1994

State multitype library network interlibrary loan systems : a measurement of their effectiveness

Joyce Annette Burk
San Jose State University

Follow this and additional works at: https://scholarworks.sjsu.edu/etd_theses

Recommended Citation

Burk, Joyce Annette, "State multitype library network interlibrary loan systems : a measurement of their effectiveness" (1994). *Master's Theses*. 896.
DOI: <https://doi.org/10.31979/etd.ms24-99at>
https://scholarworks.sjsu.edu/etd_theses/896

This Thesis is brought to you for free and open access by the Master's Theses and Graduate Research at SJSU ScholarWorks. It has been accepted for inclusion in Master's Theses by an authorized administrator of SJSU ScholarWorks. For more information, please contact scholarworks@sjsu.edu.

INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

UMI

**A Bell & Howell Information Company
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
313/761-4700 800/521-0600**

STATE MULTITYPE LIBRARY NETWORK
INTERLIBRARY LOAN SYSTEMS:
A MEASUREMENT OF THEIR EFFECTIVENESS

A Thesis
Presented to
The Faculty of the School of Library and Information Science
San Jose State University

In Partial Fulfillment
of the Requirements for the Degree
Master of Library Science

By Joyce Annette Burk

December 1994

UMI Number: 1361154

UMI Microform Edition 1361154
Copyright 1995, by UMI Company. All rights reserved.

**This microform edition is protected against unauthorized
copying under Title 17, United States Code.**

UMI

**300 North Zeeb Road
Ann Arbor, MI 48103**

© 1994

Joyce Annette Burk

ALL RIGHTS RESERVED

APPROVED FOR THE SCHOOL
OF LIBRARY AND INFORMATION SCIENCE

William Fisher

Dr. William Fisher

Debra Hansen

Dr. Debra Hansen

Gordon Smith
Dr. Gordon Smith

APPROVED FOR THE UNIVERSITY

M. Fox-Lewis

ABSTRACT

STATE MULTITYPE LIBRARY NETWORK INTERLIBRARY LOAN SYSTEMS: A MEASUREMENT OF THEIR EFFECTIVENESS by Joyce Annette Burk

This study examines state multitype library networks in the United States to determine the most effective interlibrary loan (ILL) system. A multivariate analysis was done on data collected via a written questionnaire to determine speed and cost of ILL transactions in relationship to network configuration. Although survey data did not show that there is a significant statistical relationship between network configuration and cost and speed of ILL transactions, it did yield a number of findings pertaining to network operations. Six discoveries are: 1) decentralization and downsizing can cut costs; 2) CD-ROM bibliographic databases should be acquired for those libraries not able to afford online fees; 3) protocols can be used to evenly distribute ILL requests; 4) many state libraries do bibliographic searches for members without ILL tools; 5) electronic linkages can improve operations; and 6) demand increases with patron awareness of ILL service.

PREFACE

Library networks are a recent innovation that emerged in the United States during the mid-1960s. Economics of this century have made resource sharing increasingly essential for libraries. New technology has made networking and resource sharing feasible. One of the reasons this researcher returned to graduate school to acquire her masters degree in library science is that she felt the need to be better trained in this new technology to meet the increasing demands placed on her in her chosen profession of reference librarian in a California public library.

Interlibrary loan has always been fascinating to this writer. In the twenty years of her paraprofessional career, major changes have been seen in this service. In San Bernardino County, she observed a three-county public library network (Inland Library System) offer affiliate membership to other types of libraries in an attempt to provide multitype library network service (SIRCULS or San Bernardino, Inyo, Riverside Counties United Library Service). In the last 10 years, vast advances have been made in her own library's

ability to serve the public with its OCLC connection to libraries all across the country. As the world has begun to shrink, it is exciting to think what may happen when California links all types of libraries via computer in its proposed State Library Network.

Information is indeed power, but it comes with a price tag. It is important that all libraries stretch their budgets to the maximum by making sure their interlibrary loan dollars are being used most cost effectively and efficiently. It is hoped that by reviewing the efficiency and cost effectiveness of 15 other state multitype library networks, this thesis will show that California is on the way to developing a truly valuable state multitype library network.

Thanks are owed to this researcher's thesis committee: Dr. William Fisher, Dr. Debra Hansen, and Dr. Gordon Smith who so patiently guided her through this lengthy project. Grateful acknowledgment is especially extended to Ron Basich for his technical advise and support. A debt of thanks is also owed to Dr. Bruce Bennion and Dr. Nancy Burns. Other advisors were very helpful: Barbara Anderson, San Bernardino County Librarian, and Jeannette Cary, San Bernardino County interlibrary loan staff. Without Jeannette's kind assistance, very few of the monographs and documents studied for this thesis could have been acquired.

TABLE OF CONTENTS

	Page
PREFACE.....	v
Chapter 1: Introduction.....	1
Chapter 2: History of Library Networks.....	8
Chapter 3: Review of the Literature.....	29
Chapter 4: Methodology.....	49
Chapter 5: Analysis of Data.....	53
Chapter 6: Discussion of Findings.....	63
Chapter 7: Conclusions & Recommendations.....	73
Bibliography.....	80
Appendices	
A. Questionnaire.....	90
B. Multitype Library Network Contact List.....	98

Chapter 1

Introduction

The purpose of this thesis is to use interlibrary loan turnaround time and cost evaluations as tools to measure the efficiency and cost effectiveness of different configurations of state multitype library networks in the United States. A multitype library network has been defined by the American Library Association as "a formal cooperative organization that has more than one type (i.e., academic, public, school and special) of independent and autonomous library or group of libraries working together for their mutual benefit."¹ Since many state libraries will be requesting funding from their legislatures for networks when the current recessionary times are over, it is important to prepare research documentation now so that these consortia can have the most advantageous configuration.

Multivariate analysis has been used successfully in the past by a number of researchers to measure smaller regional

¹ Standards for Cooperative Multitype Library Organizations (Chicago: American Library Association, 1990), 5.

networks, but it has never been used to measure the larger scale state library units. Studies have been made of the various configurations of interlibrary loan systems. The most extensive body of research on library networks has been done by William Rouse and Sandra Rouse, and several other research associates. The Rouses recommended to all libraries that "library networks should evaluate alternative configurations before they initiate policies that may be difficult to change."²

Method of Analysis

This thesis will examine the fifteen state multitype library networks that are currently in existence and look at how their configuration affects their efficiency and cost effectiveness. If the networks have recently changed configurations, they will be asked their rationale for making such an alteration.

The best configuration will be determined in the following way: 1) efficiency, which in this case is measured by response time to a batch of requested ILL items; and 2) cost effectiveness, which is measured by tabulating interlibrary loan transaction costs. Thus, the purpose of this research will be to do a type of bivariate analysis focusing on the above two variables.

² Allen Kent and Thomas J. Galvin, eds., Library Resource Sharing (New York: Marcel Dekker, 1977), 296.

One of the first steps in any research study is to identify the population to be studied. In this case, the selected population is that of all state multitype library networks in the United States. Each state multitype library network office director listed in the American Library Directory, 1993-94 was asked in a telephone interview in November, 1993: 1) Is the multitype network state funded? 2) Has their legislature passed enabling statewide multitype library network legislation? and 3) Do all types of libraries (academic, public, school, and special) participate on an equal basis in the network? State networks answering in the affirmative on all three questions were included in the population studied as were all regional subunits of the network.

