

Service Capacity Building of University Libraries Driven by the “Double First-Class” Initiative: A Case Study of Huazhong University of Science and Technology (Postprint)

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Abstract

[Purpose/Significance] Universities in China selected for the “Double First-Class” initiative and its list of construction disciplines have formulated corresponding overall construction plans. Meanwhile, their respective libraries are contemplating how to enhance their service capabilities to promote the construction of first-class university libraries and drive the innovative development of their institutions’ disciplines. [Method/Process] Based on the current state of the field and taking the library of Huazhong University of Science and Technology as an example, this study explores several dimensions including institution, talent, resource construction, subject services, space design, and technical support. [Results/Conclusion] By discussing the methods and key points for university libraries to enhance service capabilities under the current context, this paper provides analysis and reflections on future development trends, aiming to offer references for the theory and practice of domestic university library services.

Full Text

Construction of University Libraries’ Service Capacity Driven by “Double First-Class” Initiative: A Case Study of Huazhong University of Science and Technology

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Abstract

[Purpose/Significance] Since Chinese universities were selected for the “Double First-Class” (world-class universities and first-class disciplines) initiative, these institutions have formulated corresponding overall construction plans. Concurrently, their libraries are considering how to enhance their service capacities to promote the development of first-class university libraries and drive disciplinary innovation. **[Method/Process]** Based on current industry developments, this paper uses Huazhong University of Science and Technology Library as a case study to explore improvements in institutional frameworks, human resources, resource construction, subject services, space design, and technical support. **[Result/Conclusion]** By discussing methods and key points for enhancing university library service capacity under the current context, this paper analyzes future development trends to provide theoretical and practical references for domestic university library services.

Keywords: university library; service capacity; “Double First-Class”

1. Introduction

The “Double First-Class” initiative for world-class universities and first-class disciplines represents another major strategic deployment in China’s higher education sector, following the earlier “211 Project” and “985 Project.” In September 2017, the state released the “Notice on Publishing the List of World-Class Universities and First-Class Disciplinary Construction Institutions and Construction Disciplines,” prompting relevant universities to introduce corresponding construction plans with overarching and phased objectives. These universities not only mapped out disciplinary development strategies and identified key construction directions but also emphasized the critical role of disciplinary development support systems. For instance, Peking University identified its literature and information resource system as a key supporting element for disciplinary development; Zhejiang University planned to build a high-quality professional team for library materials; and Huazhong University of Science and Technology stressed that constructing a first-class library serves as a guarantee for enhancing talent cultivation support.

In 2017, Huazhong University of Science and Technology was selected as one of China’s 36 Class-A world-class university construction institutions. To support the university’s world-class university and disciplinary construction, Huazhong University of Science and Technology Library implemented reforms and innovations in service capacity building, generating positive industry response. This study combines relevant research findings and theories with the library’s construction practices to discuss approaches for building university library service capacity from multiple perspectives, including organizational systems, literature resource construction, service methods and spaces, and technological applications, aiming to provide references for the development of university library work and a basis for related research in the library field.

2. Progress and Trends in Library Service Capacity Building Under the “Double First-Class” Initiative

Library service capacity building is not only a requirement of the “Double First-Class” initiative but also an inevitable result of social progress and evolving user needs. The “Double First-Class” initiative presents both new development opportunities and new demands for university libraries. In fact, the university library community has long sensed the pressure and challenges of transformation. The Readers’ Service Innovation and Promotion Working Group of the China Academic Library and Information System was established in response to these needs and organized two consecutive National University Library Service Innovation Case Competitions in 2014 and 2016. The China University Library Development Forum has also continuously focused on service transformation and innovative development, proposing the theme “New Starting Point, New Opportunity, New Mission” in 2018 to explore development directions under the “Double First-Class” initiative.

