

**Compass of Academic Library Modernization
(CALM) Report on Resource-Service Integration
(2024 Edition)**

Report Research Team Members

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Abstract Jointly formulated by the Steering Committee for Academic Libraries of China (SCAL) and Peking University Library, the Compass of Academic Library Modernization (CALM) Report on Resource-Service Integration is a questionnaire-based research on the integrated development of library resources and services among universities involved in the second phase of China's Double First-Class initiative. Specifically, the Report provides an overview of the current status and advanced practice regarding resource-service integration across academic libraries nationwide. It also provides strategic guidance for the coordinated development of resources and services within these institutions and explores the prevailing future trends as follows: 1) Recognizing resource-service integration as a critical component of modern academic libraries and a strategic approach for library planning, management, development, and governance. 2) Aligning resource development with service-oriented goals to create a well-balanced, multi-sourced information resource system. 3) Leveraging resources to drive service innovation and build an information service system that fosters emergent intelligence and collaborative problem-solving. 4) Coordinating key elements such as librarians, users, technologies, and culture to ensure integrated, organic, and ecosystem-aligned library operations. 5) Advancing comprehensive reforms while upholding fundamental principles and breaking new ground to enhance academic libraries' overall contributions to the Double First-Class initiative.

Keywords Academic Libraries; Information Resources; Information Services; Information Culture; Integration; Development Trend; High-quality Development; Modernization

1 Introduction

At the end of 2021, the Steering Committee for Academic Libraries of China (SCAL) and Peking University Library jointly released the CALM Report (2021 Simplified Edition)^[1], which established a forward-looking macroscopic system for academic library modernization, analyzed and evaluated the key trends for future development, and provided directional and referential guidance for academic libraries with regard to librarian team building, user relationship development, information resource upgrading, information service innovation, and information culture building. Since 2022, the SCAL and Peking University Library have intensified their focus on specific work themes and published themed compass reports on an annual basis. The end of that year saw the release of the CALM Report on Librarians^[2], followed by the CALM Report on User Relationship Management^[3] issued at the end of 2023.

2024 is a crucial year, not only for fully implementing the guiding principles from the 20th CPC National Congress, but also for achieving the objectives and tasks laid down in the 14th Five-Year Plan. In this year, the third plenary session of the 20th CPC Central Committee deliberated on and passed the Resolution of the CPC Central Committee on Further Deepening Reform Comprehensively to Advance Chinese Modernization; National Science and Technology Conference and National Education Conference took place. Academic libraries are facing significant opportunities and challenges as they undergo transformation and upgrading. In June 2024, under the guidance of the Department of Higher Education of the Ministry of Education (MOE) and with assistance from the SCAL offices of various regions, the SCAL and PKU Library started formulating the CALM Report on Resource-Service Integration. The Report aims to provide decision-making references and guidelines for the high-quality development of core business in academic libraries across the nation.

1.1 Background

China's academic libraries are experiencing profound changes due to a new round of technological revolution and industrial transformation. The widespread application of emerging technologies such as AI and big data has dramatically reshaped library resources, services, and user expectations. As traditional models are no longer adequate for the demands of digital transformation, academic libraries are vigorously modernizing their resources and services, striving to facilitate the integrated development of educational and technological talents. In this context, the deep integration of resources and services has become an inevitable choice for the transformation and upgrading of academic libraries.

1.2 Purpose and Significance

This research seeks to elucidate the theoretical underpinnings of resource-service integration in academic libraries, investigate and analyze the current integration landscape, summarize advanced practice, forecast future trends, and provide actionable guidance for enhancing resource-service integration in academic libraries nationwide.

The significance of this research are: First, it helps understand the patterns of resource-service integration in China's academic libraries, while also expanding and refining the associated theoretical studies. Second, it injects innovative perspectives of resource-service integration into the academic libraries, offering strategic recommendations for resource consolidation, service enhancement, technological upgrading and efficiency improvement. Third, it promotes the intelligent transformation and high-quality development of academic libraries in the new era, thereby better supporting the Double First-Class initiative.

1.3 Methodology

Resource-service integration refers to the coordinated development of resources and services under certain conditions to highlight their characteristics and achieve greater efficiency^[4]. The Report explores how to advance resource-service integration in academic libraries from three aspects: First, it refines the concept of resource-service integration based on the theories of synthesis and integration, classification-subject integration, and information resource management, along with insights from practical library operations. Second, it examines the progress of resource-service integration within Double First-Class universities, analyzes the sustainability, symbiosis, forms of integration, and overall efficiency of resources and services, and documents proven experience. Third, it synthesizes theoretical insights with survey data to project future trends of resource-service integration in academic libraries and to recommend specific strategies and approaches.

This research is based on literature review, questionnaires, and case studies. Specifically, the questionnaires target library directors from universities involved in the second phase of the Double First-Class initiative. The research team has collected data on the status quo of resource development, service innovation, and technological application from 143 libraries, along with their directors' thoughts on future trends. Additionally, the research team has gathered related statistics spanning 2021 to 2023 from the SCAL Academic Library Fact Database. It employs manual indexing and data analytics to provide a comprehensive and objective assessment of the current status and future trends of resource-service integration within academic libraries.

2 Research Foundation

This report is guided by the principles of user-centricity, upholding fundamental principles and breaking new ground, and systemic perspective. It is theoretically grounded in the theories of synthesis and integration, classification-subject integration, and information resource management, while being practically based on the current advanced practices of domestic academic libraries.

2.1 Theoretical Foundation

2.1.1 The theory of synthesis and integration

In today's rapidly evolving IT landscape, libraries have significantly improved their service efficiency through the incorporation of AI tools. However, they also face new challenges as interdisciplinary integration carries on. The theory of synthesis and integration, pioneered by the older generation of scientists such as Qian Xuesen, serves as a cornerstone for addressing the complexities of new, giant systems. By bridging qualitative and quantitative approaches^[5], this theory posits that tackling the issues arising from complex giant systems requires a full utilization of practical knowledge alongside quantitative analysis, computational modeling, and simulation. By seamlessly integrating expertise, data, and a variety of information and computational technologies, we can leverage the comprehensive advantages these systems offer^[6]. The theory not only highlights the importance of engineering technology but also clarifies the directional and process-oriented nature of synthesis and integration methodologies. The deepening of Human-Computer Integration (HCI) propels libraries to strategically build diverse collections with long-tail effects, develops precise and rational parameter models, and leverages AI for simulation and quantitative analysis, which can create user-oriented, HCI-based knowledge bases. One of the metrics is resource-service integration, which helps to ensure comprehensive, farsighted policymaking that addresses critical issues with well-defined strategies and robust actions.

