ISSN 2616-5902 Vol. 7, Issue 7: 191-196, DOI: 10.25236/AJBM.2025.070725

Research on the Path Optimization of Corporate-Style Reform for Scientific Research Institutions in Chengdu

Chenyu Xia[1,a,*], Weipeng Sun[2,b]

[1]*Business School, Geely University of China, Chengdu, Sichuan Province, China*
[2]*Institute of Intelligent Networking and New Energy Vehicles, Geely University of China, Chengdu, Sichuan Province, China*
[a]*3240173693@qq.com*, [b]*sunweipeng0812@163.com*
**Corresponding author*

Abstract: *Chengdu is rich in scientific research resources but inefficient in the transformation of achievements, which is rooted in the rigidity of the management system of traditional public institutions, the lack of incentive mechanism and the poor market docking. In view of the core problems of scientific research institutions, such as the administrative structure, the ambiguity of achievement attribution, the lack of flexibility of the management system, and the lack of market channels, this study proposes an optimization scheme for the path of enterprise transformation: establish a classified and hierarchical governance mechanism, and implement a dual-track system of corporate governance and target performance; Improve the distribution of income from the transformation of achievements, break the compilation restrictions, and build a market-oriented multiple evaluation system; strengthened institutional safeguards; Cultivate specialized transfer institutions, implement the dual team collaboration of "scientific research transformation", and develop the technology manager system and the construction of regional collaborative ecology. The study emphasizes the need to promote the transformation of scientific research institutions from administrative dependence to market-oriented entities through systematic mechanism reconstruction and policy empowerment, and activate the driving force of Chengdu's scientific and technological innovation.*

Keywords: *Chengdu; Scientific Research Institutions; Corporate-Style Reform; Path Optimization*

1. The Practical Context of Chengdu's Reform Efforts

As one of China's key national science and technology innovation centers, Chengdu boasts rich scientific research resources and a solid technological foundation. The city hosts over 100 research institutes and universities, including the Chinese Academy of Sciences Chengdu Branch, University of Electronic Science and Technology of China (UESTC), Southwest Jiaotong University, and Sichuan University, forming a relatively complete research system and high-level innovation platforms. According to the Chengdu Science and Technology Innovation "14th Five-Year Plan", Chengdu has established a science and technology innovation ecosystem centered on "universities - research institutes - enterprises." Its total R&D expenditure ranks among the top in central and western China, with the city's overall R&D intensity exceeding 2.3% in 2023 and over 12,000 high-tech enterprises.

However, despite the high concentration of research resources, the efficiency of translating scientific and technological achievements into practical applications does not match this resource endowment, creating a prominent contradiction of "strong research, weak transfer." On one hand, the management mechanisms of research institutions still follow the traditional public institution model, lacking organizational forms and process mechanisms for market interaction. On the other hand, key links in the technology transfer process—such as technology valuation, intellectual property rights confirmation, and business model design—lack systematic support, causing many research outcomes to stall at the "laboratory stage."

Data from the Chengdu Science and Technology Bureau shows that although the city's universities and research institutes led the province in publishing high-level papers and granting patents in 2022, the actual number of technology transfer contracts signed and the proportion of projects successfully implemented remain low. The "final mile" of technology transfer still faces institutional blockages. The

ISSN 2616-5902 Vol. 7, Issue 7: 191-196, DOI: 10.25236/AJBM.2025.070725

root cause of this problem is that research institutions have not yet established operational mechanisms characterized by self-management, self-financing, and market orientation. Researchers still lack the intrinsic motivation and institutional guarantees to push scientific and technological achievements into the market.

Furthermore, reforms in fiscal funding and project management systems lag at the local level. Most research institutions face difficulties in fund usage characterized by "heavy approval, light efficiency." Regulations on annual fund utilization rates and rigid budget categories constrain the flexibility of research activities. Especially in areas like joint R&D with enterprises, incubation of emerging technologies, and venture capital, mismatched financial systems have become a key obstacle hindering the industrialization of scientific and technological achievements in Chengdu.

