

Policy Optimization Strategy of S&T Achievement Transformation from Stakeholder Perspective

Jiayi Ma¹, Tao Pang²

¹School of Humanities and Law, Northeastern University, Shenyang 110169, China

²Physical Education School, Shenzhen University, Shenzhen 518060, China

Abstract: At present, China has built an independent transformation mechanism of scientific and technological achievements. Although each subject has a strong desire to transform scientific and technological achievements, how to promote the operation of the transformation mechanism of scientific and technological achievements is particularly critical. This paper analyzes the needs of each subject in the transformation of scientific and technological achievements from the perspective of stakeholders, and according to the actual situation from scientific research institutions, enterprises, governments and relevant departments, financial institutions, policy optimization strategies, in order to provide countermeasures for improving the efficiency of scientific and technological achievements transformation.

Keywords: Transformation of scientific and technological achievements, Policy suggestions, Incentive mechanism.

1. Research Background

Strengthening the transformation of scientific and technological achievements as an important form of implementing scientific and technological innovation achievements, its elements and efficient transformation is particularly critical. Efficient transformation is due to the construction of the molding system and mechanism, and the efficiency difference is due to the demands of different subjects. Although the enthusiasm of scientific and technological achievements is high, the conversion rate of scientific and technological achievements is still low. The academic community has analyzed some results from the behavior motivation, the platform for the transformation of scientific and technological achievements in universities, and the scientific and technological policy texts and policy tools. However, such research ignores the needs of multiple subjects in the transformation of scientific and technological achievements and the different relationships formed therefrom. Based on the stakeholder theory, this paper analyzes the needs of the subjects involved in the transformation of scientific and technological achievements, and puts forward suggestions on optimization measures to improve the efficiency of the transformation of scientific and technological achievements.

2. Literature Review

This paper for the definition of the transformation of scientific and technological achievements using the law of the People's Republic of China on promoting the transformation of scientific and technological achievements of its interpretation: in order to improve the level of productivity of scientific research and technology development of the follow-up test, development, application, promotion until the formation of new products, new technology, new materials, the development of new industries and other activities.

Freeman (1984) defines stakeholders as "a group or individual who can affect the realization of or is affected by organizational goals", a concept that covers all the subjects related to organizational goals and is too broad for this

study[1]. On this basis, Clarkson (1994) proposed that stakeholders are the groups that invest manpower, capital and other factors and bear certain risks [2], based on the reality of China is defined as follows: those that can directly participate in each link of the transformation of scientific and technological achievements, or invest manpower, capital and other factors to bear certain risks.

3. Stakeholder Subject Needs and Relationship Analysis

According to the above definition, the stakeholders and needs are analyzed, and the subjects directly involved in the transformation process of scientific and technological achievements include the supply and demand parties, namely scientific research institutions and enterprises:

First scientific research institution. As the direct provider of scientific and technological achievements, scientific research institutions cover universities, scientific research institutes, scientific research teams, etc., and they constitute mainly scientific researchers. On the one hand, researchers transform scientific and technological achievements to meet higher material needs through the transformation of scientific and technological achievements; on the other hand, they need to meet the needs of self-realization value, transform and test the adaptability of scientific and technological achievements, maximize the value of scientific and technological achievements, and lead the development direction of technology to a certain extent. Scientific research institutions undertake the functions of scientific research capital investment and scientific and technological personnel training, and the purpose is to realize the research and development and sustainable development of scientific and technological achievements.

Second, enterprise. Enterprises are the main demanders of scientific and technological achievements. As a for-profit organization, enterprises participate in the transformation of scientific and technological achievements to obtain the richest profits at the lowest cost. If the innovation cost and profits generated of scientific and technological achievements meet their needs, they will actively participate in the transformation

of scientific and technological achievements only when they meet their investment expectations. Therefore, the participation of enterprises is directly affected by the ability, willingness to demand scientific and technological achievements and profit [3].

In addition, for the transformation of scientific and technological achievements, intermediaries connect the supply and demand parties, financial institutions provide financial guarantee, and the government and relevant departments provide a legal and policy environment to indirectly participate in the transformation of scientific and technological achievements.

First, science and technology intermediaries. At present, China's science and technology intermediary organizations are mainly responsible for the bridge between enterprises and scientific research institutions, connecting the supply and demand sides. Due to the official or semi-official nature, the demand for profit is not high, which belongs to the category of both economic income and social value. Without the efficient operation formed by the value maximization of the European and American markets, it may have the problems

of poor professionalism, insufficient confidentiality and complex operation mechanism. [4]

Second, financial institutions. The transformation of scientific and technological achievements needs a large amount of financial support, and financial institutions represented by banks can provide financial guarantee for them. The appeal of financial institutions is to obtain certain profits by providing funds, which are influenced by the cooperative enterprises and the scientific and technological achievements themselves.

Third, the government and related units. Government is the transformation of scientific and technological achievements policy makers, is also part of the funding provider, the government through finance, talent and other aspects of policy formulation for scientific and technological achievements to provide good legal and policy environment, fully guide the main body to participate in the transformation of scientific and technological achievements, the goal is to achieve rely on innovation driven economic connotative high quality development.

