DEVELOPMENT OF INFRASTRUCTURE TO ENSURE INNOVATIVE ENTREPRENEURSHIP IN RUSSIA

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ABSTRACT

Aim of the study: *For many countries, support for innovation is an important part of national policy, as in post-industrial society, innovations based on scientific discoveries and new technologies are actively creating new industries and markets, and the associated business remains one of the most profitable economic activities. The production of scientific and technological knowledge is a similar process, but there is a wide range of differences in how discoveries and inventions are transformed at the national level into innovation, that is, a product with high economic value added. It depends on the institutional environment that is formed for the work of technology companies due to both historically established prerequisites and naturally popular practices, and purposeful attempts to form new rules of social interaction.*

Methodology: *In the early 2000s, for the first time in the history of modern Russia at the political level, the decision to form a holistic policy to support innovation was ripe. The Central theme within the "course on innovation" was the topic of assistance in the transition from research and development to doing business on the basis of this work, that is, the issue of support for the commercialization of innovation and technological entrepreneurship. This assistance could range from financial subsidies and tax incentives to changes in educational standards and the image of entrepreneurship, as well as the transfer of knowledge and skills.*

Conclusion: *In General, state support for the commercialization of innovations was stimulated from the outside, on a top-down basis. For it to start working, it was necessary to create new rules of interaction, which could be guided by different groups involved in the processes universities, research institutes, state corporations, regional and city administrations. These rules were formed at two levels: formal through targeted, but insufficiently systematic actions of the state to develop a legislative framework to stimulate the commercialization of innovations, and informal through the spontaneous emergence of working practices within professional communities and public authorities involved in the creation of innovations and involved in their support. An additional uncertainty was that the key concept of the new agenda was the extremely General concept of "innovation", which could be interpreted in different ways.*

Keywords: Entrepreneurship, Innovation System, Economic Analysis, Corporate Analysis, Operational Analytics.

INTRODUCTION

The concept of a national innovation system (NIS) emerged in the 1980s to show differences in innovation outcomes among developed countries (Baboshkina, 2018). The Central question of NIS researchers is how knowledge is transformed into economic opportunities and

contributes to stable economic growth in the long term. NIS is defined as a system of interaction between private and public enterprises (both large and small), universities and public institutions aimed at the production of science and technology within national borders. Interaction within its parts may be technical, commercial, legal, social and financial, to the extent that the purpose of interaction is to develop, protect, Finance and regulate new areas of science and technology (Vivarelli, 2011). The concept of NIS allows us to consider the process of creating innovations in the aggregate, focusing on the interaction of different actors and the impact of the external social, institutional, political environment on the creation of innovations (Del Bosco, 2018). Thus, although the market component is an integral part of NIS, researchers consciously identify the non-market component of innovation production. For example, Mytelka & Oyinka allocates system barriers that hinder the development of NIS in developing countries (Akhmetshin, 2018). This rigidity at the institutional and organizational levels; not fully formed knowledge networks; the functioning of organizations on a rolled track as a result of excessive traditionalism, lack of vision and internal control system; finally, the substitution of concepts when the inefficiency of organizations it appears as inefficiency of the whole system (Abramov, 2016).

LITURATRE REVIEW

In addition to the national level, an innovation system can be created on another basis, for example, to be subnational (EU) or, conversely, regional (Silicon valley) (Block, 2013). As in the case of NIS, by studying local innovation systems, researchers are trying to show why in certain regions the growth rates of companies are higher. For example, the key to the success of Silicon valley is the close contact of various specialists gathered in a small area, which ultimately provides a rapid transfer of knowledge through horizontal mobility, as well as membership in professional organizations (Abramov, 2017).

In General, the study of national, regional or local innovation systems focuses on the consideration of existing interactions and their impact on the economic development of individual States, and researchers work at the level of structures and institutions. In General, such work is rather descriptive and notes the successes or failures of these systems (Koshkin, 2018).

METHODOLOGY

In the modern sense, the era of technological entrepreneurship began in the late 19th-early 20th century, when companies began to view inventions as a source of growth and profit. The invention has acquired the character of line and mass (Urbano, 2016).

"As A. N. noted long ago. Whitehead, the greatest invention of the nineteenth century was the invention of the method of invention. Man invented the method of invention (systematic and progressive)."