Regarding talent mobility, while Chengdu has strong appeal for research talent, internal incentives within public research institutions are insufficient. Constrained by the institutional environment of "fixed identities," "staffing quotas," and "inflexible performance," many high-level researchers prefer to join technology companies or university platforms for better compensation and development opportunities. This trend directly weakens the fundamental innovative strength that research institutions should possess and further exacerbates the structural contradiction of "positions without responsibility, responsibility without authority" within research teams.

Therefore, as Chengdu strives to build a national innovative city and accelerate the construction of a "highland for technology transfer," promoting the transformation of scientific research institutions from administrative dependence towards corporatization, autonomy, and market orientation is not only a fundamental way to solve the current problem of the "disconnect between research and industry" but also an urgent need to enhance the city's scientific and technological innovation capacity and regional competitiveness.

2. Research on Management Models of Scientific Research Institutions

Currently, incentive policies for technology transfer in public research institutions have become a hot research topic in academia and policy circles. Foreign scholars primarily conduct systematic research on incentive purposes[1], acquisition strategies[2], incentive measures[3-4], and incentive effects[5]. Walter et al.[6] argue that obtaining necessary transfer benefits is a crucial motivation and necessary measure to incentivize researchers to participate in technology transfer. Ouellette et al.[7], using data from 152 US universities as a sample, found no significant positive correlation between the inventor's share of revenue and licensing income, suggesting that high revenue-sharing ratios lack measurable positive effects on research output.

Gong Min et al.[8] constructed a framework for designing a whole-process mechanism covering outcome ownership confirmation, benefit distribution, and transfer process control, proposing theoretical propositions for improving incentive policies in public research institutions. Liu Xin et al.[9] combined the policy process of intellectual property incentives for researchers to construct a "property rights incentives - policy causal chain - behavioral response" mechanism map, proposing systematic governance strategies to overcome the fragmentation of incentive policy processes. Gu Zhiheng[10] pointed out that current incentive policies for technology transfer in research institutions still suffer from issues like unclear definition of incentive subjects and difficulties in recognizing research contributions, and proposed countermeasures and suggestions for establishing an incentive mechanism based on effectiveness evaluation.

3. Cognition and Current Status Diagnosis of Corporate Transformation for Scientific Research Institutions

3.1 Current State of Transformation Cognition: Conceptual Consensus Not Fully Established

Currently, with the continuous advancement of national reforms in the science and technology system, "corporate-style management" and "technology transfer" have become key words for the development of scientific research institutions. At the policy level, most research institutions recognize the necessity of corporate reform, especially driven by national policies such as "talent recruitment initiatives", "technology transfer," and "reform of ownership rights for job-related scientific and technological achievements." Some researchers and institutional leaders recognize the important role of market mechanisms in allocating research resources.

ISSN 2616-5902 Vol. 7, Issue 7: 191-196, DOI: 10.25236/AJBM.2025.070725

However, research indicates significant disparities in overall understanding. On one hand, management in some institutions adopts a cautious attitude towards corporate transformation, fearing that excessive marketization could compromise research independence and public welfare attributes. On the other hand, while frontline researchers desire to break free from management constraints, they lack a clear understanding of the specific content and implementation paths of a corporate management system. Misconceptions equating "corporatization" solely with "profitability" or even "commercialization" are prevalent, leading to insufficient motivation for reform.

Additionally, some institutions have a vague understanding of the institutional logic of corporate reform, viewing it merely as simplification and optimization of finance, contracts, or project processes, while neglecting deeper transformation needs in organizational structure, outcome incentives, and team culture. These differences and ambiguities in understanding pose potential obstacles to advancing reform.

3.2 Reform Response and Actual Progress: Uneven Progress with "Fragmentation" Tendency

In terms of institutional practice, some scientific research institutions in Chengdu are actively exploring reform paths. For example, some have established technology transfer offices, introduced market-oriented performance management mechanisms, and tried methods like equity participation based on technology valuation, technology licensing, and jointly establishing industrial companies to promote technology transfer. Others have promoted "government-industry-university-research-application" collaboration by introducing social capital, co-building laboratories with enterprises, or participating in incubator operations, achieving phased results.