2.1.2 The theory of classification-subject integration

Classification indexing and subject indexing are important methods for the analyzing and processing of resources^[7]. They are widely recognized as information retrieval languages in the field of library and information science. The theory of classification-subject integration centers on the control of vocabulary and classification schemes, aiming to harmonize these two languages to ensure their compatibility and interchangeability during the processes of classification and subject indexing^[8]. This

integration is practically manifested in tools like the classified thesaurus. For example, the “Chinese Classified Thesaurus”, through indexing and compilation, ensures that the “Chinese Library Classification” and the “Chinese Thesaurus” are not only compatible but also convertible^[9]. This enhances the utility of both, while the overall functionality of the “Chinese Classified Thesaurus” exceeds the combined capabilities of its components^[10], embodying the synthesis and integration principle that the “whole is greater than the sum of its parts”.

2.1.3 The theory of information resource management

Information resource management refers to the comprehensive design, implementation, and change processes undertaken by individuals to configure, develop, and utilize information resources in accordance with their missions. At its core, this theory seeks to scientifically configure, rationally develop, effectively utilize, and add value to information resources, thereby optimizing information flows, pooling information assets, enhancing information systems, and maximizing information value. In other words, the theory posits information as a type of resources, emphasizing its effective management and utilization and the actualization of its value^[11]. In the era of digital intelligence, the domain of information resource management will evolve with core resources^[12] and ought to be integrally woven with computer system theories and expand around the notions of information and information resources while adhering to the established logical frameworks^[13]. It is worth noting that information integration services are able to effectively tackle developmental and systemic challenges^[14].

Overall, the theory of synthesis and integration, as proposed by Qian Xuesen et al., provides a robust methodological foundation for solving complex problems facing academic libraries amid rapid technological advancement. It merges human and technological realms to overcome obstacles. The theory of classification-subject integration introduces new developmental concepts and inspirations for future integration of resources and services, aiming to unleash systemic advantages through partnerships. The theory of information resource management offers key theoretical support to the integration of resources and services in academic libraries.

2.2 Practical Experience

The Report summarizes the advanced practices in resource service development of domestic academic libraries, drawing on a review of scholarly articles, library websites, social media posts, and questionnaire feedback.

2.2.1 Resource synthesis and integration

As academic libraries witness an influx of resources, many are paying attention to

the overall collection development and striving to establish a balance between digital and print collections. This balance aims to facilitate the navigation and retrieval of resources by discipline, school/department, and topic within a single platform, thereby improving user experience and resource efficiency. Some libraries are tailoring their resource development and integration strategies to their growth needs, disciplinary features, or regional traits. Noteworthy examples include Tsinghua University Library's "Dual Carbon" Open Resource Service Platform which underpins disciplinary progress, and the Global Multilingual Textbook Center at Beijing Foreign Studies University Library. Furthermore, some libraries are breaking down barriers among various resource types, languages, and disciplines to offer specialized resource services or subject mapping services. Examples include the 'Specialized Resource Cataloguing Services' provided by libraries at East China University of Science and Technology and Southeast University. Additionally, libraries at Peking University and Shanghai Jiao Tong University are developing mappings between the Chinese Library Classification and the MOE's higher education subject classification system.

2.2.2 Service alignment and innovation

Academic libraries have seamlessly integrated various services to establish innovative hubs by actively collaborating with schools, departments, and users. Libraries at Chongqing University, Nankai University, and Xiangtan University organically integrated resource services with user intelligence by launching online and offline campaigns such as "You Pick, We Pay", "New Book Flash Borrowing", and "Zero-Distance Selection and Borrowing", tailoring resource offerings by user decisions. Xi'an Jiaotong University Library and Shaanxi Normal University Library integrated space services and resource services by developing themed shelves and reading areas dedicated to key disciplines or traditional Chinese classics. Nanjing University of Information Science & Technology Library integrated technology services with space services by launching the Learning and Discussion Zone, New Technology Experience Zone, and Smart Creation Zone, harnessing innovative technology to augment the effectiveness of its spatial services. Additionally, some academic libraries focus on developing and upgrading teaching and research services to better integrate into their universities' systems for talent cultivation and research innovation. For example, Northwestern Polytechnical University Library has collaborated with multiple schools and departments in "Developing New Disciplinary Services and Building First-Class Schools".

2.2.3 Technological revolution and support

Academic libraries have been harnessing information technology to create integrated

intelligent service platforms. They have consolidated various systems to offer unified access through channels like WeChat mini-program, WeChat official accounts, and library websites—a prevalent service model these days. Meanwhile, they are vigorously adopting new technologies such as digitization, intelligence technology, AI, big data, data mining, VR, and RFID to create or retool service models and platforms. For example, Nanjing University of Aeronautics and Astronautics Library has introduced a large language model (LLM) to establish an intelligent book resource service system. Wuhan University of Technology Library has launched an “AI-powered reading companion” that merges library service projects, virtual human-computer consultation, along with digital and print resources for tailored reading experiences and promotions. Libraries at Peking University and Shanghai Jiao Tong University focus on data acquisition, management, and value-added services, while those at Wuhan University, Southern University of Science and Technology, and Shanghai University use data mining and integration technologies to compile their research outputs, build institutional repositories, and promote it as the exclusive official sources for their universities’ research outputs.

2.2.4 Inter-organizational connections and collaborations

Academic libraries also owe the rapid development of resource services to internal and external collaborations. First, there is cross-departmental collaboration within libraries. For example, Yanbian University Library has established cross-departmental teams for the acquisition, promotion, and evaluation of resources as well as for information literacy education. The resource development librarians of Fudan University Library concurrently serve as subject librarian. Beijing Normal University Library’s acquisition staff proactively recommend reading materials. Second, collaboration between libraries and academic/functional units are evident. For example, Zhejiang University Library collaborates with the Academy of Humanities and Social Sciences to build the Special Collection Space of Zhejiang University Think Tank. Shandong University Library partners with the Psychological Health Center to offer a “Healing Space” within the library. Soochow University Library teams up with the School of Marxism to maintain a dedicated zone for Marxist theory. Third, libraries are establishing cooperative networks with other universities and local stakeholders. For example, Shihezi University Library operates seven mobile libraries together with communities, businesses, rural organizations, and military units in southern Xinjiang. Chang’an University Library has co-founded the “House of Red Classics” with the local Party school. Tianjin University Library shares premium resources with primary and secondary schools in the city, fostering a rich learning environment. Fourth, libraries

are engaging in industrial and regional joint actions. For example, Shandong University Library spearheads the Literature Resource Co-development and Sharing Alliance for Academic Libraries in Shandong, facilitating collective resource procurement across local universities.

