

Hybrid Collaborative Management Model for University Libraries: Exploration and Implications (Postprint)

Authors: Huang Ying, Liu Li, Yu Xinhe, Liu Wanguo

Date: 2023-07-26T00:00:00+00:00

Abstract

[Purpose/Significance] In the context of the “Double First-Class” construction, innovation in management models and reform of management systems and mechanisms in university libraries are imperative. [Methods/Process] Drawing on vertical administrative management and matrix business management models, a composite collaborative management model is constructed, and the practical achievements of system and mechanism reform at Northeast Normal University Library based on this model are presented. [Results/Conclusion] Recommendations and implications for development are proposed, including implementing innovation-driven development, emphasizing team culture construction, and adhering to the laws of scientific development.

Full Text

Abstract

In the context of China’s “Double First-Class” university initiative, innovating management models and reforming institutional mechanisms in academic libraries has become imperative. This study draws upon vertical administrative management models and matrix business management models to construct a composite collaborative management model. It introduces the practical outcomes of institutional reforms at Northeast Normal University Library, which adopted this composite collaborative approach. The paper concludes by offering recommendations and insights for library development, including implementing innovation-driven growth, emphasizing team culture construction, and following scientific development principles.

Keywords: university library; management model innovation; library management

1. Research Status of Management Model Innovation and Institutional Reform in University Libraries

While numerous studies address university library management, few focus specifically on management model innovation and institutional mechanism reform. Most existing research emphasizes personnel system reform as the core of library management transformation. For instance, Sun Hongyan argues that under market economy conditions, management system reform should strengthen collection development, expand service functions, and build talent teams. Fan Xiaoping identifies leadership execution as the key to reform, while Xu Yizhong and colleagues advocate for simplifying organizational structures, strengthening personnel reforms, establishing evaluation and incentive mechanisms, and enhancing talent development. Other scholars have discussed branch library management systems, such as Xu Weihua's examination of reforming management structures between main libraries and departmental collections, and Wang Qiong's proposal for a sustainable "main-branch" model where subject branch libraries operate under unified central leadership.

Some studies have introduced alternative concepts and methods, including Zeng Zhaoxia's advocacy for matrix business management as the future direction of library management, Tian Qing's call for introducing competition mechanisms, Ji Weihong's user-chain management framework, Peng Dan's human-centered management philosophy, and Yuan Minglun's suggestion to integrate CRP systems for operational innovation. Others have proposed organizational restructuring to adapt to changing environments, such as Zhu Qiang and Bie Liqian's description of Peking University's transformative reorganization shifting from a "document flow" to an "information flow" core, and Liu Suqing's argument for adjusting library organizational structures to accommodate rapid e-resource development. Although these studies have not broken free from traditional library management constraints, they provide a foundation for this paper's exploration of management model innovation and reform.

2. Drivers of Management Model Innovation and Reform in University Libraries

2.1 Supporting "Double First-Class" University Construction

As a vital functional department serving both the university and society, academic libraries must align with national requirements and institutional development goals to support "Double First-Class" construction. First-class universities require comprehensive strength, and first-class disciplines demand academic competitiveness—libraries serve as the backbone for academic and disciplinary excellence. User-centered management model innovation and institutional development will broaden and deepen knowledge services, promote discipline construction, and enhance student capacity building, thereby contributing directly to "Double First-Class" initiatives.

2.2 Responding to Library Extinction Discourse

The notion of library extinction has long persisted. In the late 20th century, renowned American librarian F. W. Lancaster predicted libraries' demise. In 2011, B. T. Sullivan from Alfred University argued that the extinction of academic libraries was considered inevitable in information evolution, urging librarians to develop a sense of crisis to resolve survival challenges. By 2012, the severe situation facing academic libraries was reiterated: traditional management models based on business processes no longer suited new era demands, requiring libraries to redefine development strategies and build user-centered business models and management mechanisms. Management model innovation and institutional reform thus become essential measures for libraries to counter extinction threats, seek vitality, and consolidate their irreplaceable status.

