



Research on the Beijing Academic Library & Information System

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Abstract

The Beijing Academic Library & Information System (BALIS) is the largest regional university library alliance (RULA) in Beijing, which has 90 member libraries, covering almost all university libraries (UL) in Beijing. It was founded in 2007, through more than ten years of development, which has formed a certain business scale. Its services mainly cover six aspects: document delivery (DD), interlibrary loan (ILL), group procurement, joint consulting, business training and technical support. BALIS is the representative of the development of Chinese RULA. The ten years of rapid development of BALIS are also the ten years of rapid development of the RULA. Through researching on it, the construction ideas (CI), organizational structure (OS), and operation methods (OM) of RULA in China can be well revealed. Therefore, this article adopts the method of case analysis, in order to grasp the development context and law of China's RULA changes through the analysis of BALIS.

Subject Areas

Library, Intelligence and Philology

Keywords

Beijing Academic Library & Information System, Regional University Library Alliances, Construction Ideas, Organizational Structure, Operation Methods

1. Introduction

The Beijing Academic Library & Information System (BALIS) is one of the higher education public service systems in Beijing under the leadership of the Beijing Committee for Academic Libraries (BCAL), which is approved by the Beijing Municipal Education Commission (BMEC). It is the largest regional

university library alliance (RULA) in Beijing, and represents the high ground for the development of China's RULA [1]. BALIS was formally established in 2007, and has 90 member libraries, covering almost all Beijing university libraries (UL). The purpose of establishing it is, under the leadership of the BMEC, to integrate national investment, modern library concepts, advanced technology, and the rich literature resources and human resources of colleges and universities to build a joint guarantee system for Beijing higher education. At the same time, relying on the China Academic Library & Information System (CALIS), which is the largest university library alliance (ULA) in the world, and has 1800 registered member libraries, covering 31 provinces (autonomous regions and municipalities) in China, BALIS wants to realize the co-construction, opening-up and sharing of literature information resources, so as to maximize social and economic benefits, serve Beijing's higher education, and serve Beijing's economic construction and social development [2]. BALIS' emergence has greatly promoted resource sharing among UL in Beijing. Just in 2019, 41,592 users have used the original text delivery services (OTDS), and 13,193 new registered users have been added, and 53,202 documents have been transferred between member libraries.

2. The Organizational Structure

In order to ensure the operation of this system, the BMEC has decided to set up the Management Committee of BALIS and its executive organization—BALIS management center [3]. The BALIS Management Center (MC) office is located in the library of Renmin University of China, which is responsible for the organization and implementation of the management coordination, and supervision and inspection. The Secretariat of the Committee of graphic technology is responsible for the implementation and management of BALIS project. The hardware and software of the system are managed by the Library System Department of Renmin University of China and the Technology Department of Beijing University of Posts and telecommunications.

BALIS has six centers for original text delivery (OTD), interlibrary loan (ILL), joint consulting, resource coordination, training, and technical support. A combination of centralized management and decentralized services is adopted to satisfy readers' literature needs. **Table 1** shows the six sub-centers of BALIS.

2.1. Original Text Delivery MC

BALIS original text delivery center (BOTDC) was officially launched in November 2007, whose purpose of the construction is under the unified leadership of BCAL, relying on the mature system platform, making full use of the rich collection resources of Beijing universities and the convenient network environment among colleges and universities, adopting the combination of centralized portal platform and distributed service to provide the original text delivery services (OTDS) for university readers in Beijing area [4]. In other words, BALIS has a

Table 1. The 6 sub-centers of BALIS.

Sub-center	In charge	Main work
Original text delivery MC	Renmin University of China Library	Coordinate the original delivery service among member libraries
Interlibrary loan MC	Beijing University of Posts and Telecommunications Library	Coordinating the interlibrary loan service among member libraries
Resource coordination center	Capital Normal University Library	Coordinate the group purchasing of the database by the member libraries
Training center	Beijing Normal University Library	Coordinate business training and technical learning of member libraries
Joint Information Consulting Center	Beijing University of Science and Technology Library	Coordinate scientific and technological novelty search and information consulting services among member libraries
Technical support center	Tsinghua University Library	Provide information technology guarantee for the development of BALIS

unified working platform to accept readers' literature requests. At the same time, the staff of each member library need to use their own resources to meet the literature requests put forward by readers on the unified platform. BOTDC is responsible for coordinating the OTDS of each library, providing service support, taking charge of the statistics of the funds used by the member libraries and the subsidy distribution, and providing the OTDS for the member user libraries [5]. The service center of OTDC is located in the Renmin University of China, which has five Committee libraries: the library of Renmin University of China, the library of Beijing University of technology, the library of Beijing Agricultural University, the library of Capital Medical University and the library of Central University of Finance and economics. The library of Beijing University of science and technology and the library of Beijing Agricultural University focus on the collection and feedback of technical problems in the OTD system, while the library of Central University of Finance and economics and the library of Capital Medical University focus on the collection and feedback of service problems. **Table 2** shows the top five BALIS original documents in 2019.

