

# Research on Development Strategies for “Double First-Class” Construction of Subject Service in University Libraries

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**Abstract:** This paper aims to explore the development strategies for subject services in university libraries within the context of the “double first-class” initiative. By examining the relationship between “double first-class” construction and university library subject services, the study analyzes the current state of subject services, including resource development, service models, and team building. Drawing on domestic and international case studies, the paper proposes a series of targeted and practical strategies to enhance the quality of subject services in university libraries, thereby providing robust support for the advancement of the “double first-class” initiative.

**Keywords:** “Double first-class” construction; University library; Subject service; Development strategy

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## 1. Introduction

### 1.1. Research background and significance

The “double first-class” initiative aims to build world-class universities and first-class disciplines, representing a major strategic decision in China’s higher education sector. This initiative is of profound importance for enhancing the overall strength of China’s higher education system, cultivating high-quality innovative talents, and driving advancements in scientific and technological innovation as well as socio-economic development. University libraries play a crucial role as institutions providing essential services for teaching, scientific research, and discipline construction. Within the framework of “double first-class” construction, these libraries undertake key responsibilities, including offering extensive subject resources, delivering efficient subject-specific services, and supporting academic research and innovation. Subject service, in particular, refers to the professional and personalized services provided by university libraries to address the specific needs of subject construction and development. These services enable faculty and students to quickly and accurately access the resources they require, thereby improving the efficiency of teaching and research. Additionally, subject services facilitate interdisciplinary integration and foster

innovative development, providing robust information support and service guarantees essential for the success of the “double first-class” initiative <sup>[1]</sup>.

## **1.2. Connotation and objectives of “double first-class” construction**

World-class universities are typically characterized by outstanding teaching quality, advanced scientific research capabilities, exceptional faculty, and significant international influence. First-class disciplines are expected to achieve major breakthroughs in frontier fields, supported by leading academic teams and cutting-edge scientific research achievements. The primary objectives of the “double first-class” initiative include strengthening discipline development, enhancing social service capabilities, optimizing talent cultivation, and advancing scientific research levels. Universities are expected to attain world-class standards in areas such as discipline construction, talent development, faculty quality, research output, and international collaboration.

## **1.3. Connotation and characteristics of subject services in university libraries**

Subject services in university libraries are designed to be subject-oriented and reader-focused, providing professional information services through close collaboration between subject librarians and readers. These services encompass subject resource development, subject-specific information consultation, subject information analysis, and subject-related training and education. Subject services are distinguished by their professionalism, personalization, proactivity, and collaborative nature. They cater to the specific needs of readers, enhance the quality and efficiency of information services, and contribute to the development and advancement of academic disciplines <sup>[2]</sup>.

## **2. The “double-first-class” construction of subject services in university libraries**

### **2.1. Construction of subject service resources**

Many university libraries have developed characteristic subject resource pools by aligning with their institutions’ dominant disciplines and key majors. These resource pools encompass a wide range of materials, including academic papers, research reports, teaching courseware, case studies, and other resources related to specific disciplines. They provide strong support for the construction and advancement of academic fields. For instance, the library at Shanghai University of Science and Technology has created a specialized subject resource database covering fields such as materials science and technology, life sciences and technology, information science and technology, mathematics, entrepreneurship and management, and the humanities. This resource pool integrates cutting-edge research achievements from both domestic and international sources, expert and scholar opinions, industry trends, and other relevant information, offering a one-stop service for faculty and students.

An increasing number of university libraries are also focusing on the integration and utilization of open-access resources. By establishing navigation platforms for open-access resources and partnering with open-access institutions, these libraries provide free academic resources to faculty and students. For example, Tsinghua University Library is the only university library that has set up an open-access resource navigation platform. In November 2024, they launched the OpenSign public academic resource service platform, which classifies and organizes global open-access resources, making it easier for faculty and students to quickly locate the resources they need. Furthermore, the library actively collaborates with open-access institutions both domestically and internationally to promote the open access of academic achievements from their own institution <sup>[3]</sup>.

## **2.2. Subject service mode and method**

The implementation of the subject librarian system is a key factor in ensuring that university libraries can effectively provide subject-specific services. Currently, most “double first-class” university libraries have established this system, with subject librarians engaging deeply with various colleges and academic teams to understand the diverse needs of readers and meet their information service requirements. For example, at Sichuan University Library, librarians specializing in the disciplines of liberal arts, science, engineering, and medicine have developed strong relationships with faculty and researchers across different colleges. They regularly visit these colleges to assess their teaching and research needs and provide targeted information services. Subject librarians also participate in research projects within academic teams, offering information consultation and literature support to aid project development <sup>[4]</sup>.

