

Research on Building the Long-term Sustainability Strategic Alliances

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Abstract: With the rapid development of economy and the tremendous progress in technology, the strategic alliance of industry- university- research boomed up rapidly, gradually becoming an indispensable part of the innovation system of China. The cooperation ways of industry- university- research, however, are mainly low-level and short-term nowadays. From the perspective of current situation of the cooperation in China, the paper analyzes the reasons of the phenomenon, and then proposed solutions to improve the depth and width of research cooperation and promote China's scientific and technological innovation further , hence enhancing the core competitiveness of Chinese enterprises.

Key word: Industry- university- research; Strategic alliance; Long-term and continued

1 Introduction

In the late 1970s, early 1980s, R. Rothwell, Rothberg and other researchers puts forward the innovation process of dynamic, integration and comprehensive view in to the innovation study. They think innovation process is complicated, should not only depend on the assumption from the enterprise, and as the subject of the innovation should include the associated with other social group, too. Breakthroughing the innovation of the main body laid the cooperation of theoretical basis. "the next generation of industry-based technology research and development system," first use of the "VLSI" term in Japan by the Union in 1981, stress that "government, industry, academia" should be mutual cooperation and give full play to their strengths. British economist Chris Freeman, in "the technology and economic operation: the experience of from Japan", in 1987, first proposed national innovation theory, and points out that the innovation is also a kind of national behavior. The concept emphasizing the importance of the government in the cooperation, laying a theoretical foundation to develop research cooperation. Etzkowitz and Leydesdorff first proposed university-industry-the government "three triple helix model" in 1995, which opened a milestone, whose production is about the government, universities, industry three helix organic union. Then, Leydesdorff & Curran, Leydesdorff, Leydesdorff & Schamhorst gives special Algorithm "Triple Helix Algorithm". To sum up, The United States and Japan in the cooperation of research and practice have made great achievements.

Compared with western countries, Cooperative Research started late in China. It was developed in the late 1980s, after decades of research, has accumulated a certain amount of research results. The cooperation of the national education association was established in Shanghai in April 1991. In October 1997, the Ministry of Education issued a "Cooperative Education to carry out the Nine five pilot", which determine to carry out the experimental work of Cooperative Education in the 28 universities and a number of scholars have thoroughly studied the subject of cooperation. About the subject of the cooperation of research mainly have four views: Lian Yanhua claims enterprise subjectivity. Zhao Ke and ZhuXinxuan think that the university and research institutions are the subject of technological innovation. Lack subject theory represented by Zhang Wei and Ma Huiming concerned that the Cooperation subject which is Multiplicity and variability should be understood dynamically. Ding Houde and some scholars believe that the cooperation is a basic national policy and the basic model to build a national innovation system. Su Jingqin and other scholars research the transaction cost of the cooperative. There are some scholars have analyzed the pattern of cooperative. Some scholars did some research on solving actual problems of the cooperative. Through analysis of the current domestic and international research, many authors from whole study put forward some models of alliance. However, it lack of detailed study to building long-term combination.

2 Situation of Strategic Alliance of Industry-university-research in China

Strategic alliance of Industry-University-Research is enterprise with the universities and research institutes, which have scientific research ability by the government's macro guidance, based on their strategic objectives and strategic intent to establish a more stable and long-term strategic alliance. It reflects the nature of the diversification function of colleges and the changing in the pattern of knowledge production. Through the combination of strategic alliance can promote quickly national and

regional independent innovation ability and the competition ability of the enterprise. Research strategic alliances will combine the theories of universities and research institutions with the business understanding towards the market, contributing to promoting social and technological progress and growth and development of enterprises.

Combination of strategic alliance has three main forms: basing on the combination of project strategic alliance; building the research institutions in the combination of strategic alliance; building a business entity in the combination of strategic alliance. At present, Chinese cooperation is mainly a “commissioned development”, “technology transfer” and other cooperation-based alliance. This form of alliance is characterized by low levels of cooperation and short time, usually with the subject or the end of the project development co-operation that came to an end. Universities and research institutions in general are to be commissioned as part of the cooperation side, the more passive in the whole league. The companies are mainly in order to obtain the technical resources to obtain technical solutions from universities and research institutions. High-tech innovation has a long duration and high risk characteristics. This initial, short-term non-system cooperation loose sense of a lack of strategic and long-term planning. It is difficult to obtain critical technology research, and can not meet the new situation of innovation strategy of science and technology. Therefore, Strategic alliance should be gradually changed in the combination of strategic alliance to long-term league form, abandon a single project cooperation way to establish stable and alliance. From the level of industrial development and development of key technologies to solve common industry problems, promote industry innovation cluster, and improving and the country's core competitiveness.

3 The Advantage of Sustained Long-term Strategic Alliances

Making the cooperation with the key laboratory can establish a stable long-term and a wide range of strategic alliance ,which can be more targeted and innovative frontier research and the research will more systematic. Compared to a single project, commissioned by the form of multiple long-term strategic alliance brings together the various universities and research institutes advantage. High-tech and the latest technology research is comprehensive, complex, long-lasting and high risk. This continuous long-term system research meets the requirements of high-tech and the latest technology research. This can be greatly increased the productive of the high value scientific research achievements. It is able to cater for market demand for scientific and technological research achievements of engineering and system integration of applied research. It provides sophisticated matching technology and products for Companies and even industries, and for the development of the industry to provide information and consulting services.

