

## An Overview of Resource Sharing Activities in China

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### Abstract:

*This article mainly introduces the development and achievement of resource sharing activities in China. With the modern technologies and complex needs of users, the resource sharing consortia are established to solve the emerging issues related library resource construction and sharing. The goal is to achieve the “5A” theory under the premise of voluntary, equality and mutual benefit. In China, the resource sharing project starts relatively late, however, it develops rapidly. After more than ten years construction, there are some national library consortia founded including CALIS, CASHL, NSTL, and some local universities resource sharing projects like TALIS and JALIS. These consortia strengthen the cohesion of the library field, promote consortia overall image as a whole in society and enhance social influence in the process of resource sharing. And they dedicated to carry out series of resource sharing activities. The main contents of resource sharing includes consortium acquisition, online cataloguing, resource integration, interlibrary loan and document delivery, resource public archiving, statistical evaluation, union training, and so on. These activities are great helpful to elevate the quality and the capability of library service, and provide the opportunities for information services. In the future, new trend will emerge and lots of work should to be explored and designed.*

**Keywords:** Resource sharing, Resource sharing consortia, Resource co-construction, information service, China

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### 1 The Benefit of Resource Sharing

A library is an important hub of information exchange gathering different kinds of information and academic resource. For an individual library, the participation in resource sharing activities can help it play a greater role in academy and society through information exchanges and service cooperation among libraries.

With popularity and development of computers, communication technology and Internet, information resource sharing is gradually known in library field and is developing all around

the world without any technical barriers. Resource sharing enables resource construction to form an organic whole, which can construct, introduce and collect high-level and high-quality teaching and research literature resource in plan and system. On this basis, many digital resources in libraries, modern network service system and advanced digital library system are integrated together with combination of centralized and distributed service to provide users with a comprehensive literature information service. It can not only enrich available information resource of an individual library and greatly improve information resource supporting capabilities of teaching and research, but also boost the overall construction of librarianship and accelerate the process of modernization in library field. (Xiao, & Yao, 2004)

Resource sharing consortia is dedicated to solve the problem of library resource construction and sharing, to achieve mutual benefit and subject to mutual recognition agreements and contracts restricting. The goal is to achieve the "5A" theory under the premise of voluntary, equality and mutual benefit. The "5A" theory means that Any user can get Any information resource of Any Library at Anytime and Anywhere.

The basic work of resource sharing consortia is resource co-construction which can be carried out in two ways. One way is the integration of existing resource, which integrates all library fragmented information resource into a new complete resource system. Library consortia can quickly collect a large number of available resources in a short period with faster effect in this approach. Another way is the construction of the stated objectives, which means many libraries concentrate on the construction and coordination for a common goal. It can strengthen the goal, integrity and coordination of information resource construction, effectively avoid library repetitive resource construction and help to build macroscopic information resource protection and optimize the overall structure of resource construction. All in all, both of them can improve the overall level of information resource protection on the basis of available resource complement of an individual library in order to centralize multi-library resource to support an individual library. (Zhang, & Zhan, 2013)

The goal of library consortia is resource sharing. The integrated information resource still remains in their respective libraries and the use of information resource can be achieved through collaborative services among libraries, which raises new challenges for libraries that libraries need to explore and try new forms of cooperation based on multi-libraries besides the traditional self-service. Many service forms emerge in the process of resource sharing such as consortium acquisition, online cataloging, interlibrary loan and document delivery, resource public archiving, union training and hardware and software sharing platforms. These services can not only support information resource sharing but also enhance libraries' own resource quality and service level.

## 2 The Introduction of Chinese Resource Sharing Consortia

A variety of Resource Sharing Consortia are established in China to promote and facilitate resource co-construction and co-sharing. Resource sharing project in China starts relatively late but develops rapidly including CALIS, CASHL, CADAL, NSTL, CSDL, and several local universities resource sharing projects like TALIS and JALIS. These consortia strengthen the cohesion of library field, promote consortia overall image as a whole in society and enhance social influence in the process of resource sharing. The names and profiles of some major Chinese resource sharing consortia are summarized in the following (in Table 1).

Table 1 Major Resource Sharing Consortia in China

Name	Location	Abbreviation	Note
China Academic Library & Information System	China	CALIS	It was established in 1998. It is one of the public service systems in the "211 Project" approved by the State Council of China. It is dedicated to the construction of resource sharing under the leadership of the Ministry of Education. It developed China academic digital library to maximize social and economic benefits for higher education services. CALIS Administrative Center is located in Peking University.
China Academic Social Science and Humanities Library	China	CASHL	It was established in 2004. It aims to collect resource systematically and provide services efficiently. CASHL Administrative Center is also located in Peking University. (Guan, & Wang, 2012)
China Academic Digital Associative Library	China	CADAL	It was established in 2002. The predecessor of it is China-America one million books digitization plan. It constitutes the framework of China's higher education digital library with CALIS.
Digital Resource Acquisition Alliance of Chinese Academic Libraries	China	DRAA	DRAA was established by a part of Chinese higher education institutes, composed of participating institutes, the council and the secretariat. It aims to carry out consortia purchasing of digital resource, standardize cooperative purchasing behavior and introduce digital resource for participating institutes at low prices.
National Science and Technology Library	China	NSTL	It is a virtual scientific information institute established in 2000. Its central office is set up to be responsible for scientific literature information resource sharing, coordination and management.