In summary, China's academic libraries have recognized the importance of integrating resources and services and engaged vigorously in relevant initiatives. They have amassed a wealth of practical achievements in resource synthesis and integration, service alignment and innovation, technological revolution and support, and inter-organizational connections and collaborations. Still, these libraries need to further strategize for the interactive, symbiotic, coordinated, and sustainable development of resources and services.

3 Analysis of Survey Results

The survey focuses on the following aspects: the sustainability of resources and services in academic libraries, the interplay and symbiosis between these resources and services, and the forms and overall effectiveness of their integration. Questionnaires were disseminated among 147 libraries of Double First-Class universities, from which 143 valid responses were obtained.

3.1 Resources and Service Sustainability

3.1.1 Resource development and innovation

Resource development and innovation are fundamental to library operations. In the digital era, the resources of academic libraries have achieved significant scale, as their development, configuration, and organization are becoming more digitalized, integrated and systematic.

(1) Overview of resources

In recent years, there has been continuous growth in library resources at Double First-Class universities. Their average print book holdings rose from 2.824 million volumes in 2021 to 3.088 million in 2023, and the digital book holdings rose much faster. The majority of academic libraries have prioritized establishing special collections (65.7%), refining resource structures (64.3%), and integrating print and digital resources (63.6%). This reflects their support for the growth of distinctive disciplines under the Double First-Class initiative and the efforts towards integrated resource development. Additionally, some libraries are actively exploring new areas of resource development, with a focus on organizing faculty and student research outputs (33.6%), managing data resources (31.5%), and developing open-access resources (17.5%).

(2) Layout and management of physical collections

Regarding the layout and management of physical collections, nearly all libraries (98.6%) adhere to the predominant Chinese Library Classification, with 82.5% arranging their resources by type, such as books, periodicals, and newspapers, and 32.2% employing a three-tiered system consisting of open shelves, closed shelves, and remote storage. Additionally, 16.1% of libraries depart from traditional classifications by type and language, opting instead to experiment with a subject-based integrated organizational model.

(3) Organization and presentation of resources

In the field of resource organization and presentation, the adoption of new technologies has driven the integrated management of resources. Approx. 72.0% of academic libraries now prioritize the development of unified management and discovery services for both print and digital resources on next-generation platforms. Additionally, 39.2% of libraries employ library data centers, data warehouse platforms, or data middle offices for unified description and management of resources.

3.1.2 Service transformation and upgrading

Service transformation and upgrading are essential for sustainable library operations. Guided by the “user-centered” philosophy, academic libraries are continually introducing innovative services.





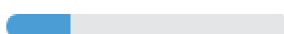


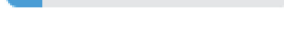
(1) Overview of services

In recent years, Information literacy education and information retrieval services at Double First-Class university libraries have shown sustained growth. Participation numbers in information literacy classes rose from 7,788 per library in 2021 to 8,335 in 2023. Meanwhile, the demand for information services (such as selective dissemination of information services, scientific and technological novelty searches, and citation and index checking services) rose sharply from 4,777 items per library in 2021 to 7,637 items in 2023. Nearly two-thirds of libraries generate an annual average of less than RMB 500,000 from services such as citation and index searches, with five libraries recording an annual average service income of more than RMB 2 million.

(2) User engagement

Teachers and students are participating in the development of library resources. They contribute through diverse methods such as offering feedback on resource recommendation and acquisition platforms, engaging in resource demand surveys, and attending thematic book selection events. Please refer to Table 1 for details.






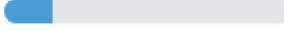
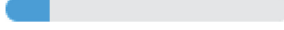
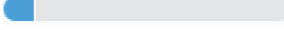
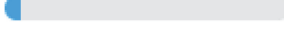
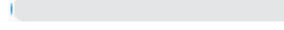
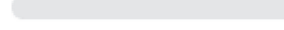
Table 1: Methods for Resource Development by Users

Methods for resource development by users	Number of academic libraries	Proportion
Feedback on resource recommendation and acquisition platforms	134	 93.7%
Resource demand surveys	125	 87.4%
Thematic book selection events (book fairs, recommendations from online bookstores, etc.)	115	 80.4%
Feedback on resource development via Email/WeChat, etc.	96	 67.1%
Explanations and discussions on resource selection	89	 62.2%
Donation of resources	81	 56.6%
Communications with subject librarians or acquisition librarians at central libraries	62	 43.4%
Communications with the staff of campus/school/department libraries	45	 31.5%
Feedback on public media (WeChat official accounts, BBS, etc.)	33	 23.1%
Participation in the organization of library documents	27	 18.9%
Participation in resource development groups at the school/department level	19	 13.3%
Participation in resource procurement and management based on research programs	10	 7.0%
Others	2	 1.4%

(3) Teaching and research service innovation

To bolster the teaching and research outcomes of their universities, most surveyed libraries have concentrated on services related to information literacy, research support, disciplinary information, and intellectual property. Some have ventured into new areas like open science and digital academic services. Please refer to Table 2 for details.

Table 2: Service Innovation Initiatives

Service innovation initiative	Number of academic libraries	Proportion
Information literacy education for teachers and students (including AI literacy)	132	 92.3%
Support for researchers (data preservation and publishing, exploration of disciplinary frontiers, scientific and technological novelty searches, citation and index checking services, intellectual property services, etc.)	121	 84.6%
Disciplinary information services for universities, schools and departments (Institutional repository, disciplinary information statistics and analysis, disciplinary evaluation, management of research outcomes, etc.)	118	 82.5%
Intellectual property information services	101	 70.6%
Embedded in classroom teaching (librarians participating in teaching specialized courses of various schools/departments, incorporating special collections and ancient books into practical teaching, etc.)	78	 54.6%
Resource services integrated into the entire research life cycle	25	 17.5%
More intelligent and convenient academic communication space services	23	 16.1%
Open science services (OA publishing support, integration of OA resource platforms, open science news services, etc.)	16	 11.2%
Digital scholarship services (digital project construction and research, data curation, digital publishing, digital humanities project research, etc.)	9	 6.29%
Online publishing of journal articles for the university editorial departments (e.g. journal portal)	2	 1.4%
Others	1	 0.7%

3.1.3 Funding and staffing

Financial support and talent cultivation are vital to the sustainability of library operations.