Scholars have continuously discussed library service capacity. In 2012, Luo Zeyu examined the concept, characteristics, improvement barriers, and logical starting points of library service capacity, arguing that service capacity has always been the criterion for judging library organizational quality. Whether libraries can fully realize their functions and whether management activities are effective directly depend on the level of library service capacity. Xu Xiangwang agreed with Luo Zeyu’s perspective while emphasizing the importance of development concepts, arguing that library philosophy and culture—including purpose, mission, spirit, culture, and values—directly influence service capacity. Chu Jingli proposed that to meet current and future user needs, libraries should adopt new service concepts, models, and capacities, establishing a “user-centered” service philosophy to construct service models and capacities adapted to new forms.

The 2015 and 2017 New Media Consortium Horizon Reports (Library Edition) both identified literature resource construction as one of libraries’ most fundamental responsibilities. Additionally, university libraries should play important roles in information dissemination, space services, and teaching research, requiring organizational restructuring to advance these service and business innovations. This restructuring should be achieved through organizational culture innovation and librarian capacity enhancement. In 2016, Zhou Xiaoyan and Zai Bingxin surveyed 28 world-class universities and found that foreign university libraries’ primary service content is providing resources and information services to support teaching and research activities while playing the role of information management experts in cultural inheritance. Cheng Huanwen also identified the knowledge center, learning center, and cultural center as three major functions that university libraries should continuously deepen in future development. In summary, library service capacity building driven by the “Double First-Class” initiative can be focused on three key areas: literature resource construction, space construction, and collaborative teaching/research services (subject services).

In 2015, the Ministry of Education issued the “Regulations on Libraries in Regular Institutions of Higher Education” (Document No. [2015]14), which lists literature resource construction as the foremost among libraries’ four main tasks. Most scholars emphasize the importance of literature resource construction in supporting universities’ “Double First-Class” construction. Cheng Huanwen noted that against the backdrop of supporting “Double First-Class” construction, the foundation of university library development still lies in resources. Wang Wenjing, Wang Chenxi, and Ruan Nan argued that literature resource construction is a necessary guarantee for implementing the “Double First-Class” strategy. Chu Jingli pointed out that network information resources have become the mainstream of library information resource construction. The 2015 China-U.S. University Library Cooperation and Development Forum explored six new directions for literature resource construction in evolving academic environments: (1) adjusting collection structures toward comprehensive disciplines, diversification, and digitization; (2) demand-driven acquisition and collaborative, open collection development; (3) large-scale collection digitization and alliance-based digital content management; (4) thematic database and collaborative thematic database construction; (5) special collection construction and digital special collection management; and (6) big data and research data management.

In recent years, while paper literature circulation has generally declined, library visits have continued to increase, making space construction a key focus. The 2014 American Library Association White Paper identified library space construction as a priority. Renowned international university libraries such as Cornell University, Newcastle University, and the University of Queensland have incorporated physical and virtual learning space construction projects into their strategic development plans. Domestically, Wang Zhengxing and Xu Hongyu argued that library spatial form determines operational conditions and space service approaches. Shi Yanfen, Xu Yonghua, and Liu Yuhong considered library spatial layout design and space reconstruction as important support for promoting service transformation, necessary guarantees for expanding innovative service content and extension, and core systems for constructing new library service values.

Maker spaces have become a hotspot in domestic university library physical space construction. Theoretically, Huang Wenbin pointed out that maker space construction goals should focus on enhancing social value and deepening knowledge services. Zhang Xiaohua examined the theoretical significance of library maker spaces from three dimensions: information culture, internal logic, and value meaning. In practice, Shanghai Jiao Tong University partnered with JD.com in 2015 to create the “SJTU-JD Maker Space” in its main library, establishing an industry-academia-research ecosystem combining university and social resources to strongly support talent development and innovation strategies. In 2016, Wuhan University Library opened a maker space in its engineering branch, closely integrating cultural environment construction and reading promotion activities to support student innovation, entrepreneurship, social

practice, and cultural exchange activities. Beyond these world-class university libraries, other institutions have also practiced maker spaces. For example, Shenyang Normal University Library established a nearly 600-square-meter maker space with six functional areas: maker lecture hall, creative workshop, maker gas station, classic reading (micro-lecture recording) space, academic lecture hall, and music appreciation space.