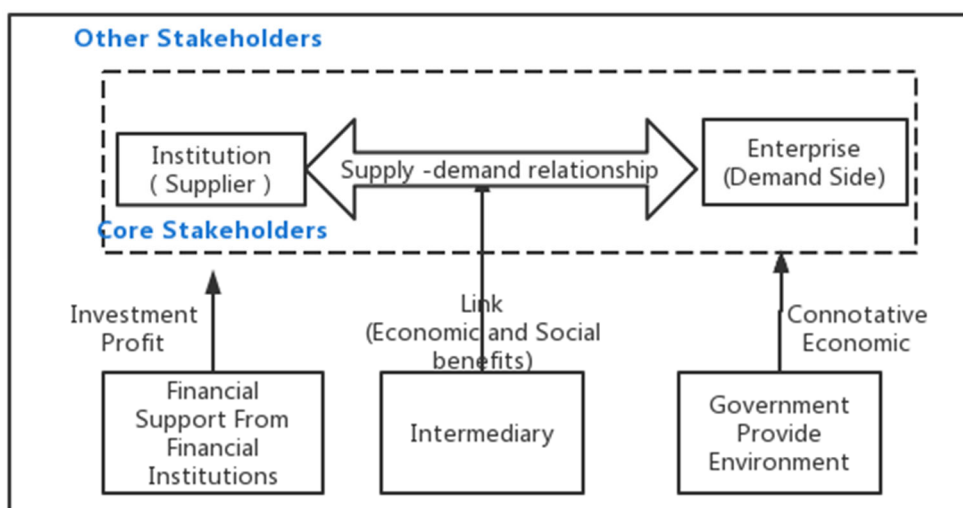


Figure 1. Schematic diagram of stakeholders and relationships in the transformation of scientific and technological achievements

4. Policy Optimization Strategy

First, scientific researchers and institutions. On the one hand, the incentive and diversified evaluation system of scientific researchers should be improved. Existing research results have shown that incentive plays an important role in the transformation of scientific and technological achievements. In terms of material incentive, China has now adopted equity incentive, cash incentive, scientific research funds and other forms to provide researchers with material incentive after the transformation of achievements, which should be adjusted appropriately according to the actual situation. In terms of spirit, we should establish a perfect transformation and promotion system of scientific and technological achievements and a diversified evaluation system, rather than only paper promotion, so as to improve the enthusiasm of the transformation of scientific and technological talents. For example, the pilot system of empowerment system for job achievements still needs to be improved in terms of approval and evaluation [], so as to increase the material income of researchers and meet the needs of researchers' knowledge and respect for their

achievements. [5]

Second, enterprises should fully consider the strength of enterprises in scientific and technological transformation, and enhance the awareness of the transformation of scientific and technological achievements. In government procurement, tax incentives and other aspects should be appropriately inclined to enterprises to actively carry out the transformation of scientific and technological achievements. Strengthen the publicity of knowledge policies for the transformation of scientific and technological achievements, guide enterprises to attach importance to and actively participate in it, shoulder their social responsibilities while making profits, and make contributions to the social and economic development.

Third, intermediaries should improve their professional level, improve their support capacity and service efficiency. Some market elements are introduced to promote the development of intermediary agencies, and the efficient docking of enterprise needs and scientific research achievements is realized through scientific and technological services and intelligent systems. Increase the investment in confidentiality, and build a trust relationship with scientific research institutions. Strengthen the training of professional

intermediary service personnel, especially the awareness of property rights, and set up professional institutions for science and technology intermediary service personnel training. We will revise regulations on intermediary agencies, and build a whole-chain intermediary service system for scientific and technological research and development and achievement transformation.

Financial institutions should give preferential policies to stimulate the enthusiasm of financial institutions to participate. Financial institutions provide fund guarantee for the purpose of profit, and can directly provide convenience through financial incentives and tax incentives to financial institutions that support the transformation of scientific and technological achievements, encourage the investment of a variety of financial institutions, and expand the sources of funds for the transformation of scientific and technological achievements.

In general, there is a contradiction between the purpose of transforming scientific and technological achievements and the actual situation of enterprises. Financial institutions and enterprises pay more attention to the acquisition of economic interests. The needs of scientific research institutions and science and technology intermediaries include both interests and the expectation of scientific and technological

development, while the government expects economic development from an overall perspective. We should pay attention to the contradiction of demand, adopt the strategy of combining theoretical research and practical research of guiding science and technology development in the research aspect, and guide the profit aspect to give consideration into account the sustainable development of science and technology.

References

- [1] FREEMAN, R E. Strategic Management: A Stakeholder Approach[M]. Boston: Pitman, 1984.
- [2] CLARKSON, M. B. A Risk Based Model of Stakeholder Theory[C]. In Proceedings of the Second Toronto Conference on Stakeholder Theory, 1994: 18~19.
- [3] Li Qiaosha, Wu Yu. Policy optimization strategy for the transformation of scientific and technological Achievements [J]. Macroeconomic Management, and the 2021(10): 69-76. DOI: 10.19709/j.cnki.11-3199/f.2021.10.012.
- [4] Xu Mingbo, Xun Yuan. The —— is based on the comparative analysis of the transformation institutions of scientific and technological achievements in Sino-American research universities [J]. Higher Education Exploration, 2021 (11): 34-42.