Thus began the age of innovation. This has led to the creation of corporate science, which is now in some areas ahead or on a par with the fundamental science, developing on the basis of universities (for example, it happened in the field of pharmaceuticals). Science has become more commercially oriented, and it has become a trend of the second half of the XX century (Kuratko, 2015). The boundaries between applied and fundamental science began to blur rapidly, the term "*Technology Business*" came into use, a large number of small and medium-sized science-intensive companies appeared, the business began to actively cooperate with the Academy and buy out the most promising developments. Initially, scientists and engineers resisted the

commercialization of science and argued that it was contrary to their professional ethics, the main postulates of which were put forward by R. Merton , but over time the career of a scientist and entrepreneur gained legitimacy in the eyes of the community (Abramov, 2015). Taking a permanent job in a Corporation, being a scientific Advisor to a commercial firm or developing your own company has become a routine choice of a scientist who relates to personal motives, not to the opinion of the community (Darnihamedani, 2018). Sometimes this choice does not even require a full withdrawal from the Academy and is warmly supported by colleagues and the University administration (McKelvey, 2019).

The need for a conveyor of innovation has generated great interest in the creation and commercialization of inventions (Abramov, 2018). They began to explore the nature of inventions, effects, and dissemination of innovations and not least organizational models that are beneficial to inventors and assist in the systematic production of new knowledge and technologies in the formal structure of companies (Pech, 2016). Okay, U. Ogborn put forward the idea that inventions arise from, on the one hand, the mental abilities of the individual, on the other hand, the already existing achievements of progress, and finally, social demands for something new. In this case, Ogborn deliberately reduced the individual contribution of the inventor to the invention process, emphasizing its social roots (Malerba, 2018). He claims that the great mind is a product of its time, a man who stands on the shoulders of the giants of the past. In a word, inventions are based on all previous achievements of mankind, the process of invention itself is an evolutionary process of combination and accumulation (Arroyo-Vázquez, 2010). The more inventions there are in the Treasury of mankind, the more often and faster new inventions are made. In addition, he was the first to put forward the concept of cultural backwardness, 104 which formed the basis of the idea that there was a time lag between invention and commercialization (Morozov, 2018). Th. Schumpeter first introduced the term "*Innovation*" and showed that innovation is the driving force of economic life (Leyden, 2016). They provide their creators with super profits and entail a stream of less revolutionary innovations, causing a period of growth and prosperity, which is gradually replaced by depression until another revolutionary innovation is created. The Central figure in the process of innovation is the entrepreneur, who destroys the inert environment around him by his actions. Sometimes the destructive and creative function is partially taken over by large corporations (Ni, 2017). V. Mclaurin proposed a model of linear innovation, systematizing the stages of development of the innovation process. It represents innovation as a linear process consisting of the following elements: fundamental research applied research engineering development production technology. Mclaurin also comes to the conclusion that fundamental science is as important for innovative development as venture financing or entrepreneurial skills. It is the breeding ground from which innovation grows. In this context, the key quality of the inventor-entrepreneur is the ability to prove the importance of scientific discovery.

RESULTS AND DISCUSSION

Burns and Stalker for the first time studied the question of the special organizational structure necessary for the effective production of innovations, analyzing the impact of bureaucracy and formal structure in high-tech industries. Looking at electronics companies, they showed that there are areas where formalism is bad for performance. This is primarily due to the fact that innovative companies need to be flexible in order to quickly transfer information. In this regard, the role of informal practices in this area is increasing, leaving an imprint on the organizational structure of organizations.

Generalizing, burns and Stalker brought two types of organizations: mechanistic and organic. The former are characterized by a formal structure similar to the conveyor, hierarchy and alienation from the product. In the second case, there is no clear responsibilities and structure, the overall objectives of the organization are at the forefront.

B. Arthur develops these ideas, describing a new approach to company management and government regulation, based on the mechanism of increasing profitability. In his paper, he compares two economic models: the model of declining profitability typical of companies working with the processing of physical resources, and the model of increasing profitability typical of high-tech companies and some companies from the service sector. The first type of companies always faces restrictions in access to key resources (raw materials, number of consumers, total demand in the region), cannot produce something revolutionary new, easily replaced by a competitor. All this leads to the fact that the market eventually set the standard average price. Companies of the second type live by different rules: their market is constantly unstable, products that have gained a foothold in the market are gradually becoming industry standards, further and further pushing competitors. The rules change as the game progresses, depending on the wave-like introduction of new revolutionary solutions to the world. High-tech companies, according to B. Arthur, as if playing inside the "*Casino Technology*":

"Here the style is more like a gambling environment, and not in poker, where the action is quite static. Rather, it can be likened to a casino, where a person first has to choose what he will play, and then very skillfully win the game. It is not difficult to imagine the outstanding leaders of the high-tech industry all these gates, Gerstners and Gowers as gamblers in the casino. At one of the tables begins a game called multimedia. Behind the other no less interesting called web services. In the corner of the passions around electronic banking services. However, there are a lot of such tables. Your first task is to choose one of them. Then you need to decide how much to put (the dealer says from three billion). Who's playing? Until we know, we'll know when they make their moves. By what rules to play? The rule is determined during the game. What are the chances of winning? No one knows. Well, as not lost the hunt to play?"