Regarding virtual spaces, construction focuses primarily on mobile library service platforms, which can break physical space limitations to achieve diversified business functions, expanded service objects, and personalized service demands. WeChat platforms have become a hotspot and important external service window for university libraries, with the “Qingbo Big Data” platform publishing monthly “University Library WeChat Rankings.” Currently, university libraries use WeChat for resource utilization and recommendation, new student orientation education, subject services, and other services.

According to Xiong Huilin’s research, collaborative teaching and research services are common in the United States. Chu Jingli identified subject services, knowledge consulting, intelligence analysis and research, data management and services, publishing services, think tank services, and smart services as priorities for library services under new circumstances, meeting the deep, knowledge-intensive, and highly professional requirements of faculty and researchers who rarely visit the library. Currently, collaborative teaching and research services have become industry norms, with numerous universities providing teaching and research assistance through subject service teams. For example, Peking University Library restructured its traditional information consultation department into a Learning Support Center and Research Support Center. Shanghai Jiao Tong University Library launched the IC² program to embed information literacy into students’ professional courses. Tsinghua University Library provides school departments and functional units with disciplinary situation analysis and development planning data through scientific and technical intelligence analysis.

3. Service Capacity Building of University Libraries Driven by the “Double First-Class” Initiative

According to the 2017 “Implementation Measures for Coordinated Promotion of World-Class Universities and First-Class Disciplines Construction (Provisional)” issued by the state, the “Double First-Class” initiative has five specific tasks: building first-class faculty, cultivating top-notch talents, enhancing scientific research levels, inheriting and innovating excellent culture, and promoting achievement transformation. Although universities’ construction plans vary, they all revolve around these five tasks. University library service content and capacity building should also focus on improving service levels, increasing support for academic and disciplinary research, and playing a collaborative role in traditional cultural inheritance and innovation. Based on literature review and practical work investigation, this paper argues that university library service capacity building driven by the “Double First-Class” initiative should include

six aspects, as shown in Figure 1 [Figure 1: see original paper].

3.1 Formulating Library Strategic Planning University libraries must first develop supporting strategic plans aligned with their institutions' "Double First-Class" initiatives, which determines the direction and objectives of service capacity building. In his report "Development of University Libraries Under the 'Double First-Class' Construction Background," Zhu Qiang proposed that university libraries should reposition themselves according to institutional goals and tasks, seizing opportunities for development. Currently, there remains a gap between the overall level of China's "Double First-Class" university libraries and international first-class university libraries. Libraries should propose phased construction goals covering organizational systems, library planning, resource construction, staff development, and service innovation to meet the needs of institutional development.

3.2 Reforming Systems and Innovating Organizational Structures Reforming systems and innovating organizational structures is the fundamental guarantee for service capacity building. New strategic deployments require restructuring business frameworks, resetting workflows, and reconstructing evaluation standards to concentrate business and personnel structures on specific construction tasks. This involves implementing position appointment systems based on library development needs, recruiting personnel accordingly, and utilizing effective incentive policies to encourage librarians to work diligently and think creatively, fostering a positive work atmosphere and healthy competition mechanism to ensure sustained and efficient business operations.

3.3 Optimizing Literature Resource Structure Optimizing literature resource structure is the material foundation of service capacity building. Yi Qing argued that university library resource support and first-class disciplinary construction have a mutually reinforcing relationship rather than a one-way influence. University libraries should understand institutional disciplinary development layouts and talent cultivation objectives, comprehend literature resource needs through multiple channels, optimize literature resource construction, allocate funds rationally, and promote collaborative collection development and sharing mechanisms to ensure literature resource needs for various disciplines and talent cultivation.