Beijing UL that agree to abide by the spirit of management documents formulated by the OTDC, are willing to perform corresponding responsibilities and obligations, and sign the OTDS agreement with the OTDC, can become member libraries of the service system [6]. The member libraries use BALIS OTD system to provide OTDS to other libraries in the system, and obtain OTDS from other libraries in the system. Libraries with discipline characteristics in member libraries can submit application for subject service scope to the original text transmission center, and then become subject service library after verification by central library. The subject service library receives the original text from the readers of the member libraries of the system, delivers the subject service requested, and helps the readers to query the literature of domestic and foreign literature information institutions and obtain the original text on behalf of them [7].

Table 2. The top five BALIS original documents in 2019.

Rank	Library name	Number of documents provided (pieces)
1	Library of Renmin University of China	3189
2	Beijing Sport University Library	3075
3	University Library of Chinese Academy of Social Sciences	2444
4	Beijing Normal University Library	1304
5	Library of Communication University of China	1287

The data in the table comes from the statistics of the BALIS OTD center.

2.2. Interlibrary Loan MC

BALIS Interlibrary Loan Center (BILLC) is located in the Beijing University of Posts and Telecommunications Library, Which was officially launched in November 2007. The purpose of the center's construction is to provide ILL services for university readers in Beijing. The main functions of the center are coordinating the ILL services between the member libraries, providing technical service support, being responsible for the statistics of the ILL amount of each member, the issuance of subsidies, and the settlement of expenses with the logistics company [8]. It specifically formulates relevant management methods for ILL services, and organizes and coordinates the services of various libraries. It also is responsible for regular ILL settlement with logistics companies, providing corresponding equipment, software and services, providing relevant training and consulting services, and specifically operating and maintaining the ILL system to ensure the long-term, effective and stable operation of the service system. Approximately 40,000 readers use the services of the center every year. **Table 3** shows the top eight users of BILL member libraries in 2019.

In order to facilitate the smooth development of the ILL business, BALIS has developed a joint retrieval function (JRF) based on the OPAC system of each member library [9]. Through the JRF, readers can retrieve the relevant literature resources of all member libraries they need at one time. Simultaneously, based on this JRF, readers is convenient to submit ILL requests. The software system adopted by BILL is based on B/S architecture and JSP and other programming technologies. The business processing of ILL can be realized through the B/S mode. The readers of member libraries can submit ILL requests and manage personal affairs online. The ILL officers of the central library and member libraries can complete the library online Inter-loan transaction processing, various fund settlements, business volume statistics, and various parameter settings. **Table 4** shows top 8 in the number of BIL in 2019.

The BILL system adopts a centralized processing method [10]. In the centralized management mode, the application system is installed in the central service hall. The user registration of each member and the management of ILL affairs

Table 3. The top eight users of BILL member libraries in 2019.

Rank	Registered library	User count
1	Beijing Jiaotong University Library	5914
2	Library of Renmin University of China	2668
3	Central University of Finance and Economics Library	2027
4	Beijing Normal University Library	1820
5	China Agricultural University Library	1615
6	Beijing University of Science and Technology Library	1377
7	North China Electric Power University Library	1238
8	Beijing Sport University Library	1227

The data comes from BALIS IIL Center.

Table 4. Top 8 in the number of BIL in 2019.

Rank	Library name	Number of ILL (books)
1	Library of Renmin University of China	1291
2	Tsinghua University Library	1227
3	Beijing Normal University Library	1143
4	China University of Political Science and Law Library	1078
5	Peking University Library	1069
6	Beijing University of Chemical Technology Library	489
7	Beijing Jiaotong University Library	475
8	Central University of Finance and Economics Library	447

The data comes from BALIS IIL Center.

are realized by accessing the ILL service gateway of the central library through a browser. Readers directly submit ILL requests to member libraries. The data management, statistical analysis, and cost settlement are all undertaken by the central system.