However, looking at the overall picture, reforms often exhibit characteristics of "isolated breakthroughs but overall stagnation." Some reforms remain at the level of superficial institutional innovation, lacking a systemic reshaping of organizational structure, governance mechanisms, and operational models. Some reform measures appear more as "responses to policy requirements," lacking endogenous motivation and sustainability, leading to obvious tendencies of "fragmentation" and "ritualization."

Taking technology outcome management as an example, most institutions still use traditional registration and reporting mechanisms, lacking dynamic management mechanisms for implementation. Regarding incentives, although some institutions have introduced methods like performance bonuses and technology transfer commissions, actual distribution rules are often vague, payout cycles are long, and researchers' sense of gain is weak, resulting in low enthusiasm for transfer..

3.3 Typical Obstacles and Structural Issues

Comprehensive research reveals that the main obstacles currently constraining the corporate transformation of scientific research institutions are concentrated in the following areas:

Rigid Organizational Structure: Most institutions retain traditional administrative departmental structures, hindering the formation of cross-departmental collaboration and market-oriented project operation mechanisms.

Ambiguous Outcome Ownership: Unclear ownership rights and distribution mechanisms for job-related scientific and technological achievements lead to undefined responsibilities in transfer, weakening researchers' willingness to participate.

Inflexible Management Systems: Excessive budget controls, rigid staffing quotas, and cumbersome project approval processes severely constrain project flexibility and market responsiveness.

Lack of Market Access Channels: The absence of professional technology transfer teams and intermediary platforms creates severe "information asymmetry" between enterprises and research institutions, leading to "sedimentation" of outcomes.

Inadequate Risk Tolerance Mechanisms: Unclear accountability mechanisms for failed transfer projects foster a widespread "prefer conservatism to avoid mistakes" mentality among researchers, stifling innovative and risk-taking spirit.

Therefore, to truly drive scientific research institutions towards corporate management transformation, it is necessary not only to guide through institutions and policies but also to break traditional mindset constraints, reshape organizational culture, strengthen market awareness, and build a governance system with endogenous motivation.

ISSN 2616-5902 Vol. 7, Issue 7: 191-196, DOI: 10.25236/AJBM.2025.070725

4. Countermeasures and Suggestions for Corporate Transformation of Scientific Research Institutions

4.1 Management Model Innovation: Establishing a "Classified, Layered, Market-Oriented" Governance Mechanism

Classified Guidance, Layered Advancement: Develop differentiated corporate management models based on the institution's functional positioning (e.g., basic research, applied technology, industrial support). For instance:

Basic research units: Emphasize free exploration and long-term support.

Applied technology units: Promote project manager responsibility systems and market contracting.

Technology service units: Pioneer revenue target management and internal accounting mechanisms.

Institutions can improve the Dual-Track System of "Legal Entity Governance + Target Performance": While maintaining public ownership and a public welfare orientation, layered advancement should grant research institutions greater legal autonomy. It should also promote the establishment of council/board systems, introduce market rules and performance evaluation systems, and enhance internal operational efficiency and external resource integration capabilities.

Institutions can promote Flattened Project Management and Flexible Financial Management. Layered advancement can streamline project application and approval processes, grant project leaders autonomy in fund usage, introduce budget flexibility, and establish process adjustment mechanisms under controllable risks to improve the dynamic allocation efficiency of research resources.

4.2 Personnel Incentive Measures: Building a "Flexible Entry-Exit, Balancing Incentives and Constraints" Personnel System

Institutions can improve the Benefit Distribution Mechanism for Researchers by clarifying the reform path for ownership rights of job-related scientific and technological achievements. They should safeguard researchers' legitimate rights and interests in equity participation based on technology valuation, technology licensing, and equity incentives, enabling researchers to "contribute intellect as equity" and "monetize technology."

