

DEVELOPMENT OF VENTURE CAPITAL ECOSYSTEM IN RUSSIAN ECONOMY

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Abstract

The acceleration of scientific and technical progress requires such mechanisms which will work for the formation of synergistic effect within the frameworks of building of innovative economy. One of such mechanisms is the formation of efficient venture capital ecosystem, which stimulates attraction of resources into innovative projects. This research work is devoted to the analysis of the problems of domestic venture capital ecosystem's functioning. According to the author, the prospects of development of venture capital business are determined by the availability of effective development institutions and their interconnection, which constitute a unified system with a specific internal environment. This research work is devoted to the quest of the most optimal model of the mechanism of venture funding. The combination of various development institutions, which allow the project to move by the type of an "innovative lift", the unified approach to the management of the project at all its stages on the basis of special principles form the further prospects of venture business.

Key words: venture capital ecosystem, "innovative lift", development institutions

1. INTRODUCTION

New paradigm of modern state's economic development marked as a keynote the necessity of intensification of innovative process. The formation of innovative economy is the main systemic process that largely determines the role and place of the country in world economy, its international competitiveness, economic independence and security. Modern domestic and foreign researches are characterized by a great number of approaches to the analysis of mechanisms and instruments of the management of economy's innovative development. At the same time Russian economy demonstrates rather low rates of innovative development. Technological innovations are carried out not more than 10% of Russian enterprises, and the share of their innovative products in a shipped form constitutes less than 5%. In 2011 Russian companies have spent on the purchase of new technologies less than 1% of the costs, and on the purchase of patents, licenses and other objects of innovative activity only 0.2%. During the development of innovations most enterprises face the lack of financial resources, experience in innovative process management, and largely the use of the mechanism of venture capital investment contributes to solution of these problems. In developed countries the Institute of venture capital investment has proved its efficiency and is perceived as one of the effective tools for implementation of the model of innovative economy. Many successful high-tech projects, such as Apple, Google, Cisco System, Yahoo!, Netscape, Sun Microsystems, Compaq, Digital Equipment Corporation, were created with the involvement of venture capital investments.

On the development of venture capital numerous environmental factors influence associated with peculiarities of national culture (Hofstede, 1984), institutional environment (Tyebjee, Vickery, 1988, pp. 123-136; Lerner and Tag, 2014, pp. 153-182). At the same time, venture capital is influenced by organizational culture, forming the contour of internal environment of venture financing mechanism. Some studies have shown the impact of organizational culture on the level of profitability of the venture company (Morgan, 1986), as well as the effect of differences in organizational cultures on the activities of joint companies (Pothukuchi, Damanpour, Choi, Chen, Park, 2002, pp. 243-265). Current state of Russian economy requires new approaches to the problems of stimulation of innovative process what has conditioned the necessity of the study of influence of organizational culture on

venture capital investment, including the key factors of its development. Thus, numerous theoretical studies and current needs in creation of effective mechanism of innovative process maintenance manifest the necessities to research the transformations of the mechanism of venture capital investment under the influence of various factors.

2. THE PECULIARITIES OF VENTURE CAPITAL FINANCING IN RUSSIAN ECONOMY

At the present stage one of the peculiarities of functioning of Russian economic system is the prolonged transitional period of “finding ways” able to provide a qualitatively new stage of society’s development on the basis of factors of innovative growth. At the same time the formation of “new economy” should be based not just simply on the adaptation to modern world trends, but on the search and implementation of Russia’s strategic advantages in modern world.

At the same time Russian economy demonstrates pretty low rates of innovative development. Thus, in the period from 2009 - 2011 the share of high-tech sector in GDP constituted only 0.9 % (Prognosis). For comparison in developed countries the share of high-tech science-consuming enterprises in GDP exceeds 2%, in Korea - more than 5%. Technological innovations are carried out by not more than 10% of Russian enterprises; the share of innovative products in ready-made form occupies less than 5%.