(1) Funding

The average resource expenditures in Double First-Class university libraries increase from RMB 21.586 million in 2021 to RMB 24.378 million in 2023. Specifically, expenditures on digital resources rose sharply from RMB 15.14 million per library in 2021 to RMB 18.03 million in 2023. Expenditures on physical resources decreased from RMB 6.32 million per library in 2021 to RMB 6.06 million in 2023. In 2023, the average expenditures on digital resources accounted for 74% of the total, reflecting a profound shift in resource structure.

(2) Staffing






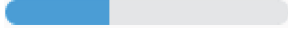

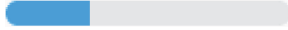
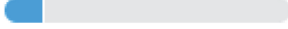
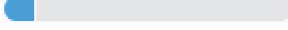
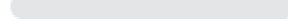
According to the CALM Report on Librarians (2022)^[15], the average number of library employees is 93.70 at Double First-Class universities, with permanent librarians accounting for 73.96%, contract librarians for 12.79%, and dispatched librarians for 13.25%. Between 2018 and 2022, the average number of permanent librarians decreased by 2.69 annually, while that of contract and dispatched librarians increased by 0.85.

(3) Professional skills requirements for librarians

Survey shows that the library functions most susceptible to automation include book borrowing and returns (78.3%), inventory and shelving (67.1%), resource service orientation (66.4%), and printing, copying, and scanning (59.4%). It also identifies key areas for skills development in the librarian profession, such as data analytics and application, interdisciplinary knowledge integration, disciplinary service and research support, learning and application of new technologies, and user engagement and services. This reflects the evolving requirements for librarians as driven by digital transformation and the deepening of disciplinary services.

Please refer to Table 3 for details.

Table 3: Most Sought-after Professional Skills of Librarians

Professional skill	Library directors' ticks	Proportion
Data analytics and application	102	 71.3%
Interdisciplinary knowledge integration	98	 68.5%
Disciplinary service and research support	98	 68.5%
Learning and application of new technologies	98	 68.5%
User communication and services	87	 60.8%
Innovation	53	 37.1%
Teamwork	48	 33.6%
Event planning and organization	43	 30.1%
Skills of acquisition and cataloging	20	 14.0%
Project management	16	 11.2%
Others	1	 0.7%

3.2 Interplay and Symbiosis of Resources and Services

3.2.1 Service-oriented resource development

More than half of the libraries have provided interdisciplinary resource navigation (57.3%) and specialized/thematic resource services (55.9%). Additionally, 16.1% of libraries have categorized and shelved resources by subject instead of language and type. This makes it easier for readers to navigate disciplinary contexts and knowledge clusters related to their fields of studies. It also allows subject librarians to deliver more targeted support, thus reinforcing the beneficial interplay between resources and services.

3.2.2 Resource-based service innovation

In order to enhance resource utilization, academic libraries have adopted a variety of service innovation measures. Some 88.1% of libraries have boosted information literacy education 82.5% have organized cultural activities such as lectures, salons, and exhibitions, and 78.3% have established book recommendation platforms to promote library resources. Others have engaged in inter-library exchanges, built specialized repositories, and organized collections by subject.

3.2.3 Transformation of services into resources

Some 74.1% of libraries have converted information literacy lecture videos and





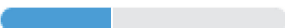
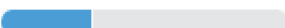
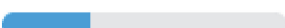
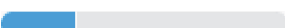

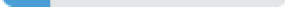
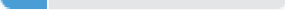
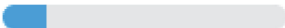

guides created by librarians into online learning resources, 60.8% have developed FAQs knowledge bases, and 44.8% have transformed survey reports on disciplinary services into thematic resources. This trend of turning services into resources not only broadens the scope of library resource systems but also amplifies the lasting value of service outcomes.

3.2.4 Space resource innovation services

In a broader context, space itself serves as a resource for libraries. The reconstruction and integrated development of these spaces have given rise to brand-new service models and experiences. Over the past three years, libraries have focused on creating research and training spaces, immersive cultural spaces for exhibition and other purposes, as well as knowledge sharing and academic exchange spaces. Additionally, they are actively exploring new scenarios that seamlessly blend resources and services.

Please refer to Table 4 for details.

Table 4: Priorities of Space Creation and Recreation

Priority of space creation and recreation	Number of academic libraries	Proportion
Creation of research and training spaces	95	 66.4%
Creation of immersive cultural spaces for exhibition and other purposes	89	 62.2%
Creation of knowledge sharing and academic exchange spaces	73	 51.1%
Development of self-service facilities	67	 46.9%
Creation of interactive learning spaces	56	 39.2%
Creation of innovation and maker spaces	46	 32.2%
Creation of new-technology experience spaces	45	 31.5%
Creation of art appreciation spaces incorporating multimedia, music, and film	38	 26.6%
Creation of leisure spaces such as cafés	25	 17.5%
Construction of discipline-specific libraries	24	 16.8%
Construction of discipline-specific reading rooms	23	 16.1%
Creation and utilization of cyberspaces	15	 10.5%
Others	5	 3.5%

3.3 Forms of Resource-Service Integration

3.3.1 Operational integration

At the operational level, the exploration of resource-service integration has streamlined workflows and improved overall cohesion.

To ensure seamless integration between resources and services, many libraries have transcended traditional boundaries to establish mechanisms for cross-departmental collaboration. Some 76.9% of libraries have conducted surveys spanning multiple departments to assess resource needs, 70.6% have carried out cross-departmental discussions to elucidate resource selection criteria, and 67.1% have organized resource utilization assessments and data analysis by various departments. This collaborative model has made resource development more comprehensive and scientific.

Approximately 76.2% of libraries have integrated various service systems through their websites, 65.7% provide links to these systems on their websites, and 65.0% integrate services through WeChat official accounts. Additionally, some libraries are actively exploring further integration, with 29.4% considering university apps and 11.9% looking into WeChat mini-programs, highlighting the trend toward unified service channels.


Library directors believe that the key priorities for the next five years are: developing a comprehensive resource support and service system for first-class disciplines (75.5%); creating an immersive resource service system that spans the entire teaching and research process (72.7%); offering information literacy education that includes academic, data, and AI literacy (72.0%); establishing an intelligent system for discovering and accessing both print and digital resources (69.9%); and providing personalized services based on user needs and behavioral data analysis (65.0%). These priorities also clearly reflect the trend toward the integration and holistic approach to library services.

