - 0.55%; marketing - 0.62%; organization - 0.58% of the total number of SMBs).

Financial and economic potential of innovative-investment activity in SMB sphere can be characterized by financial stability, sufficient level of credit strength, profitability, efficiency of implementation of innovative projects: this improves opportunities for formation of internal (accumulation of profit, amortization payments) and external sources of financing to increase innovative activity and market value of the enterprise. The results of sociological research performed in 16 regions of Russia in regard to innovation activity of SMBs demonstrated that 2.3% of SMBs consider their financial conditions as very good, 26.2% - as good, 56.5% - as satisfactory and 11.6% - as bad and 3.3% - as very bad.

Ability of a company to generate scientific ideas and implement them determines scientific and technological potential. Material and technical support of applied R and D works in a company shows the speed of implementation of scientific ideas into specific technical and technological innovations. The interview of Russian SMBs demonstrated that 39.4% characterize themselves as innovative active; this number consists of the following groups: medium businesses - 57.7%; small business - 48% and micro-enterprises - 34.2%. If we divide them by profile we get the following results: trade organizations - 45.9% (28.6% of them are innovative), service companies - 25.2% (45.1% of them are innovative); production - 15.4% (61.7% of them are innovative); construction industry - 8.1% (40.4% of them are innovative); agricultural companies - 5.3% (40% of them are innovative). 9.1% of companies have registered rights for results of R and D, mainly these are industrial enterprises of medium business (44.9%) [12].

However, in spite of increase in innovative potential of SMB, while developing innovative policy you should consider not only above mentioned factors but the risks as well. In particular besides generally accepted risks of innovative-investment activity the most significant risks associated with SMBs are organizational, managerial, risks of project participators, commercial offer risks etc.

In order to investigate innovative activity of SMB in more detail it would be appropriate to make out such key exogenous factors as institutional, market-based, socio-economic conditions, production-technical and scientific-technological potential, natural conditions which in combination determine innovative environment of SMB on macro level.

Development of innovation activity of SMB is determined by institutional potential as well which combines activity of corresponding institutions and regulatory framework and improves efficiency of all other

factors. For example, realization of developmental program of SMB allowed functioning of 84 guarantee funds (with capitalization over 36 billion roubles and borrowed 185 billion roubles), 70 micro-financial organizations (with portfolio of loans for 8 billion roubles) and 113 business-incubators.

Thanks to regulatory framework of state support of innovative development in SMB sphere it become possible to subsidize interest rate for the credits, to get compensation for money spent on equipment; introduce the system of purchase planning; establish anti-damping measures intended for avoidance of unreasonable price decrease while holding of tenders and auctions; introduce monitoring, audit, public control over purchases.

Besides that tax laws are also being improved: firstly, patent system of taxation for individual entrepreneurs is set apart into independent tax mode; secondly, changes were introduced into taxation system in the form of single (fixed) tax for temporary income for separate activities; thirdly, the order of accounting costs for capital means as income, as amortization bonus was established [7].

In the same time institutional factors are interrelated with market conditions of SMB economic activity which determine momentary demand and supply for innovative kinds of production. World or Russian market of high technologies is occupied with big and medium enterprises, share of small companies is very low. Thus, in world market the share of innovative products manufactured by SMBs is only 7.6%, in Russia - 13.9%. Most part of small and micro-company products is distributed among regional markets and this fact determines priorities of state policy.

Other factors influencing IIA of SMBs - production-technical and scientific-technological potentials which are directly linked to the rates of socio-economic development of the country. On the one hand, better use of these factors facilitates the growth of production of investment resources and consumers' goods with the same labour costs. On the other hand, qualitative characteristics show the degree of satisfaction of material and spiritual needs of country's population.

Production-technical potential is usually measured by the volume of produced goods when available resources are used in full and also by indicators characterizing use and efficiency of labour tools. Analysis of these indicators allows to identify potential ability of fixed assets to produce competitive products. In particular, quantitative analysis of production-technical potential is carried out on the base of such indicators as coefficient of depreciation and renewal of fixed assets, age structure of

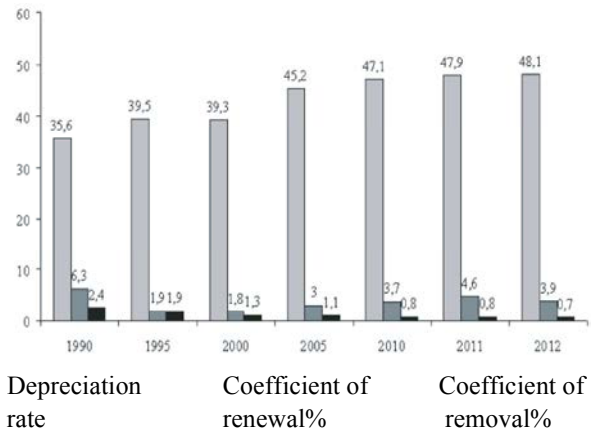


Fig 2: Dynamics of the renewal rate and the degree of depreciation of fixed assets.

active part, share of equipment etc. Low rates of putting into use and removal of fixed assets and high degree of depreciation is a key problem of all economic entities in Russia for the last 20 years as it is shown in Figure 2

Analysis of data on fixed assets of SMB showed that they are depreciated for 30.3% The highest proportion of obsolete and physically worn out fixed assets is in the balance of agricultural enterprises (depreciation rate 34.8%), processing companies - 37.1%, wholesale and retail companies - 33.5%; construction organizations - 40% [12].

