

A Preliminary Investigation of Mechanism of Action of Universities in the Context of Innovation Consortium

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Abstract: It is an inevitable trend to bring together multiple innovation elements in an innovation consortium to overcome the bottlenecks that restrict the upgrading of China's technological capabilities and promote high-quality economic development. Among them, the intellectual support from universities is indispensable and plays an important role in helping the development of the consortium. However, there are still multiple pressures from information barriers, lack of cross-disciplinary development etc. that need to be overcome in practice.

Keywords: Innovation Consortium; Universities; Mechanism of Action; Problems; Solutions

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1. Introduction

1.1 Innovation consortium

The innovation consortium, which is led by leading enterprises with the encouragement of the government, usually brings together multiple innovation and support elements and subjects to cooperate and work together in order to reach the goal of approaching the no-man's land of science and technology, and advancing hand in hand to overcome problems, to solve bottlenecks that restrict the improvement of China's core capabilities in science and technology. The innovation consortium will help our enterprises to complete the scientific and technological research and at the same time, it will also help us to improve the overall capacity of scientific and technological innovation in China, thus promoting the high-quality development of domestic economy.

1.2 Universities in the context of innovation consortium

The efficient operation of the innovation consortium cannot be achieved without the efficient synergy and strong support of multiple innovation forces. Among them, universities are an essential part, bearing the important mission of researching and overcoming difficult problems in innovation and delivering scientific and creative talents for the innovation consortium, which is an effective support for the innovation consortium^[1]. Therefore, the proposition of studying the role mechanism of universities in the context of innovation consortia is of great theoretical and practical value.

2. Interaction between innovation consortium and universities

2.1 Universities provide continuous intellectual support for the development of innovation consortium

Talents is an important force for efficient synergy and strong development of the innovation consortia. In today's era, universities are still the first place to cultivate talents, and their importance cannot be ignored. For innovation consortium, the requirements for talents are more integrated and complex. Not only high-end, creative R&D and management talents are needed, but qualified, front-line operational talents who can physically do the job also play an important role. And both R&D and operational talents are developing towards interdisciplinarity and synthesis. Leaving the strong support of universities, we will undoubtedly lose the momentum of developing innovative consortia, and it will be difficult to sustain.

2.2 Universities provide a high-quality science and technology R&D platform for the development of innovation consortium

After a long period of development and practice, the R&D platform of universities is obviously more mature. Therefore, whether it is the development of a common platform that facilitates information sharing and transmission, or the optimization of workflow that facilitates production efficiency, or how to realize lean production and improve the efficiency within the consortium, we can use the R&D platform of universities to promote the process.

2.3 Universities provide certain academic and resource facilities for the integration of innovation resources in innovation consortium

Innovation consortium is often focused on more integrated and complex science and technology challenges. These challenges are often not confined to a single disciplinary area, but mostly involve the intertwining and convergence of interdisciplinary knowledge. Therefore, it is more practical and feasible for universities which cover multiple disciplines to take the lead in implementing R&D tasks. In addition, the development of the consortium cannot be achieved without the strong support from upstream and downstream enterprises, financial institutions, logistics and service industries. And universities often have certain advantages in school-enterprise cooperation and integration of resources, which can provide certain possibilities for the promotion of innovation consortium.

2.4 Innovative consortium helps universities achieve healthy, virtuous and sustainable development

One of the most important missions of universities is to serve companies and give feedback to society. The recognition of enterprises is a strong proof to test the success of the professional setting of universities. An active integration into the innovation consortium can provide more precise directional guidance for the healthy and sustainable development of universities, which is of great significance to the development of universities.

In summary, the positive interaction between universities and innovation consortia is not only beneficial to the high-level development of universities, but also to the smooth construction and effective promotion of innovation consortia, which deserves our key attention. However, in the actual interaction between the innovation consortium and universities, there are still resistance and obstacles from many parties, which greatly affect the role of universities and the continuous promotion of the innovation consortium and need to be overcome.