Currently, through collecting and integrating electronic publications and online resources, constructing characteristic databases and electronic resource navigation databases, and conducting literature exchanges with domestic and international university libraries and publishing units, literature resource construction has developed rapidly to maximize satisfaction of faculty and students' literature information needs. According to statistics from the Ministry of Education's Steering Committee for Library and Information Work in Higher Education Institutions, Huazhong University of Science and Technology Library ranked fifth

nationally in total literature resource procurement funds and second in electronic resource procurement funds in 2016, with the ratio of electronic to print literature funds reaching 2:1. To improve resource allocation efficiency, the library implemented a journal reduction plan for foreign language journals that overlapped with electronic versions or had low utilization rates over five years, established eight subject branch libraries, and initially achieved intra-campus literature resource sharing. To support disciplinary development, the library has built medical discipline resources as a characteristic collection, including approximately 200 types and over 2,000 volumes of ancient Chinese medical texts covering internal medicine, cold damage, golden chamber, and warm disease theories, with three ancient books selected for the “National Precious Ancient Books List.” Currently, medical electronic resources gradually cover all secondary medical disciplines. Additionally, the library has built characteristic databases including foreign language textbook databases, Chinese and foreign language catalog databases, a joint catalog database of Western language journals in Hubei provincial universities, and a master’s/doctoral dissertation database of Huazhong University of Science and Technology. To facilitate literature retrieval and utilization, the library was also the first in central China to introduce Chinese and foreign language knowledge discovery systems, ensuring integrated management and utilization of print and electronic collections.

3.4 Adopting New Technologies and Improving Spatial Layout Adopting new technologies and improving spatial layout provides better platforms and support for service capacity building. University library learning space layout should advocate informatization, openness, livability, and green ecology, constructing more humane and sustainable development environments that integrate knowledge and flexibility. These spaces should not only support teaching, learning, and research but also expand to meet needs for education, culture, leisure, and entertainment. Rational layout of collection spaces can better guide faculty and students to utilize library literature; establishing independent maker spaces can better serve research and learning; and utilizing new technologies to build virtual spaces integrating literature and social functions can better facilitate academic and cultural activities.

Taking the completion of the new library building in 2014 as an opportunity, Huazhong University of Science and Technology Library renovated its spaces to improve functions for learning and research, free reading, cultural exhibition, and multimedia audio-visual services. The library updated multimedia display equipment and further promoted seat reservation, facial recognition, 3D library navigation, RFID, and other technologies. Using WeChat platforms, mobile reading apps, and other tools, the library provides comprehensive support for literature resource utilization, sharing, and cultural inheritance. Currently, through equipment upgrades, the library has achieved integrated collection, borrowing, and reading; wireless network coverage throughout the building; and comprehensive upgrades to the integrated library management system, solving the problem of difficulty in utilizing core library data. By adopting the standard

relational database PostgreSQL and standard interfaces, the library enhanced system openness and achieved information exchange with campus informatization platforms and campus cards. Based on the large amount of data generated during library business and service processes, the library established an institutional repository convenient for analysis, mining, and utilization, providing information support for internal services and disciplinary development. The library has now basically achieved “connecting books with books, books with people, and people with people,” reaching the goals of “centralized management, convenient access, data sharing, and close-to-user services.”

3.5 Enhancing Staff Quality and Expanding Service Team Scale Enhancing staff quality and expanding service team scale is the core element of service capacity building. Lu Chunhua analyzed professional competency standards for various types of librarians in the United States and, combined with the current situation of Chinese university libraries, summarized a series of indicators for improving librarian competencies, including professional ethics, communication and collaboration, teaching ability, reference consultation and research, and promotion and marketing. These competency elements were categorized into basic competencies, management competencies, and service competencies, forming a reasonable indicator system. Additionally, libraries should consider talent introduction policies based on their own development plans, work at the institutional level to secure quotas, and inject fresh blood. Simultaneously, libraries should collaborate with other institutional forces such as student assistants and disciplinary professors to jointly complete library work.