A questionnaire was mailed out to 74 state multitype library networks and their regional units on December 30, 1993 (see Appendix A-1). Each questionnaire was addressed to the director who had either been interviewed via the phone or been cited on the phone as the person best able to answer its 10 questions.

Delimitations

Prior to doing this research, all literature drawn from ERIC, LISA, and Library Literature from 1966 to the present, on the topic of multitype library networks and interlibrary loan systems was reviewed. There proved to be a plethora of

literature on both topics, and many authors confirmed the need for more research on the best configurations for library networks. All other data have been gathered from the 51 state multitype network units who answered the questionnaire and compose 72 percent of the total known population of state library networks as of November 1993.

Hypothesis

An hypothesis for this research problem is that state multitype network structures should be kept as decentralized as possible to improve their cost effectiveness as well as to increase their timeliness of responses to requests.

The importance of this research is that it is very opportune to study such matters here in California where the state legislature will soon be asked to approve the financing of a California Library Network. California and other state governments are finding it increasingly difficult to continue maintaining libraries and networks at the current rate of financial support. In order to receive the necessary tax dollars, it would be wise to show legislators that interlibrary loan, which is one of the primary building blocks of multitype library network service, will be done in the most efficient and cost effective manner. Review of the collected national data should show that California's proposed decentralized configuration will indeed provide the most cost effective and efficient interlibrary loan service.

Interpretive Framework

The benefits of resource sharing through networks may seem obvious to some users, but to date library managers have not fully researched and evaluated the criteria to determine their success. There is a need for an agreement on how to measure their effectiveness. For purposes of this paper, efficiency will be measured by speed of response--a factor cited as important to many interlibrary loan users--while cost effectiveness will be measured by the cost of a completed interlibrary loan transaction.

Assumptions

An assumption of this paper is that document and electronic text delivery from private industry sources will never fully replace the need for interlibrary loan service from libraries. It is the opinion of this researcher that interlibrary loan through networking maximizes the effective use of resources.

Another assumption is that libraries will never be completely replaced by electronic sources of information. There will always be a need for libraries to deliver archival types of noncurrent literature.

Networks can be assumed to be instrumental in meeting the demand for resources while reducing their costs. To fairly evaluate the benefits of this service, it is important for library managers to have done a complete analysis of the

cost of interlibrary loan so as to compare it to the expense of purchasing and cataloging an item.

Definitions

A "library network" in this paper refers to state multitype library networks that are:

- directed by a full-time staff,
- controlled by an independent government body with a high level of involvement (generally through a board of directors from participating libraries),
- built around a cooperatively maintained bibliographic database in machine-readable form,
- linked online by a telecommunications system.

"Interlibrary loan" has been defined by the American Library Association as "a transaction in which library material, or a copy of the material, is made available by one library to another upon request."³

There are three types of multitype library network configurations. In a centralized configuration, activities are controlled by a central point. In multitype library networks, the center or node is most commonly the state library. A hierarchical configuration has three or more levels of network service with service being more

³ Thomas J. Waldart, "Patterns of Interlibrary Loan in the U.S.: a Review of Research," Library & Information Science Research 7 (July 1985): 210.

comprehensive at each advancing level. The highest level of service is provided by the state library. A decentralized network is one in which each member library is able to freely communicate with all other levels in the network. (For diagrams of these configurations, see questions 5-7 in Appendix A)

CHAPTER 2

History of Library Networks

In order to understand the form library networks have taken in today's world, one must understand a bit of their history. There is a long tradition of cooperation among American libraries which intensified with the founding of the American Library Association in 1876. Library networks grew out of a tradition that emphasized the sharing of activities, cataloging, and other bibliographic data in order to reduce costs. Early proposals included Melvil Dewey's call for what would ultimately become the National Union Catalog, containing bibliographic records contributed by major American libraries and maintained by the Library of Congress.

Another major aspect of library cooperation in the United States has been the sharing of library resources.¹ In the year that the American Library Association was founded (1876), the librarian of the Worcester Public Library in

¹ Norman D. Stevens, "Library Networks and Resource Sharing in the United States: an Historical and Philosophical Overview," Journal of the American Society for Information Science 31 (November 1980): 408.

Massachusetts, Samuel Swett Green, wrote a letter to the editor of the new Library Journal:

It would add greatly to the usefulness of our reference libraries if an agreement should be made to lend books to each other for short periods of time....I should think libraries would be willing to make themselves responsible for the value of borrowed books, and be willing to pay an amount of expressage that would make the transportation company liable for the loss in money should the books disappear in transit.²

Green's suggestion appears to have been ignored, though there were early examples of interlibrary loan between Harvard College Library and the Boston Athenaeum. The National Medical Library had also initiated a direct mail service, while the Boston Public Library loaned books to other libraries in New England during the 1890s. The matter of lending was discussed many times during these years in the ALA's College and Reference Section. It was pointed out that there were three impediments to research in America: "(1) many works were not to be found in North American libraries; (2) there were difficulties in locating titles held in libraries; and (3) traveling to libraries was expensive."³ Finally, in 1917 the first version of the Interlibrary Loan Code was adopted by the American Library Association, permitting libraries throughout America to undertake limited

² Samuel S. Green, "The Lending of Books to One Another by Libraries," Library Journal 1 (4 September 1876): 15-16, quoted in Basil Stuart-Stubbs, "An Historical Look at Resource Sharing," Library Trends 23 (April 1975): 649.

³ Ibid., 653.

borrowing activities using a formal protocol for the transfer of printed resources.⁴

A benchmark year for American library resource sharing programs is 1956. In that year, Congress enacted the Library Services Act (LSA). Thomas Ballard, in his book The Failure of Resource Sharing in Public Libraries and Alternative Strategies for Service, traces the passage of this legislation back to a book published in 1935, The Government of the American Public Library by Carleton Bruns Joeckel.⁵ Joeckel analyzed for his doctoral dissertation, which became the basis for this book, the inadequacies of all political units for library service. He insisted that a regional base for public library agencies was needed which would ignore local political boundaries. During the Depression years, political scientists had identified 641 natural trading areas in the country and Joeckel applied their ideas to his thesis that library units should likewise be reorganized as agencies of the state.

After World War II, the federal government was concerned that a recession might follow during the postwar years unless spending projects were planned. Joeckel was asked by President Truman's administration to prepare a national

⁴ Charles Townley, Human Relations in Library Network Development (Hamden: Shoestring Press, 1988), 5.

⁵ Thomas Ballard, The Failure of Resource Sharing in Public Libraries and Alternative Strategies for Service (Chicago: American Library Association, 1986), 8.

program for public library development for "federal pump-priming in the event of an expected postwar depression. The outcome of this assignment was the Post-war Standards, issued in 1943, and the National Plan for Public Library Service, published in 1948."⁶ There is mention in the National Plan of 1,170 regional library units. These regional library units would be consolidated under regional library boards and would receive funding from the states with grants-in-aid from the federal government.⁷ Here, perhaps for the first time, official professional library thinking turned away from the pattern of local library service and local library financial support that had been the model for so many years.⁸

In order to get full American Library Association endorsement, Joeckel had to drop his proposal for large libraries corresponding to regional trading areas. However, the ALA approved Post-war Standards placed a minimum of \$25,000 for financial support at the local level and encouraged local consolidation or cooperation to bring libraries up to that level. That was a significant amount of money in the postwar years.