Institutions can break Identity Restrictions and Establish Diverse Employment Mechanisms. They should encourage flexible recruitment of high-level talent and technology transfer specialists through methods such as off-quota hiring, position appointments, and project contracts. Simultaneously, they should establish performance-linked compensation systems to enable positions and income to adjust based on performance.

Institutions can Incentivize Market-Oriented Research Behavior by incorporating technology transfer outcomes, effectiveness of enterprise cooperation, and market impact into researcher evaluation systems. This breaks away from the traditional "publication and project-only" orientation and builds multi-dimensional evaluation criteria.

4.3 Institutional and Policy Safeguards: Creating a Sustainable Institutional Support System

Institutions can refine Outcome Ownership and Risk Tolerance Mechanisms by clearly defining the ownership share between the institution and individual inventors, implementing the "first inventor priority" principle. They should also explore "fault tolerance + filing" mechanisms, granting exemptions to researchers for transfer failures that comply with established processes, thereby stimulating their enthusiasm for innovation and transfer.

Institutions can promote the Construction of Scientific Achievement Registration and Trading Mechanisms by building a unified municipal-level scientific achievement transfer service platform. This platform should offer one-stop services, including technology supply-demand matching, IP valuation, transaction facilitation, and contract services, bridging the "lab-to-market" chain.

Institutions can optimize Fiscal Funding Support Models. In addition to early-stage R&D funding, they should increase fiscal support for later-stage activities such as pilot testing, market validation, and technology incubation. They could also explore diverse investment methods, including government-guided funds, technology transfer insurance, and transfer risk compensation mechanisms.

ISSN 2616-5902 Vol. 7, Issue 7: 191-196, DOI: 10.25236/AJBM.2025.070725

4.4 Technology Transfer Capacity Building: Creating a Comprehensive Transfer System of "Platform + Mechanism + Talent"

Institutions can cultivate Professional Technology Transfer Organizations (TTOs) by establishing Technology Transfer Offices within universities, research institutions, or third-party platforms. These offices should be staffed with full-time transfer personnel to professionalize services such as outcome cataloging, valuation, market matching, and investment/financing consulting.

Institutions can establish a Dual-Channel Team Model ("Research + Transfer") by encouraging researchers to collaborate with technology managers and market-oriented operation teams to form project incubation teams. This achieves an efficient model where "scientists are responsible for technology, and marketers are responsible for implementation."

Institutions can develop a Technology Manager System by formulating a local certification system and performance evaluation mechanism for technology managers. They should also provide policy and financial support to foster a professional, stable, and motivated technology transfer talent pool.

4.5 Regional Collaboration Mechanism: Creating a "Government-Industry-University-Research-Application-Finance" Integrated Ecosystem

Institutions can deepen the "University-Locality-Enterprise" Linkage Mechanism by establishing strategic cooperation frameworks between research institutions and local industrial parks or leading enterprises. They should strengthen the two-way coupling of research resources and industrial needs through joint laboratories, joint funds, and collaborative innovation centers.

Institutions can promote the Deep Integration of Research Outcomes with Local Industrial Chains by focusing on Chengdu's key industrial sectors (e.g., new energy, biomedicine, smart manufacturing). They should build a coordinated advancement mechanism integrating "industrial chain + innovation chain + capital chain" to enhance the supportive effect of research outcomes on the regional economy.

Institutions can form a "Technology Transfer Ecosystem" with Chengdu Characteristics by converging elements such as policy, capital, platforms, and talent. This creates an ecological closed loop for the rapid incubation, efficient implementation, and stable growth of scientific and technological achievements, making research resources a core driver of the city's high-quality development.

5. Conclusion

Through the analysis of the current status, diagnosis of problems, and study of typical cases regarding corporate management reform in Chengdu's scientific research institutions, this study draws the following core conclusions:

(1) Corporate transformation is a crucial path for scientific research institutions to respond to innovation-driven development. The traditional management system centered on basic research is ill-equipped to adapt to rapid technological iteration and market demands. Corporate reform, by introducing market mechanisms, incentive mechanisms, and modern governance structures, enhances the autonomy and technology transfer capabilities of research institutions. It is the necessary path for these institutions to move towards high efficiency and high-quality development.