### 3 The Main Contents of Resource Sharing

#### 3.1 Consortium acquisition

Library lacks funds and varies greatly in its development. Consortium acquisition of digital resource becomes more popular in library field which can help library reduce costs, improve purchasing efficiency and acquire more available resource. Consortia acquisition is a new form of digital resource purchasing in recent years. The participating institutes voluntarily form negotiation groups to negotiate related matters with database providers such as the price, application systems, terms of use and so on. When they finally reach a purchase agreement, negotiation group signs the agreement on behalf of its members. It can not only save a lot of time, energy and money, but also reduce costs and risks for an individual library to negotiate with database providers in consortium. All in all, to purchase in consortium promotes the

sharing and exchange of resource and service among member libraries, gains more benefits for every member library and requires database providers to facilitate better service and technical support. Different consortia carry out resource procurement under related policy based on the needs of member libraries. (Song, & Liu, 2012)

NSTL leads eight member libraries in accordance with the policy of “unified procurement, standardized processing, joint Internet and resource sharing” under the necessity of national science and technology to acquire, collect and develop science and technology resource in various disciplines, establish scientific literature database, build domestic authoritative collection & service centers of scientific literature resource and strengthen the cooperation and exchange in digital resource sharing at home and abroad. Besides, NSTL also actively organizes and promotes "national license" mode of digital resource procurement focusing on resource and database of academic association, which includes foreign current issue database and backtracking database opened to Chinese mainland academic users and foreign databases opened to some academic institutes in Chinese mainland which is purchased in union of NSTL, Chinese Academy of Sciences, CALIS and Chinese Academy of Agricultural Sciences. (National Science and Technology Library (<http://www.nstl.gov.cn>))

CASHL began periodical coordinating construction in disciplines in the early planning period of 2002. In 2008, by the development of its new "imported literal arts books project", CASHL established resource construction policy of “combined mechanism, coordinate disciplines, comprehensive collection and ultimate protection”. With the first domestic multi-library coordinate purchasing platform, CASHL focuses on cooperative purchasing on humanities and social sciences foreign language books, special collections, journals and electronic resource in disciplines and literature type under the necessity of education and research. (China Academic Social Sciences and Humanities Library (<http://www.cashl.edu.cn/portal/>))

### **3.2 Online Cataloging**

With knowledge globalization and informatization accelerating process of resource co-construction and sharing, in order to carry out interlibrary cooperation more effectively, it has become an important task for library consortia to establish a standardized union catalog achieving interconnection and sharing literature resource. Online cataloging means that each library undertakes cataloging work to submit data online and shares cataloging achievements.

America is the first country in the world to achieve online cataloging, of which Online Computer Library Center (OCLC) has become one of the most influential literature information service institutes. Its online union catalog database WorldCat is the world's largest database of bibliographic records database containing bibliographic records and holdings information of nearly 20,000 OCLC cataloging member libraries. Follow the example of OCLC, CALIS develops continuously and has achieved a breakthrough in systematic and standardized cataloging work. Besides, CALIS establishes the largest domestic real-time online cooperative cataloging center, which contains huge bibliographic data, rich document format and high-quality catalog. For now, more than 1,000 domestic colleges and universities have joined in the system working on information resource construction and sharing.

### **3.3 Resource Integration**

The consortium provides all-round services to pursue the convenient acquisition and efficient use of resource. Consortium can better meet readers' diverse and changeable information needs in network environment through shared domain and cloud computing, which breaks the discipline and geographical constraints and make the most of information resource.

As one of the largest digital library consortia, with cloud computing, CALIS integrates catalog of domestic universities and establishes CALIS shared domain and unified authentication system that offers member libraries an information retrieval platform containing a variety of resources. When the user searches in e-Du, an academic search engine, without picking specific database, he/she can acquire full text digital resource directly or get literature through library document delivery service.

Based on CALIS, CASHL sets up a comprehensive service platform for domestic humanities and social science information resource to better promote resource sharing and construction. Through this platform, different types of resources like books, periodicals, electronic resource and large special collections are integrated together, which promote most of different services like resource retrieval, original transmission, full text download and so on. (China Academic Social Sciences and Humanities Library (<http://www.cashl.edu.cn/portal/>))

### **3.4 Interlibrary Loan and Document Delivery**

With the growing needs of readers and relative shortage in funds, an individual library can't fully meet readers. Document delivery helps eliminate duplicate collections, waste and unreasonable phenomena in the process of resource development. Each library can concentrate its limited funds for the purchase of literature according with library features and high utilization in line with needs of university discipline construction and academic research, which helps form a characteristic literature resource system and promote the rational allocation in literature and resource sharing. On the other hand, with Internet digital resource growing rapidly, readers can easily find literature resource in a variety of disciplines through network but can't download or access the full text directly from the Internet due to issues involving copyright and other aspects. Therefore, it is very necessary to carry out interlibrary loan and document delivery, which is also helpful to achieve mutual cooperation and common protection between libraries.

