

The Problems of Innovations Commercialization and Approaches to Their Decision

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Abstract: The problems of innovations commercialization and approaches to their decision among which the problems of commercialization in Russia are considered in the study. Importance of innovations in the modern world as well as the problems of commercialization are marked.

Key words: Innovations, innovations commercialization, technology, decision, problems

INTRODUCTION

According to global practice achievement of high rates of social and economic development and stable growth of economy are connected with development of innovational technologies. Last years, the developed countries of the world began to pay more attention to the last stage of innovational process of commercialization, considering that efforts for financing the research works are not enough for creation the new competitive engineering and technologies (Barmashova and Kosheleva, 2009).

The concept of “technology” of commercialization process differs from concepts of “science”, “engineering”, “product”. The science represents knowledge and understanding the phenomenon. The product has external physical attributes and is neither intellectual asset nor process of commercialization. The technology is a link between two these concepts, it can be characterized for example as concept of “know-how”.

“High” technologies are considered as intensive use of scientific knowledge, research intensity of a product, new discoveries attraction in technological process or the long-term production processes with many components (Vyazova, 2010).

The technology is always an innovation which represents the new products, the new technological processes, new kinds of services except for repairing the made production and service of buyers. As a result of innovations, that is the result of constructive interaction of marketing, technology and manufacture, the fulfillment of consumer demand and making the profit may be regarded. The model “science-technology-money” as well as realization of the innovational project from one stage to another, needs an obligatory feedback between

intermediate results of scientific innovations and the market as money is given only by the market and to realize scientific result or technology is possible only if it is capable to increase someone’s competitive advantage to bring or increase profit.

The development of new products, the processes, new kinds of communications is the result of innovation and commercialization (Maeva and Zonova, 2011).

MATERIALS AND METHODS

Main part: In other words commercialization is a transformation of ideas into money. If earlier the model “ideas-money-effect (money)” was spread, sounder market conditions for innovations support the following model should be applied: “money-ideas-money” (Fig. 1).

As it is known, commercialization is a process of new technologies transformation into commercially attractive products. Commercialization is one of the most complex, risky, long and financially expensive stage of innovational process.

Commercialization includes:

- Technical aspects and factors of manufacture (access to the industrial equipment, availability of the qualified labour, preparation of manufacture, design of a product etc.)
- Business-management and the analysis of the markets (a system of business planning, market studying, marketing, commercial aspects of manufacture, management of the intellectual property)
- Manufacture financing (availability of own financial resources, money borrowings, credits of banks, investment means etc.) (Suchkova, 2011)

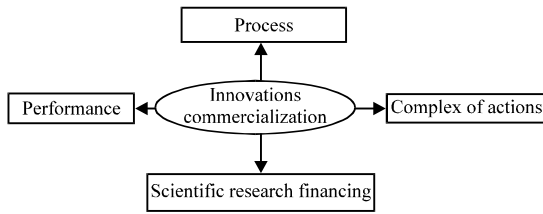


Fig. 1: The content of innovations commercialization

The choice of a commercialization way is the important point for the innovational enterprises. Each innovational product is unique and is intended for the certain problem solving, therefore, the enterprises should seriously consider this question. Today according to the international experience it is possible to mark three basic ways of innovations commercialization (Fig. 2) (Shichkina, 2014).

Each of ways gives the innovational enterprises ample opportunities on their development realization. The enterprise can independently deduce the innovational product to the market having covered all stages of commercialization process. If the innovational product is the equipment, the enterprise after the beginning of manufacturing has an opportunity not only to make profit from its sales but also to hand over it in leasing. In case if innovations are connected to optimization of productions, the enterprise can render engineering services to other enterprises. Therefore, before choosing a way of commercialization, it is necessary for enterprises to analyse each of them and to choose the most suitable. Despite of numerous amount of commercialization ways each enterprise faces the problems of innovation introduction to the market and making profit as result.

As the major factors interfering the increase of innovational activity of the enterprises, it is possible to outline: unacceptable conditions of investment and the crediting, insufficient solvency of customers, high cost of innovations, insufficiency of own financial assets, low financial support on the part of the state.

General technical and technological backwardness of the enterprises, absence of effective connection between science and manufacture, raw material export direction represent the certain threat of economic safety of the country. In hi-tech branches, the increased development of innovations is observed and if new branches are more widely submitted in the economy, so innovational activity is especially advanced.

