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### **Collaborative efforts in cross-country studies on information sharing infrastructure between China and the US**

-- Introducing an International Cooperative Research Method

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#### ***Abstract:***

*Two studies conducted during 2000-2001 compared how information resources are shared collaboratively through electronic devices between libraries in the US and China. The two studies, presented at the ASIS 2000 Annual conference and 12<sup>th</sup> NIT International Conference, were the results of collaborative efforts between US and Chinese library researchers. A newly developed International Cooperative Research Method was employed in both the studies and was thought extremely useful in conducting such cross-country work. The research method comprises a combination of five tactical components: Expert Collaboration, Participant Survey, Purposive Comparison, Global Perspective and Remote Scene. Through presenting the results of these cross-country studies, this paper discusses the merits and issues of employing this new cooperative research method.*

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## Background

A group of American Chinese and Chinese scholars in the US and China conducted two similar studies in 2000 and 2001 to investigate differences and similarities of how information resources are shared collaboratively through electronic devices between libraries in these two countries. The first study [1], which was the winner of the Digital Library and Information Science and Technology paper competition sponsored by the American Society for Information Science (ASIS) and was presented at the ASIS 2000 Annual conference in Chicago, USA, focused on the current practice of developing a national digital library infrastructure, the pattern and approaches used in organizing such projects, the framework and technologies employed in launching and managing the projects, and the national information countermeasures that have been used and could be used to further develop the digital library projects in China and the US. The study discovered that creation and development of electronic resource sharing consortia, especially at the national level, involve two major issues: information policy and use of technology. Issues pertaining to information policy included cooperation and collaboration between information service providers, collection development, intellectual property protection, management and administration on the digital library projects, and public information services (user clients). Issues pertaining to information technology included use of UNICODE, metadata, interface standards (Z39.50) and others. The issues found to be similar in both countries include:

- the relation of centralized and decentralized systems: while digital library technical aspects need standardized agreements to avoid duplication of effort, the digital libraries have to be distributed and not have only one center;
- digitalization is not simply scanning information and storing information; it should be a value-added process;
- user need and user group support were not critically studied: most digital libraries paid more attention to resource organization and description but user groups served by digital libraries were not given enough attention.

The second study [2] also explored these issues but focused on two different electronic resource consortia, the US Digital Asia Library (DAL) [3] and the Tsinghua Library's Electronic Resource Collection (TLERC) [4] program in China. The US DAL project was funded by the US Department of Education in 1999. It is a result of collaborative efforts of three universities' Asian libraries in Midwest USA. Tsinghua Resources Collection program is a specifically designed sharing device for collecting selected web resources. It is part of the Navigation Databases of Academic Main Subjects Project in Tsinghua Digital Library system, which initiated its services formally in 1995 and includes resources from within its own communities as well as those available online from libraries or information providers across the country.

This second study compared two individual digital library projects; both university-based cooperative projects sharing information resources throughout academic channels. The focus was on collaborative efforts deploying electronic resource sharing projects, the framework and technologies employed in launching and managing the projects, and the methodologies used in organizing, sharing and maintaining online resources with the electronic devices. The project aims to articulate new models for organizing and providing access to high-quality Asian Internet

resources, based on sharing online resources through digital library channels to university communities. Example of similarities with these two consortia included operational structure, resource management infrastructure and the collaborative efforts to accomplish the electronic resources sharing tasks. Similar problems between the two consortia included multi-language display and browsing capabilities, and user need and user group support that were not critically studied.

There were a number of points of correspondence between these two nations' electronic information resource consortia which prompted this investigation. Yet a number of challenges and issues were also raised that made the investigations difficult and had to be resolved. Cross-country research, for example, requires similar terminology and languages among participating researchers to enable communication. A common understanding of different philosophical concepts and cultural and political backgrounds should be in place so that the researchers can share ideas. Distance problems may bring bias into qualitative research, may cause economic problems where cost effectiveness is concerned, and may have limits on timelines that cause insufficient interview time.

### **Development of an International Cooperative Research Method**

The research path or method conducted in the above-mentioned studies and called an International Cooperative/Comparative Research Method is newly developed for the purpose of cross-country comparative studies in information and library science. The idea of the International Cooperative Research Method originated from this author's past research experience, and experiences contributed by researchers outside library science.