2.3. Training Center

The BALIS training center (BTC) was officially launched in November 2007, which aims to provide a platform for learning and communication among UL in Beijing, in order to improve the overall business level of librarians [11]. The center mainly focuses on the development of domestic and foreign libraries, organizes training and learning exchanges in business and technology in a planned way, and plays an active role in promoting the development of UL in Beijing. Here are three examples to give us an intuitive feeling of BTC's work. First, on

December 12, 2019, the BTC held the “Strategic Planning and Management Improvement Seminar for UL in Beijing” at the Beijing Normal University Library. The conference attracted 150 participants from more than 50 UL in Beijing. At the meeting, Professor Ke Ping of Nankai University gave a report on “Strategic Choices of UL and the 14th Five-Year Plan”. The report introduced the elements and related methods of scientifically formulating strategic planning, detailed the environmental scanning and scenario planning work to be carried out when formulating strategic planning, and discussed the talents, technology, resources, services and culture of UL. Strategic choice issues need to be considered. Shen Jinhua from Tongji University Library made a report on “Restructuring of University Library Organizations Based on Service Functions”. Mr. Shen started with classic management theory, reviewed the history of changes in library organizational structure, explained the four models of organizational structure, and shared the experience of organizational reorganization by taking the actual organizational structure of Tongji University as an example. Song Jifang from the Renmin University Library of China took “Subject Knowledge Service to Help the Construction of Double First-Class Disciplines in Universities” as the subject, summed up the context of the development of university library discipline services, and emphasized the supporting role of subject knowledge services in the construction of “the double first-class” disciplines.

Secondly, on October 15, 2019, the BTC held the Fourth Curator Forum of UL in Beijing. With the theme of “construction and development of UL in the era of big data”, more than 100 leaders from 57 UL in Beijing attended the forum. Library leaders of well-known universities such as Peking University, Tsinghua University, Chinese University of Hong Kong (Shenzhen Campus), Renmin University of China, Beijing Normal University, Beijing University of Posts and Telecommunications were invited to attend and give special reports. At the forum, Wang Youqiang, director of Tsinghua University Library, made a report on the new development of University Library in the new era: Inheritance and innovation. Based on the classic theory of Library Science, director Wang elaborated the orientation and original intention of university library, pointed out the new perspective of understanding University Library and the direction of development and innovation of university library. Wang Qiong, director of the library of Beijing Normal University, made a report on the evolution of University Library under the background of double first class: function and orientation. Based on the investigation of 42 domestic UL and 8 international famous UL, director Wang expounds the changes and innovations of UL under the background of “double first-class” construction from the aspects of resource construction, innovative service and cultural construction. Chen Jianlong, director of the library of Peking University, made a report on the modernization goals of UL. Based on the concept of modernization, curator Chen elaborated the basic connotation and mission of University Library from four aspects: professional librarians, information resources, cultural heritage and university campus. Combining with

the seven development strategies of Peking University Library, he summarized the modernization goals of University Library as “lofty, loyal, kind, satisfied, inclusive and high-quality”. Zhang Jia, director of the library of the Chinese University of Hong Kong (Shenzhen Campus), made a report on “the deep reform of libraries from the perspective of data services”. Data service is a challenge to the library in the era of big data. Curator Zhang introduced the specific measures of data service in the library of the Chinese University of Hong Kong (Shenzhen Campus), and put forward some examples and guiding suggestions for the library to carry out data service from the practical level. Director Zhang also introduced the unique design of the library of the Chinese University of Hong Kong (Shenzhen Campus), pointing out that the university library should become a community for teachers and students to study and research.

Thirdly, on November 16, 2018, the BTC held the “First Scientific Research Evaluation Service Business Seminar of UL in Beijing” at the Beijing Normal University Library. Scientific research evaluation services are in-depth services developed by libraries based on bibliometric methods and authoritative literature statistical evaluation tools at domestic and foreign. Under the background of “double first-class”, more and more UL provide scientific research evaluation services around the school’s discipline construction, discipline evaluation, and scientific research performance evaluation, and there is an urgent need for relevant experience exchange. This seminar was held by the BTC based on the key needs learned from the questionnaire survey of university librarians in Beijing area, and received positive responses from librarians. More than 190 librarians from 76 libraries in 5 provinces including Beijing, Tianjin, Hebei, Inner Mongolia, and Shanxi participated in the training. This conference invited four experts from academic libraries in Beijing to conduct in-depth exchanges on the scientific research evaluation services of academic libraries. Ji Shujuan, director of the Journal Center of the University of Science and Technology Beijing, gave a report titled “Theoretical Basis and Practical Development of Library Research Evaluation Service”. Based on the theoretical research of scientific research evaluation, subject evaluation, library subject service, and the index of global mainstream university rankings and subject rankings, Ji explained in detail the theoretical basis of library scientific research evaluation services based on bibliometrics, combined with the University of Science and Technology Beijing The practice of the library fully demonstrates the scientific research evaluation service content of the library around the entire scientific research process. Zhang Chunhong, Director of the Research Support Center of Peking University Library, introduced the framework, goals and positioning of Peking University Library’s research support services with the title of “Disciplinary Services Based on Scientific Research Management and Decision Support”, and demonstrated the branding and system of Peking University Library The scientific research analysis products, combined with specific tools and techniques, introduce the process of scientific research analysis services in detail, focusing on the Peking Universi-