Embedded subject service refers to a model that integrates subject-specific services into teaching and research processes. By being incorporated into courses, research projects, and other activities, information services are delivered that are more closely aligned with the actual needs of teachers and students. For instance, at Changzhi University Library, the subject librarian assigned to the Department of Economic Management, specializing in economics, is embedded within the department. This librarian provides curriculum-related literature resources and guidance on information retrieval to students through professional teacher training. In research projects, subject librarians collaborate closely with research teams, offering comprehensive information services throughout the project’s declaration, implementation, and conclusion phases.

Additionally, some university libraries have begun exploring a data-driven approach to subject services. By analyzing reader behavior data and subject resource data, libraries can better understand readers’ needs and subject development trends, enabling them to offer more precise subject services. For example, Fudan University Library utilizes big data technology to analyze circulation records and retrieval behaviors of teachers and students, uncovering potential reader needs. This data-driven approach forms a “digital market,” allowing for the accurate recommendation of personalized books and the establishment of knowledge maps. Based on this analysis, the library is able to suggest tailored subject resources and services to readers <sup>[5]</sup>.

## **2.3. Effectiveness of subject services**

The subject services provided by university libraries play an essential role in supporting both teaching and scientific research. By offering abundant subject resources, conducting information literacy training, and providing research support, these services contribute to enhancing teaching quality and research productivity. For example, the subject services at Shandong University Library offer substantial teaching support to faculty members through various measures, such as information literacy education, the provision of literature resources (including the CSD crystal structure database and Nature series electronic journals), and subject services aligned with the university’s “double first-class” initiative. These services assist teachers in improving their teaching methods and enhancing educational outcomes. In the realm of scientific research, subject services provide accurate subject-specific information and literature support for researchers, promoting the generation of valuable research results.

## **3. Domestic and international case analysis of subject services in “double first-class” university libraries**

### **3.1. International cases**

Case 1: Subject Service Practices in Benic Rare Books and Manuscripts Library of Yale University. (1)

Features of resource construction: Benic Rare Books and Manuscripts Library at Yale University, one of the largest libraries globally, emphasizes building distinctive subject resources. It has acquired a vast collection of rare documents and specialized resources, including 180,000 rare ancient books, through collaborations with academic institutions both domestically and internationally. Additionally, the library offers an excellent learning and research environment for students and scholars through its unique architectural design and rich collections. (2) Service model innovation: The library has developed embedded subject services, with subject librarians actively involved in teaching and research to provide real-time information services. Moreover, the library leverages social media platforms for online consultations and information dissemination, enhancing the convenience and timeliness of its services.

Case 2: Subject Service Practices at the University of Pennsylvania Library (1) Success factors: The University of Pennsylvania Library excels in subject services due to its robust subject information analysis capabilities. The library has established a professional discipline information analysis team that provides substantial support for institutional discipline development and research decision-making. (2) Key learnings: The library underscores the importance of strengthening subject information analysis capabilities through practical scientific research. It provides students with top-tier teaching resources and opportunities for research guidance and collaboration. Interaction and cooperation with readers are prioritized, continuously improving service quality.

### **3.2. Domestic cases**

Case 1: Subject Service Practices at Harbin Engineering University Library. Innovative measures: The library has implemented several innovative strategies in subject services, including the establishment of a subject service platform and efforts to build a recognizable subject service brand. The platform allows readers to conveniently access subject resources and services, significantly enhancing service efficiency and accessibility.

Case 2: Subject Service Practices at Dalian University of Technology Library. Featured service items: The library has introduced unique services, such as the *Academic Frontier Express*, dynamic updates on academic developments, and specialized subject lectures tailored to the university's academic strengths. These initiatives have been widely appreciated by faculty and students, providing substantial support for the development of disciplines and research.

Excellent domestic and international practices offer valuable lessons for advancing subject services in “double first-class” university libraries: (1) User-oriented approach: Libraries should deeply understand subject users' needs to provide personalized and accurate services. (2) Resource construction and integration: Emphasizing the development of subject-specific resources and data, while improving resource sharing mechanisms. (3) Service model innovation: Actively adopting new technologies to drive service model transformation and upgrades. (4) Team development: Focusing on cultivating and recruiting interdisciplinary talents to enhance the professionalism and innovation capacity of service teams.