All these events led up to the passage in 1956 of legislation sponsored by the American Library Association, the Library Services Act (LSA). The main purpose of LSA was

⁶ Ibid., 9.

⁷ Carleton B. Joeckel and Amy Winslow, A National Plan for Public Library Service (Chicago: American Library Association, 1948), 50.

⁸ Ballard, The Failure of Resource Sharing, 11.

to provide moneys for demonstrations of library extension in unserved rural areas with populations of 10,000 persons or less. Funding was to be administered by state library agencies, and naturally their power and prestige increased as a result. Those states without such an agency had to form one. As a condition for receiving federal funds, a state plan for library development had to be submitted to the federal government. Congress had originally intended in the LSA to provide moneys for five years only, and once these newly established libraries were on their feet, local support would be forthcoming. However, this "seed money" provided the incentive for state library agencies to provide new programs costing additional federal moneys.

In 1956, the American Library Association published Public Library Service: A Guide to Evaluation, with Minimum Standards. It was in this document that we can read the seed of the idea for library networks:

Libraries working together, sharing their services and materials, can meet the full needs of their users. This co-operative approach on the part of libraries is the most important single recommendation of this document.⁹

In 1964 Congress authorized amendments which broadened the scope of the LSA program. The criterion of "rural" was

⁹ American Library Association, Public Library Service: A Guide to Evaluation, with Minimum Standards (Chicago: American Library Association, 1956), 7.

deleted, thus extending the program to urban areas. There was an awareness of the need for library buildings to accommodate new service programs, increased numbers of users, and materials. So, Congress authorized Title II to assist in the construction of such facilities. LSA thus became LSCA (Library Services and Construction Act).¹⁰

In 1966, LSCA amendments further expanded the program to include two new titles. Title III, Interlibrary Cooperation, was added "for the establishment and maintenance of local, regional, state or interstate cooperative networks of libraries, including state, school, college and university, public and special libraries and information centers, to provide maximum effective use of funds in providing services to all users."¹¹ Title IV provided for specialized state library services to persons in state institutions and to the physically handicapped. Much of this was brought about due to the successful lobbying effort of the ALA Legislation Committee which was very concerned with the problems facing all types of libraries.

In the early 1970s, LSCA legislation authorized new programs and priorities, but to consolidate, rather than expand, the program. Congress was responding to the Nixon administration's proposals for budget reduction.

¹⁰ Joseph F. Shubert, "The Impact of the Federal Library Services and Construction Act," Library Trends 24 (July 1975): 30.

¹¹ Dorothy Kittel, "The Federal Role," chap. in Multitype Library Cooperation, eds. Beth A. Hamilton and William B. Ernst, Jr. (New York: R.R. Bowker Co., 1977), 44.

Appropriations for the program began to level off and there was a hint of uncertain funding in the future. The LSCA program was renewed but Title IV was merged with Title I and the language in Title I was broadened. In terms of the history of library networks, the change to note is that Title I authorized the use of LSCA funds for "strengthening metropolitan public libraries which serve as national or regional resource centers" and the strengthening of state library agencies.¹² Strong state library agencies are a necessary component of state multitype library networks.

Support for LSCA has been shaky ever since. Almost every succeeding president has recommended the termination of all LSCA appropriations. Congress has agreed to phase down the funding but never to cancel the program. There has always been a matching fund requirement to affirm that the provisions of the act were not to "be construed as to interfere with state and local initiative and responsibility in the conduct of public library services."¹³ However, by the 1970s many state library agencies were heavily dependent upon LSCA funds for normal operations. Only those states that have maintained a commitment for adequate funding from their state legislatures have succeeded in establishing significant resource sharing programs.

¹² Shubert, "The Impact," 32.

¹³ Ibid., 33.

What LSCA accomplished since its inception in 1956, is the establishment of a national priority for statewide library planning. State libraries have developed broader authority to promote, develop, and supervise library service for entire states. Coercive power has been kept to a minimum in allocating state and federal aid and in setting standards for establishing new libraries and joining systems. The real power of the state library has come more subtly in the form of increased personnel who visit local libraries and help shape their internal policies in line with state concepts. State libraries also recommend revisions in statutes, act as brokers with the state legislatures, and work with political leaders to get local changes.¹⁴

Without LSCA Title III funding, multitype library cooperation would not be as extensive as it is today. Every state seeking such funds is mandated to develop a plan with the help of an advisory council made up of representatives of all types of libraries. Funds can be spent for equipment, personnel, leasing of space, communication, but not for materials. Increasingly more states are passing multitype legislation in order to provide a stable structure on which to build cooperative programs and services. As Fiels et al. have explained, "Legislative approaches range from a single sentence providing broad authority to legislation creating multitype organizations to specific legislation funding

¹⁴ Ibid., 39.

programs such as interlibrary loan, reciprocal borrowing, union catalogs, collection development, shared automated systems, etc."¹⁵

Today, there are few states which do not have some form of regional multitype library networks. However, there are only fifteen state multitype library networks that have received significant state funding.

Current Multitype Library Networks and Interlibrary Loan Systems

There are fifteen states as of 1993 that have multitype library networks funded by the state legislature, with state enabling legislation and member libraries with equal standing. They are: Colorado, Connecticut, Florida, Illinois, Indiana, Kansas, Kentucky, Minnesota, New Jersey, North Dakota, Rhode Island, South Carolina, South Dakota, Vermont, and Wyoming. Many others, like California, Iowa, New York, North Carolina, Ohio, and Wisconsin, are still waiting to become full-fledged state multitype networks. State library agencies in these states are waiting for the current recession to turn around before making their financial appeal to their state legislatures.

¹⁵ Keith Michael Fiels, Joan Neumann, and Eva R. Brown, eds., Multitype Library Cooperation: State Laws, Regulations and Pending Legislation (Chicago: American Library Association 1991), xi.

State multitype library networks come in many different forms. Five of the states, Kentucky, Rhode Island, South Carolina, Vermont, and Wyoming, have one statewide library network based at their state library headquarters. Three states, Minnesota, North Dakota, and South Dakota, have a multi-state library network (MINITEX) that links more than 150 academic, public, school and special libraries.¹⁶ The other seven state multitype library networks have regional units with Illinois having the most--fifteen library systems.

The Association of Specialized and Cooperative Library Agencies recognized in 1990 that the absence of standards for multitype library cooperatives has made the process of establishing new organizations more perilous and uncertain than necessary. Thus, it established with much public input Standards for Cooperative Multitype Library Organizations.

This document established standards in five areas: governance, service program, financial support, accountability, and roles and responsibilities.

