CALIS: interlibrary loan and document delivery services in China

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Abstract
Purpose – This paper aims to describe the China Academic Library and Information System (CALIS), an academic library consortium which promotes resource sharing among Chinese academic libraries.
Design/methodology/approach – The authors use a case study approach based on their professional experience at the CALIS Administrative Center in Beijing.
Findings – CALIS has a bright future and it is hoped that CALIS ILL and document delivery services will be expanded to all kinds of academic libraries in China, and help them meet their users’ information needs.
Originality/value – The paper provides insights into the current state of interlending in China.

Keywords China, Consortia, Interlibrary loan, Interlending, Resource sharing

Paper type Case study

Background

Even in this digital age, interlibrary loan and document delivery are still among the primary resource sharing activities in which libraries engage. This is especially true in China, where insufficient funding of libraries has made it impossible for any single library to fully meet the needs and growing demands of its readers. Moreover, the rapid growth of electronic resources and the complexities of copyright concerns have made it difficult for readers to obtain library materials freely. As a result, interlibrary loan (ILL) and document delivery (DD) services have become more and more popular in Chinese academic libraries. This paper will discuss one academic library consortium known as CALIS, the China Academic Library and Information System, which is headquartered in Beijing and whose mission it is to promote resource sharing among academic libraries in China (Yao et al., 2004).

Before CALIS was created, three models of ILL and DD services were employed in China: manual, semi-manual, and semi-automatic. In the manual model, ILL and DD services are fully dependent on ILL staff to perform all functions. The semi-manual service model utilizes a combination of manual services, fax, e-mail, and document delivery software such as Ariel to enhance the efficiency of operations. Operations in the semi-automatic service model make increased use of automated management tools to search for materials, process requests, maintain user data, and calculate statistics, but the transmission of interlibrary loan transactions is conducted manually due to a lack of data exchange between service providers and service requesters.

Beginning in 2000, CALIS has standardized and automated ILL/DD services by enforcing a policy of “resource sharing, reciprocity of benefits, and common supplying”. The standardization, cooperation and integration among academic libraries in China are promoted, thus accelerating the modernization process.

In order to further streamline ILL and DD operations, CALIS developed an open peer-to-peer ILL/DD system, which enables any two CALIS member libraries to transact ILL requests among themselves. The key components of CALIS services include:
• an ILL and DD services network, composed of about 60 service-supply (lending) libraries;
• the ILL and DD request management system, which supports ISO ILL Protocol; and
• The coordination group of ILL and DD services in Chinese Academic Libraries.

CALIS ILL and document delivery services

The CALIS ILL/DD services network was created in June 2004 to better improve and promote ILL services to academic users. The ILL/DD services network has about 60 service-supply libraries, typically large academic libraries that can provide lending services to hundreds of other member libraries. Library users may request ILL and DD services through their home institutions.

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The CALIS ILL/DD system is compliant with the ISO ILL 10160/10161 Protocol (Yao et al., 2002) and consists of the following components:

- **User gateway.** An interface which allows end users to initiate and track requests, manage their personal information, and monitor their financial account.
- **ILL transaction management.** The client application used by ILL staff members to handle ILL transactions and manage user information.
- **ILL protocol machine.** The ILL server that receives and sends both ILL and DD requests.
- **Document delivery subsystem.** The client application that supports document scanning, transmission, and receiving. It could run independently, or be embedded in the ILL transaction management system.

The ILL/DD services system was developed using the Java programming language and supports cross-platform operation as well as Unicode character sets. It is combined with document delivery software and integrated into the document scanning and transmission functions; therefore, it supports both ILL and DD operations (Zeng, 2001). If the target library does not utilize the ILL/DD services system, then transactions with those libraries can be handled by the state simulation management of ILL services, which allows requesting libraries to rely on a single request management system for all of their ILL/DD requests.

For end users, ILL/DD requests can be submitted online using the CALIS ILL gateway, and can be tracked any time. The document will be sent to end users directly by lending libraries. CALIS also provides other information services, such as information retrieval, virtual reference and consulting, online catalog searching, online information literacy training, and other personalized services, all readily accessible through the CALIS portal for end users (Zeng and Wang, 2005).

The ILL/DD services system is a key part of the CALIS document service environment. It can interface seamlessly with other retrieval systems such as the CALIS union catalog, CALIS western journal TOC database, and CALIS unified retrieval system. Bibliographic information will be submitted directly from the retrieval systems under the CALIS document service environment.

In March 2005, after one year of the operation for the CALIS ILL/DD services network, CALIS and the China Academic Social Sciences and Humanities Library (CASHL) set up a joint group known as the Coordination Group on Academic ILL and DD Services to, as its name would imply, coordinate interlibrary loan services among academic libraries. The group is charged with strengthening ILL/DD services management and coordination and promoting the work of ILL standardization and regularization. Its membership consists of 15 ILL staff members with rich experience, who have been appointed as the members of the coordination group for a term of two years. They undertake to develop operational specifications, evaluation criteria, system development, and planning responsibilities.