A comparison of the development of national information infrastructures and library directors' use of national library statistical data between the US and China [5, 6, 7 and 8], found that support and collaborative efforts from researchers in the countries was extremely important for the conduct of such studies. This International Cooperative Research Method is similar to Overseas Scientific Research [9], a method developed by the Japanese Government's Ministry of Education, Science and Culture, which was extensively discussed for the purpose of promoting international cooperative research and international scientific exchange in the fields of industrial technology. Its primary aim is to allow the intellectual exchange and cooperation of researchers having different concepts and experiences, which is the free exchange and cooperation among researchers across national boundaries, and is thought indispensable.

### **Description of the Method**

Although the author has used this research method in the earlier studies, it has been further developed to include five tactical components. These five tactical components are: expert collaboration, participant survey, purposive comparison, global perspective and remote scene.

1. *Expert Collaboration* refers to the extent to which experts from different countries and institutions work together cooperatively on specific issues or topics for a predicated theme. This was the most important key element while the two comparative studies of the US and China's electronic resource sharing consortia.

The study comparing the US DAL and the Chinese TLERC, “Case Studies on Electronic Information Resources Sharing in The US and China,” for example, was conducted in an extensive collaborative environment by two authors, one in the US in charge of the DAL, another in China familiar with his own university’s digital library. The discussions, writings and final revisions for the article were mainly carried out by correspondence via Internet; some were in person.

The study “Digital Library Infrastructure” was conducted through the collaborative efforts of two Chinese American researchers, one an expert in library network technology, the other in specialized in national information policy. Both have strong experience in the studies of US and Chinese librarianship. This study also benefited from the contributions of a number of scholars in China. They included committee members of the national digital library program at the National Library of China and Ministry of Culture of China, and their contributions included introductions to the processes and designations of their projects, demonstrations of their digital library devices, participation in discussion of technology and policy issues, and their experiences in building their electronic information resource consortia.

2. *Participant Survey* refers to the way in which researchers in the team contribute resources. It is extremely important to what extent foreign partners can contribute research resources on the issues under investigation. In the two studies, extensive Web sites surveys via Internet analysis of the data in both Chinese and English language were employed. The programs’ survey involved extensive email correspondence, and the discussions between the Chinese and Chinese American scholars were lead by experts who focused on each important segment, such as information policy, information technologies and information resources sharing issues. All participants expressed a strong willingness to listen and share experiences; and all expressed responsibility for their component of the designed tasks.

3. *Purposive Comparison* refers to the process through which an examination of different practice stands on recognition of its different cultural/economic/politic background. These practices are compared to see what in one context might benefit another context. This method allows researchers to compare effects from within a genre.

4. *Global Perspective* refers to the nature of the study that is globally orientated. Researchers’ perspectives must not be limited to within their own country’s cultural and/or political philosophies. The research should accept foreign researchers to participate in or to conduct joint research.

5. *Remote Scene* refers to the selection of unique expertise or resources from a remote location. If a cross-country study cannot be processed entirely from another side of the investigated country(ies), researchers could purposively use local expertise or resources contributed by local expertise to complete the study. The primary concerns of use of a remote scene is the cost of cross-country studies, which may need large-scale facilities and equipment that are too costly for one single nation to cope with and a remote scene can add what the researchers need without adding costs. Chinese scholars, for example, contributed a great deal to the research in the study “Digital Library Infrastructure,” even though travel was not available for the study’s authors.

## **Conclusions**

The literature shows an inadequate exploration of research methodologies specifically dedicated to international comparative or cross-country studies in library and information science, although there are studies in library science conducted through cooperative efforts. It is this author's wish to further develop the method, International Cooperative Research Method, by sharing it with LIS scholars all over the world at the IFLA conference 2001:

1. The International Cooperative Research Method serves mainly cross-country studies. Its emphasis is on cooperative effort, although it certainly serves international comparative research, and might be called an international comparative research method.
2. Cooperative research and comparative research support each other. Cooperative research emphasizes collaborative efforts therefore needs to form special paths or strategies that allow contributors to work collaboratively for the same purposes. Comparative research analyzes and summarizes the facts and/or instances with a combination of research methods such as factor analysis, program evaluation and systems analysis, to output or outline similarities and differences of the compared objects.
3. Cooperative efforts require researchers in the group to participate equally. Counterparts should intend to overcome political, language, geographical, and technical obstacles to unite with their resource partners.

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[9] Overseas Scientific Research, see <http://wwwwp.monbu.go.jp/eky1991/index-18.html>.