2.3 Adapting to Changing User Needs and Behaviors

The information environment has fundamentally transformed user needs and behaviors. According to OCLC's 2010 *Perceptions of Libraries* report, only 40% of users visited libraries for leisure reading or borrowing materials, while 85% began information searches using search engines and 82% relied more heavily on search engines than libraries. Print resource utilization has declined significantly, marginalizing libraries in user workflows. Libraries' self-perception as crucial teaching and research support services has not been widely recognized by faculty. To better meet diverse and high-quality information needs, libraries must shift from passive to proactive service delivery. New management models and institutional frameworks provide the foundation for delivering high-quality, precise services and represent the necessary path for adaptation.

2.4 Integrating into New Scholarly Communication Ecosystems

With cloud computing, "Internet Plus," and mainstream digital publishing, scholarly communication processes and models have transformed completely. Open access and self-media communication have become prominent, forcing libraries to confront impacts from new academic content trends. Traditional institutional mechanisms cannot address these new scholarly communication ecosystems; only through reform can libraries avoid obsolescence. Establishing new institutional mechanisms that keep pace with digital academic resource development represents an exploration of deep integration into new scholarly communication ecosystems.

2.5 Supporting Comprehensive University Reform

Recent comprehensive reforms in higher education, including educational and personnel system reforms, have created momentum for change. Libraries bear responsibilities for cultural dissemination and education and should fully cooperate with university-wide reforms. Following the university's educational and personnel reforms, libraries should innovate talent cultivation mechanisms and

educational models based on their specific circumstances, unlocking staff potential and establishing management systems that improve operational efficiency. Library institutional reform serves as a prerequisite for supporting comprehensive university reform.

3. Exploring a Composite Collaborative Management Model for University Libraries

3.1 Vertical Administrative Management Model

Originating from classical management theory, the vertical administrative management model—also known as hierarchical, graded, or pyramid management—was established on Fayol's organizational principles, where each subordinate receives commands from only one superior. Traditional libraries universally adopt this model: directors lead department heads, who in turn lead staff, with management functions transmitted top-down through a unidirectional linear structure. This model features strict hierarchies, centralized authority, stable organizational structures, clear responsibilities and authority, and unified command.

However, most university libraries currently using this model face inherent limitations: poor horizontal coordination and collaboration among functional departments, hindering organizational innovation; multiple management layers slowing information transmission and causing distortion; increased risk of management vacuums and decision-making errors; and excessive power concentration that stifles staff initiative and creativity. This resource-business-flow-centered model cannot accommodate the diverse service models developing in modern academic libraries.

3.2 Matrix Business Management Model

The matrix business management model originated from a problem-solving method proposed by California Institute of Technology astrophysicist F. Zwicky, also called systematic or multidimensional management, contrasting with traditional one-dimensional models organized by production, finance, sales, or engineering functions. Matrix management divides management into two types: traditional functional departments and special task groups formed by assigning personnel from various functional departments to complete specific projects, with designated leaders.

This model offers wide management spans, fast information flow, strong flexibility and adaptability, clear internal objectives, and fosters teamwork, staff potential, work innovation, and knowledge creation while saving resources and avoiding waste. Some libraries have adopted this model for subject services. However, challenges include temporary assignments weakening staff commitment and accountability, hindering supervision and middle-management development, dual leadership creating responsibility ambiguity, and high coordination costs.

3.3 Composite Collaborative Management Model

Given the drawbacks of both models, can their strengths be combined? Northeast Normal University Library pioneered theoretical exploration by integrating vertical administrative management with matrix business management. This composite model retains the vertical model's clear responsibilities and accountability while adopting the matrix model's rapid information flow and knowledge creation benefits. It establishes vertical functional departments, forms special working groups (service centers), and creates a central coordinating department to accelerate communication and feedback, creating an inclusive business exchange and management framework. Six years of practice have proven this composite collaborative management model feasible for university library institutional reform.

