

Analysis of BALIS interlibrary loan service management

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Abstract

Purpose – The purpose of this paper is to review and assess the first five years of BALIS interlibrary loan service and propose directions for future service development.

Design/methodology/approach – The authors use a case study approach to review the consortium's service offerings and clientele, assess challenges encountered in the first few years of service, propose service improvements, and make recommendations for the development of future strategic alliances.

Findings – There are some shortcomings of the system that limit the expansion of interlibrary loan services such as the low satisfaction rate and the high shipping costs.

Originality/value – This paper updates an earlier study of BALIS ILL services published in 2011.

Keywords Operations management, China, Interlibrary loan, BALIS, Regional library consortium

Paper type Case study

1. BALIS interlibrary loan service

BALIS was founded in November 2007 under the leadership of the Beijing Municipal Education Commission and Library Work Committee, marking a major advance in the integration of resource sharing among all university libraries in Beijing. Its interlibrary loan center is housed in the library of Beijing University of Posts and Telecommunications. Under the leadership of Beijing Higher Education Library Work Committee, the aim of this center is to combine a centralized portal platform with a distributed service model in order to make full use of the rich collection resources and convenient network environment in Beijing university libraries and to provide readers with high quality interlibrary loan services.

The BALIS interlibrary loan service was officially put in place on 1 April 2008. Since the service started five years ago it has evolved from the initial conceptual stage to full-blown implementation and has achieved remarkable progress. A total of 55 libraries applied to join BALIS initially; the membership has since increased to 63 in 2009 and to 77 by the end of 2012. From April to December 2008, the number of requests submitted by member libraries was more than 600. However, in 2009 the number of requests submitted was over 3,000, and by 2012 it had exceeded 22,000 requests.

With respect to cost, the interlibrary loan center has assumed responsibility for all shipping and service costs since the system started operations in 2008. BALIS uses a commercial courier service for books and the ILL center pays the fees incurred for this service. As a result, faculty, researchers, and students of member institutions throughout

Beijing may use the service without incurring any transaction costs or delivery fees. The free service stage has been extended four times so far and will be extended again to the end of 2013.

In April 2009 and May 2010, the ILL management center organized a month-long period of publicity and promotion, and request volumes increased significantly after each promotional period. The management center of BALIS has organized many subsequent publicity periods and promotional activities during 2009 to 2013 and the number of requests submitted by users increased significantly during these periods, sometimes exceeding 2,000 requests in a single month as a result of these efforts.

Table I illustrates how rapidly the BALIS interlibrary loan service grew in its first five years, which is closely related to the unique geographical and technological advantages enjoyed by BALIS member libraries. Beijing, for example, has a total of 83 colleges and universities, the largest number in China, 46 of which are central ministries' and commissions' colleges; the rest are municipal colleges and private universities and colleges. Each institution has a different educational mission and curriculum, so each library has different collection strengths and collection development priorities. BALIS has integrated the vast collection resources in the Beijing area and in the process has saved its members a lot of financial resources. BALIS members also benefit from a quick and convenient operating system which enjoys stable funding support from the Beijing Municipal Education Commission. BALIS has benefitted both from long standing publicity efforts by its interlibrary loan center and from the efficient and high-quality services provided by member libraries. Yet another technological advantage is the safe and efficient book delivery services provided by a third-party logistics company for readers at member libraries. These factors undoubtedly create favorable development conditions for the BALIS interlibrary loan service.

Table II shows a breakdown of user demographics drawn from official system statistics, 2008 to 2012. As Table II shows, undergraduates have comprised the largest user group every year since the service became operational, while the

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Table I BALIS ILL statistics, 2008-2012

	2008	2009	2010	2011	2012
Users registered for service (persons)	839	5,121	9,348	10,908	12,108
Number of requests submitted	628	3,979	6,742	15,564	22,606
Number of requests filled	297	2,221	3,859	8,049	14,809
Fulfillment rate (%)	47.3	55.8	57.2	51.7	65.5
Number of library members (institutions)	55	63	69	73	77
Shipping cost (in Yuan)	4,643	26,000	58,300	111,763	151,105

