

Analysis on the Influence Path of Industry-University Cooperation Model and Transformation Performance

Rui Lv

Xi'an Eurasian University, Xi'an 710065, Shaanxi Province, China

290451211@qq.com

Keywords: Industry-University Cooperation, Transformation of Scientific and Technological Achievements, Technological Innovation

Abstract: Industry-university cooperation is an effective way for scientific and technological innovation and achievement transformation. To realize the effective connection between industry and university and accelerate the transformation of scientific and technological achievements, it is necessary to rationally position the main functions in the scientific and technological innovation system and give full play to the functions and advantages of each innovation main body. More and more enterprises are unable to rely on their own technological innovation ability to meet the needs of their own development and operation under the condition that their own technological research and development ability and innovation level are low. The development of industry-university cooperation will inevitably promote the scientific and technological work of colleges and universities to adapt to the pace of socialist market economy more actively, and the industrial departments will improve their understanding of relying on science and technology. Today, with the country paying more and more attention to scientific and technological innovation, colleges and universities, as important national institutions for training talents and scientific research, should upgrade the transformation of scientific and technological achievements to the position of paying equal attention to teaching and scientific research.

1. Introduction

Industry-university cooperation refers to the cooperation between enterprises and universities. This kind of complementary cooperation is the most common and effective way of cooperation in practice. [1] The speed and effect of industrial application of scientific research achievements is the key to enhancing core competitiveness of countries around the world. Industry-university cooperation is an important form and an effective way for the transformation of scientific and technological achievements, and achieving the transformation of scientific and technological achievements is an important goal of carrying out industry-university cooperation projects. The Party Central Committee and the State Council proposed that the economic system change from the traditional plan-closing economic system to the socialist market economic system, and the economic growth mode changes from extensive to intensive [2]. Industry-university cooperation is an important form and an effective way for the transformation of scientific and technological achievements, and achieving the transformation of scientific and technological achievements is an important goal of carrying out industry-university cooperation projects. At present, in order to seize the strategic commanding heights of scientific and technological competition, countries around the world continue to increase investment in research and development of science and technology. However, due to the separation of scientific research and production, the transformation of scientific and technological achievements has become a common problem faced by all countries in the world [3]. For production enterprises, on the one hand, they have to face diversified, open and increasingly motivated market competition environment, on the other hand, they have to deal with the challenges of the variability and risk of technology market and the accelerated pace of technology upgrading [4].

More and more enterprises are unable to rely on their own technological innovation ability to

meet the needs of their own development and operation [5]. Industry-university cooperation is of great significance for realizing the grand goal of an innovative country, strengthening the ability of independent innovation of enterprises, realizing the function of universities serving the society and promoting the transformation of scientific research achievements of universities. Colleges and universities are far away from industrialization, and it is difficult to directly industrialize their achievements by themselves, which has become the key to the transformation of scientific and technological achievements in China [6]. To solve this key problem, effective cooperation between industry and university is indispensable. More and more enterprises are unable to rely on their own technological innovation ability to meet the needs of their own development and operation under the condition that their own technological research and development ability and innovation level are low. For production enterprises, they can use the scientific research personnel of the school to introduce and absorb the achievements of the school in the basic research stage and reduce the research and development cycle of new products and technologies [7]. The development of industry-university cooperation will inevitably promote the scientific and technological work of colleges and universities to adapt to the pace of socialist market economy more actively, and the industrial departments will improve their understanding of relying on science and technology.

2. Cooperation Mode of Technology Transfer Between Industry and University

Industry-university cooperation is an organization for the transformation of scientific and technological achievements in universities, scientific research institutions, and other production enterprises. According to its own resource capabilities and development needs, it cooperates to achieve complementary resource advantages, cooperative benefit sharing, and cooperative risk sharing. In essence, the conversion rate of scientific research results ultimately depends on market demand. The results of scientific research are the same as other commodities. Only when there is a large amount of consumer demand can the market flourish [8]. Industry-university cooperation usually includes different cooperation subjects such as universities, scientific research institutions, production enterprises, intermediary institutions and so on. Among them, production enterprises, as the main demand side of scientific and technological achievements, are the most active subjects in industry-university cooperation. Technology share is to convert the school's technology and participate in the profit distribution together with other assets of the enterprise. In the entry fee plus commission, at the beginning of signing the cooperation agreement, the enterprise pays an entry fee, and then divides the corresponding profit according to the negotiated ratio.