It is possible to observe the problem of lack of qualified labour at many enterprises of the country, however, the difficult financial position does not give them an opportunity to solve this problem. Thus, charges on personnel training are kept at the lowest level. In the

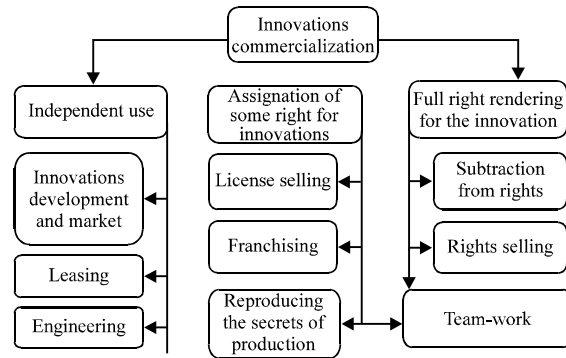


Fig. 2: The basic ways of innovations commercialization

field of marketing the situation has developed the same as situation in sphere of a professional training. Expenses for marketing researches in extent of innovational expenses have made 0.11%. It fortifies the fact that significant number of the enterprises is directed to output which realization does not require great expenses on ads and promotion of a new product on the market (Tikhonov, 2014).

Under the conditions of absence of technological innovations demand, the probable success of the majority programs of technology transfer remain slow. In this respect, state policy (target programs through state orders or state assignments) is very actual, directed on company stimulation to put money amounts in innovation or through their own laboratories or through orders to the scientific organizations. Besides the further perfection of a science control system aimed to financial assets, personnel and scientific and technical potential concentration through priority directions of a science and first of all on meeting the needs of effective development of real sector of national economy, especially in those branches where competitive results have already been observed. Here, it is necessary to note that rate of financial investments in innovations development should coincide with rates of human resources development that can use investments effectively. It is also necessary to make conditions for transfer and commercialization the scientific results and introducing it to economy.

In order to increase the country competitiveness in the world market it is necessary to develop hi-tech branches and to build effective national innovational system. It is impossible for innovational economy to exist without it. The program of the forced industrial-innovational development puts the task of innovations promotion. One of the main programs is realization of large investment projects in traditional export-directed sectors of economy including promotion of innovations and new technologies.

State support of innovations through National innovational fund is expressed both in direct financing as well as in grant support of experimental developments aiming further commercialization or promotions in the industry.

It is necessary to stress that principal causes of domestic economy innovations are not required, they are frequently connected to backwardness of market relations in economy. As it is known, the ground of market economy is based on a competition and protection of the property rights.

However such position does not meet the requirements of the modern market. The companies which have high corporate culture and the social responsibility have lately started to win in world competition. And then, it will be possible to speak about balance of interests of large and small innovational business which will provide stability of economic system.

Let's consider commercialization of innovations and extent of realized production in the world market. The high degree of innovations commercialization has provided the USA the first place in the world. In the Ukraine, only ~6.5% of extent of realized industrial output has innovational signatures. For comparison: in EU 60%, in Japan 67% in the USA 78%. Therefore, the acute economy problem of Ukraine is overcoming huge break in technological backlog from the advanced countries and fast economy transition to innovational way of development.

One of the main strategic problems of innovational activity in our country is the absence of essential demand on the Russian technologies, both in Russia as well as in the world and as consequence one can observe low level of innovations commercialization (Somina, 2014).

Supply and demand are necessary for the innovations market development. In Russia, the main stress is on the offer of technologies. There is simple explanation to it. During Soviet period the main attention was given to the development of education and science. Therefore, there was idea that advanced science and significant human resources allow to position Russia on international scene as the supplier of technological knowledge and complex technological production.

However, last decades show that such expectations appeared in many respects unjustified. The matter is not in abilities or inability of the Russian experts to work with modern technologies in this respect they rather succeed, the essence of a problem is that the Russian technologies face in Russia and as well as in the world significant strategic obstacles and it is possible to overcome them through long-term laborious work.

RESULTS AND DISCUSSION

All these facts prove that competitiveness of Russia in global technological scope is low and innovational process in our country is characterized with the following features:

- Essential backlog in sphere of innovations commercialization
- Immunity of economy to innovations
- Reduction of young experts number occupied with scientific researches
- Use of out-of-date technologies and manufactures
- Reduction of quantity of the developed and introduced technologies

Let's consider process of introduction of innovations and innovational product on the basis of the small innovational enterprise. In practice in Russia, there are some problems which first of all do not make on the part of the started business any demand for Foreign technologies and secondly, success of enterprise efforts on the basis of own scientific and technical achievements is improbable. In the given way of commercialization two moments are important: the organization of production and representation of innovational product in the market with the subsequent sale.