Table II User status of BALIS interlibrary loan system, 2008 to 2012

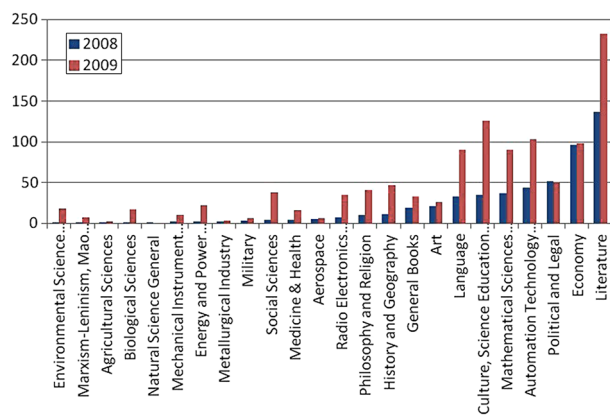
User status	2008	2009	2010	2011	2012
Undergraduate	738	3,347	7,458	7,762	8,532
Master's	145	467	1,086	1,615	1,958
PhD	86	228	712	587	763
Postdoctoral	8	19	38	56	54
College degree	0	20	17	639	410
Total users	977	4,081	9,311	9,964	11,717

proportion of the graduate students is not high. The group of readers directly influenced the lending requirements of interlibrary loan. Figure 1 shows a breakdown of books borrowed from 2008 to 2009 by broad subject classification. These numbers show that literature, culture, and automation account for the largest percentage of loans (58.76 percent). At the other end of the spectrum are military, science, energy, biological science, and environmental science; these kinds of books account for only 0.52 percent of the total items loaned.

2. Analysis of BALIS ILL service management

According to Zhang (2006), the role of service management is to form the service quality experienced by customers. BALIS service management can be understood as the method of planning, organizing, implementing, and controlling the interlibrary loan service. It involves mainly aspects of system structure, process control, and assessment. This section will analyze the service management of BALIS interlibrary loan.

Figure 1 BALIS books borrowed by subject classification, 2008-2009



2.1 BALIS interlibrary loan

The system construction of BALIS interlibrary loan system is based on centralized management of network-wide operations such as computer systems, logistics, and statistical reporting, while allowing for local design and implementation of user services. For example, one institution might allow readers to borrow materials from their collection onsite while another institution might not.

2.1.1 Centralized management system

BALIS utilizes a centralized organizational model including centralized management, resource distribution, and system sharing. BALIS consortium consists of a central library, the Beijing University of Posts and Telecommunications, and four member libraries. The main function of the central library is to coordinate the services of each member, provide technical support, develop rules and regulations for interlibrary loan, promote the service, and plan all kinds of activities related to the service. The four member libraries are Beijing Aviation University library, Beijing Jiaotong University library, Beijing Chemical University library and Beijing Vocational College library. These four members are responsible for assisting the work of the central library.

BALIS has established a number of joint bibliographic retrieval systems, such as the Chinese electronic resources union catalog, English electronic resources union catalog, OPAC union catalog, and western journal catalogue library. These databases are all integrated into and accessible to users through BALIS' own federated search system. In fact, the BALIS website is the only means by which readers can access the combined collections of all member libraries and determine which library holds the requested titles.

As long as readers register with the BALIS system, they can borrow books from any of the university libraries in Beijing without having to visit the libraries directly. It not only greatly facilitates collection access for readers, but also increases usage of the university library materials as evidenced by the dramatic increase in BALIS ILL request volume from 628 requests in 2008 to well over 22,000 in 2012. It has increased the circulation and usage rates of college library holdings and has also saved a lot of money for each institution. University libraries can focus their collection development efforts on materials to better support their local institutions' curricular needs (Ding and Zhang, 2010).

The central library assumes responsibility for management and maintenance of the ILL request system. The application software is installed in the central library, and each member library accesses it through a web interface. The central library is also responsible for reviewing and approving account applications from member libraries, approving and paying subsidies to member libraries, maintaining member libraries' ILL statistics, and paying invoices for delivery services

provided by the third-party logistics company. The primary customer of the central library is, thus, member libraries rather than the end user. It does not serve the reader directly or provide interlibrary loan services.

Therefore, BALIS' centralized management benefits all members by relieving them of the need for system maintenance, concentrating resources so that members can maximize their own collection resources, and streamlining services by directing requests to the most appropriate supplier. The concentration of management duties also results in better overall coordination, effective implementation of policies, and rapid dissemination of information.

For several years, the BALIS interlibrary loan service has been increasing in scale, expanding its service offerings, introducing new resources, and establishing connections with other external systems. The centralized management model has played a pivotal and influential role in this expansion by standardizing processes and establishing effective mechanisms for cooperative ventures with partner institutions. For example, BALIS signed a cooperative agreement with China Academic Library and Information System (CALIS) in November of 2012, thus connecting BALIS with the broader national resource sharing network and increasing its prospects for further development. The cooperation with CALIS increases readers' access to a wide range of services, improves the service quality for member libraries, and fosters common systems development and interoperability between BALIS and CALIS. BALIS also initiated an interlibrary borrowing service agreement with the National Library of China (NLC) in May 2010[1]. Through this agreement, Chinese language books as well as foreign language titles published within the last three to twenty years can be loaned to readers free of charge. The NLC has made its OPAC accessible to BALIS, thus enabling BALIS users to search and request NLC collections through their local system interface.