The Coordination Group members are regarded as academic authorities on Chinese ILL/DD services and, in that capacity, have created normative documents such as “Academic Interlibrary Loan Service Specifications”, “Academic Interlibrary Loan Service Evaluation Indicators”, and “CALIS Interlibrary Loan System Development and Improvement Needs”.

### Challenges

In addition to CALIS, other large libraries are providing ILL/DD services and promoting standardization of practices, e.g. the National Library of China (NLC), National Science and Technology Library (NSTL), National Science Library, Chinese Academy of Science (NSL), and CASHL. However, services in China are still in their initial stages, and a gap remains between China and developed countries with respect to both the quality and effectiveness of ILL/DD services.

The following areas still need to be discussed and some challenges resolved.

### Collection development and discovery

The quality of ILL/DD services is largely dependent upon the availability of collection resources, so it is important to develop the scale of collections and their discovery. Only with a certain scale of collections is it possible to provide users with high-quality materials. On the other hand, the degree of collection discovery also affects the quality of ILL and DD services. If the bibliographic information is inaccurate or incomplete, the ILL/DD services satisfaction rate will be
adversely affected. CALIS now has a Union Catalog database, western journal TOC database, thesis and dissertation database, and so on, but the scale of available collections and the extent of their discovery are still insufficient.

**Multiple request systems and lack of interoperability**

There are presently multiple ILL/DD service systems in China. In academic libraries, there are two national service systems in use, CALIS and CASHL, as well as various regional and provincial service systems. Therefore, end users have to register for accounts in each system, even if the organizations use the same ILL system platform, such as CALIS and CASHL. This creates confusion for end users and, as a result, CALIS is considering cooperating with these systems to jointly provide ILL/DD services to end users.

**Limited use of ILL systems**

CALIS is the first ILL/DD system in China to be developed in accordance with international standards. Much training must be done to introduce ILL staff members to the new concepts and system protocols. As a distributed system, it must be installed in all participating libraries, who then need to provide the necessary hardware and software. However, some libraries are reluctant to do so.

**Management mechanism is not so perfect**

Although the Coordination Group on Academic ILL and DD Services developed service specifications, it is difficult to supervise local operations because of the distributed nature of the CALIS system. And, in order to comply with the international ILL standards, the CALIS system processes are comparatively complex. Feedback from member libraries suggests that the CALIS ILL/DD system is not so user friendly.

**Future work**

CALIS Phase 3 started up in 2010. It is hoped that the CALIS ILL/DD services will be enhanced and the aforementioned problems resolved. By the end of Phase 3, we hope that end users can easily acquire literature nationwide and around the world. The main considerations follow.

**Resource integration**

After years of building the network infrastructure, CALIS came to appreciate the importance of collection development to the success and widespread acceptance of ILL/DD services. On the one hand, CALIS continues to be installed in academic libraries to facilitate the sharing of special resources owned by those libraries, and to improve service to their users at the same time. On the other hand, CALIS is beginning to consider the integration of resources nationwide and abroad, and to provide end users with an integrated search portal for easier access to the collections at other institutions. That is to say, CALIS will focus on the integration of resources and services to meet the challenge of ILL staff members and their end users.

**System promotion**

In order to reduce the cost of system utilization and maintenance and to make it more attractive for adoption by medium and small libraries by eliminating their manual processes, CALIS improved its ILL/DD system by incorporating software-as-a-service (SaaS) technology (Zhong, 2009). With the SaaS version, CALIS members can share both software and hardware resources. With respect
to functionality and features, the two versions are the same. The difference is that in the SaaS version the host server is installed only in CALIS shared domain centers. Member libraries only need to install the client software, making it easier for libraries to use. Moreover, software and hardware maintenance is done not by the libraries themselves, but by CALIS shared domain centers. It is hoped that CALIS ILL/DD services will be expanded to all kinds of academic libraries in China through the popularization of SaaS version.

In addition, scheduling and settlement services will be established and provided to all member libraries. Scheduling service will help libraries choose the best service-supply libraries based on price, service time and other factors, and automatically forward the request to service-supply libraries. With settlement service, libraries only need one time of settlement with CALIS. CALIS help them to complete the settlement with all of related libraries.

CALIS continues to promote interoperability with different systems, such as resource retrieval, ILL and DD, user authentication, and library automation systems. It also promotes interoperability with different service platforms, such as CALIS, CASHL, NSTL and so on. By connecting with multiple systems, services and platforms, an end user will finally be able to use one account to access many quality and efficient document supply services. In Phase 3, CALIS enhances multilateral cooperation with other document supply organizations, gets support at home and abroad, provides a comprehensive range of services to end users, and create a new environment for resource sharing.

Conclusion

The sustained, high-quality development of CALIS ILL/DD services is ensured because of its strong services network, request management system, and Coordination Group on Academic ILL and DD Services. We believe that it will only get better through long-term investment, management, and cooperation, both nationally and internationally. We also believe that with the broad use of network, database, and telecommunications technologies, CALIS interlibrary loan and document delivery services enter a new era and promote resource sharing to a new level. It will provide a broader prospect for academic libraries to meet the literature information needs of readers.

References


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