Industry-university cooperation has a natural connection with the market economy. Through various forms of industry-university cooperation, it is the main channel for the transformation of scientific and technological achievements in universities into real productivity. For academic research institutes whose main function is to create knowledge, the transformation of results is only Its derivative functions cannot blame the academic research institute for the problem of low achievement conversion rate. The scientific research needs of production enterprises are constantly changing, and a large amount of data is born. Need to constantly explore and accumulate experience in construction. Figure 1 shows the network structure system of talent scientific research awareness management.



Figure 1 Talent scientific research awareness management network structure system

Under the condition of market economy, cooperation between universities and enterprises and complementary advantages have become the common aspiration of both sides and an important way to promote the transformation of scientific and technological achievements. In the different stages of scientific and technological innovation activities, we should pay attention to the specialization division of labor and change the role of innovation subject immediately. Through the license agreement to obtain technology, enterprises can quickly enter a certain technology field, but in the future technology improvement, because it is not necessarily able to get external support, there are certain limitations. As the main creator and supplier of scientific and technological achievements, the main goal of the university to participate in the industry university cooperation is to test and improve its own research achievements in practice with the help of the advantages of enterprises in capital and market, and at the same time, it can obtain certain scientific research funds to support the follow-up research. In terms of benefit distribution, the interests of the University and the enterprise can be closely linked by means of technology equity or commission, so as to realize the continuous development of technical cooperation. In joint development, the interaction among individuals and between individuals and organizations provides conditions for the transfer of tacit and exclusive knowledge of the school. These interactions are very important for knowledge acquisition and knowledge creation. In the joint development, the school does not participate in the decision-making, but complies with the requirements of the enterprise and develops the technology together with the enterprise on the basis of the strength of the enterprise.

3. Influence Path of Scientific and Technological Achievements Transformation Performance

3.1. Factors Affecting the Choice of the Mode of Industry University Cooperation

The mode of cooperation between industry and university is directly related to the effect of technology transfer, but the choice of the mode of cooperation between industry and university is not the wishful thinking of the government, enterprises and universities, but the result of multiple factors. The transformation of scientific and technological achievements through industry-university cooperation can fully mobilize and integrate the resources of institutions of higher learning, scientific research institutions and production enterprises. The main purpose of enterprises engaged in technology development is to obtain rich profits from technology development [9]. Therefore, without exception, enterprises will also consider the expected profit of technology when choosing the mode of industry-university cooperation. The expected profit mainly depends on the market prospect of technology. As a kind of strategic behavior, when enterprises acquire technology, they will compare and analyze the costs and benefits of different cooperation methods according to the maturity of the required technology, so as to choose the most reasonable way. When choosing the cooperation mode, all subjects of industry and university should not only consider the actual situation of each subject, relevant policies, market environment and other factors, but also pay

attention to the types of scientific and technological achievements. Under the new development situation and requirements, colleges and universities must speed up the transformation of scientific and technological achievements into real productive forces, so that scientific and technological development can truly become a powerful support for economic and social development.