Among the document's sample services for multitype library organizations is what this author believes to be one of the major building blocks of networks--interlibrary loan. Interlibrary loan has been defined by the American Library Association as "a transaction in which library material, or a copy of the material, is made available by one library to

¹⁶ Jean E. Wilkins, ed., The Report on Library Cooperation, 1989 7th ed. (Chicago: American Library Association, Association of Specialized and Cooperative Library Agencies, 1990), 149.

another upon request."¹⁷ It is through interlibrary loan service that the common goal of networking is reached in which each individual in the United States is afforded equal opportunity of access to resources that will satisfy their and society's information needs and interests.¹⁸

One of the most precise sections in the Standards document is devoted to financial support. Since this factor has been so significant in the history of networks and served as a qualifying factor for all state multitype library networks in this study, the entire section bears citation:

4.3 Financial Support

4.3.1 The Multitype Library Organization shall have ongoing financial support.

COMMENTARY

In order to develop services and programs for the members of the Multitype Library Organization, there must be a steady and continuing source of funds. Library members participating in the organization have need to be assured that ongoing programs and services will continue from year to year. The income should be sufficient to provide for quality services in those areas of identified member needs. Potential sources of continued funds include membership fees, service fees, and state or local revenues. Grants are an important part of the financial support of a Multitype Library Organization; however, it is important to note that *short-term grants funds or "soft" funds should be used for special projects and one-time expenditures, not as an ongoing source of revenue because of the uncertainty of future funding* [emphasis added].¹⁹

There has been a trend in the last decade for libraries to charge for interlibrary loan service. A 1983 study of ILL

¹⁷ Waldart, "Patterns of Interlibrary Loan," 210.

¹⁸ Standards for Multitype Library Organizations, 2.

¹⁹ Ibid., 9.

among the membership of the Association of Research Libraries documented that twice as many libraries were charging for ILL than those responding to a similar survey in 1976. Mary E. Jackson reported in 1990 that the number of charging libraries had exploded. These ILL fees have served as an added incentive for libraries to enter into "reciprocal, no-charge agreements with other libraries in local, state, regional, or even national consortia in order to eliminate ILL charges."²⁰ That has also been one of the key motivations for state libraries to form state multitype library networks.

Today's multitude of regional and state multitype library networks would not exist if the Library of Congress (LC) had assumed a different role for itself. A national library system might have emerged. However, this is something LC has refused to do. The Library's decisions relating to development of its MARC formats and tapes (LC-generated database for cataloging) had a major impact on the actual pattern of network development in the United States. The Library of Congress views its role of developing the MARC formats and making them available through a communications format as a means of setting standards and of providing generalized direction to library growth and development in the United States.²¹

²⁰ Mary E. Jackson, "Trends in Resource Sharing," Wilson Library Bulletin 64 (April 1990): 55.

²¹ Stevens, "Library Networks and Resource Sharing," 406.

By establishing the rules for the game but reserving a seat on the sidelines, the Library of Congress has encouraged a wide range of experimentation by a variety of institutions and organizations. For purposes of this thesis, only the two existing national bibliographic networks which are employed by the fifteen state multitype library networks in the United States will be addressed: OCLC and RLIN.

In 1962, the administrators of the Ohio College Association (OCA) decided that a cooperative effort was needed to rationalize costs and share resources among the state's college and university libraries. They consulted with Frederick G. Kilgour, a medical librarian at Yale University, who was exploring both the possibilities of automating library functions and libraries working cooperatively together. Five years later, in 1967, Kilgour developed a shared cataloging utility for the fifty-four charter members of OCLC, a consortium founded by OCA. Soon thereafter, OCLC began an online system which provided bibliographic and local information to member libraries and offline bibliographic information in the form of magnetic tapes, CD-ROM databases, and printed products. OCLC encouraged the organization of state and multistate library networks which could broker all services when it agreed, in 1972, to provide services to libraries outside Ohio. In 1981, the consortium changed its name to Online Computer Library Center, Inc., while retaining the same acronym. It

added a Users Council selected by all member libraries from the nearly twenty regional and state library networks.²²

The New York Public Library and the university libraries of Columbia, Harvard, and Yale formed a consortium of peer libraries in 1974, and called themselves the Research Libraries Group (RLG). One of the basic concepts of RLG is that its primary interest lies in such areas as resource sharing and preservation. The network services through RLIN (Resource Library Information Network) bibliographic database are the necessary foundation for library cooperation. RLG members hoped to cooperate and contain costs on serial subscriptions and interlibrary loans. In the early 1980s, RLG began to expand its membership to include many other research libraries.²³ Today, the three major programs of the network, in addition to RLIN, are cooperative collection management and development, resource sharing, and preservation. RLG also offers a number of specialized subject programs.²⁴

While economics have made resource sharing essential for libraries, it is technology that has made networking and resource sharing feasible. Shared cataloging through such utilities as OCLC and RLIN has had as a by-product the

²² Richard W. Newman, "Four North American Bibliographic Networks," Library Technology Reports 26, no. 4 (July/August 1990): 486-87.

²³ Stevens, "Library Networks and Resource Sharing," 408.

²⁴ Newman, "Bibliographic Networks," 488.

creation of union catalogs. Automating the ILL request transmission by linking it to an ever-growing online union catalog has streamlined both the verification and transmission phases of the ILL process. In the early 1980s many ILL departments routinely used either TWX (teletype) or ALA request forms via the US Postal Service to transmit their requests. Only one library could be contacted at a time, so much time was wasted on libraries that no longer had desired items or the needed item was in use. Since 1979, OCLC, the most widely used bibliographic utility, has offered its member libraries an interlibrary loan subsystem. The subsystem permits a borrowing library to enter a request for a specific item and to designate up to five potential lenders. The service also allows for notation from the lending library to the borrowing library of intent to supply the requested item and date of shipment. When a potential lender does not respond, system default parameters move the request, after an established period of time, to the next designated library.²⁵

Over the last decade libraries increasingly have depended on electronic modes of communication for interlibrary loan purposes. Research has shown that library interlibrary loan success rate has increased from 74-76 percent using standardized ALA interlibrary loan forms to 95-

²⁵ John Budd, "Interlibrary Loan Service: A Study of Turnaround Time," *RQ* 26 (Fall 1986): 75-76.

100 percent using the OCLC system.²⁶ As a result, the usage of TWX or teletype technology has virtually disappeared as an interlibrary loan tool. Because this new technology has been used so successfully, ILL requests have exploded in number. The reasons for this explosion are manifold: decreases in local buying power, increases in publishing output, increases in the price of serial titles, increases in access to bibliographic databases both online and on CD-ROM, increases in the ease with which an ILL request can be obtained, and decrease in the turnaround time for completed requests.²⁷ Interlibrary loan has also increased as a source for out-of-print materials as the time span that publishers retain their stock in print shortens.²⁸

One of the most interesting recent developments is the idea that interlibrary loan could be used as a tool for collection development. The American Library Association first developed, in 1917, a basic code governing interlibrary loan procedures among virtually all libraries. In the draft 1990 National Interlibrary Code revisions, a statement has been added to the effect that ILL is "a primary element of collection development for all libraries, not an ancillary option." Up to now, interlibrary loan had been thought of

²⁶ Thomas J. Waldart, "Performance Evaluation of Interlibrary Loan in the United States: a Review of Research," Library and Information Science Research 7 (October - December 1985): 316.

²⁷ Jackson, "Trends in Resource Sharing," 54.

²⁸ "Trends in Networking, Part 1," Public Libraries 25 (Winter 1986): 127.

as "an adjunct to, not a substitute for, collection development." Now, interlibrary loan managers are to be encouraged, according to the draft 1990 National Interlibrary Code, to cultivate better relationships with collection development managers.²⁹

The American Library Association, Reference and Adult Services Division's 1990 draft Interlibrary Loan Code also has eliminated the statement of purpose that was in the 1980 Code. Previously, ILL was restricted to "research and serious study." Patrons who have less rigorous information needs can now use interlibrary loan to meet their needs as well.³⁰ This seems to be a case where the American Library Association is playing catch up with the real world of ILL.