4. Institutional Reform Practice at Northeast Normal University Library

In 2012, Northeast Normal University Library shifted from passive to proactive service, emphasizing user-centered principles and constructing a management system oriented toward “students, disciplines, and scholarship” based on the composite collaborative management model.

4.1 Management System Reform

4.1.1 Reestablishing the Library's Mission and Vision In 2012, the library defined its mission as promoting research, supporting teaching, and preserving culture, with the vision of “building a user-centered, research-oriented, open, and internationalized library.”

4.1.2 Organizational Restructuring The original organizational structure exemplified vertical administrative management with 14 departments in a strict hierarchy. [Figure 1: see original paper] illustrates this original structure. The reorganization integrated 14 departments into 11, establishing literature resource construction and information technology application working groups responsible for university-wide resource development and IT services. The Research and Development Department coordinates overall business operations; two offices handle administrative and party affairs; two learning centers manage circulation, reading services, and user training; the Special Collections Department manages ancient and distinctive resources; the Acquisition and Cataloging Department handles print collection development; the Reference Department manages e-resources and knowledge services like novel technology searches; and the Subject Service Center conducts competitive intelligence analysis and research consultation. [Figure 2: see original paper] shows the new organizational structure.

4.1.3 Building Specialized Service Frameworks for “Learning, Disciplines, and Scholarship” (1) **Learning Support Center:** Serving students, this center focuses on humanities appreciation, general education, and space services, providing “one-stop” support for individual, collaborative, and personalized learning while fulfilling cultural preservation responsibilities. Tasks include traditional circulation, database promotion, multimedia and new technology experiences, computer training, library culture promotion, and nationwide reading initiatives.

(2) **Curriculum Service Center:** Serving both students and disciplinary teaching, this center supports curriculum services and instruction through teaching reference platforms and resource networks. Tasks include Blackboard platform maintenance, teaching resource collection and organization, paperless examination implementation, and MOOC practices.

(3) **Discipline Construction and Academic Research Support Center:** Serving disciplines and scholarly research, this center focuses on discipline development, professional literacy cultivation, and sophisticated knowledge services. Tasks include information literacy education, subject service website development, competitive intelligence analysis, and disciplinary literature resource assurance.

(4) **Digitalization and Information Technology Support Center:** Supporting university discipline construction and faculty/student research, this center uses technology to enhance services, supporting university-wide systems and digitalization initiatives, including cloud services and big data storage and analysis.

Each specialized service center comprises multiple departments, with each department leading specific tasks while others collaborate. Each center has primary and secondary leaders, typically associate directors.

4.2 Management Mechanism Adjustments

Effective management systems require complementary mechanisms. The library implemented annual work plans, year-end summaries, and established annual chronicles, development reports, and evaluation systems.

4.2.1 Establishing Business Development Supervision Groups These groups monitor departmental plan execution and regulation implementation, providing guidance and recommendations. Their votes account for 50% weight in annual evaluations.

4.2.2 Revising Regulations and Systems The library developed comprehensive regulations aligned with the new organizational structure, including evaluation management, performance management, research management, and research reward measures.

(1) Evaluation Management Measures: Based on principles emphasizing performance, collaboration, dedication, and fairness, the library conducts biannual evaluations at both departmental and individual levels. Evaluation leadership groups assess department heads and departments, while heads evaluate their staff. Outstanding individuals and departments receive recognition directly linked to professional appointments and performance rewards.

(2) Performance Management Measures: Building on evaluations, these measures manage workload, task difficulty coefficients, and effectiveness. Following principles of efficiency priority, performance-based compensation, and results orientation, the system links rewards to responsibilities and achievements, implementing policies favoring outstanding talent and key positions to cultivate top performers and create first-class results.