3.3.2 Management integration

In the realm of library management, academic libraries are exploring unified operational, systematic, and managerial logics. Regarding operational process integration, 53.9% of libraries have established regular coordination mechanisms between resource and service departments, while 51.8% have set up one-stop service desks that combine consultation, borrowing, inventory, patrolling, and interlibrary loan services. Additionally, 48.3% of libraries have integrated resource management systems to provide unified resource services discovery access and 42.7% have established cross-department resource service teams tailored to their university's disciplines. These initiatives demonstrate the trend towards integrated management.

The integration focus is even more pronounced in the management priorities for the next five years. Approximately 79% of library directors believe that their libraries should strengthen integration with the university’s talent cultivation, disciplinary development and research innovation systems. Additionally, over 60% emphasize the need to develop forward-looking strategies for service integration, enhance intelligent applications and management standards, and base resource and service decisions on data. For details, please refer to Table 5.

Table 5: Management Priorities for the Next Five Years

Management priority	Number of selections by library directors	Proportion
Further integrating with university systems for talent cultivation, disciplinary development, and research innovation	113	 79.0%
Developing forward-looking strategies for resource-service integration	95	 66.4%
Enhancing intelligent applications and management standards	94	 65.7%
Making data-driven decisions on resources and services	89	 62.2%
Strengthening mechanisms for user participation in resource development and service delivery	68	 47.6%
Establishing closed-loop feedback mechanisms for resource development and service evaluation	66	 46.2%
Reshaping organizational structure to deepen internal process integration and interdepartmental collaboration	44	 30.8%
Establishing diversified mechanisms for librarian development and recruitment in intelligent environments	34	 23.8%
Advancing external cooperation and cross-sectoral integration	24	 16.8%
Securing the issuance of more regulations as official university documents	12	 8.4%

3.3.3 Strategic integration

Academic libraries are striving to better integrate into their universities' talent cultivation and research innovation systems. Regarding institutional user needs for the next five years, 63.6% of library directors identify disciplinary evaluation services as the top priority. This is followed by needs for institutional outputs analysis, strategic intelligence services, the development of institutional repositories, and think tank service. These priorities underscore the directors' dedication to supporting the overall strategic goals of their universities.

For individual user needs, 80.4% of library directors place the highest importance on creating diverse and modern reading spaces. This is followed by customized, convenient, and intelligent information services, comprehensive academic resource support embedded in research and teaching contexts, information literacy education (including AI literacy), and the provision of extensive, free, and high-quality reading materials. These efforts highlight libraries' endeavors to establish holistic service systems that facilitate teaching and talent cultivation.

Moreover, some academic libraries have begun strengthening their alignment with university's endeavors through institutional frameworks. Survey data reveals that eight academic libraries have formalized resource and service regulations as official university documents. These regulations cover the acquisition and management of resources, the utilization of digital resources, the preservation and sharing of academic output, intellectual property protection, and the development of resource support and information service systems. These efforts reflect significant strides by libraries to integrate into the academic ecosystem of their universities.

3.3.4 Sectoral integration

From a sectoral perspective, academic libraries are showcasing trends of mutual enhancement, openness, sharing, and collaborative innovation. For the next five years, 82.5% of library directors prioritize the formation of national or regional library alliances. This is followed by the need to strengthen strategic partnerships with publishers or database providers, collaborate with other academic libraries, and update and refine professional standards and norms. Additionally, 37.8% of library directors advocate for cooperation with public libraries, museums, and archives, while 37.1% highlight the importance of cooperation with IT companies to pioneer innovative services. Moving forward, academic libraries will continue to drive openness, sharing, and innovative development through diverse cooperative endeavors.

3.4 Comprehensive Efficacy of Resources-Service Integration

The efficacy of resource-service integration manifests across multiple dimensions. From an efficacy perspective, 79.0% of library directors prioritize enhancing the library's role in supporting university teaching and research over the next five years. Other key factors include improving the convenient of resource access (76.9%), increasing resource utilization rates (74.8%), enhancing user satisfaction (62.9%), and ensuring availability of core academic resources (60.8%). These insights reflect the commitment of academic library directors to pursuing holistic improvements in quality, operational efficiency, service outcomes, and user experience through integration initiatives.

3.5 Analysis and Discussions

This research is highly representative, focusing on 147 university libraries included in the second phase of the MOE's Double First-Class initiative. The development status and future trends of these libraries serve as important benchmarks and provide a guiding reference for academic libraries nationwide. The questionnaire primarily targeted library directors and deputy directors, collecting their assessments of the current situation and expectations for future development. These insights reflect the strategic thinking and management experience of these leaders, providing crucial guidance for predicting sectoral trends. The analysis incorporates data from questionnaires alongside statistics from the MOE's Academic Library Fact Database over a three-year period. This longitudinal comparison reveals the development trajectory of academic libraries in their digital transformation process, providing a robust data foundation for the research. The two sources corroborate and complement each other, forming an effective synergy.

Additionally, most of the survey questions allowed respondents to select up to three or five options, the design choice that typically results in the most popular choices being selected by 70%–80% of respondents, rather than the 90% or higher selection rates seen in conventional surveys. Nevertheless, by comparing the selection rate across options, the research can clearly identify the distribution of priorities among academic library managers. It is also worth noting that the lower selection rates for certain options do not necessarily indicate lesser importance, instead, they may reflect emerging trends and future directions in library service transformation.

4 Conclusion

Based on relevant theories and practical experience, this research synthesizes and analyzes the findings from a survey of 143 libraries at Double First-Class universities. It also incorporates key perspectives outlined in the CALM Report (2021 Simplified Edition), the CALM Report on Librarians (2022), and the CALM Report on User Relationship Management (2023). The research team has identified several strategic issues related to the integration of resources and services in academic libraries. These include the strategic significance of this integration for the high-quality development of libraries, the symbiotic relationship between resources and services, the fundamentals and forms of integrated resource-service development, and its overall efficacy. Additionally, the team has proposed trend-based strategies, measures, and phased goals for addressing these strategic issues as part of the modernization process of academic libraries. The limitations of this research and the direction for future efforts are also summarized.

4.1 Development Trends

(1) Recognizing resource-service integration as a critical component of modern academic libraries and a strategic approach for library planning, management, development, and governance.

For academic libraries, the resources-service integration is of significant strategic importance for their sustainable, high-quality, and intrinsically-driven development. This significance is reflected in the following aspects:

First, resource-service integration will become a key direction for the sustainable development and efficiency improvement of academic libraries. Both resource management and service provision are core functions of libraries, requiring adjustments and optimization to enhance organizational structure, and to emphasize users' orientation and influence. Libraries need to invigorate operations, particularly by fostering intrinsic motivation among staff and enhancing the service dynamics, and also need to improve the quality of resources, facilities, offerings, and services, with a focus on applicability and innovation. Furthermore, libraries need to increase assets utilization and improve librarian productivity while strengthening the analysis of the relationship between input and output.

