

Policy Dilemmas and Institutional Responses in University Technology Transfer Under China's MEI Strategy

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Abstract

Under China's "Mass Entrepreneurship and Innovation" (MEI) strategy, universities are expected to play a greater role in technology transfer and innovation. However, the commercialization efficiency of scientific and technological achievements remains limited. This paper examines institutional barriers from the perspectives of incentive mechanisms and intellectual property governance. Using Zhejiang University as a case study, the study identifies challenges related to incentive alignment, intellectual property management, and commercialization pathways. The findings suggest that improving technology transfer requires coordinated reforms in evaluation systems, intellectual property governance, and university-industry collaboration.

Keywords: university technology transfer, scientific and technological achievements, intellectual property, incentive mechanism, MEI strategy

1. Introduction

Since the implementation of the "Mass Entrepreneurship and Innovation" (MEI) strategy in 2014, China has continuously promoted the transformation of scientific and technological achievements generated by universities. As important sources of scientific knowledge and technological innovation, universities are expected to contribute to economic growth through the commercialization of research outcomes.

In recent years, the Chinese government has introduced a series of policies encouraging technology transfer and industry-university collaboration. These policies aim to improve the

utilization of research achievements and strengthen the role of universities within the national innovation system. Although research outputs and patent applications have increased significantly, the commercialization rate of university scientific achievements remains relatively low.

Many studies suggest that institutional arrangements are critical determinants of technology transfer performance. Among various factors, researchers' incentives and intellectual property governance are particularly important. However, challenges related to academic evaluation systems, intellectual property management, and market connections continue to limit the effectiveness of commercialization

activities.

This paper analyzes the major policy dilemmas affecting university technology transfer from the perspectives of incentive mechanisms and intellectual property governance. Zhejiang University is selected as a representative case due to its extensive experience in technology transfer and industry collaboration. Through policy analysis and case evidence, the study explores possible institutional responses to improve commercialization performance.

2. Policy Dilemmas in University Technology Transfer

2.1 Incentive Constraints

One of the most important barriers to technology transfer is the inadequacy of incentive mechanisms.

Although many universities have introduced revenue-sharing policies, commercialization activities often involve considerable uncertainty and long development cycles. Compared with academic publications and research projects, technology transfer is frequently perceived as a high-risk activity with uncertain returns.

Academic evaluation systems further reduce researchers' motivation to participate in commercialization. In many institutions, publications, grants, and academic awards remain the primary criteria for promotion and performance assessment. Commercialization achievements generally receive less recognition, leading researchers to focus on traditional academic activities.

In addition, many universities emphasize rewards after successful commercialization while providing limited support during the commercialization process. Insufficient training, market guidance, and entrepreneurial services reduce researchers' ability to transform scientific achievements into practical applications.

2.2 Intellectual Property Constraints

Intellectual property governance represents another major challenge.

Universities often face difficulties in patent application, maintenance, licensing, and protection. These activities require substantial financial and administrative resources, creating burdens for both institutions and researchers.

Many universities also lack professional personnel with expertise in technology, law, and business management. As a result, intellectual

property operations may be inefficient, reducing the effectiveness of technology transfer activities.

Furthermore, information asymmetry between universities and enterprises remains common. Universities may have limited understanding of market demand, while enterprises often lack access to available technological resources. This mismatch weakens cooperation opportunities and reduces commercialization efficiency.

2.3 Limited Commercialization Channels

Technology transfer activities still rely heavily on traditional industry–university cooperation models.

Although such cooperation remains important, emerging mechanisms such as intellectual property financing, venture capital investment, and innovation funds have not yet been fully developed. Many technologies therefore struggle to obtain financial support during the commercialization process.

At the same time, the absence of standardized valuation systems makes it difficult to determine the market value of scientific achievements. Pricing disputes and transaction uncertainties often reduce the willingness of both universities and enterprises to participate in technology transfer activities.

Together, these institutional constraints continue to hinder the effective transformation of university research outcomes.

3. Case Study: Zhejiang University

Zhejiang University is widely recognized as one of China's leading universities in technology transfer. Located in the Yangtze River Delta region, the university benefits from a strong innovation environment and extensive industry resources.

To promote commercialization, Zhejiang University has established specialized technology transfer offices responsible for patent management, licensing, and technology services. The university has also implemented revenue-sharing mechanisms that allocate a substantial proportion of commercialization income to researchers, thereby encouraging participation in technology transfer activities.

In addition, Zhejiang University actively cooperates with enterprises and local governments through research platforms and innovation partnerships. These initiatives have improved connections between scientific

research and market demand, contributing to the commercialization of research achievements.

Despite these achievements, several challenges remain. Academic publication performance continues to exert a stronger influence on career advancement than commercialization outcomes. As a result, some researchers still prioritize traditional academic activities over technology transfer.

Administrative procedures related to intellectual property management can also be complex and time-consuming. Moreover, shortages of interdisciplinary professionals with expertise in law, finance, and technology continue to affect commercialization efficiency.

The experience of Zhejiang University demonstrates that even highly successful institutions face institutional constraints similar to those observed throughout the higher education sector. These challenges indicate that technology transfer requires not only policy support but also continuous institutional reform.

4. Policy Responses

Several policy measures can help improve university technology transfer.

First, universities should establish more balanced evaluation systems that recognize commercialization achievements alongside traditional academic outputs. Promotion criteria should include indicators such as patent licensing, technology transfer contracts, and entrepreneurial activities. Such reforms can better align researchers' incentives with innovation objectives.

Second, intellectual property governance should be strengthened through the development of professional technology transfer teams and improved patent management services. Universities should enhance cooperation with legal and financial institutions to improve commercialization efficiency and reduce transaction costs.

Third, diversified commercialization channels should be encouraged. Venture capital participation, innovation funds, intellectual property financing, and entrepreneurial incubation programs can provide additional support for technology transfer activities. At the same time, stronger cooperation among governments, universities, and enterprises can help create a more favorable innovation environment.

5. Conclusion

University technology transfer is an important component of China's innovation-driven development strategy. Although substantial progress has been achieved under the MEI framework, institutional barriers continue to limit commercialization performance.

This study identifies three major challenges: inadequate incentive mechanisms, weaknesses in intellectual property governance, and limited commercialization channels. The case of Zhejiang University demonstrates both the achievements and limitations of current practices.

Improving technology transfer efficiency requires coordinated reforms that align researcher incentives, strengthen intellectual property management, and expand market-oriented commercialization pathways. Through continuous institutional improvement, universities can make greater contributions to technological innovation and economic development.

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