ty Disciplinary International Evaluation Project and Peking University Disciplinary Frontier Projects as cases, and detailed introductions including needs analysis, index system research and Establishment, data sources and data processing, analysis methods and reporting methods, including the discipline development support service process. Dr. Guan Cuizhong from Tsinghua University Library Information Service Department briefly reviewed the development history of Tsinghua University's library discipline and performance analysis work with the title of "Tsinghua University Library Discipline and Performance Analysis Services-Progress and Cases", and introduced Tsinghua University library closely follows the requirements of the school's "double first-class" construction task, and provides in-depth information analysis services around teacher team building, talent training, scientific research, and international cooperation.

2.4. Joint Information Consulting Center

BALIS joint information consulting center (BJICC) was officially established in December 2009, which aims to gather the advantages of Beijing UL's information consulting service, broaden the consulting service scope of UL, and provide joint information consulting service for University and social users Business. The BJICC is located in the library of Beijing University of science and technology, whose main functions are to coordinate the information consulting service of each library, provide service support, and be responsible for the statistics, quality evaluation and funding compensation of the joint information service of each member library. The service contents include sci-tech novelty retrieval, paper collection and citation, literature/topic service, information analysis, subject service, journal paper contribution guide, training service and information consultation. The service mode is to provide information service through telephone, e-mail and face-to-face communication according to the service request submitted by users without violating relevant laws, regulations and ethics.

3. The Management Mechanism

BALIS adopts the project management system, and the sub projects to be constructed are determined by BALIS management committee (BMC) according to the construction plan approved by BMEC. BMC determines each construction sub-project. Each sub-project has one contractor, which is responsible for the management center and is responsible for the implementation of all relevant matters of the project construction. According to the specific conditions of sub projects, BMC adopts three ways to generate construction units within the scope of member museums, namely, assignment, invitation to bid and bidding. Each sub-project is led by the contractor to establish a sub-project management team to implement the sub-project management. For the sub-projects with multi library participation, 1 - 2 members of the management team shall come from non construction units, which shall be nominated by the contractor and submitted to BMC for approval. According to the regulations of Beijing Municipal Bu-

reau of Finance and Municipal Education Commission on project management, BS is subject to the mid-term inspection, acceptance and performance evaluation of Beijing Municipal Financial Evaluation Center. The management committee shall arrange the interim inspection, acceptance and performance evaluation of the contractor one month in advance according to the sub project construction agreement. The Contractor shall submit the sub-project interim inspection report, sub-project acceptance report and sub-project performance evaluation report to the BMC. After the review by the BMC, the inspection team shall be organized to conduct on-site inspection as the case may be, and the report shall be submitted according to the results of the review or inspection. If necessary, the BMC shall organize the expert group to conduct on-site review and propose conclusion of sub-project acceptance. According to the requirements of Beijing Municipal Bureau of Finance and the Municipal Education Commission, the management center collects the materials of each sub project, prepares and submits the interim project inspection report, project acceptance report and project performance evaluation report. BMC organizes the project application of BALIS construction sub-project every year, and checks the sub project construction of the previous year. On the basis of university application and expert evaluation, BMEC officially determines the university to be constructed by the sub-project in that year, and allocates construction funding. After the establishment and implementation of BALIS subproject (BS), BMC is responsible for the process management, performance evaluation, follow-up service and other daily work of the subproject. The Universities Undertaking the construction of BS accept the management and supervision of BMC, and undertake the daily service and guarantee work after the completion of subproject construction tasks according to the unified deployment of BMC. After the completion of the project construction cycle, BMEC organized experts to check and accept the BALIS construction project, and to check and assess the use of project funds and construction benefits of each contracting University.

4. Conclusion

BALIS is not only the largest regional library alliance in Beijing, but also a representative of the development of China's university regional library alliance (CURLA). BALIS' services mainly include six aspects: document delivery, ILL, group procurement, joint consulting, business training and technical support, which are also commonly provided by the CURLA. Through the research on BALIS, we can clearly see the investment subject, management subject, organizational structure, operation mode, and service content of the CURLA. As the main body of investment and management, the education authority of the local government plays a leading role in the development of the CURLA. The emerging information technology has also greatly promoted the development of the CURLA. It can be seen from BALIS that a common network platform provides an indispensable tool for the centralized management and decentralized services.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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