3. Possible problems for universities in integrating into innovation consortium

3.1 Information barriers between innovation consortium and universities

In addition to the two-way mutual selection between some top leading companies and top universities, most companies and universities have a certain degree of information barrier when they are matched with each other. For example, most companies are not aware of the strengths, results and research progress of some non-top universities. Similarly, when some universities want to seek cooperation, they do not know which companies in the industry to look for, or they know which companies to look for, but they do not have the path to match. This seriously hinders the integration of universities into the innovation consortium and their contribution to the improvement of science and innovation capabilities.

3.2 There are certain shortcomings in interdisciplinary teaching and joint research and development

For a long time, the academic construction of universities tends to be more individualistic, and the only cooperation is mostly limited to the same type of majors and the same professional group. There is relatively little communication and collaboration across disciplines, and across professional groups. This is due to the different academic backgrounds of teachers in different majors, which make it difficult for them to recognize and integrate each other's professional contents, as well as the lack of guidance from universities in terms of assessment. The technical problems to be tackled by the innovation consortium cannot be solved without the formation and support of interdisciplinary teams, so the traditional teaching and research model of working alone is obviously no longer able to meet the needs of reality.

3.3 The current degree of professional development and the level of teachers and students in universities cannot well match the development of innovative consortium

The concept of innovation consortium has not been around for long and there are fewer development practices to draw from. Therefore, the innovation consortium is a new thing for the whole society. In the field of universities, there is no past experience to refer to and learn from on how to better serve the development of innovation consortium. Compared to the burgeoning practical exploration, the current universities are clearly in a state of following. The existing faculty structure and student training model are clearly unable to keep up with the rapid formation and operation of the consortium and need to be

adjusted and changed.

4. Solutions

4.1 Encourage the government to participate in resource integration and guide all parties to join the construction of the consortium

The government has a unique advantage in resource integration and should actively join in the formation and operation of the consortium to build a bridge for the positive interaction between schools and enterprises step by step. Firstly, build a platform for school-enterprise cooperation, organize universities and enterprises to carry out school-enterprise salons and other docking and exchange activities. Secondly, build a platform for matching supply and demand, and organize leading enterprises to recruit on campus^[2].

Thirdly, set up a platform for policy promotion, organize relevant functional departments to go to campus to explain employment and entrepreneurship policies for college graduates, and use the live platform to launch a series of topics to promote key enterprises and directions. Fourthly, help to build talent training bases together and promote internship training and employment recommendation for graduates, etc.

4.2 Promote the construction of interdisciplinary professional teams and cultivate composite talent teams

Firstly, build the cooperation platform of inter-professional teaching team. Secondly, restructure the internal structure of the interdisciplinary teaching team. Finally, create an external environment for interdisciplinary teaching teams. We need to select and build a number of excellent teaching teams, establish team cooperation mechanisms and reform teaching contents and methods. At the same time, colleges and universities should continuously promote the development of resources, enhance seminars and exchanges, and promote the transmission, help and guidance of teaching work, so as to lead the overall improvement of the teaching team.

4.3 Deepen high-level school-enterprise cooperation and build collaborative education model

On the reform of teaching materials, the most crucial thing is to prepare teaching materials together with industry enterprises. The teaching materials must be in line with the industry skill recognition standards and innovation consortium development trends, in line with the needs of the enterprise employment positions and the age characteristics of students. At the same time, we should introduce more enterprise experts into the school to teach students, so as to drive the school teachers to continuously improve their professional level. Finally, teachers' study in enterprises should be included in the assessment to encourage more teachers to go out and understand the development of the consortium.

5. Conclusion

It is an inevitable trend for colleges and universities to integrate into the construction of innovation consortium to help improve the capability of science and innovation. All universities should pay attention and take action to make changes actively in order to be invincible in the competition.

References:

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