Second, resource-service integration will serve as a practical strategy for the construction of the theoretical framework. By accumulating experience and gaining

insights into its regularities, this integration will not only enhance the overall characteristics of the library's operational system but also contribute to the development of the corresponding theoretical framework.

Third, resource-service integration will be a crucial aspect of efficiently advancing the modernization of libraries. It will drive the holistic development of library governance systems and capabilities, and also promote high-quality modernization in other areas of library operations.

(2) Aligning resource development with service-oriented goals to create a well-balanced, multi-source information resource system.

One strategy for integrating library resources and services is to adopt a service-oriented approach to resource development. This strategy emphasizes aligning the acquisition, discovery, and organization of resources based on user needs and corresponding services, rather than solely focusing on the documents themselves, unless they are exceptionally unique.

The strategy includes several key measures: First, the evolving resource needs of individual and institutional users will be investigated comprehensively, promptly and accurately. Second, faculty and students should be proactively and collaboratively involved in resource acquisition, discovery, organization, and service activities, such as recommending, selecting, cataloguing, and arranging, as well as evaluating and choosing resources. Third, library management systems and intelligent service platforms should be integrated and iterated. Fourth, libraries will refine the mapping of multiple disciplines based on the Chinese Library Classification, and strengthen the connection between categories and themes, as well as between resources and cultural contexts. Fifth, characteristic resources will be collected, presented and organized about university's preponderant disciplines, emerging disciplines, and distinctive culture construction. Libraries with additional conditions may manage assets while also advancing organized and personalized academic repositories, applying generative AI and other technologies to construct knowledge graphs for relevant disciplines and fields.

These measures will contribute to the creation of a balanced, multi-source information system. In the course of resource development, task operations, collaborative workflows, adjacent cooperation, and management activities will become more harmonized. This will enable the integrated management of diverse types of literature within the same discipline and enhance the effective utilization of regenerated resources, such as bibliographies and indexes of specialized topics.

(3) Leveraging resources to drive service innovation and build an information service system that fosters emergent intelligence and collaborative problem-solving.

Another strategy for integrating library resources and services is to promote service innovation based on resources. This strategy highlights that the primary mission of information services is to actively provide relevant offerings and services, aiming to efficiently utilize literature resources, knowledge resources, and data resources, rather than passively delivering content when requested, unless the need has not been identified.

The strategy includes several key measures. First, libraries can offer consistently a variety of reading services, encouraging students to read extensively, wisely, and thoughtfully. Second, libraries can provide thoroughly, accurately, and efficiently improve information literacy education and intellectual property-related information services for both librarians and users. Third, libraries can make an effort to provide essential services such as novelty searches, citation and index searches, and data analysis. Fourth, the environments and scenarios can be remodeled and upgraded for learning, communication, and research, improving spatial layout, network infrastructure, and self-service equipment. Fifth, the exhibition of library collections and the university's academic achievements can be enhanced. Libraries that meet specific conditions may enhance the productivity of teaching and research staff by providing specialized knowledge, data, and relevant tools. They can also improve instructional service platforms and support the entire teaching and research process through services such as resource support, intelligence analysis, academic exchanges, and results management. This is crucial for the development of large-scale models for specific disciplines or other vertical fields.

These measures will help build an information service system that facilitates the emergence of intelligence and collaborative problem-solving. Intelligent strategies such as connection, coordination, integration, and collaboration will foster the development of additional services, projects, and initiatives, promoting close collaboration between librarians and users in addressing specific challenges.

(4) Coordinating key elements such as librarians, users, technologies, and culture to ensure integrated, organic, and ecosystem-aligned library operations

A third strategy for integrating library resources and services is to coordinate elements such as librarians, users, technologies, and culture. This strategy highlights the multifaceted nature of libraries, where resources and services function as both inputs

and outputs, interacting with elements such as librarians, users, technologies, and cultural aspects. Resource-service integration can only be ensured through the coordination of these diverse elements.

The strategy includes several key measures. First, coordination and interaction can be strengthened between users, technical units, and administrative bodies in resource management and service delivery. Second, libraries can reinforce the development of offline comprehensive service desks and integrate multimedia platforms with portal websites at the core. Third, librarians should enhance the professional team development of and an information culture education. Fourth, user relationship management should be improved, which can help users engage in self-directed learning, self-education, and self-service. Fifth, AI application scenarios should be explored, and mechanisms for resource and service sharing need to be improved. Libraries with more resources can also incentivize librarians to engage in cross-cultural exchanges and cooperation, collaborate with internal and external institutions to jointly develop application systems and platforms, and organize joint training programs for librarians at the regional or provincial level.

The implementation of these measures will ensure integrated, organic, and ecosystem-aligned library operations. “Integrated” is manifested in the systematic development of various services, “organic” is reflected by the vitality of the libraries, and “ecosystem-aligned” is indicative of their comparative advantages.

(5) Advancing comprehensive reforms while upholding fundamental principles and breaking new ground to enhance academic libraries’ overall contributions to the Double First-Class initiative

A fourth strategy for integrating library resources and services is to comprehensively reform while upholding fundamental principles and breaking new ground. This strategy emphasizes both mission management and change management within the library context. The mission of the library is to support the broader goals of the university, and the library’s core functions—such as resources management and service delivery—should adapt proactively to the changing needs, with other related aspects also keeping pace with the times.

The strategy includes several key measures. First, libraries should adjust and improve the internal structures, job roles, incentive systems, career pathways, and communication channels. Second, the library’s development history, traditions, and the lessons learned need to be reviewed and reflected. Third, libraries should focus on key service and management priorities to drive holistic development. Fourth, strategic

planning and management should be strengthened to cultivate long-term commitment across the library. Fifth, libraries' development needs to be effectively integrated into the university's talent cultivation system, research innovation framework, and IT ecosystem, which can create tangible impact within the library, online platforms, campus, and the wider community. Libraries with more resources may enhance their management functions by focusing on the design based on strategic planning and decision-making, the implementation based on execution and innovation, and the transformation based on communication and elevation. They can also strive to introduce more regulations through university-issued documents, develop a library charter, and ensure that relevant provisions are incorporated into the university charter.