A de facto national bibliographic database is being created in America. Libraries of all sizes are contributing holdings information to OCLC and RLIN. Today more holdings information exists than ever before, and as a result lending has been spread among a greater number of libraries. It has been reported that borrowing by the Association of Research Libraries (ARL) increased 75 percent between 1980-1981 and 1987-1988 while lending increased by only 33 percent. A valid assumption is that as smaller libraries have become active interlibrary loan participants, some have even become

²⁹ Mary E. Jackson, "Revising the National ILL Code: an Overview," Wilson Library Bulletin 67 (February 1993): 76.

³⁰ Ibid.

net lenders.³¹ Another piece of evidence of net lending is the recent National Center for Education Statistics document Public Libraries in the U.S.: 1990. Colorado, Hawaii, Nebraska, New Jersey, and New York public libraries lent more items than they borrowed that year.³² Such libraries are rewarded financially by OCLC for providing this service.

OCLC has reported a dramatic increase in demand for materials during the five-year period ending with fiscal 1991. In fiscal year 1991, borrowing requests doubled to 5.4 million from 2.7 million in fiscal 1986. Academic research libraries were the most active users of the OCLC ILL System. They ranked first in total borrowing and lending volume. Borrowing and lending often occurred between different library types, although the highest percentage usually took place between libraries in the same category. Four states had a quarter of all borrowing and lending activity during fiscal year 1991: California, Texas, New York, and Pennsylvania. Trends indicate this growth in volume will continue.³³

Along with this large increase in interlibrary loan activity, there developed a need to electronically communicate with libraries not using identical electronic

³¹ Jackson, "Trends in Resource Sharing," 55.

³² U.S. Department of Education, Office of Educational Research and Improvement, Public Libraries in the U.S.: 1990 (Washington D.C.: GPO, June 1992), 84-86.

³³ Kate Nevins and Darryl Lang, "Interlibrary Loan - a Cooperative Effort Among OCLC Users," Wilson Library Bulletin 67 (February 1993): 38-40.

messaging systems. In 1982, the National Information Standards Organization (NISO) developed a standard for an interlibrary loan request made by one institution of another regardless of transmission medium. The voting members of NISO approved the "American National Standard for Interlibrary Loan Data Elements" in 1989. It standardized the type of information necessary to successfully complete an ILL request, the acceptable lender responses, and request formats. It applied to sample paper and electronic formats and led to the revised ALA interlibrary loan request form being approved in 1988.³⁴

The publishing industry has noted the public's increased need for the prompt conveyance of information. Among academic and special libraries, interlibrary loan is no longer just library to library. Document delivery systems are becoming fully integrated into network structures to such an extent that OCLC is developing a plan to move beyond bibliography and interlibrary loan to include physical document delivery and electronic publishing in their vision for 1995-2000.³⁵ University Microfilms International (UMI), a commercial document supplier, ranked as the largest lender on the OCLC ILL Subsystem for the period 1984-1985 through 1988-1989. Other document delivery sources are Chemical

³⁴ Jackson, "Trends in Resource Sharing," 128.

³⁵ Journey to the 21st Century: a Summary of OCLC's Strategic Plan (Dublin, Ohio: OCLC Online Computer Library Center, Inc., 1991), 16.

Abstracts, National Technical Information Service, and Information on Demand. Speed of delivery is often cited by users as their chief rationale for using these private document delivery sources, but the cost is much higher than traditional ILL library sources.³⁶ Private document delivery service is not in the scope of this research project, but since it is a source of much information today and will undoubtedly increase business volume in decades to come, it must be recognized as the competition to interlibrary loan delivery services. The need for speedy delivery of requested items by library patrons is an established fact. As a result, many libraries of all sizes and types today are purchasing and using facsimile machines for their own and network interlibrary loan document delivery. More than 500 libraries of various types offer document delivery services today both for a fee and sometimes with no charge.³⁷ It behooves ILL librarians to be aware of the fees charged and speed at which these document delivery services deliver, so as to be best able to serve the ILL customer in the most cost effective, efficient manner available.

The interlibrary loan system in the United States has been characterized as "complicated." M. B. Line, in an article he wrote for Interlending Review in 1979 identified

³⁶ Mary E. Jackson, "Trends in Resource Sharing (Part II)," Wilson Library Bulletin 64 (June 1990): 99.

³⁷ Mounir Khalil, "Document Delivery: a Better Option?" Library Journal 118 (1 February 1993): 45.

four basic models of national interlibrary loan systems. He described them as (1) concentrating on a single library; (2) concentrating on a few libraries; (3) planned decentralization; and (4) unplanned decentralization. At the time, he believed that the structure in the U.S. most resembled unplanned decentralization.³⁸ This is fairly accurate today even though at the local, state, and regional level, many multitype library networks are being planned, created, and coordinated. It is very unlikely that any strong coordinating effort at the national level will emerge in the near future.

³⁸ M.B. Line, "National Interlending Systems: Existing Systems and Possible Models," Interlending Review 7 (1979): 42-46, quoted in Thomas J. Waldart, "Patterns of Interlibrary Loan," 211.

Chapter 3

Review of the Literature

This researcher had a plethora of literature to review on both the topics of multitype library networks and interlibrary loan systems. The shortage that was found was in the field of quantitative research on the speed and cost of interlibrary loan service. The academic community, particularly the Association of Research Libraries and Research Libraries Group, has recognized the need for such an investigation and has helped to produce some valuable research data. Betty J. Turock, of Rutgers University's School of Communication, Information, and Library Studies, also has done a superb long-term study on multitype library network units engaged in resource sharing through interlibrary loan. An entire section in this literature review has been devoted to her work because it is considered by this researcher to be so influential to the development of this paper.

It was noticed in Dr. Turock's studies that she had not addressed separately the many state multitype library networks emerging across the country. This researcher did a full review of the literature to find any evidence that these networks were basing their choice of configuration on research data. Dr. Turock had found evidence in her four-year research project during the 1980s that "money to establish complex and expensive manual reference tools and referral centers might be better expended on technology for interlibrary communication, such as a system of microcomputers."¹ Thus, a literature search was done on how state networks were following that suggestion and how ongoing research is influencing networks' choice of configuration. Dr. Turock also had identified response time and cost as evaluative tools for the success of an interlibrary loan system, so those topics were reviewed in the literature as well.

The review is organized into six subsections to best display the variety of information that was found through a thorough search of Library Literature, ERIC, and LISA from 1966 to the present. Many additional sources of research material were found by reviewing citation bibliographies. Both the early literature of the period, 1945-1980, and the research reports of Betty J. Turock have their own sections.

¹ Betty J. Turock, "Organization Factors in Multitype Library Networking: A National Test of the Model," Library and Information Science Research 8 (April 1986), 140.

The remainder of the literature review is devoted to the research material retrieved on network configurations, interlibrary loan (ILL) response time, and ILL transaction cost.