3.6 Expanding Service Content and Innovating Service Forms Expanding service content and innovating service forms is the concentrated manifestation of service capacity building and the driving force for library development. As a growing organism, the library is continuously endowed with broader connotations as the technical environment and user needs change. Chu Jingli noted that in the new information environment, librarians need to commit to providing users with four new types of capabilities: publishing services, intelligence analysis, think tank services, and intelligent (smart) services. Sun Peng and Wang Lei argued that user-centered continuous improvement of service quality and effectiveness is the main trend and basic direction for future university libraries to pursue service innovation and long-term development.

4. Practice and Exploration of Service Capacity Building at Huazhong University of Science and Technology Library

Following the release of the “Double First-Class” construction list, Huazhong University of Science and Technology formulated a detailed “World-Class University Construction Plan,” which includes first-class library construction. Huazhong University of Science and Technology Library has consistently adhered to the educational philosophy of “seeking support through service and

development through contribution,” expanding the university’s influence and winning social support.

4.1 Guiding Ideology and Objectives of Service Capacity Building

In 2015, Huazhong University of Science and Technology launched its “13th Five-Year” comprehensive reform and construction plan. Following the university’s pace and guided by the three-step strategy of “strengthening foundations, reaching advanced levels, and achieving peaks,” the library formulated a supporting plan that proposed guiding ideology, development paths, construction objectives, and main tasks, pointing out the direction for the library’s future development. The library adheres to the purpose of “readers first, service and education,” firmly establishing the service philosophy of “everything for readers, for all readers,” and upholding the core values of “loving the university, loving the library, serving, and dedicating.” Centered on reader services, focusing on building a high-quality professional and technical talent team, and ensuring literature resource construction and system establishment, the library continuously advances intelligent construction, strives to improve service quality and management levels, and builds itself into an information resource center, academic exchange center, knowledge processing center, and cultural inheritance center, making due contributions to the university’s three-step development strategy.

4.2 Literature Resource Construction In literature resource construction, Huazhong University of Science and Technology Library follows the principles of “overall planning, demand-based procurement, emphasizing characteristics, and coordinated development” to further expand the proportion of electronic literature collection. The library strengthens the collection, integration, development, and utilization of open-access electronic literature and further expands channels for literature exchange with domestic and international university libraries and publishing units. The library optimizes literature resource allocation, increases literature varieties, strengthens collection development of classic literature and Hong Kong, Macao, and Taiwan editions, and forms a sustainable, three-dimensional information resource system integrating print literature, electronic literature, and multimedia literature with disciplinary characteristics to meet comprehensive needs for teaching, research, and talent cultivation. Through multiple approaches including print resources, electronic resources, network resources, and document delivery, the library has built a literature resource guarantee system and information resource center that meets institutional disciplinary construction, academic research, and teaching needs, ranking its literature guarantee rate among the top nationwide.

4.3 Space Construction and New Technology Application Taking the completion of the new library building in 2014 as an opportunity, Huazhong University of Science and Technology Library renovated its spaces to improve functions for learning and research, free reading, cultural exhibition, and multimedia audio-visual services for faculty and students. The library updated multimedia

display equipment and further promoted seat reservation, facial recognition, 3D library navigation, RFID, and other technologies. Using WeChat platforms, mobile reading apps, and other tools, the library provides comprehensive support for literature resource utilization, sharing, and cultural inheritance. Currently, through equipment upgrades, the library has achieved integrated collection, borrowing, and reading; wireless network coverage throughout the building; and comprehensive upgrades to the integrated library management system, solving the problem of difficulty in utilizing core library data. By adopting the standard relational database PostgreSQL and standard interfaces, the library enhanced system openness and achieved information exchange with campus informatization platforms and campus cards. Based on the large amount of data generated during library business and service processes, the library established an institutional repository convenient for analysis, mining, and utilization, providing information support for internal services and disciplinary development. The library has now basically achieved “connecting books with books, books with people, and people with people,” reaching the goals of “centralized management, convenient access, data sharing, and close-to-user services.”