As one of the largest university library consortia, CALIS integrates literature resource of domestic universities, providing different types of interlibrary loan and document delivery services for readers. After years of construction, CALIS has formed a more scientific management mechanism and cooperative consortium and has taken shape with continuous standardization. Meanwhile, CALIS cooperates with National Library, Shanghai Library, NSTL and other information resource institutes. Readers can obtain library resource of these institutions through CALIS one-stop service and enjoy subsidies from CALIS. ([eduChina\(<http://www.calis.edu.cn>\)](http://www.calis.edu.cn))

### **3.5 Resource Public Archiving**

For diversity of digital resource, complexity of the format, vulnerability of medium and restriction in use, the preservation of digital resource requires costly investment in technology and management, which is not affordable by the general organization. Resource sharing consortium plays a key role in digital resource archiving. The member libraries share

responsibility, cooperate human resource, preserve valuable literatures on internet or produced by commercial agencies and special resource of member libraries themselves, avoiding excessive repetition on preservation and unlimited constraints. Besides, some related laws and regulations are made to support long-term preservation of digital resource, involving intellectual property law, copyright law, contract law, and so on. (Yao, & Chen, 2010)

In September 2011, DRAA , the National Science Library, Academy of Sciences and Springer company signed a long-term preservation of digital resource agreement. National Science Library, as the depositary agency in China, provides long-term preservation for Springer current periodicals database in case of emergency to all of DRAA members who purchased SpringerLink database. This is a groundbreaking event in library field in China and a major move in cooperation between libraries and publishers. National archive guarantees in any case, effective users are unobstructed in access to academic content of SpringerLink database. It plays a positive role in the long-term preservation for imported resource.

With the continuing construction of libraries and ceaseless increasing of holdings, library collections space is more and more tense and physical archiving becomes a big problem. Although the library expands itself and promotes management of its holdings, the rapid growth of holdings and long-term preservation of resource still make the libraries facing tremendous pressure in space and development. In recent years, the rise of cooperative storage library greatly eases the library storage space of library main hall. (Wang, 2013)

### **3.6 Statistical Evaluation**

With digital resource becoming more and more important in library resource construction, it is necessary for member libraries to carry out effective analysis on their resource, which is to scientifically analyze the usage of digital resource in certain methods. Specifically, it refers to a unit or organization scientifically analyzing related data like visiting, searching and downloads within a period of time in certain methods. COUNTER is currently the most commonly used standard applied in usage statistics of online digital resource providing member libraries with usage reports in line with COUNTER standard. Meanwhile, the statistical data of digital resource usage is an important indicator for evaluation of services performance on digital resource. (Suo, & Wang, 2006)

At present, Chinese library consortia are actively exploring resource and service evaluation platform. CALIS has established an evaluation system which is capable of conducting the rational assessment on resource quality, service level, customer satisfaction and management mechanism of consortia and their members. This can help find advantages and disadvantages in construction and development, discover needs of users and potential of a library and promote sustainable cooperation and development between consortia and member libraries. (eduChina(<http://www.calis.edu.cn>))

DRAA has been conducting statistical evaluation of resource usage for many times in this system platform. The member libraries can reasonably grasp the situation of resource usage and understand information needs of readers, which contribute to a favorable reference for library reform and digital resource construction in the future. (Digital Resource Acquisition Alliance of Chinese Academic Libraries (<http://www.libconsortia.edu.cn/index.action>))

### **3.7 Union Training**

Resource sharing consortia can gather member libraries together in specific time and place to conduct related training, which helps member libraries exchange and communicate with each other directly and dealt with service problems promptly. Training services provides a platform for member libraries and consortia to learn skills, promote business and exchange with others.

As one of the priority and important work in sustainable development of CALIS union catalog project, business training and guidance is designed to improve the professional quality of academic library catalogers and expand data resource. Since 2002, CALIS has held business and system training for more than 30 times in a variety of cataloging and services for member libraries with a total of three thousand library staffs participating, which has cultivated a large number of high-quality outstanding cataloging talents for academic libraries. Besides, by opening business seminars, online business forums, cataloging consulting system and others, CALIS provides the latest information and exchanging platform for catalogers in all parts of the country continuously improving professional quality of library catalogers.

CALIS Imported Database Training Week (CIDTW) is also one of representative training activities of resource consortia. The Training Week has been held for thirteen times. It becomes an annual training activity from 2002. With hard work and cooperation of member libraries, database providers, agents and CALIS, CIDTW has become one of the largest resource training activities, providing the most effective exchanging and interactive platform for libraries and database providers. (Digital Resource Acquisition Alliance of Chinese Academic Libraries (<http://www.libconsortia.edu.cn/index.action>))

## **4 Future work**

Besides the resource sharing activities mentioned above, there are some new trend on them, it includes but not limited to new technologies implementation, international resource sharing, big data analyzing, open access resource integration, online education assistance and so on. So much work needs to do to get a clearer idea about them. These new resource sharing activities would impact the development of the library consortia on the organization design and service supplement.

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