Early Literature, 1945-1980

This early literature review briefly covers the era from the end of World War II to the 1970s when the current profusion of multitype library networks were in their formative stages. Such networks have their roots in the public library systems which were encouraged by the American Library Association's 1948 document A National Plan for Public Library Service. State libraries were directed to "plan the development of a system of local libraries strong enough to provide service of high quality."² In 1956, the American Library Association published Public Library Service: a Guide to Evaluation, with Minimum Standards. As discussed earlier, it was in this document that we can locate the seed of the idea for library networks: the cooperative approach on the part of libraries is the way libraries can meet the full needs of their users.³

The concept of library networks developed in the United States during the 1960s as technology enabled automation of

² Joeckel and Winslow, A National Plan, 63.

³ American Library Association, Public Library Service, 7.

library procedures and telecommunication. Online bibliographic retrieval systems were first demonstrated publicly in 1960. By the mid-1960s, there was a growing realization that many uses of automation could be shared by libraries and communicated online. During this decade the general notion of networking and network configurations were also explored. "Most of the studies emphasized the development of networks on an organized basis, generally state by state, with a strong element of national control and direction."⁴

The 1970s was the golden age of cooperation and networking. The common reasons given by librarians for joining multitype networks were resource sharing, continuing education and bibliographic purposes, with resource sharing heading the list.⁵ By 1977 Faibisoff was able to identify over 220 multitype cooperatives.⁶

The chief critic of networks during this developmental period has been public library system director, Tom Ballard. Author of The Failure of Resource Sharing in Public Libraries and Alternative Strategies for Service, Ballard offers the alternative of simply building larger collections. This strategy, however, ignores the mounting evidence that even

⁴ Stevens, "Library Networks and Resource Sharing," 406.

⁵ Betty J. Turock, "Performance Factors in Multitype Library Networking," Resource Sharing and Information Networks 3, no. 1 (Fall 1985 - Winter 1985-6): 15.

⁶ Sylvia G. Faibisoff, "Planning, Governance & Funding: an Overview," in Multitype Library Cooperation, ed. Beth A. Hamilton and William B. Ernst (New York: R.R. Bowker Co., 1977), 19.

directors of the largest research libraries are being forced by the increasingly hard economic times of the 1980s and 1990s to develop new collection management postures. They have become resigned to the fact that their shrinking acquisition budgets will not allow the purchase of all the materials demanded of them.

In Ballard's defense, he is correct that library patrons do wish to browse among books rather than wait for items they have only identified by a brief bibliographic description on a database. Accordingly interlibrary loan accounts at most for about 1 percent of total circulation at even the largest research library. He suggests that information about the amount of interlibrary loan activity should be a part of each state library network's annual report and this researcher heartily agrees.⁷

Ballard also suggests that research should be done on the cost of interlibrary loan before libraries commit millions of dollars to what may be simply a spirit of cooperation. It is hoped that this paper will begin to help do this for California and other states which have not begun their own statewide multitype networks. He is correct that it would be more cost effective to know which libraries own a book (i.e., CD-ROM or fiche union lists) rather than whether or not it is available (necessarily a more costly online

⁷ Thomas H. Ballard, "Dogma Clouds the Facts," American Libraries 16 (April 1985): 258.

database). A fiche union list can provide "88 percent of the benefits of an online system for four percent of the cost."⁸ This is an example of valuable information for those deciding on the best way to proceed with developing a state multitype library network.

Networks were being created so quickly during the past four decades that there was unfortunately little time to fill the substantial gaps in supporting library science research. While several studies have scrutinized multitypes within a state or a region, few have had a national focus. Multitype proponents have been challenged to show that the networks are operating effectively. The search has begun for models useful in research and development that combine appeal, detail and accuracy with ease of use.⁹ Now is an appropriate time to prove measurable benefits from multitype library network participation.

Betty J. Turock's Research Studies

When Betty J. Turock of Rutgers University's School of Communication, Information, and Library Studies began her network research in the mid-1980s, she undertook to create a network model that combined detail with ease of use. She claimed that

⁸ Ibid., 259.

⁹ Betty J. Turock, "Organization Factors in Multitype Library Networking," Library and Information Science Research 6 (April 1984): 352.

those now available for planning and evaluation have not been widely adopted; frequently they employ techniques like graph theory and game theory, which are unfamiliar to multitype library network managers and difficult for them to use.¹⁰

She has done her research within three separate frameworks: the first equates multitype network effectiveness with exemplar organization; another approach begins from a performance point-of-view; and a third is concerned with attitudes toward networking and concentrates on lowering barriers that engender resistance to membership. She then developed a model for multitype networking turning these three frameworks into the three variables -- performance, organization, and attitude. Each of the variables served as the focus of a study phase in research conducted both regionally and nationally over five years (1981-1985). Phase IV addressed the results of the first three phases together to form a multitype networking model useful for research and development. Phase V tested the model on a national basis.¹¹ All phases other than Phase III (attitude factors) are pertinent to this study and will be herewith discussed.

Turock chose a case-study approach in the first phase of her research and chose the case of the Rochester (NY) Area Resource Exchange (RARE). It became a true regional multitype network in 1980 when four school library systems,

¹⁰ Betty J. Turock, "Performance, Organization and Attitude: Model for Planning and Evaluating the Multitype Library Network," Journal of Library Administration 6, no.6 (Winter 1985-86): 34.

¹¹ Ibid.

made up of 243 separate school libraries, joined. She found that informal channels were clearly faster for the new school network members. Informal ILL requests were those being sent, oftentimes electronically, directly to another school library in one's own district or borrowing from a local public library. Over 87 percent of the requests received were turned around in seven days or less. Using formal ILL channels in which requests were submitted through the official channels created for RARE's interlibrary loan activity, only 22.35 percent of requests received were completed in seven days. Formal ILL channels included requests made through the school system component of RARE via the system coordinator's office and then forwarded through the steps of the network hierarchy until the request was filled. Similar conclusions were made in the local public library system. Through formal channels 70.59 percent of the requests were filled between 15-30 days. Through informal channels over 59 percent were filled within four to seven days and 84.39 percent within 14 days.¹²

Configuration of multitype networks was studied by Turock during Phase II and IV (regional studies) and Phase V (a national study) of her research where organizational

¹² Turock, "Performance Factors," 31.

¹³ A fourth type of configuration, cyclic, in which requests go to an intermediate spot for action such as bibliographic verification before routing to the desired location is addressed by Turock separately. This researcher considers cyclic configurations as centralized in form.

factors were a variable. In 1985 Turock mailed out questionnaires to the entire United States multitype library network population identified as having members from all four types of libraries. Many of the networks reported that all four types of libraries had in place both referral centers, which route users' requests to filling locations, and look-up tools (such as union lists, catalogs, online data bases) which identify the resources and locations likely to satisfy users' requests. She described three avenues that were available to channel requests to desired locations: (1) centralized paths, or structures that route requests to a set designated point and from there to the desired location; (2) decentralized paths, or structures in which requests are sent directly to the desired location; and (3) hierarchical paths, or structures that permit routing through the largest or best research libraries before being sent out of the region.¹³ Turock observed that the configuration debate had apparently given way to an acceptance of all four paths as important to optimum operation for resource sharing.¹⁴

However, Turock's conclusion was that local connection was facilitated among libraries of the same and different types when it is backed by computer technology.¹⁵ Thus, she saw library networks becoming increasingly decentralized.

"Concern for rapid response necessitates introducing

¹⁴ Turock, "Organization Factors," 131.