(3) Research Management and Reward Measures: These encourage staff to engage in business research, improving research quality, service standards, and professional competence. The measures incentivize innovation and thinking, supporting library transformation with particular emphasis on practical team-based research to contribute to collaborative development.

4.2.3 Establishing Staff Career Archives Career archives comprehensively record staff activities, including evaluations, research, awards, and participation in library events. These archives serve as factual bases for promotions and selections and provide materials for commemorative albums prepared for retiring staff.

4.2.4 Strengthening Talent Development The library encourages business-related research, organizes seminars, and provides discussion platforms. It has established library management projects, library foundation projects, and a young researchers' association to encourage comprehensive exploration of library development from various business perspectives.

4.2.5 Advancing Internationalization The library actively seeks international cooperation opportunities to broaden resource sharing and talent development pathways. By hosting international conferences, it has established friendly relations and strategic cooperation agreements with renowned university libraries worldwide, promoting characteristic resource co-construction, personnel exchanges, and mutual development.

4.3 Evaluation of Reform Outcomes

The institutional reforms have achieved remarkable success, earning recognition from university leadership and faculty for six consecutive years in annual evaluations, ranking first among affiliated units twice and second four times.

4.3.1 Significant Knowledge Service Achievements While maintaining traditional services, the library has added numerous knowledge services oriented toward “students, disciplines, and scholarship.” For students, it provides teaching resource networks and reading promotion, with the teaching resource network offering online courses, instructional materials, and support for smart education models like MOOCs and flipped classrooms. Its nationwide reading promotion earned recognition as the first university library demonstration base in Northeast China in 2015. For disciplines, it provides competitive intelligence analysis and disciplinary reports, regularly submitting analyses to university development offices and graduate schools and providing specialized reports for multiple colleges. For scholarship, it offers information literacy education and research consultation, including pioneering graduate-level information literacy courses and multiple popular literacy programs supporting young faculty research proposals and student thesis topics.

4.3.2 Enhanced Talent Team Building Through “inviting experts in” and “sending staff out,” the library has built training platforms that enhance professional competence and comprehensive quality. Since 2012, it has organized five “Autumn of Changbai Mountain” seminars, two international academic conferences, and five national conferences, establishing 11 library management projects and 34 library foundation projects. These initiatives have stimulated staff research potential, resulting in 104 academic papers and 17 university-level or higher research projects—representing a 425% increase in CSSCI (A-level) journal articles and 40% increase in vertical projects compared to the previous six years.

4.3.3 Extensive International Academic Exchange Cooperation agreements with multiple foreign university libraries have facilitated broad international exchanges. In 2014, the library signed an agreement with Ohio University, completing four staff exchange batches. A 2015 China-U.S. cooperation project lasted two weeks. Since 2016, agreements have been signed with the University of Ioannina (Greece), George Washington University, and Stony Brook University. In 2018, six staff members received training in the U.S. through a State Administration of Foreign Experts Affairs program. These activities have broadened staff international perspectives and injected new energy into “Double First-Class” support.

5. Insights from Management Reform Practice

5.1 Driving Comprehensive Development Through Innovation

The composite collaborative management model enables libraries to efficiently respond to change and adapt to era development. Flexible management creates favorable innovation environments. As President Xi Jinping stated in the 19th Party Congress report, innovation is the primary driver of development. Conceptual innovation guides institutional reform, organizational innovation provides

its foundation, systemic innovation offers key guarantees, and service innovation constitutes its fundamental purpose. Libraries must boldly attempt management model innovation, implement innovation-driven development strategies, and steadfastly pursue institutional reform to benefit readers, staff, and the university.

5.2 Building Library Culture to Unite and Motivate Staff

Reform inevitably encounters resistance, particularly when changing established mindsets. Staff need time to adapt to new management models. To ensure smooth implementation, libraries must provide guidance, especially during initial reform stages. Cultural construction and team cohesion are crucial—libraries should cultivate positive cultural atmospheres that enhance mutual respect, care, and assistance. Institutional reform should not only improve efficiency but also address staff psychological changes and capacity building, increasing belongingness and aligning all staff toward common goals.

