

The Influence of Cooperative Connections on Innovation Activities of Enterprises

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Abstract: The formation of cooperative connections is becoming more effective as a form of triple partnership of universities (science), business and government, known as the triple helix model. This article analyzes the impact on the dynamics of cooperation connections enterprise innovation. It also covers the impact of cooperative connections on innovation in the oil and gas industry of the Republic of Tatarstan. The article also reveals the role of innovation cooperation in the development of ownership structure.

Key words: Innovative cooperation • Cooperation connections • Innovative products • The ownership structure.

INTRODUCTION

Network cooperation of enterprises in the field of innovative economy is a relatively new phenomenon. The key point of cooperative connections is not just the dominance of information that are being carried by the members of network cooperation, it's more about a network logic of its use in innovation, which gives the cooperative connections special qualities and functions [1].

Cooperation connections form that industrial and economic foundation of innovation activity in enterprises, which are used by state institutions and activities to promote and accelerate the development of a model of cooperative relations of the subjects in the development of innovation and effects.

This is related to the spread of scientific knowledge and information about ongoing researches, both in the development of innovative technologies and after it is received, allowing you to analyze innovative strategies of network cooperation of firms in innovation.

The implementation of cooperative connections means updating essential connections and interactions between innovative companies, ordered distribution relationships in time and space. Adapting to these characteristics, the subjects of cooperation are moving to a new, flexible structure and a new way of coordinating relations. Vertical structures were too rigid and the model of the traditional market was too atomized to meet the characteristics of online environment (Hasumi, 2007).

Therefore, the economy began to develop a way to coordinate the network connections and change their habitual structure for cooperative - a much more plastic than the model hierarchy and also more integrated than the market system. A new economic environment is being created and coordination platform is being developed, which helps to create a new formation. Economy begins to move away from the organizations with a closed loop and a vertical chain of command. Cooperation is built on horizontal relationships and interactions of such a mechanism, when participants of cooperation constantly exchange knowledge, mutually use their assets and coordinate their decisions.

There is a transition to new scientific models of the organization of enterprises, which is based on the integration processes, the Association of companies of strategic alliances with the purpose of realization of the innovation process [2]. We can assume that the cooperation in innovation activities for the implementation of scientific-research developments may take the following forms: 1) the participants agree on cooperation creation of the joint scientific-research laboratory, research costs are divided equally between the subjects of co-operation and everyone has full access to the results; 2) subjects of cooperation jointly maintain the volume of investments in research and development.

Analysis of empirical data suggests that the intensity of the cooperation of the world's largest companies in research and development in the last decade has increased significantly (Table 1).

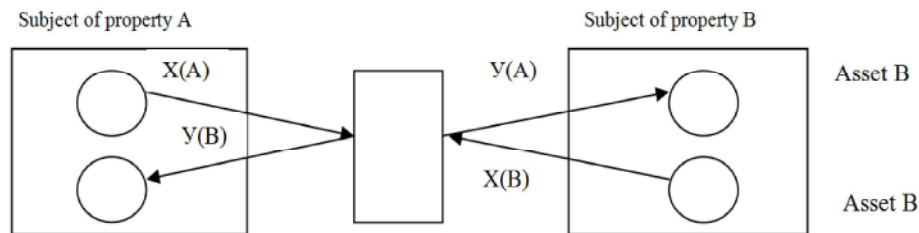


Fig. 1: The exchange of assets in order to meet the economic interests of the subjects of cooperation

Table 1: Share of the innovative production made by the world's leading companies in cooperation