Low level of innovative development in Russia is largely conditioned by a number of problems in the sphere of continuous provision of alternation of stages of innovative process. The first several years of existence of an innovative project, when risks are at their maximum, analysts call the “valley of death”. It is the stage when the attraction of financial resources is accomplished with much difficulty, what is frequently aggravated by negative monetary flows within the frameworks of the project itself. The specifics of the innovative process, the necessity to overcome the “valley of death” form a specific particular mechanism which involves into the innovative process quite large volumes of capital and optimizes the structure of the risks. This mechanism, which first appeared in the middle of the twentieth century in the USA, is considered to be venture capital financing.

The emergence of venture capital financing in Russia as a source of financing of innovations is conditioned by the change in socio-economic system. Radical economic reform which began in 1992 freed the way to the development of business initiative. Further development of domestic venture capital financing is connected with the changes in market conjuncture, the establishment of legal and regulatory conditions for its functioning.

In recent years Russian venture capital business has been developing rather turbulently. In research of Dow Jones Venture Source is noted the rise in venture capital inflow to Russia since 2009, and its volume in 2012 is estimated at 237 million euros. In terms of the volume of investments in high-tech brunches Russia occupies the 4th place in Europe. More often there appears and real stories of success of Russian venture projects. At the same time Russian practice registers weak connection of venture capital financing and “breakthrough” industries, ensuring steady economic development based on the extension of innovations. Thus, according to “Expert” magazine in comparative expression the annual venture capital investments in Russia still do not exceed 0.01% of GDP. Just to compare, the volume of venture capital investments in the U.S.A. is not less than 0.2 % of GDP of the country (Eremin, Velf, Boyarski). Thus, even judging by the volume of the investments, venture capital financing in Russia is not able to stimulate actively innovative development of the economy.

3. MECHANISM OF VENTURE CAPITAL ECOSYSTEM

Successful functioning of the mechanism of venture capital investment is possible only under certain conditions forming a system of interconnections which allow innovative process to develop actively. System of energy exchange, interconnections between its participants can be represented as an ecosystem. The notion of “ecosystem” was introduced into scientific circulation by English botanist A.

Tansley, he meant by that term any set of organisms living together and their environment (Tansley, 1935, pp. 284–307).

In modern studies the problems of contiguity of many sciences become topical, in particular, biology, economics, physics, philosophy and others. Borrowings and analogies from biology are frequently used in economic researches. The use of the term “ecosystem” is expedient not only in relation to biological communities. Similarity of the functions and the structure of economic systems make possible to use the term of ecosystem in economic science also.

Applied to the study of venture industry ecosystem is a set of interrelated elements of venture business for provision of its self-maintenance and self-development at the expense of private capital. The formation of steady venture ecosystem is a complex and multifaceted task the solution of which in many respects will let intensify the innovative process in Russian economy. As the experts of Russian Venture Capital Association note, the implementation of this task is possible only through coordinated and based on partnership cooperation between the state and private business.

Differences in development of venture capital ecosystems are connected not only with infrastructural peculiarities of the countries, but also with differences in business culture, ethics and approaches to business formation. In this respect simple imitation of foreign models will not bring the desired result for domestic venture business. For formation of effective venture ecosystem a harmoniously operating infrastructure corresponding to specificity of economic relations in Russia, developed institutions and funds available for venture projects’ implementation are needed.

“Ecosystem, in its essence, is a key term bearing in mind the tasks of formation of innovative economy. Like any natural ecosystem, business ecosystem is not homogeneous by nature either... The authors of the projects and funding resources are its basic components. However, for their work a lot of services are required - from the most simple and primitive up to sophisticated and high-level. Intellectual property management, marketing, market promotion of the developments... All these questions should be solved by innovators and investors relying on vast service arsenal...”(Agamirzyan). “Service arsenal” is the basis of venture capital ecosystem and implies a supporting infrastructure which is a system of interrelated and complementary institutions and their interactions the purpose of which is to assist a venture project in its development from the stage of scientific development up to the emergence of a commercial product or a service. However, the diversity of venture business filled with intellectual contents, its risky nature don’t allow us to reduce supporting infrastructure only to financial provision of venture projects. In our opinion, venture ecosystem can be represented as follows.