The main advantage of CEOs from the world of growing profitability is the ability to anticipate the nature and direction of technological changes, actively and constantly manage the growing profitability. This is possible only due to the constant adaptation of the company, as well as building new relationships with employees. As a result the hierarchy disappears. Subordinates begin to share responsibility for the success of the company on a par with the management, they, as carriers of ideas, eventually become a key factor in success. The mission of the company ceases to be a fiction.

Such changes are noticed by D. light, however, affecting in his article to a greater extent start-up companies than existing high-tech corporations. He notes that an informed economy arises when the Internet creates an environment within which it is easy to circumvent or ignore established formal economic institutions and regulations. All this eventually leads to the fact that the boundaries of economic institutions are melting and becoming more fluid. The original thesis D. Light is that at the moment we see how the practices of the informal economy are becoming the basis for the knowledge economy, within which innovators cannot accept the existing institutional framework due to the peculiarities of the creation and development of new innovative industries. This, however, does not mean that everything that is characteristic of a marginal informal economy is also characteristic of an informed one.

Companies from an informed economy are at the center of a friendly environment that aims to support newly established companies by transferring knowledge and skills from more experienced colleagues by showing examples. At the same time, such companies are strongly

rooted in the network. This is more technical than interpersonal in nature, in the sense that part of it can be linked through electronic networks. From the informal to the informed economy comes personal work with customers, when the seller of products and services knows the tastes and preferences of the buyer and can even change their product for them. Startups use the principle of "payment for the future" as one of the mechanisms to attract qualified employees in conditions of limited resources. They can only dispose of their future earnings, so startups have a common practice of allocating options or the company's share of wages with the expectation that the company will soon begin to make a high profit. "*Payment for the future*" as a principle is readily accepted by employees for whom not only monetary values are important. Value can be the idea itself, and future hopes for success, and the process of work.

CONCLUSION

Powell & Smith-Dor note a similar trend: constant exchange of information and labor mobility become key features of the innovation environment, the only way to create innovations and their implementation. But for this, there must be trust within the environment, its emergence is the result of membership in professional organizations, where the first contact between agents takes place, and its basis is a single technological community.

"*This membership in scientific or industrial associations is of a long-term nature and goes beyond commercial relations; it allows participants to track the behavior and reputation of other individuals. A joint research work allows a person who occupies a certain place in the technological community to form his reputation in business*".

In addition, ingrained networks and trust within them will facilitate more active involvement of new participants, especially scientists, in the technology business, as well as the development of high-tech industries in General, which is clearly seen on the example of Silicon valley. In Silicon valley in a small area gathered a large number of specialists in various high-tech fields. There is high competition, but at the same time the knowledge is transferred several times faster, which provides explosive growth of various technologies. The transfer takes place through horizontal mobility as well as membership in professional organizations.

In addition, networks in the world of technology business provide several functions: they provide new opportunities in the labor market, they extend the power and influence of venture capital and law firms, it is through these networks that knowledge about technology and innovation is transferred, and finally, social networks work as a social glue that forms from different parts of the system. Ferrari and Granovetter show the importance of networks in the development and reproduction of success in Silicon valley and argue that it is due to the synergetic effect obtained through the interaction of various agents within the network, in Silicon valley for a long time successfully supported technological entrepreneurship. The network's main agents remain universities, research laboratories, large technology companies, law firms and venture capitalists. While the authors recognize that the disappearance of any element from the network will weaken this innovative region, they leave a key role for venture capitalists. They, according to the authors, perform five important functions: financing of technological projects, their selection, collective training, rooting in the technological community and signaling the rest of the community about the prospects of certain projects.

Thus, technological entrepreneurship, as a special kind of economic activity that generates innovation, is based on informal rather than formal rules, even in the construction and

functioning of organizations. The normative and cultural-cognitive basis of institutions is of great importance for the development of this sphere, as the work is based more on trust, common norms and values than on the rules and norms enshrined in the documents. Because of this, the importance of rootedness in interpersonal and professional networks increases.

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