These measures will enhance academic libraries' contributions to the Double First-Class initiative. The enhanced efficiency and professional capabilities of librarians will lead to better resource utilization and increase service satisfaction. This, in turn, will boost libraries' visits and increase their effectiveness. As a result, libraries' contributions will be recognized, their value reaffirmed, and their status elevated.

4.2 Limitations and Future Efforts

The Report acknowledges several limitations encountered during the study, including a limited scope that hindered a comprehensive assessment of the overall level of resources and services in academic libraries across the country. Additionally, it did not capture the advanced practices of libraries outside the survey scope. Moreover, the survey results were not analyzed based on university types, and due to space constraint, not all relevant charts could be presented.

Looking ahead, the research team will work towards continuous improvement in the following areas: In terms of research subjects, the team plans to conduct a broader survey encompassing academic libraries nationwide. Regarding research content, the team aims to review and summarize the research findings on the integration of library resources and services, offering theoretical guidance for academic libraries across the country. As for the application of research outcomes, the team intends to explore more exemplary cases and best practices from leading academic libraries, and promote these practices on a national scale, thereby advancing the integration of library resources and services in academic libraries across China.

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Questionnaire on Integrated Development of Resources and Services in Academic Libraries

1. What is your name? [Fill in the blanks] *

2. What is your job? [Fill in the blanks] *

3. How can we reach you? [Fill in the blanks] *

4. What is the full name of your university's library? [Single choice] *

5. When it comes to the development of resources, what have been your library's priorities over the past three years? (Select up to five items) [Multiple response] *

- Integrating print and digital resources
- Establishing special collections
- Developing ancient book resources
- Developing open-access resources
- Managing data resources
- Organizing research outputs of faculty and students
- Customizing teaching resources
- Optimizing the allocation of resources
- Organizing and presenting knowledge resources
- Ensuring long-term preservation of resources
- Digitizing resources
- Jointly developing and sharing resources
- Assessing the availability of resources
- Assessing the benefits of resources
- Others. Please specify: _____

6. In terms of organizing and presenting resources, what key improvements and innovations has your library focused on over the past three years? (Select up to five items) [Multiple response] *

- Unified management and discovery services for both print and digital resources on next-generation platforms
- Unified description and management of resources based on library data centers, data warehouse platforms, or data middle offices
- OPAC search platform upgrade
- Subject resource navigation (subject database, e-journal/e-book, open-access resources, etc.)
- Searches of special collections and ancient books
- Specialized/Thematic resource services (including self-built databases)
- Cataloging of specialized resources
- Interlibrary loan and circulation of resources
- Thesis and dissertation searches
- Searches of research outputs of faculty and students
- Others. Please specify: _____

7. How are print collections organized and managed within your library? [Multiple response] *

- Shelved in accordance with the Chinese Library Classification
- Shelved based on language
- Shelved by mixing Chinese and English materials
- Arranged by type (such as books, periodicals, and newspapers)
- Categorized and shelved by subject instead of language and type
- Housed in a reading room dedicated to books with high circulation and reservation
- Housed in thematic reading rooms
- Available for borrowing, primarily displayed on open shelves
- Available for borrowing, primarily displayed on compact shelves or stored in closed shelving units
- Arranged based on a three-tiered system consisting of open shelves, closed shelves, and remote storage
- Others. Please specify: _____

8. Which of the following resource development tasks in your library are jointly undertaken by librarians across multiple departments? (Select up to five items) [Multiple response] *

- Routine cataloging and acquisition of resources
- Explanations and discussions on resource selection
- Resource demand surveys
- Summary of disciplinary resource demands from various schools and departments
- Analysis of resource utilization, availability, and databases
- Development of resource strategies and collection policies
- Collection and processing of multi-source users feedback
- Management of donated resources
- Organization, presentation, and exploration of special collections and ancient books
- Others. Please specify: _____

9. What are the primary channels or methods through which your library users (including faculty and students) collaborate on resource development? [Multiple response] *

- Feedback on resource recommendation and acquisition platforms
- Explanations and discussions on resource selection
- Participation in resource development groups at the school/department level
- Resource demand surveys
- Thematic book selection events (book fairs, recommendations from online bookstores, etc.)
- Feedback on resource development via Email/WeChat, etc.
- Communications with subject librarians or acquisition librarians at central libraries
- Communications with the staff of campus/school/department libraries
- Feedback on public media (WeChat official accounts, BBS, etc.)
- Donation of resources
- Participation in resource procurement and management based on research programs
- Participation in the organization of library documents
- Others. Please specify: _____

10. To foster a favorable environment for resource services, which types of space creation and recreation initiatives has your library prioritized over the past three years? (Select up to five items) [Multiple response] *

- Construction of discipline-specific libraries
- Construction of discipline-specific reading rooms
- Creation of innovation and maker spaces
- Creation of new-technology experience spaces
- Creation of interactive learning spaces
- Creation of research and training spaces
- Creation of knowledge sharing and academic exchange spaces
- Creation of immersive cultural spaces for exhibition and other purposes
- Creation of art appreciation spaces incorporating multimedia, music, and film
- Creation and utilization of cyberspaces
- Development of self-service facilities
- Creation of leisure spaces such as cafés
- Others. Please specify: _____

11. What is the scope of your library's annual average income from primary businesses (citation and index searches, technology novelty searches, data services, etc.) over the past three years? [Single choice] *

- Below RMB 500,000
- RMB 500,000 (inclusive)-RMB 1 million
- RMB 1 million (inclusive)-RMB 2 million
- RMB 2 million or more

12. How has your library improved its services in recent years to enhance resource utilization? [Multiple response] *

- Categorizing resources by subject instead of language and type
- Integrating resource development with subject-specific librarianship
- Recommending resources and offering reading services through resource development units
- Creating book recommendation platforms such as “Recommended Reads” and “New Arrivals”
- Developing specialized databases by discipline, language, or topic
- Using a seat reservation system for space management
- Boosting users' information literacy
- Organizing reading activities such as lectures, salons, and exhibitions
- Organizing inter-library exchanges and cultural activities
- Others. Please specify: _____

13. What kinds of service innovation has your library prioritized to enhance the teaching and research capabilities of your university? (Select up to five items)