2.1.2 A distributed service model

All BALIS members participate in interlibrary borrowing and lending activities, i.e. they function as both requesting and supplying institutions, regardless of the size of the institution or its collections. BALIS interlibrary loan utilizes a distributed service model in which member libraries manage all aspects of local service implementation. For example, each member library has a designated interlibrary loan department that is responsible for managing readers, including verifying their identity and determining their eligibility for service. Staff members are expected to log into the interlibrary loan system, review and process reader applications for ILL service, and respond to applications in accordance with the local library's borrowing policies in a timely manner. ILL departments also guarantee the safety of borrowed materials, promote the function and related policies of interlibrary loan to readers, and help readers understand this service. In addition to managing readers and their accounts, ILL departments maintain statistics on reader accounts, volume of requests, and the costs of providing service.

User registration and ILL request processing are both conducted using client-server technology; staff members review and approve reader applications for ILL service and manage ILL requests through a web interface. Because the server is housed at the central library, there is no need for the member libraries to install their own servers or maintain their

own professional IT staff. At the same time, this business model also improves services for readers who can directly submit their requests to the lending library, thus increasing the overall effectiveness of interlibrary loan processing. Therefore, the adoption of BALIS interlibrary loan service improves managerial operations for member libraries while simultaneously streamlining the process for readers.

2.2 The process control of BALIS interlibrary loan service

2.2.1 Broad participation of practice

Since its inception in April 2008, the BALIS management center has implemented sound practices for the benefit of readers. Initially, the center developed a special brochure and promotional materials. In April 2009 and May 2010, however, BALIS organized a promotional activities month which included onsite consultations, publicity panel displays, service lectures, investigations of collection use in member libraries, and informational exchange meetings. Included among the latter are training sessions for both administrators and readers respectively. Training sessions geared toward administrators tend to focus on proper system use and protocols, while sessions aimed at readers are used to promote BALIS ILL services.

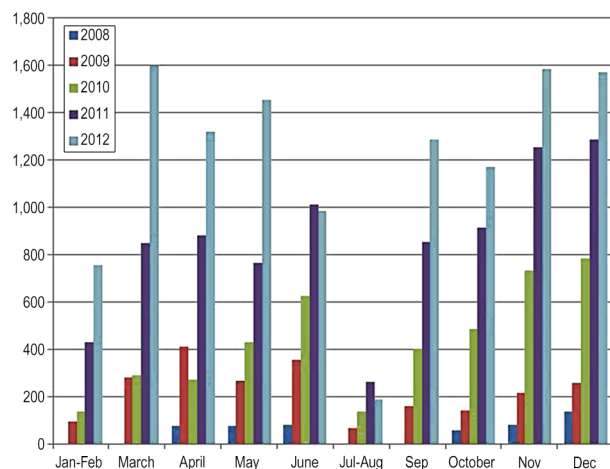
Information literacy and solid information technology skills are priorities for every member library and care is taken to cultivate the reader's ability to collect and process information. Likewise, interlibrary loan staff members instruct and encourage readers to take full advantage of the abundant information resources of universities in Beijing.

There are currently 82 ordinary universities in Beijing, of which 46 are considered to be universities of central ministries; the rest are Beijing municipal universities. No other province has as many as universities of central ministries, municipal universities, or private colleges as Beijing. Therefore, Beijing has a unique geographical advantage due to the wide-ranging collections and literature resources available through BALIS member libraries (Ding and Zhang, 2010). In recent years, the types of available information resources have greatly increased. The member libraries' local collections proved inadequate to meet the requirements of their readers, but it is unrealistic to think that each library could purchase enough new material to meet the demand of its readers. The sharing of information resources between libraries is therefore the best solution. Because BALIS was established in an effort to meet this demand, it has been welcomed by teachers and students alike and the number of university teachers and students who enjoy BALIS service will continue to increase as more of them become familiar with BALIS and its service offerings.

2.3 Performance evaluation

The management guru Peter Drucker once said: "What's measured improves" (Drucker, 2009). From this we can see the significance of evaluation and assessment in managing interlibrary loan systems and operations. Therefore, both system design and process improvement are inseparable from assessment. Assessment is not only a measure of results but also an indicator of process management (Hao and Sun, 2005) (Figure 2).