The main element of venture ecosystem can be presented by entrepreneurs, developers who initiate risky innovative projects. It is these subjects which are able to respond to market signals to a greater degree, because, on the one hand, they seek to release cheaper and better products, and, on the other hand, they try to maximize the use of available resources and opportunities in chain of value creation (Leveraging the innovation ecosystem, 2012). In venture ecosystem supporting institutions of venture business are also included which can be classified in accordance with the following areas of assistance:

- financial provision presented by institutions which carry out funding venture projects at different stages of their life cycle - from seeding stage (seed) up to expansion stage (expansion). To these institutions can be referred the following: seeding funds, funds of the family and friends (English «3F»), grant programs of support, venture capital funds based on state-private partnership, business-angels, private equity funds, corporate private investors, banks, investment companies;
- organizational and industrial infrastructure presented by a special system of organization of processes of venture project’s management and its industrial implementation, including universities’ laboratories and science-research organizations, technology transfer centers, business incubators, technology parks, industrial parks;

- support and encouragement of the scientific community without which the generation of innovative ideas and their development represented by universities, science-research organizations and design departments are inconceivable;
- personnel maintenance which is possible due to high schools, coaching centers, research and information centers and other institutions whose primary purpose is to develop a new type of professionals such as entrepreneur-innovator, manager-innovator;
- legal support carried out through federal and regional legislation in the field of innovative and investment activity;
- consulting the main task of which is to analyze, justify (ground) the prospects of venture project's development. Consulting is any kind of assistance provided by external consultants in solution of this or that problem. In venture business it is represented by consulting companies, universities, business incubators, technology parks, various webinars, etc.;
- information provision implemented through various meeting platforms of investors and innovators, database of investors, innovative projects and companies, Internet portals, venture fairs, etc.

In the figure gray contour denotes a kind of "data tire" which provides interconnection of infrastructural elements of venture ecosystem. "Data tire" means a certain sphere contributing to the development of a new infrastructure of data management that facilitates solving problems in different applied areas. The main purpose of "data tire" consists in providing a basic set of functions including in it components, rather than integrating them. Thus, the interaction of supporting institutions which represent a "data tire" should provide activation of the innovative process and provide the necessary assistance in implementation of venture projects.

The efficiency in functioning of "data tire" of venture ecosystem will increase if it is based on the mechanism of the railway system with individual access roads (sidings) where the trains run between any pair of stations, those between which any passenger presumably may want to make a trip. In other words, each venture project requires an individual approach, supporting and funding mechanisms which should be provided by interacting institutions of venture ecosystem's infrastructure.

Functioning of the "data tire" is based on the principles of "innovation lift". The system of "innovative lift" includes the institutions which allow enterprises, predominantly small and medium ones, implementation of the projects from the scientific research stage up to the formation of competitive enterprises and innovative products. The basis of the concept of "innovative lift" constitutes the idea of acceleration of the innovative process, the creation and promotion of new technologies, the rapid formation of the institutions-mechanisms of increase in mobility of R & D (Research & Development) - active, innovative enterprises (Gurunjan, 2013, p.121)

"Innovative lift" promotes the project through the stages of innovative process by means of special supporting institutions. Each stage of the promotion of an innovative project requires special instruments of support. At seeding stage one needs infrastructural support, which allows converting the idea into an innovative project. At start-up stage and "early growth stage" one needs support in creation of a prototype and a business plan, launching the first line of the production and emergence of an innovative product on the wide market. At the stage of expansion it is necessary to ensure accelerated expansion of the market share and increase in volumes of the production in accordance with strategic plans.

Each stage of innovative project implementation requires development of specific strategy aimed at reduction of the risk and search of the appropriate sources of funding. In particular, at early stages of the development of an innovation - in the period of the transition through "the valley of death" - active investment strategy and support are required, which imply not only specific sources of funding, but also investment of experience into future innovative product, knowledge in the sphere of management and business modeling. For the later stages of innovations' realization passive investment strategies are suitable which provide an opportunity for innovative company-developers to capitalize. The success of innovative activity, besides the correct strategy chosen, depends largely on the effectiveness of supporting institutions.