Name of branches	2000		2011	
	Share of the innovative production made by the world's leading companies in cooperation	Share of the innovative production made by the world's leading companies in cooperation	Share of the innovative production made by the world's leading companies in cooperation	Share of the innovative production made by the world's leading companies in cooperation
Production of the electro-technical and radio-electronic equipment	0.25	0.14	0.38	0.16
Aviation industry	0.18	0.06	0.29	0.09
Rocket building and space exploring industries	0.22	0.05	0.29	0.08
Instrument engineering industries	0.26	0.15	0.32	0.19
Chemical and petrochemical industry	0.16	0.09	0.27	0.11
Mechanical engineering and metal-working manufacturing	0.18	0.11	0.28	0.13
Robotics industry	0.08	0.02	0.17	0.11
Pharmaceutical industry	0.22	0.10	0.26	0.14
Medical industry	0.27	0.11	0.31	0.18
Informatics industry	0.13	0.08	0.31	0.16
Microbiological industry	0.18	0.09	0.22	0.17

Source: <http://www.unical.it/portale/strutture/dipartimenti/ecostat/>

In the Russian Federation in connection with the lack of the development of the innovative-investment system, the lack of budgetary and non-budgetary financing, directed on development of innovative activity, the main sources of its financing are own means of the enterprise. However, even large enterprises are not able to cover all the necessary scientific-research directions. So they engage in various cooperative links [3].

Cooperation of Subjects of Property and its Impact on Innovation Activity: The property subject, while maintaining its position in the configuration, is trying to understand the intention of the other subjects and link decisions together. This allows in a joint innovation: interaction and coordination skills, the need for the formation of innovation capacity, awareness of the innovation process in the cooperative organization, the degree of consolidation, the structure of the property distribution.

Asset owners in the cooperative structure of the information are used as a resource or condition to another. The owners of the assets come into cooperation relations, pursuing their own interests, which may be both rational and irrational. But in any case, at the stage of

cooperative relations registration, these interests are manifested and become terms of the deal, which can be estimated through the economic indicator - the amount of lost or gained profit.

Feature of the relations of the subjects cooperation in this logical chain appears in the fact that on the one hand, the main reasons for their occurrence is knowledge, on the other hand, you can estimate these links through an economic indicator - the amount of profit or the calculation of return on innovation.

Relying on the model of V. Efremova we can determine the exchange of assets of subjects of property in the alliance. Subject A, changing some quantity X of asset A on some quantity Y of asset B to the subject of property B, thus expresses its economic interest XA to OB. The subject of property B, sharing some quantity X of asset B on a quantity Y of asset A to the subject of property A, thereby expresses its economic interest XB to YA (Fig. 1).

The convergence of technologies is the only chance for many subjects of cooperation in the technologies development of the sixth technological mode and by using synergistic effect to make innovative breakthrough in the future.

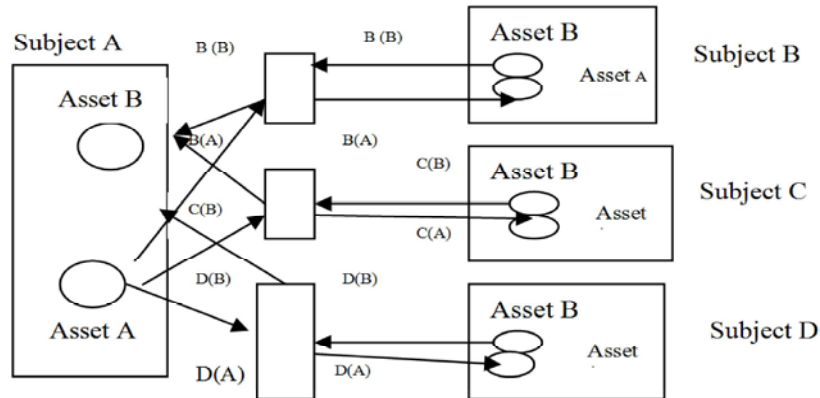


Fig. 2: Auction. Formalization of the relations between the subjects of cooperation in the property structure