## **4. Development strategies for “double first-class” construction of subject services in university libraries**

### **4.1. Innovative service model**

Personalized service: Big data technology is utilized to collect and analyze user behavior data, interest preferences, and other information to build user profiles. Accurate service recommendations are realized

based on the users' academic backgrounds, research directions, and reading habits, allowing relevant academic resources and research trends to be suggested. Personalized subject consulting services are provided to offer tailored solutions for users. Smart service: New technologies such as artificial intelligence (AI) and the Internet of Things (IoT) are introduced to establish a smart library service environment. Resources are automatically retrieved and acquired using intelligent equipment, while consulting services are handled by intelligent robots to enhance service efficiency and quality. A smart learning space is created to offer convenient learning and communication facilities for teachers and students, supporting discipline innovation activities. Cooperative service: Inter-library cooperation is strengthened through the establishment of a "double first-class" university library alliance, facilitating resource sharing and service coordination. Subject resource construction and joint reference consultation services are developed in collaboration with other university libraries. Additionally, partnerships are actively formed with discipline teams, research institutions, enterprises, and other entities to expand service fields and jointly conduct discipline research and innovative practices.

## **4.2. Optimized resource construction**

Resource integration and sharing: Library collection resources, electronic resources, and network resources are integrated to build a unified resource retrieval platform, enabling one-stop resource searches. Inter-library resource-sharing mechanisms are established to provide services such as document delivery and joint lending. Participation in the construction of domestic and international academic resource-sharing platforms is encouraged to expand resource acquisition channels<sup>[6]</sup>. Construction of subject data resources: Investment in subject data resource construction is increased, and collaboration with subject teams is undertaken to collect, organize, and analyze subject-related data, enabling the creation of high-quality, subject-specific databases. Data standardization is emphasized, and a data quality evaluation system is established to ensure reliability and usability. Data security management is also strengthened to safeguard data security and privacy<sup>[7]</sup>. Dynamic adjustment of resources: A dynamic resource adjustment mechanism is established, allowing procurement strategies to be updated in line with discipline development plans, discipline evaluation results, and evolving user needs. Procurement of emerging and interdisciplinary resources is increased, optimizing the resource structure and improving resource utilization rates.

## **4.3. Improvement of the service effect evaluation system**

A scientific evaluation index system should be constructed, encompassing multiple dimensions such as service quality, user satisfaction, and subject contribution. Service quality indicators should be established, including the accuracy and timeliness of resources and the professionalism and relevance of services. User satisfaction should be assessed through questionnaire surveys and user interviews. The subject contribution index should be evaluated based on scientific research achievements and improvements in teaching quality.

Diversified evaluation methods should be employed, integrating qualitative and quantitative approaches. In addition to traditional questionnaires and user interviews, big data analytics should be utilized to assess users' behavior data and evaluate the effectiveness of services. Peer and expert evaluations should also be introduced to enhance the objectivity and accuracy of the evaluation process.

The evaluation results should be thoroughly applied to improve services, optimize resource allocation, and assess personnel performance. Based on these results, issues in the current service delivery should be identified, and service strategies and resource allocation plans should be adjusted accordingly. The linkage

between evaluation outcomes and the performance appraisal of service personnel should be strengthened, thereby encouraging staff to continually enhance service quality.

## 5. Conclusion and prospects

Theoretically, the findings of this study contribute to enriching and improving the theoretical framework of library subject services and provide a theoretical foundation for the in-depth development of subject services. Practically, the research on development strategies for the “double first-class” construction of subject services in university libraries offers practical guidance for all university libraries to design scientific and reasonable service plans, ultimately enhancing service quality and efficiency. Currently, several challenges exist in the service models, resource construction, service teams, and evaluation systems associated with the “double first-class” construction of university library subject services. The primary reasons include insufficient conceptual understanding, barriers within management systems and mechanisms, and weak technical applications and innovation. Through the analysis of exemplary cases from both domestic and international contexts, this study proposes development strategies, including innovating service models, optimizing resource construction, strengthening service team development, and perfecting service evaluation systems. These strategies aim to better support discipline construction and talent cultivation in colleges and universities.

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## Disclosure statement

The authors declare no conflict of interest.

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