In order to increase production-technical potential in Russia the emphasis is made on development of the production of aerospace equipment, nano-technologies, composite materials, atomic and hydrogen power engineering, bio-medical technologies for support and protection of people's and animals' life, separate areas of rational use of natural resources and ecology. Position of Russia in foreign markets must be at the level of 5-10% and the share of companies, performing technological innovations must be 40-50% [5].

Production-technical potential is material precondition for acceleration of scientific and technical progress. But: combination of opportunities and resources of the country for solution of scientific-technical problems in the context of the whole country determines scientific and technical potential result of which in the end is economic growth of the country.

The key components of scientific-technical potential of the country is level of material-technical and organizational-managerial support of research organizations, training and qualification of scientific personnel to transform scientific ideas into efficient result.

Level of scientific and technical potential of SMB on macro and micro-level is measured by such indicators as the number of created advanced technologies, patent applications and patents for objects of industrial ownership, number of organizations performing research work, number of personnel in R andD and proportion of researchers with PhD degrees, number of scientific articles, their proportion and quotation in the leading journals of the world. Analysis of these data testifies very low efficiency of scientific and technical potential, in particular, production of new advanced technologies since 2005 to 2011 increased only by 78%; number of submitted patent applications increased only by 24%; copyright protection documents (titles of protection) - by 17%. In the same time a trend in reduction of total number of employees in R andD is observed - by 10%, though the number of researchers with scientific degrees has increased in 2011 in comparison with 2005 by 10% [14].

Low efficiency scientific and technical potential is also confirmed by world studies of Cornell university, European business school INSEAD and World organization of intellectual ownership. In development of innovations Russia is only on 62nd place (earlier - 51 place); the highest result is Human capital and scientific research (33th place), Results of knowledge and technologies (48th place). The lowest - Results of creative activity (101st place) and Development of public and political institutes (87th place) [15, 16].

Resource flow which sustains functioning of scientific and technical system as integral structural unit is financing in the framework of socio-economic programs for R andD development. In particular, in Russia in the framework of realization of this direction budget appropriations will be increased, since 2013, almost 3,5 times (from 21,85 billion in 2013 to 70 billion). About 40% of this sum will be used for creation and development of infrastructure, 60% - for direct subsidies to SMBs. Besides that, it is planned to increase compensation for the costs of small innovative home companies up to 15 billion roubles, to give grants to newcomers in innovations - up to 500 000 roubles per one reciever of suport; subsidize leasing payments and payment of the first deposit - up to 10 000 000 roubles, provide leasing grant to new companies - to 1 million roubles; non-repayable subsidy for entrepreneur-beginner in the amount of 300 000 roubles etc.

Another factor which also matters for innovation activity of SMBs is natural environment. Natural resources, the area of regions, landscape, climate and other conditions influence innovative potential of SMBs.

## CONCLUSION

Analysis of chosen combination of endogenous (organizational-managerial, production-technological, financial and economic levels of development, human resources and scientific/technical potential) factors of innovative environment and exogenous factors (institutional and market-based factors, socio-economic conditions, production-technical and scientific-technological potential, natural conditions) allows to make conclusion that for the last years increase in innovation activity of SMBs in Russia is observed. In the same time such negative trends exist as macroeconomic instability, shortage of ideas and specialists in the country, insufficient support of innovations by the state, life and work conditions are least attractive for entrepreneurs and creative people, impossibility to get access to financing for start-ups and innovative projects, imperfect regulatory framework (insufficient protection of investors' rights, surplus bureaucratization of innovative processes). In combination these conditions hinder achievement of targeted growth rates of innovative development of SMBs and do not allow to use in full competitive advantages of the country, to make innovations the key factor of economic growth.

**Inference:** At the modern stage we think about growth of Russia's competitiveness in the foreign market and this can be achieved, among other things, by increase in innovative-investment activity of SMBs. It is necessary to provide flexibility of organizational structures of management on micro level, to form innovative culture and incentives in teams, implement efficient policy of investments etc. Prioritized exogenous factors which are able to increase efficiency of innovative environment in SMBs on macro-level are, in our opinion, institutional and market-based, production-technical and scientific-technical potentials. State measures of stimulation of innovative attractiveness of SMBs must provide effective mechanisms of external financing. Proposed system of factors will allow to develop the system of indicators for evaluation of innovative-investment potential of these entities to improve the mechanism of external financing.

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