[Multiple response] *

- Resource services integrated into the entire research life cycle
- Disciplinary information services for universities, schools and departments (institutional repository, disciplinary information statistics and analysis, disciplinary evaluation, management of research outcomes, etc.)
- Support for researchers (data preservation and publishing, exploration of disciplinary frontiers, scientific and technological novelty searches, citation and index checking services, intellectual property services, etc.)
- Information literacy education for teachers and students (including AI literacy)
- Embedded in classroom teaching (librarians participating in teaching specialized courses of various schools/departments, incorporating special collections and ancient books into practical teaching, etc.)
- Online publishing of journal articles for the university editorial departments (e. g. journal portal)
- Intellectual property information services
- Digital scholarship services (digital project construction and research, data curation, digital publishing, digital humanities project research, etc.)
- Open science services (OA publishing support, integration of OA resource platforms, open science news services, etc.)
- More intelligent and convenient academic communication space services
- Others. Please specify: _____

14. What initiatives has your library undertaken to transform its services into reusable resources? [Multiple response] *

- Developing FAQ knowledge base
- Converting information literacy lecture videos and guides created by librarians into online learning resources
- Transforming survey reports on disciplinary services into thematic data resources
- Organizing videos, images, and other materials from reader interactions into a repository
- Organizing statistics collected or generated from data services into thematic resources
- Others. Please specify: _____

15. To comprehensively and promptly meet users' resource and service demands, what key measures has your library taken regarding the integration of resource and service workflows? (Select up to five items) [Multiple response]

*

- Developing plans for coordinated development of resources and services
- Holding regular or ad-hoc coordination meetings between resource and service units
- Establishing one-stop service desks that combine consultation, borrowing, inventory, patrolling, and interlibrary loan functions
- Establishing cross-departmental, subject-specific resource service teams tailored to university's disciplines
- Integrating cataloging and acquisition workflows based on various disciplines
- Establishing a cross-departmental reading service team to address user needs
- Integrating resource management systems to provide unified resource discovery and access services
- Building an integrated user service platform that consolidates various resource service systems
- Establishing mechanisms that enable resource and service units to collaboratively address user demands and feedback
- Flexibly establishing project-based, cross-departmental teams to address user needs
- Creating a unified model for the acquisition and service of print and digital resources in both Chinese and foreign languages, so as to meet the specific needs of various academic units
- Others. Please specify: _____

16. How has your library integrated user service systems to provide a unified service platform? [Multiple response] *

- Integration has not yet been done; users need to log into separate service systems
- Offering access to service systems via links on the library website
- Through library website
- Through WeChat mini-program
- Through WeChat official account
- Through library App
- Directly through university App
- Others. Please specify: _____

17. What do you believe will institutional users expect most from academic libraries over the next five years? (Select up to five items) [Multiple response] *

- Development of institutional repository
- Institutional outputs analysis
- Disciplinary evaluation service
- Strategic intelligence service
- Think tank services (at the national or university level)
- Research data management
- General education for talent cultivation
- Others. Please specify: _____

18. What do you believe will individual users expect most from academic libraries over the next five years? (Select up to five items) [Multiple response] *

- Diverse and modern reading spaces
- A professional librarian team
- Extensive, free, and high-quality reading materials
- Comprehensive academic resource support embedded in research and teaching contexts
- Customized, convenient, and intelligent information services
- High-quality reading activities and artistic experiences
- AI and other information literacy education
- Others. Please specify: _____

19. Which of the following library functions do you believe are most susceptible to automation? [Multiple response] *

- Selection and acquisition of book and database
- Book cataloging
- Book inventory and shelving
- Book borrowing and returns
- Resource service consultation and orientation
- Printing, copying, and scanning
- Doorstep book delivery
- Citation and index checking service
- Scientific and technological novelty search
- Information literacy education
- Discipline service information
- Analysis of library operational status
- Analysis of resource and service efficiency
- No roles can be replaced by robots
- Others. Please specify: _____

20. What do you believe are the most sought-after professional skills of librarians? (Select up to five items) [Multiple response] *

- Skills of acquisition and cataloging
- User communication and services
- Interdisciplinary knowledge integration
- Disciplinary service and research support
- Data analytics and application
- Learning and application of new technologies
- Event planning and organization
- Teamwork
- Project management
- Innovation
- Others. Please specify: _____

21. What do you believe are the priorities for the integrated development of resources and services in academic libraries over the next five years? (Select up to five items) [Multiple response] *

- Establishing an intelligent system for discovering and accessing both print and digital resources
- Creating an immersive resource service system that spans the entire teaching and research process
- Developing a comprehensive resource support and service system for first-class disciplines
- Organizing information literacy education that encompass research, data, and AI
- Offering personalized services based on user needs and behavioral data analytics
- Digitally preserving of special collections and ancient books for knowledge extraction, development, and utilization
- Collecting, management, and value-added service of data resources
- Smarting up cataloging and acquisition processes
- Using intelligent devices and technologies
- Others. Please specify: _____

22. What areas of management should academic libraries focus on over the next five years to support the integrated development of resources and services? (Select up to five items) [Multiple response] *

- Securing the issuance of more regulations as official university documentation (Please specify how many regulations of your library have been issued as university documentation)
- Developing forward-looking strategies for resource-service integration
- Enhancing intelligent applications and management standards
- Strengthening mechanisms for user participation in resource development and service delivery
- Making data-driven decisions on resources and services
- Further integrating with university systems for talent cultivation, disciplinary development, and research innovation
- Reshaping organizational structure to deepen internal process integration and interdepartmental collaboration
- Establishing closed-loop feedback mechanisms for resource development and service evaluation
- Establishing diversified mechanisms for librarian development and recruitment in intelligent environments
- Advancing external cooperation and cross-sectoral integration
- Others. Please specify: _____

23. From an efficacy standpoint, what do you believe are the key metrics for the integrated development of resources and services? (Select up to five items) [Multiple response] *

- Increasing in resource utilization
- Convenience of access to library resources
- Enhancing user satisfaction
- Quantity and quality of new services
- Improvement in librarian efficiency
- Ensuring the availability of core academic resources
- Enhancing the library's role in supporting university teaching and research
- Improvement in the library's brand influence
- Others. Please specify: _____

24. From an industrial perspective, what do you believe are the priorities for the integrated development of resources and services? (Select up to five items)
[Multiple response] *

- Formation of national or regional library alliances
- Joint procurement
- Cooperation with other academic libraries
- Cooperation with public libraries, museums, and archives
- Strategic partnerships with publishers or database providers
- Cooperation with IT companies to pioneer innovative services
- Refinement of industry standards and norms
- Others. Please specify: _____

25. Please briefly share a successful example or innovative practice from your library regarding the integrated development of resources and services. (Open-ended, within 500 characters) [Fill in the blanks] *

26. What is your opinions or suggestions regarding the integrated development of resources and services in academic libraries? (Open-ended, within 500 characters) [Fill in the blanks] *