4.4 Staff Capacity Building and Service Innovation Using innovative business to drive staff capacity enhancement is a characteristic of Huazhong University of Science and Technology Library. Additionally, the library guides librarians to spontaneously and consciously improve their capabilities through further education, external exchange and study, and research rewards. Staff capacity enhancement enables the creation of new service highlights:

- (1) In subject services and research data management, Huazhong University of Science and Technology Library has long explored effective approaches to subject services. By recruiting large numbers of part-time subject librarians, setting specific tasks and objectives, the library has improved librarians’ professional levels and organizational, communication, and coordination abilities in practice. In 2013, the library selected top talents from the subject service team to establish the Science and Technology Intelligence Research Institute, which provides university leaders, functional departments, and faculties with various research management data and reports based on literature. The institute now produces regular routine reports including statistical analyses of papers, ESI subject rankings, ESI departmental contributions, and university ranking analyses, as well as customized disciplinary situation and competitiveness analysis reports based on faculty needs. These reports have become important foundations for institutional decision-making on disciplinary development, talent recruitment, and research rewards. The enhanced reputation has also generated positive social impact, with relevant librarians regularly invited to share experiences in the industry and train intelligence analysis researchers for other universities in the province. The development of science and technology intelligence research has not only strengthened information analysis librarians’ capabilities in research data management but also improved the

overall capacity of the subject librarian team through collaboration.

- (2) In information literacy education, Huazhong University of Science and Technology Library has formed a diversified information literacy education system including undergraduate and graduate literature retrieval teaching, new student orientation education, specialized training, and reading promotion. In literature retrieval teaching, the library regularly conducts business seminars and external exchanges, encourages further education, and enhances the professional capabilities of the teaching team. The library actively introduces flipped classroom teaching methods and tools such as Rain Classroom and Yunzhou Knowledge Space to enrich teaching methods. To ensure teaching effectiveness, the library incorporates various disciplinary professional knowledge into case-based teaching and implements 360-degree evaluation methods based on teachers, classes, and students to enhance learning enthusiasm, making literature retrieval courses popular electives on campus. In new student orientation education and specialized training, the library fully understands faculty and student needs, collaborates with library multimedia equipment, student organizations, and faculties for promotion, and uses online features and regular micro-courses on the library WeChat platform to further improve user acceptance. The library has also actively participated in national reading promotion initiatives, launching the systematic “A Good Book, Walking with You” reading promotion brand since 2014, which has received continuous praise both on and off campus. The annual World Book Day series of activities in April-May has become headline news on the university homepage, in the university newspaper, and on WeChat, winning consecutive awards in Hubei Province and national reading promotion case competitions. The trinity of information literacy education—retrieval courses, orientation education and training, and reading promotion—has cultivated librarians’ capabilities in activity organization and public space utilization during task completion.

4.5 Issues to Address in Subsequent Construction

- (1) **Updating library service philosophy.** Based on a deeper understanding of world-class university construction goals, the library must continuously adjust and revise existing work tasks and systems. The understanding of world-class universities deepens through practice, and library educational philosophy should adjust accordingly. Chu Jingli proposed that traditional library services have certain misconceptions, easily limiting work content to specific physical time-space and existing service conditions and user needs. The priority issue is establishing a service philosophy centered on institutional development and the evolving needs of faculty and student users, constructing dynamic and broad thinking patterns to adjust library work objectives and service systems. Changes in new service philosophy and models should first be embraced by library

leaders and decision-makers and then implemented through established work plans and systems to guide all librarians in service delivery.