Functioning of socio-economic ecosystems is based on the laws and principles of biological ecosystems. Thus, destruction of one of the components may lead to deformation and destruction of the whole ecosystem. Also important is the presence and solidity of the connections between the components of the ecosystem as well as the environment. The connections between the participants of the ecosystem can develop only where they are beneficial. For example, a private investor would never invest in unpromising projects jeopardizing his own business. Interconnections in the ecosystem are not static, they are constantly emerging and dying off, and functioning of the ecosystem as a whole depends on their effectiveness.

All ecosystems, including socio-economic ones, are open systems; they absorb and give energy away thereby interacting with external environment. External environment of an ecosystem is an environment covering a wide variety of factors which are able, one way or another, to affect the process of functioning in current period as well as in perspective one. External environmental factors are considered to be natural, demographic, scientific and technical, economic, social, ecological, political and international spheres. They are characterized by multivariance, mobility and unpredictability of the consequences. External factors, subjected to cyclic fluctuations, affect the interaction between the participants of venture ecosystem. For instance, conjunctural rise promotes to demand for innovations and production factors, and crises push to development of system environment releasing potential of the development of venture ecosystem as a whole.

Internal environment forms connections and relationships between the participants of venture ecosystem as a result of which the structuring of interactions in venture sphere takes place, a special culture is formed. Culture, by its function, is a mechanism of adaptation to external environment. In relation to venture ecosystem one can use the term of organizational culture because the ecosystem itself represents a certain organizational unity, a set of processes or actions leading to formation of interrelations between the parts of the whole.

The term “organizational culture” was coined and introduced by well-known American experts Peters T. and Waterman R. (Peters, Waterman, 1982). From their point of view, jointly shared values are a nuclear unit of system structure of an organization which defines characteristic features of the rest elements of an organization. However, in our opinion, the interpretation of organizational culture should be somewhat wider. Organizational culture gives an integral idea of the goals and values inherent in the organization, specific behavioral principles and ways of response.

Objective characteristic of organizational culture is rather a difficult task. It is difficult to measure it and give it quantitative characteristic. In the first case, culture supports or reinforces structure, in the second case, it comes up against structure, in the third case, culture is an alternative of reduction of behavioral variability of an organization.

The impact of organizational culture on the organization manifests through implementation of the norms prescribing aspiration for achievement of the goals. The evolution of organizational culture under the influence of external environment’s requirements inevitably leads to more complex interaction with the environment. Thus, the process of complication of organizational structures takes place.

Organizational culture has two main functions. Firstly, it contributes to internal integration of the members of the organization so that they know how they should interact with each other. Secondly, it helps the organization adjust to external environment.

The main historical types of organizational cultures include organic, bureaucratic, business and participative (partnership). The two latter types are more typical of business environment. In contrast to partnership type entrepreneurial organizational culture is based on individual approach, orientation on the final result and rivalry. Partnership culture contains in its basis dynamic and entrepreneurial creative principle emphasizing development and acquisition of new abilities, promotion of innovation, improvisation, individual initiative and freedom. With success associates constant development of science researches and entrepreneurial initiative to provide unique and new products or services. The core values are individual, social and cultural kinds of creativity.

Venture investment based on the principles of risk-sharing, phased (step-by-step) funding, patience to growth of the enterprise, qualified project's management corresponds more by its content to the principles of partnership organizational culture.

Co-creative type of the activities of the mechanism of venture capital investment is conditioned by the necessity of special skills application, professionalism in order to comply responsibility to the partners while implementing venture projects. Risk must necessarily be interfaced with precaution.