3.2. Influence Path of Scientific and Technological Achievements Transformation Performance

The transformation of scientific and technological achievements, as a complicated and long-lasting technological R&D and innovation activity, will be influenced and restricted by many factors in this process. The basic reason why the effect of industry-university cooperation is not obvious is that there are some guiding defects in the incentive mechanism and funding mechanism of scientific research in schools, which fail to achieve the expected incentive direction and function. The choice of cooperation mode between industry and university not only directly affects the smooth acquisition of technology, but also affects the development and even survival of enterprises. Therefore, enterprises should be cautious when choosing the mode of industry-university cooperation. Due to the complexity, difference and comprehensiveness of knowledge resources involved in different types of scientific and technological achievements, there are differences in the maturity, technical level and risk degree of scientific and technological achievements. Therefore, different types of scientific and technological achievements have different applicability to the choice of cooperation mode, and then the choice of industry-university cooperation mode needs to be considered and depends on the type of scientific and technological achievements to a great extent. School-run enterprises not only undertake the task of serving teaching, but also the task of transforming scientific and technological achievements into productivity. Colleges and universities can selectively go deep into enterprises and establish closer ties and cooperation with enterprises according to their own disciplinary advantages.

4. Conclusions

The transformation of scientific and technological achievements is actually a universal problem. Therefore, we need to think deeply about the effectiveness of the transformation of scientific and technological achievements and the fundamental obstacles that affect the performance of the transformation of scientific and technological achievements. To promote the transformation of scientific and technological achievements, it is inseparable from the convergence of government in system, mechanism and policy. The transformation of scientific and technological achievements, as a complicated and long-lasting technological R&D and innovation activity, will be influenced and restricted by many factors in this process. When acquiring technology, enterprises should choose the appropriate way of industry-university cooperation according to their own situation, combined with technical characteristics and school conditions, so that technology can be transferred from school to enterprise smoothly. University leaders should strengthen the cultivation of extension talents, establish and improve the team of extension personnel and improve their professional quality from a long-term strategic perspective. Only by constantly updating ideas and improving policies according to the requirements of social development can we promote the transformation of university achievements in thought and action. Under the new development situation and requirements, colleges and universities must speed up the transformation of scientific and technological achievements into real productive forces, so that scientific and technological development can truly become a powerful support for economic and social development.

References

- [1] Zhang, J.S. (2015). Promoting effective cooperation between industry, academia and research and accelerating the transformation of scientific and technological achievements. *Heihe Academic Journal*, vol. 000, no. 012, pp. 6-7.
- [2] Zhu, H.J., Cong, Y.H. (2017). Research on Industry-University Cooperation Education Based on

Transformation of Scientific and Technological Achievements. China Educational Technology and Equipment, vol. 000, no. 020, pp. 148-149.

[3] Ren, Y. (2018). Policy support for the transformation of scientific and technological achievements under the mode of industry-university-research cooperation. Science and Technology of Chinese Universities, vol. 000, no. 006, pp. 77-78.

[4] Zhu, J.J. (2017). Strengthen school-enterprise cooperation to promote the transformation of scientific and technological achievements. Anhui Science and Technology, vol. 000, no. 010, pp. 26.

[5] Shi, Z.F. (2015). Analysis and countermeasures of the cooperation between industry, university and research institute and technology transfer in our school. Science and Technology Outlook, vol. 000, no. 019, pp. 243-244.

[6] Zhao, H. (2018). Research on the countermeasures for the transformation of scientific and technological achievements under the cooperation mode of industry, university and research in Harbin. Journal of the Party School of Harbin Municipal Committee, vol. 116, no. 02, pp. 60-64.

[7] Wang, H. (2015). Accelerate the transformation of scientific and technological achievements in colleges and universities using the shareholding model. Science and Technology of Chinese Universities, vol. 000, no. 008, pp. 75-77.

[8] Xie, L., Shuai, H.M., Zhu, J. (2018). Research on the transformation of scientific and technological achievements of university students in applied undergraduate colleges. China Educational Technology and Equipment, vol. 000, no. 002, pp. 83-85.

[9] Chang Y.Q., Zhou C.M. (2016). An empirical analysis of the transformation of scientific and technological achievements in local undergraduate colleges and universities. Journal of Huzhou Teachers College, vol. 38, no. 006, pp. 40-44.

[10] Yi, Gaofeng. (2015). The Dilemma and Outlet of Industry-University-Research Cooperation in Local Universities. Jiangsu Higher Education, no. 01, pp. 117-119.