¹⁵ Ibid., 140.

configurations which offer greater flexibility by making optional paths available for resource sharing, encouraging their use and eliminating unnecessary centralized, hierarchical or cyclic movement."¹⁶

There are two interlibrary loan measurement tools that Turock used, in all phases of her research, that are important for purposes of this literature review. One of the performance indicators she established for measuring the effectiveness of networks was "response time", or "the time interval required for requesting libraries to receive material."¹⁷ In her research, she has found that "the shortest response times were not facilitated by referral centers with centralized union catalogs, but resulted from members' ability to access a decentralized communication system powered by microprocessors."¹⁸

Network Configuration

Other researchers have also studied the organization of multitype library networks. Many modern network evaluators have based their research on the following foundational studies.

William and Sandra Rouse's network study, Management of Library Networks: Policy Analysis, Implementation, and Control suggests that library network managers should

¹⁶ Ibid., 140.

¹⁷ Turock, "Performance, Organization and Attitude," 37.

¹⁸ Ibid., 38.

evaluate alternative configurations before they initiate policies that may be difficult to change.

The configuration for a particular network may vary depending on the focus of interest. The elements of a library network consist of nodes or processing centers and arcs or possible paths of communication. The pattern that results when nodes and arcs are connected is the network configuration.¹⁹

They identified four common network configurations: the star, distributed, ring, and hierarchy. Turock based her research on these configurations, but gave them new names-- the star is "centralized", distributed "decentralized", ring "cyclic", and hierarchy "hierarchical." Examples were given of then currently existing state networks having these configurations, but as Turock remarked the Rouses' general usage of mathematical modeling makes it a difficult work for the average network manager to understand and use effectively.²⁰

A paper entitled "Network Topology: Functions of Existing Networks," presented by James G. Williams and Roger Flynn at the 1978 Pittsburgh conference on The Structure and Governance of Library Networks, displayed the Rouse configurations in more easily comprehensible language. Williams and Flynn argued that the functions to be performed by the network determined "its physical structure as well as

¹⁹ William B. and Sandra H. Rouse, Management of Library Networks: Policy Analysis, Implementation, and Control (New York: John Wiley & Sons, Inc., 1980), 19-20.

²⁰ Turock, "Performance, Organization and Attitude," 34.

its logical organization."²¹ It should make sense for network managers to look at the cost benefits across all functions in order to make appropriate network design and utilization decisions. Williams and Flynn reminded their readers that few if any networks are of a pure type. Twenty-one functions were identified by these men as part of a survey of networks in the United States and Canada conducted by the Office of Communications Programs at the University of Pittsburgh. They analyzed each function separately and concluded that the interlibrary loan function is "handled mechanically by networks and lags behind current conceptual capabilities by 10 years or more."²²

Interlibrary Loan Response Time

One of the best research studies on response or turnaround time for interlibrary loan transactions was conducted by John Budd. In his 1986 paper, "Interlibrary Loan Service: a Study of Turnaround Time," he presented data that showed that two weeks elapse between the entry of a request into the OCLC subsystem until the receipt of the item at the borrowing library. He claims that this time span has changed little since 1979 and, since OCLC relies on photocopy and monograph delivery via the US Post Office (most often at

²¹ Allen Kent and Thomas J. Galvin, eds., The Structure and Governance of Library Networks (New York: Marcel Dekker, 1977), 49.

²² Ibid., 73.

library rate), this is not likely to change in the near future. Budd concludes that "other means of transmission, such as telefacsimile, express mail, or commercial document delivery" should be investigated.²³

In June 1990 the Association of Specialized and Cooperative Library Agencies held a Multi-LINCS Preconference. The proceedings were published as the document titled Delivery of Information and Materials between Libraries: the State of the Art. One of the findings was that the purchase of fax machines is a priority in many states and state libraries have funded their purchase. For physical delivery of requested items, a variety of modes of transportation are being used. Air delivery services such as Federal Express, public or private courier service, railroad delivery, commercial bus delivery, and the US Postal Service were compared as to their advantages and disadvantages.²⁴ Many of the faster services have the higher cost.

Two interesting pieces of response time research were contributed to this researcher during the data collection period. The New Jersey Central Library Cooperative began an OCLC Group Access Capability (GAC) Project in 1990, funded with a grant from the New Jersey State Library. The study compared the GAC libraries to a control group of the same

²³ Budd, "Interlibrary Loan Service," 80.

²⁴ Keith Michael Fiels and Ronald P. Naylor, Delivery of Information and Materials Between Libraries: The State of the Art (Chicago: American Library Association, Association of Specialized and Cooperative Library Agencies, 1991), 31-32.

type of libraries who did not have access to OCLC. During the period of the project, there was a 60 percent increase in interlibrary loan at the GAC libraries, while there was only a 44 percent increase at the control group libraries.

Another interesting result was that the turnaround time at the the GAC libraries was 6.81 days, while the control group libraries had a turnaround time of 9.13 days. Having access to a bibliographic database such as OCLC can also increase fill rate which was 84 percent for the GAC requests (unreported for the control group).²⁵

Wyoming State Library did a survey at its State Library Location Verification Center in 1993. This survey verified that the average turnaround time for half of a batch of requests was 10.7 working days.

Interlibrary Loan Transaction Cost

One of the first interlibrary loan cost studies was done by Vernon E. Palmour in Study of Characteristics, Costs and Magnitude of Interlibrary Loans in Academic Libraries.

Published in 1972, his study made an estimate of the total annual cost of interlibrary loans for 113 academic libraries of more than 500,000 volumes based on detailed records of 12 of those institutions selected randomly. He arrived at the average cost of \$6.39 for a completed ILL transaction.

²⁵ Dottie Hiebing, "OCLC Groups Access: One Library Cooperative's Experience," PALINET News (February 1992): 1-3, 5.

Separating the cost of borrowing and lending tasks, the cost per completed borrowing request was \$7.61 and the completed lending transaction \$5.82. A filled lending transaction cost \$4.67. The cost of an unfilled lending transaction was \$2.12.²⁶

In 1978, the University of Oklahoma (OU) did a study of the cost of interlibrary loan at their library. OU used the same methodology as the Palmour study, but the researchers did not include all communication costs. (A grant from the Oklahoma Department of Libraries paid their teletype costs. At the time of the study this was the primary method used to communicate requests.) The cost of a completed ILL transaction was \$3.70. A borrowing transaction cost \$4.98 and a lending transaction processed was \$2.71 for OU. A filled lending transaction cost \$5.45 and an unfilled lending transaction was \$5.40.²⁷

One recently published research report is the Association of Research Libraries' ARL/RLG Interlibrary Loan Cost Study. ARL sent a survey instrument in 1991 to 76 United States and Canadian research libraries. The purpose of the study was to establish benchmark data for each participating institution on the average amount it spent to borrow a research document/article, to purchase a photocopy of the

²⁶ Vernon E. Palmour, A Study of the Characteristics, Costs and Magnitude of Interlibrary Loans in Academic Libraries (Westport: Greenwood Publishing Co., 1972), 27.

²⁷ Jo Ellen Herstand, "Interlibrary Loan Cost Study and Comparison," RQ 20 (Spring 1981): 249.

item for a patron, and the amount it cost to lend a document to another library. It was determined that the average cost among all 76 research libraries to borrow an item was \$18.62, and \$10.93 on average to lend an item. This made a total of \$29.55 for the average completed ILL transaction in 1991 (combining borrowing and lending components.)²⁸ Researchers oftentimes combine both borrowing and lending components to better understand the total cost of the full transaction.