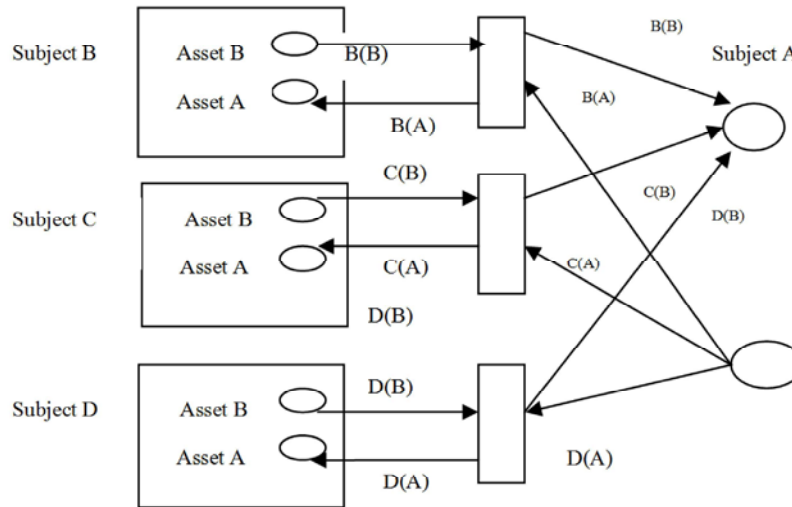


Fig. 3: Pool. Formalization of the relations between the subjects of cooperation in the property structure

Modelling a process of exchanging assets of owners in the cooperative structure allows to analyse the profitability ratio, depending on various factors of innovation, which influence the effectiveness of the implementation of its property agents in the innovation process based on knowledge, innovation and high technology. Formed asset exchange gives: powerful scientific and design and technological capability by combining the developments of various companies and the profitability dependence of innovative activity of co-operation subjects on different factors: profitability, capacity costs, asset turnover, security investments current assets, all of which depend on the innovation capacity of the subject co-operation in general.

Recreating such a profitability dependence mechanism of innovative activity of cooperation subjects on various factors direct cooperation of the subjects to a more balanced structure of ownership, the subordinate goals of modernization.

Assessment of the organization of cooperation for the property production of an innovative product allows you to get the most positive effects of sharing assets owners in the degree of their duties.

Exchange relations, distribution and consumption, developing in the process of the subjects interaction of cooperation in the cooperative structure of ownership can be quite formalized (Fig. 2).

The subject A distributes an available asset A between the three subjects depending on the quantity of an asset B they can offer in an exchange (Fig.2). Three subjects unite their identical asset B in order to use it together hoping that instead they will receive an adequate quantity of an Asset A. (Fig.3)

Formalization of the relations between the subjects of property in the cooperation structure during the process of innovative cooperation allows to estimate an innovative potential of the subject, gives a chance to correct an innovative activity at various stages of the

innovative product creation. Key point of formalization of the relations between the subjects of property is accounting of all forms of the assignment relations realization which arise during the formation of the integrated potential for the innovative cooperation. In this case it is necessary to remember that integrated property potential arises not only as a result of cooperation of subjects of property and an exchange of assets among themselves, but also as an internal change of innovative potential of each subject of property [9]. It will allow not only to increase the efficiency of property use during the innovative activity, but also gives a chance to gain various positive effects from the introduction of innovations by the technological consistence of subjects of property in the process of cooperation that, in turn, will stimulate not only innovative development of the subject of property, but also development of the economic system as a whole.

CONCLUSION

On the basis of research of cooperation communications influence on the enterprises innovative activity in work it is shown that the only denominator of cooperation communications efficiency in cluster and network formations of the region are activities of subjects of cooperation to create the systematical technological innovation which possesses a maximum level of novelty; to form a new architecture of innovative activity, business, production, with an increase of the number of involved components of changes. As a result, the relevance of the cooperation communications, which are aimed at the development of innovative activity of systematical technological innovations creation, considering dynamically changing factors of the environment, which affect transformations in institutional structure of the region, aimed at the formation of the internal network environment. As we mentioned above, movement towards the innovations begins not with the latest production technologies, but with the advanced cooperation communications, from the edition of the general favourable environment for innovative activity.

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