(2) The overall efficiency of technology transfer in Chengdu is relatively low, with the core bottleneck lying in the institutional mechanisms. Despite rich research resources and active innovation, constrained by rigid management, unclear outcome rights, and weak incentive mechanisms, the market conversion rate of scientific and technological achievements still lags behind eastern developed cities. Structural contradictions such as "many outcomes, few transfers" and "strong research, weak industry" persist.

(3) Exploratory reforms in some institutions have achieved preliminary success and possess replicable value. Successful cases from institutions like Chengdu Traffic Control Technology and Qitan Technology demonstrate the practical operability of corporate management models in organizational systems, technology transfer pathways, and personnel incentives. Their experiences with "government-industry-university-research-application" integration, equity participation based on technology valuation, and technology manager involvement are worthy of further promotion.

(4) The current reform is still in a critical stage of structural optimization and mechanism establishment. The corporate transformation of scientific research institutions requires coordinated

ISSN 2616-5902 Vol. 7, Issue 7: 191-196, DOI: 10.25236/AJBM.2025.070725

advancement of policy guidance, institutional innovation, and practical exploration. At this stage, the focus should be on mechanism improvement and ecosystem cultivation, balancing top-level design with grassroots operations to promote the formation of a sustainable technology transfer system.

This study proposes systematic suggestions for optimizing the path of corporate reform for scientific research institutions in Chengdu, possessing good policy reference and practical application value:

For government decision-making departments: It provides a basis for formulating more operational and differentiated reform plans, promoting a shift in the governance model of research institutions from "control-oriented" to "empowerment-oriented."

For research institutes and universities: It can guide them in improving internal management systems and building technology transfer mechanisms to enhance overall operational efficiency and technology output capabilities.

For technology transfer intermediaries and industrial parks: It offers reference to successful paths for optimizing their service functions in the achievement matching, incubation, and transfer chain.

Acknowledgements

*Project Number: 2025-RK00-00046-ZF

*Project Namer: Research on the Optimization of the Allocation Mechanism of University Research Resources for the New Energy Vehicle Industry Cluster in Chengdu

References

[1] Bercovitz J, Feldman M. Academic entrepreneurs: organizational change at the individual level [J]. Organization Science, 2008, 19(1): 69-89.
[2] Perkmann M, Tartari V, McKelvey M, et al. Academic engagement and commercialisation: a review of the literature on university–industry relations [J]. Research Policy, 2013, 42(2): 423-442.
[3] Siegel D S, Wright M. Academic entrepreneurship: time for a rethink? [J]. British Journal of Management, 2015, 26(4): 582–595.
[4] Grimaldi R, Kenney M, Siegel D S, et al. 30 years after Bayh–Dole: reassessing academic entrepreneurship [J]. Research Policy, 2011, 40(8): 1045-1057.
[5] Thursby J, Jensen R, Thursby M. Objectives, characteristics and outcomes of university licensing: a survey of major U.S. universities [J]. Journal of Technology Transfer, 2001, 26(1-2): 59–72.
[6] Walter A, Aitken J M, Barry B. University technology transfer: current practice and regional economic development implications [J]. Journal of Technology Transfer, 2021, 46(4): 1022–1045.
[7] Ouellette L L, Tutt A. How do patent incentives affect university researchers [J]. International Review of Law and Economics, 2020, 61: 105883.
[8] Gong Min, Liu Xin. Construction of Incentive Mechanism for Scientific Research Achievements Transfer Based on the Whole-chain Perspective [J]. Science and Management Research, 2023, 41(2): 88-96.
[9] Liu Xin, Li Sheng. Path Dependence and Governance Mechanism of the Evolution of Intellectual Property Incentive Policies [J]. Science Research Management, 2023, 43(1): 55-64.
[10] Gu Zhiheng. Practical Dilemmas and Optimization Strategies of the Current Incentive Mechanism for Technology Transfer in Universities [J]. Research in Educational Development, 2022(10): 71-78.