The result of commercialization, except for the traditional directions, is connected to increase of new production output, increase of its quality, stabilization and reduction of price, it also has an opportunity of investments return introduced in scientific researches and continuation of their further financing.

In its turn, the reason of low innovations commercialization in Russia consists in the weak organization of national innovational system and is caused by the following factors (Fig. 3) (Krajukhin and Shaibakova, 2003). Competitiveness of the small innovational enterprise is expedient for estimating proceeding from its innovational potential (Doroshenko and Somina, 2010).

It is necessary to understand under innovational potential of the enterprise all opportunities of firm in a material and non-material kind which can be directed on development, introduction and promotion of innovational product.

The situation when the successful businessman who is not connected with technologies commercialization, decides to diversify the activity in such directions is the most perspective from the point of view of innovational infrastructure development. Nevertheless, there are certain problems. In practice, the businessman engaged in innovational business, seldom deals with authors of really

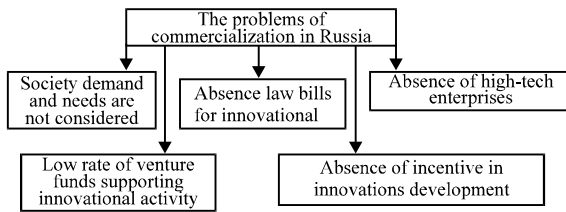


Fig. 3: Problems of innovations commercialization in Russia

advanced and perspective developments. It is explained by the fact that authors of such developments think much of their work results and do not require services of other businessman (cope independently) or expose unacceptable conditions of cooperation. Besides even if the businessman and authors of development agree with each other and start to cooperate, there may be conflicts at the subsequent stages of teamwork that leads to difficulties in realization of similar kind of commercialization (Chizhova *et al.*, 2012).

Summarizing, all the facts, the most probable is the way of cooperation between businessmen and developers when the developer does not offer the scientific and technical decisions having any essential advantages, novelty or developing level. However, considering the fact that in our country for the representatives of the Russian innovational infrastructure who are carrying out support of innovational activity, the basic requirement became scientific and technical novelty of developments as well as intellectual property such projects are out of interest. Meanwhile such situations are the most perspective from the point of view of development of transfer technologies institute. It is connected by that the partnership between the businessman and the developer who is not offering for today advanced innovational results has essentially great prospects for long-term cooperation and success. Viewing initial absence of outstanding developments, the probability of that company demand in future in the market of technologies grows. So the service of innovational infrastructure will be claimed also.

CONCLUSION

Thus, analyzing the potential contribution of the businessmen aspiring to diversify the activity due to new directions of activity, connected with transfer and innovations commercialization in development of the market of innovations and accordingly, innovational economy, it is possible to make the following conclusions:

- Enterprise activity of such kind really has significant potential from the point of view of demand presentation for technologies
- Significant obstacles for rapid development of this direction of innovations commercialization are caused by the fact that the partnership between the businessman on the one hand and authors of strong developments, on the other hand is improbable
- Much more long-term prospects have partnership between the businessman and authors of “average” level development. It is explained by the fact that in most cases such partners are more likely to have long-term success and in future such partnership with greater probability can present demand in the market of technologies. However from the point of view of representatives of the Russian innovational infrastructure such projects as a rule are considered as out of interest

It is possible to make a conclusion that it is necessary to apply the following measures to the successful decision of problem of number of small and average hi-tech companies engaged in innovations commercialization increase:

- To develop enterprise and innovational activity in the country
- To generate system of stimulus to investments in innovations and to introduction of innovations on the part of the large industrial companies
- To arrange coordination between various departments and the organizations on realization of innovational policy
- To develop effective system of various programs of innovational activity estimation
- To support development of the innovational approach at legislative level (Zavlina *et al.*, 2003)

In the conclusion, it is necessary to note that use of the listed methods does not only stimulate the increase of innovational enterprises number in Russia but also will positively effect on efficiency of economic activities of these enterprises as innovations commercialization is the determining factor of the innovational companies development.

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