The purpose of performance evaluation is to gather quantitative data, identify and solve problems, and assist with decision-making. Evaluation of interlibrary loan service

Figure 2 Total books loaned each year, by month

Note: January/February and July/August are combined as these months are the traditional winter and summer vacations, respectively, and as a result ILL request volumes are typically very low

therefore results in both quantitative and qualitative assessments, which ultimately serve as the basis of data-driven and informed decision-making.

BALIS interlibrary loan center has evaluated interlibrary loan services since its inception in 2008. The BALIS evaluation model is based on the dimensions of fill rate and request volume. Through investigation and research, however, different dimensions are given weight to make evaluation more scientific and fair. After this evaluation method was implemented, most member libraries recognized its value and it has been improved constantly according to the opinions of the member libraries. The dimensions of criteria used to evaluate member libraries' performance are outlined in Table III.

3. Problems and suggestions for improvement

BALIS interlibrary loan takes full advantage of each individual library's local resources even as it compensates for the gaps and weaknesses in those collections. It greatly expands the scope of books available for use, creates

Table III Dimensions of evaluation criteria

First class index	Second class index
Ability to provide quality service	Service equipment Staffing Library resources
Service attitude	Whether actively engaged in service Cooperation with the center library
Quality and effectiveness of service	Volume of business Satisfaction rate Trainings Service navigation

opportunities for users to take full advantage of library resources in Beijing, remedies defects of the library, and contributes to the library's purchasing power by allowing each library to focus its collection funds in core areas. In spite of all the advantages afforded by BALIS, the launching of interlibrary loan service along with the author's practical work and analysis, problems in the following aspects are found in BALIS interlibrary loan service system.

3.1 Low fill rate directly affects service quality

The document delivery fill rate reflects the supplying library's ability to meet the demand of readers and can be used as an important measure of document delivery service quality (Chen and Han, 2008). Since BALIS interlibrary loan service started five years ago, the document delivery fill rate has been growing relatively slowly for two reasons. First, the federated search system is not completely accurate. There is a lag between the time a record is entered into the local online system and is discoverable by the BALIS interlibrary loan federated search system. For example, some union catalogs show an item is not in stock, but it is available in the stacks. Therefore, readers do not submit a request and the demand cannot be met. This has led to a certain extent to a slowing in the ILL fill rate; although the fill rate has continued to improve, it has done so more slowly than expected or desired. The second reason is that inaccurate or incomplete bibliographic citation information provided by the reader makes it difficult for interlibrary loan staff to find the materials.

Interlibrary loan management center should continue to maintain and improve the federated search system and improve the professional skills of the service personnel. Interlibrary loan personnel not only need to be familiar with the resources of each library, but also need to master database retrieval skills and it is up to the ILL management center to ensure that their searching skills are current and of a sufficiently high skill level. Each member library should also provide their users with a variety of bibliographic instruction activities like literature information retrieval training, seminars, and an introduction to document delivery services to ensure that users are aware of and are encouraged to use the system.

3.2 Courier costs and readers' borrowing demand

BALIS utilizes a third-party courier service to deliver and return ILL books, a service highly valued by ILL staff members because books are perceived as "remaining indoors". This is a significant contributing factor to the success of BALIS ILL and is considered one of its most attractive features not only for library staff but also for readers because it saves time and greatly improves service efficiency. However, as the number of member libraries and individual users increases, so also does the demand for service. Although BALIS ILL management center has sufficient and abundant financial support from the Beijing Education Committee, the increase in request volume and the rising cost of courier services each year has created serious concern about the long-term financial support for such services. BALIS leaders noted in a 2009 year-end summary report that courier services account for the greatest share of overall service costs. On one hand, the high cost of providing delivery is a serious concern because the current rate of increase cannot be sustained, but

on the other hand, libraries may not want to participate in BALIS without support for courier services.

4. Conclusion

BALIS, as a major library consortium in the Beijing area, should not be limited to university readers but should also be willing to provide services for the whole society. As a regional library consortium, it should strive to change the perception that cultural, educational, scientific and technological resources are difficult to share with one other and the BALIS system should aim to serve as a cross-regional resource sharing platform. It should enter into agreements with public libraries and research libraries to realize a true culture of resource sharing. Just like Deputy Minister of Culture Zhou Heping said, "We want to break down departmental boundaries and promote cultural, educational, and scientific library development through reading, interlibrary loan, document delivery and other cooperation, improve service for the cultural needs of the general public, and protect the civic cultural interests" (Zhang Heping, 2009). The goal of resource sharing is to ensure that anyone can get information at any time and any place.

Note

- 1 Additional information about the BALIS interlibrary borrowing agreement with the National Library of China can be found at: http://211.68.68.201:8080/union/zxdt_detail.jsp?id=75 (in Chinese).

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