5.3 Deepening Reform According to Scientific Development Principles

Reforms violating scientific development principles cannot progress. Effective management innovation requires respecting objective development laws, making reasonable adjustments based on continuous experimentation and exploration. Library institutional reform is a lengthy process requiring gradual, progressive improvement that adapts to era development and changing needs. Successful reforms will be accepted and promoted, and libraries must continuously deepen reform awareness to establish a new normal of scientific development.

5.4 Achieving Mutual Benefits for University and Library

Library institutional reform aims for better development. Reforms require comprehensive initial investigation and post-implementation evaluation. Successful reform should “consider what the university considers,” directly addressing institutional needs and contributing to talent cultivation, faculty development, discipline construction, and high-level research output to better serve “Double First-Class” initiatives and enhance library value and status. Being needed leads to being valued, prompting the university to allocate resources and prioritize library development. Effective library reform creates mutual benefits and promotes shared development.

6. Conclusion

Academic libraries have entered a new era where user-centered management is widely recognized, and supporting “Double First-Class” construction has become a new development goal. Institutional reform marks the starting point for libraries’ new journey. Under the composite collaborative management model,

user-centered reform can rapidly improve efficiency, enabling libraries to provide deep knowledge services that enhance university comprehensive strength and international competitiveness.

References

- [1] Yang Yushi, Liu Wanguo. Research on new scholarly communication ecology and university library evolution[J]. *Library and Information Service*, 2017, 61(14): 47-52.
- [2] Sun Hongyan. On university library management reform under socialist market economy system[J]. *Library Work in Colleges and Universities*, 1995(4): 4-6.
- [3] Fan Xiaoping. Thoughts on several issues in university library management system reform[J]. *Journal of Intelligence*, 2000(2): 86-88.
- [4] Xu Yizhong, Chen Guodao, Lu Shangqiong. Reflections on university library management system reform[J]. *Modern Information*, 2003(10): 46-47, 189.
- [5] Xu Weihua. Discussion on reforming management systems of university libraries and departmental collections[J]. *Journal of Intelligence*, 1995(4): 63-64.
- [6] Wang Qiong. Research on main-branch library management model in universities[J]. *Library and Information Service*, 2009, 53(19): 28-31.
- [7] Zeng Zhaoxia. Analysis of matrix business management model in university libraries[J]. *Library*, 2011(6): 120-121.
- [8] Tian Qing. Thoughts on university library management system reform[J]. *Library Work and Study*, 2015(9): 57-59.
- [9] Ji Weihong. Discussion on university library management model innovation based on user chain management[J]. *Modern Information*, 2006(1): 29-31.
- [10] Peng Dan. Research on university library management innovation under human-centered philosophy[D]. Chongqing: Southwest University, 2014.
- [11] Yuan Minglun. Adjustment of university library operation mechanisms under CRP system[J]. *Library and Information Service*, 2014, 58(15): 58-63.
- [12] Zhu Qiang, Bie Liqian. Future-oriented university library business and organizational restructuring: Case study of Peking University[J]. *Journal of Academic Libraries*, 2016, 34(2): 20-27.
- [13] Liu Suqing. Electronic resource management 催生 library new architecture[J]. *Journal of Academic Libraries*, 2012: 57.
- [14] Yang Xu, Yu Liangzhi. Lancaster's prophecy and iSchool's ambition: Cross-era discourse analysis[J]. *Journal of Library Science in China*, 2018, 44(3): 4-20.