Long-term strategic alliances provide stable research funding, promoting the reform of graduate education. To training high-level engineering and technical talents for enterprises. After long-term participation in corporate R & D, university students are likely to become the company's employees. They know more things about the company's situation, and they can better serve the Company.

Reduce the costs and risks of cooperation. Long-term cooperation makes the exchange more convenient. Formalized process makes cooperation easier. These can greatly reduce the cost of cooperation. After many years of cooperation alliance partners establish a high degree of trust. This trust will promote a sense of responsibility.

4 The Reason to Difficult Long-term Sustainability of Cooperation

Inconsistent goals make it difficult to form long-term stability of research alliances. University scientific research institution assessment mechanism in which the main assessment indicator is the number of research projects, funds, published papers, results and so on is not science and one-sided of the evaluation index. It does not consider the transformation rate of scientific results, estimates of research costs and other indicators of social and economic benefits. These cause Universities to pay more attention to cutting-edge scientific research and the title role of review papers. Whether the project has brought good profits in the market is company's primary consideration. Some cooperation is set up to declare for state and local government project funds. There cooperation basically stays in the project level. While a large number of research strategic alliances in the newly established are in full swing, they are in poor management after construction, and sometimes it happens that even no one cares about the alliances, resulting in many research strategic alliances in idle state without practical running.

Policy and venture capital mechanisms are inadequate. The venture capital investment is lack. The transformation of Scientific and technological achievements require a lot of financial support, but also

the need for risk capital reserve. The funds mainly rely on the enterprise and government. Project funding provided by the Government is mainly to guide and support to carry out research, which is less. Government has not set up a special cooperation fund to provide a stable operating. This model which has a high-risk, long cycle, capital and more complex features increases the difficulty of co-operation. Therefore, enterprises can not and do not want to use.

Benefit distribution mechanisms are inadequate. The most important goal of strategic alliance members is to reap the benefits. Between enterprises and universities there is no clear benefit allocation. Interest distribution relies mainly on the experience and estimate. There are no exact quantitative evaluation criteria. Research results are abstract things. Its value is difficult to quantify. So it is difficult to accurately determine the value of research results. Long-term strategic alliance is very complex. Fair and equitable distribution of benefits is even harder. Because universities and enterprises master the different information, the value judgments of the same thing are naturally different. With the further development of cooperation, the Union's distribution of benefits would be difficult to reach agreement. The problem of the distribution of benefits and risk conflict often led to the termination of alliance. This has seriously hindered the development of alliances.

Protection of intellectual property rights lack. Chinese intellectual property system establishes a late start, yet matures. Insufficient punishment and Lower compensation law is difficult to achieve deterrence. Parts of the law enforcement are lax. To some extent there is the local protection phenomenon. Level of law enforcement and law enforcement agencies the power is limited. only a few court has high patent case ability. Position and interests of the inventor is very difficult to guarantee. The initiative to develop high-tech research and development struck.

5 The Proposal of Build Long-lasting Strategic Alliance

Reforming the evaluation mechanism and improving the evaluation system promote the convergence of Alliance. In addition to the evaluation enterprise sales revenue, gross profit and other financial indicators, should also include R & D investment in the proportion of sales revenue, patents and other indicators of high-tech achievements. Enterprises which have outstanding contributions to R & D should be introduced to a variety of preferential policies such as tax breaks, providing award bonuses, subsidies and strong publicity. Guide enterprises technological innovation. Universities and research institutions focusing on the academic value of science and technology evaluation but also should focus on social benefits. Title assess evaluation system should include the evaluation of scientist from enterprise and results of the market value. Promote researchers focusing on the social needs and market value of scientific research.

Establish sound risk compensation mechanisms. The government, enterprises and other agencies establish a risk compensation fund. It gives appropriate compensation after verification for the huge losses alliance. Implement the principle of benefiting who investment. The more money invested the greater the amount of compensation. Risk fund research can give some support for more valuable items. Companies return profits to venture funds after obtaining profit from the results. The current status that enterprises entirely take risk must change. Government policies can through tax incentives to share or reduce companies' risk. Risk assigned to different subject in different phases. Enterprises take most of the risk in the outcome of the adaptive market phase. The most risk that project can be achieved taken by universities and research institutions. Parties share the risk in all stages with varying degrees. At the same time a complete set of science and technology innovation risk evaluation system needed to set up. In some extent, it can identify and controls risk.

Formulate Shared interests distribution mechanism; improve the system of intellectual property rights protection. The core issue of the mechanism for the distribution of benefits is intellectual property protection and assessment. Clear the rights and responsibilities in intellectual property creation, application, protection and other aspects. Establish performance evaluation system. Quantify the value of labor and capital. Formulate specific profit distribution plan. Universities enjoy innovative research in the form of dividends. Improve China's IPR legal system, increasing the punishment. And the law must be strictly enforced.

6 Conclusion

Based on the status quo of low level and short-term cooperation, which can not meet to the needs of the development of the new and high technology, the paper studies the problem of building the long-term sustainability strategic alliances. Paper analysis the reasons for this phenomenon from the

current situation of the cooperation in China, and then propose solutions to the response to improve the depth of China research cooperation. Alliance quantitative research is relatively small and not deep enough. Especially quantitative study for profit allocation mechanism and perfective and implement of Intellectual property law system are inadequate. Systematic and comprehensive study of long-term alliance can help to promote the healthy development of Chinese scientific research system.

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