Principles of partnership organizational culture in venture environment serve as a source of its permanent complication. There appear new institutions and mechanisms of venture investment. The most perspective will be such an organizational mechanism of venture capital financing which functions under the control of a single center and provides the needs of both investors and innovators. Taking into consideration domestic and foreign experience, we can formulate general principles of a single integrated mechanism aimed at the formation and realization of innovative projects in the form of a model of venture capital financing. It is based on interconnection of the elements of the "innovative lift" and differentiated approach to investment strategies and funding sources in dependence on the stage of passing of the project. The offered model of venture capital financing is based on a special "zero waste (waste-free)" mechanism of getting revenue, aimed at minimization of investment risk of innovative projects based on sales of innovative projects on the early stages or output of ready-made business. In its essence this model is a "venture factory" in the basis of which lies a hybrid of a fund, a business-accelerator and a managing company. The model is based on the networking interaction of specialized infrastructural institutions (Ugnich, 2013, p. 1586):

- a business-accelerator, which generates the flow of innovative projects and organizes their packaging;
- a venture capital fund, which finances the projects of mainly later stages (early growth stage, expansion);
- a crowdfinancing («crowd investing» - «national investment») platform, which accumulates the funds for the projects of early stages (seeding and start-up). Crowdfinancing is an investment in a project, accomplished by a great number of microinvestors. This mechanism supposes a financial reward for microinvestors in an exchange for their support;
- a managing company being a single control organ of management by all institutes of infrastructure.

The unity of standards assessment of an innovative project at each stage is provided by means of the control of a unified Managing company, which accompanies all stages of an innovative process, starting with the analysis of the dynamics of possible development of innovative ideas up to the functioning of ready-made business-units.

Functioning of the Managing Company is directed to on an increase in profits for the founders through its participation at every stage of formation and implementation of innovative projects. The Managing Company carries out the management of innovative projects at all stages of their life cycle, including participation in the activities of the specialized infrastructural institutions (business-accelerator, venture capital fund, crowdfinancing platform). To reduce innovative risk the Managing Company must form elaborate plan of actions in regard to every project and in accordance with it select the necessary financial resources and team.

At the heart of crowdfinancing lies effort integration of entrepreneurs and various social groups for implementation of enterprises relying on relatively small fees regarding large number of people, who use the Internet, without standard financial middlemen (Mollick, 2014, pp. 1-16). In other words, crowdfinancing (crowdfunding) mechanism is also based on the principles of partnership organizational culture.

The presented mechanism of the venture capital financing has certain advantages in the system of financing of innovative projects from which all its participants win. Firstly, this mechanism is based on plenitude and interconnection of all the components of the "innovative lift" built on network principle. Secondly, unified standards of assessment of projects are used for all institutes of the

system. Thirdly, the system of “innovative lift” on the basis of fabless-principle assists integration and effective use of the necessary for implementation of the project resources. Fourthly, the presented mechanism comprises the stage called pre-seeding, thereby generating the stream of innovations.

4. CONCLUSION

The existing in Russian practice mechanism of venture capital investment is catching up in its essence towards entrepreneurial environment based on partnership culture. Thus, for implementation of risky innovative projects are not actually used such methods as creation and implementation of new forms of strategic alliances, partnerships; establishment of science-research, design and other specialized departments (subdivisions), the use of interchangeable regime of working time (Gokhberg, 2012, p.293).

The increase in innovativeness of the products is not considered to be the priority for the majority of Russian companies. Only 9% of enterprises of manufacturing industry consider novelty an important competitive advantage. By the way, novelty is not the basic competitive advantage even for many innovative companies (Kuznetsova, Rud, 2013, p.87). One of the reasons of this phenomenon can be considered the structure of types of innovative activity in companies, archaism of development strategies and inefficiency of internal management.

The main purpose of emerging venture ecosystem in Russia is to support entrepreneurial environment which provides successful implementation of the projects on the basis of modern partnership organizational culture. The main problem of development of Russian venture ecosystem is mostly considered to be ineffectiveness of interconnections between its elements conditioned by the lack of unified standards, unified management institution and not enough well-regulated legal field in which they function.

The acceleration of scientific and technical progress requires the unity of mechanisms and institutions which will work for the formation of synergistic effect within the frameworks of building of innovative economy. Modern Russian venture ecosystem isn't a single integrated structure and its elements are frequently inefficient. The solution to this problem lies in coordination of different development institutions based on a unified approach to the process of project's management at all its stages on the basis of common unified standards and principles of partner organizational culture. Thus, for the economy, on the whole, there appears a possibility of timeous implementation of new technologies, development of business initiative and animated development of innovative ideas.

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