- [15] Sullivan BT. Academic library autopsy report, 2050[EB/OL]. [2018-07-03]. <https://www.chronicle.com/article/academic-library-autopsy/125767>.
- [16] Chu Jingli, Yang Zhigang. Survival of the fittest: Debating new library extinction theory[J]. Library and Information Service, 2012, 56(11): 5-11.
- [17] Perceptions of libraries, 2010: Context and community[EB/OL]. [2018-07-03]. <https://www.oclc.org/en/reports/2010perceptions.html>.
- [18] Zhang Xiaolin. Major trends subverting digital libraries[J]. Journal of Library Science in China, 2011, 37(5): 4-12.
- [19] Sun Bo, Liu Wanguo. Exploration of university library transformation during the 13th Five-Year Plan period based on environmental scanning[J]. Library and Information Service, 2016, 60(5): 5-11.
- [20] Decision of the Central Committee of the Communist Party of China on several major issues concerning comprehensively deepening reforms (adopted at the Third Plenary Session of the 18th CPC Central Committee on November 12, 2013)[J]. Qiushi, 2013(22): 3-18.
- [21] Implementation opinions on deepening personnel system reform in higher education institutions[M]//Department of Policy Research and Legal Construction, Ministry of Education. Compilation of Current Education Regulations of the People's Republic of China: 1996-2001 (Vol. 2). Beijing: Higher Education Press, 2002: 137-140.
- [22] Nie Rui, Mi Lingyun, Gao Wei, et al. Modern management theory[M]. Xuzhou: China University of Mining and Technology Press, 2007: 73-122.
- [23] Huo Yimin, Wu Kuanming. Scientific management and management science[M]. Beijing: Scientific and Technical Documentation Press, 1994: 29-38.
- [24] Yang Jingguang. Outline of ancient and modern management theories[M]. Beijing: Party School of the Central Committee of CPC Press, 2005: 238-242.
- [25] Cui Xiaochun. Pyramid management vs. flat management[J]. Teaching and Management, 2006(35): 5-7.
- [26] Zhou Jinlong. Crisis management for libraries in the digital age[M]. Beijing: Ocean Press, 2012: 57.
- [27] Wang Youmin. Modern logistics management[M]. Beijing: China Financial and Economic Publishing House, 2010: 100-101.
- [28] Huang Daqiang, Wang Mingguang. Chinese administrative management dictionary[M]. Beijing: China Materials Press, 1993: 63-78.
- [29] Kong Shanshan. Operations management[M]. Beijing: Petroleum Industry Press, 2003: 236-242.
- [30] Wang Yushan. Reflections on implementing matrix organizational structure in university libraries[M]//Chi Yuhua, Zhu Xi, Yang Lijuan. Innovation and

Practice of Libraries in China and the U.S. in the 21st Century. Kunming: Yunnan People's Publishing House, 2008: 56-58.

[31] Wei Lai, Gao Xiran. Role positioning of university data librarians under big data background[J]. Information and Documentation Services, 2015(5): 90-94.

Author Contributions: Huang Ying: Determined the paper's framework and wrote 部分内容; Liu Li: Wrote and revised 部分内容; Yu Xinhe: Revised 部分内容; Liu Wanguo: Determined the writing 思路 and provided guidance.

Research on Exploration and Enlightenment of Compound Cooperative Management Mode of University Library

Huang Ying¹, Liu Li¹, Yu Xinhe², Liu Wanguo¹

¹Northeast Normal University Library, Changchun 130024 ²Northeast Normal University School of Information Science and Technology, Changchun 130117

Abstract: [Purpose/significance] Under the background of building “double first-class,” it is imperative to innovate the management mode and reform the management system and mechanism of university library. [Method/process] Based on the vertical administrative management model and the matrix business management model, this paper built a composite collaborative management model. It introduced the practical results of the institutional reform of Northeast Normal University Library with reference to the composite collaborative management model. [Result/conclusion] Firstly, it put forwards some suggestions and enlightenments such as implementing innovation to drive development, paying attention to team culture construction, and following objective development rules.

Keywords: university library; management mode innovation; library management

Note: Figure translations are in progress. See original paper for figures.

Source: ChinaXiv — Machine translation. Verify with original.