- (2) **Talent cultivation system compatible with service philosophy.** The core issue of capacity building lies in talent. Scholars have discussed library talent team construction, noting that domestic university libraries generally face two problems: unreasonable talent structure and urgent need to improve personnel quality. Structural unreasonableness mainly manifests in age structure. The age structure of Huazhong University of Science and Technology Library staff is aging, a situation that has attracted institutional attention and led to a plan for continuous recruitment of young librarians over five years. However, the age structure cannot be fundamentally changed in the short term, so the current focus remains on further improving existing personnel's service capabilities. Personnel shortage is a problem for any developing library. Currently, Huazhong University of Science and Technology uses a student librarian system to compensate for insufficient circulation staff. However, the library should learn from foreign libraries' experience by widely recruiting student consultant and faculty advisory teams to enhance high-level and personalized services through collaboration with academic departments. Simultaneously, the library should establish more systematic training and incentive mechanisms compatible with services to mobilize existing librarians' enthusiasm and improve work efficiency. Future recruitment should prioritize candidates with missing disciplinary backgrounds based on business development needs.
- (3) **Effectiveness and diversification of disciplinary resource construction.** According to data from the Ministry of Education's University Library Facts Database System, literature resource construction funds for "Double First-Class" universities have continuously increased in recent years, but how long this growth can be sustained remains uncertain. Moreover, various literature resources and database purchase prices remain firm in a seller's market, with database vendors raising prices annually. To address this issue, besides exploring effective price negotiation mechanisms and establishing multi-party literature information sharing models, libraries should scientifically evaluate existing resource systems to match them with institutional disciplinary development. Therefore, establishing scientific and standardized literature resource procurement selection mechanisms is essential. Currently, domestic university libraries mainly focus on introducing rather than discontinuing database resources when making procurement decisions. Under existing funding conditions, it is necessary to establish a complete introduction and discontinuation mechanism to ensure rational resource layout and make disciplinary literature construction more targeted, thereby maximizing support for teaching and research development. The vision of literature resource construction should not be limited to procurement but should fully utilize various network open-access resources to expand literature resource utilization sources while

strengthening utilization of collection resources and constructing thematic institutional repositories to promote existing literature resource use.

- (4) **Space renovation and new technologies.** “Double First-Class” universities generally have long histories and face the issue of coexistence between old and new library buildings, requiring reasonable renovation according to institutional development characteristics and library industry trends. Using Huazhong University of Science and Technology Library as an example, physical space adjustment is currently limited, and the library should utilize virtual spaces more in the future to improve user experience. Regarding new technology application, the problem of high conversion costs and blocked conversion progress between existing and new technologies requires a gradual process of exploration, familiarization, and 磨合.

5. Conclusion

Development results from the joint action of objective and subjective factors. For university libraries, subjective factors include librarians’ professional quality, work attitude, library development philosophy, system innovation, and business restructuring, while objective factors include development environment, technical conditions, staff structure, and budget constraints. The realization of subjective factors is constrained by objective factors, and the two complement and influence each other. In the process of creating “Double First-Class” institutions, construction plans for selected universities have proposed new requirements for library service capacity, presenting both challenges and opportunities that indicate construction directions and provide development space. University libraries should fully interpret and comprehend national and institutional tasks and objectives, compare themselves with international first-class universities in literature resource support, teaching and research services, and cultural space construction to identify gaps and remedy shortcomings. Through effective system construction, organizational restructuring, and business innovation, libraries can continuously improve service capacity and provide momentum for institutional development. A virtuous cycle will emerge: quality services will generate more recognition and returns, thereby securing greater resource investment and policy support from the university.

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Author Contributions

Yuan Qing: Proposed research questions, conducted literature review, designed research framework and structure, revised manuscript.

Shi Liang: Conducted literature review, wrote initial draft, adjusted manuscript structure, revised manuscript.

Chen Meng: Created figures and tables, revised manuscript.

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

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