While the Palmour and Oklahoma University studies used the same basic methodology, the ARL/RLG study computed many more actual costs. For example, the full cost of staff, network and communications, delivery, photocopy, supplies, equipment and software, rental and maintenance and direct and indirect borrowing charges were all considered factors in arriving at the cost of interlibrary loan.²⁹ The largest expenditure in all three studies was staff costs. In the Palmour and OU studies, an overhead rate was computed at 50 percent of all ILL department direct salaries and wages (plus 15 percent of salaries and wages for fringe benefits).³⁰ In the ARL/RLG study, labor costs included staff in the ILL department as well as in other departments providing ILL support services such as reference, photoduplication, and

²⁸ Marilyn M. Roche, ARL/RLG Interlibrary Loan Cost Study (Washington, D.C.: Association of Research Libraries, 1993), 4.

²⁹ Ibid., 1.

³⁰ Herstand, "Interlibrary Loan Cost Study," 250.

mailroom. Costs from these other departments were prorated based on time spent on ILL transactions.³¹

Three research reports that documented interlibrary loan costs were supplied to this researcher during the data collection period. Colorado State Library financed and published a study in 1988 to compare the average cost of a interlibrary loan with the average reimbursement per loan supplied under the "Payment for Lending Program" to Colorado libraries.³² A sample of 26 libraries was chosen. Libraries were chosen from seven regional systems in the state. Thirteen academic libraries, seven public libraries, and one school district participated. The Denver Public Library was excluded because of a separate, ongoing study of its usage as the Colorado Resource Center. In each case, the library supplied information representing its most recent completed year. Only the costs for interlibrary lending were included; the costs for interlibrary borrowing were excluded. Costs included: staff, network and communications, delivery, photocopy, supplies, maintenance and equipment, training and supervision. The average direct cost for all types of libraries was \$6.75.³³

In 1989, the New Jersey State Library funded a study of two contract libraries for the cost of delivering reference

³¹ Roche, ARL/RLG Interlibrary Loan Cost Study, 19.

³² Under such payment programs, state libraries reimburse local libraries for a portion of their ILL lending costs.

³³ Virginia Boucher, Library Resource Sharing in Colorado, (Denver: Colorado State Library, 1988), 87.

service and interlibrary library loan photocopying. The two libraries chosen were the Newark Central Public Library and the Bureau of Law and Reference at the New Jersey State Library. The study was done to determine, just as Colorado had done, what strategies the state should consider in compensating the two libraries for providing these services. Costs were based on labor, materials and supplies, service costs, and rent. ILL/photocopy costs (which are more pertinent to this study) at the Newark Central Public Library were computed to be \$18.70 per request. The Bureau of Law and Reference services cost \$16.21 per request.³⁴ It was determined that New Jersey State Library had not been adequately compensating these libraries for their services.

Indiana State Library contracted a study in 1992 to examine and make recommendations for the improvement of the organizational relationships among the Indiana State Library, the Indiana Cooperative Library Services Authority, and the nine Area Library Services Authorities. As a part of that study, the contract consultants determined what it cost a library to loan a book or fill a photocopy request from one library to another in Indiana. Three different methods were used to determine the average unit cost of an interlibrary

³⁴ Barbara M. Robinson, Costing Question Handling and ILL/Photocopying: a Study of Two State Contract Libraries in New Jersey Vol. 1: the Study Process, Findings, and Recommendations (Trenton: New Jersey State Library, 1989), 86.

lending transaction. The most reliable method computed the cost as \$3.14 per request.³⁵

The most interesting inference one might make after reading all of these ILL cost studies is that the cost for interlibrary loan is higher at academic libraries which are usually the library of choice for centers of hierarchical multitype networks. In the ARL/RLG Interlibrary Loan Cost Study, professional librarians were used for ILL support services on borrowing transactions. Once state bibliographic databases are in place in state multitype network libraries for purposes of verification of patron requests, there is much less need for professional involvement in the process of deciding location choice by evaluating consortial agreements, costs, turnaround time, etc. This should reduce the ILL borrowing costs quite significantly for all multitype library network members.

Summary

Today there are fifteen states which, like Colorado, New Jersey and Indiana, have statewide multitype library networks with many also having state online bibliographic databases. There are others, such as California, that are preparing the groundwork for enabling legislation and bibliographic databases. Such endeavors are costly. In the future, it

³⁵ F. Mason and Associates, A Plan for Indiana Statewide Excellence in Library Services (Indianapolis: Indiana Library and Historical Board, 1992), Appendix G-2.

will be more necessary than ever to prove to state legislatures that every effort is being made to make these networks cost effective and efficient. Interlibrary loan systems are one of the major building blocks of such networks. If ways can be found to reduce the cost of interlibrary loan transactions and increase the speed of response time, state multitype library networks increasingly will become the cooperative organization of choice for libraries of the future.

Chapter 4

Methodology

In order to fully study interlibrary loan processes in state multitype library networks, it was decided that three categories of data were required. The first type needed was the types of configurations (centralized, hierarchical, or decentralized) chosen by the full population of fifteen state multitype library networks for their interlibrary loan systems. In conjunction with that information, interlibrary loan protocol information was also wanted. Many states have adopted official protocol procedures to make sure that no libraries are burdened with excess requests. The second set of data needed was network response time for the quickest one-half of a delivered batch of borrowed interlibrary loan items. The third set of data required was the estimated cost for a completed interlibrary loan transaction (including borrowing and lending). Configuration is the independent variable, response time and cost are the dependent variables in this research design. With these accumulated data, this

researcher was able to evaluate network configurations for efficiency and cost effectiveness.

The units of analysis for this study were state multitype library networks. Besides the American Library Association definition given on page 1 of this paper, Barbara Will, California State Library Networking Coordinator, suggested three other defining factors. They are: 1) the network should be state funded; 2) there should be state network enabling legislation; and 3) all library members of the network (whether they be special, academic, public, or school) should be treated as equals.¹

The study population was drawn from the sections "Networks, Consortia & Other Cooperative Library Organizations" in the American Library Directory, 1993-94.² State library network coordinators were interviewed by telephone in November 1993, using the above-mentioned questions to determine whether their network met this definition of a state multitype library network. They were also asked to confirm the contact persons and addresses of their regional system units. All contacts are listed in Appendix B.

¹ Phone conversation with Barbara Will, California State Library Networking Coordinator, on November 1, 1993.

² American Library Directory, 1993-94, vol. 2 (New Providence, NJ: R.R. Bowker, 1993), 2291-2320.

The Questionnaire

The tool used to collect the necessary data was a short ten-question self-administered questionnaire (see Appendix A). Many ideas for questions were garnered by reviewing Ms. Turock's rather lengthy questionnaire mailed out in February 1985. She had asked questions about communication, delivery, and configuration. However, no questions about cost were included in Turock's work.³

It was also decided to ask the networks a few other questions to better understand their day-to-day operations. They were asked which type of libraries had bibliographic tools to identify the resources and locations most likely to satisfy their users' requests. Some of these networks have been in business for more than a decade and this researcher was curious about how many school and special library members had these databases. School libraries, in particular, are usually the last libraries to acquire such tools. A question was also asked about state bibliographic database availability as today this is considered to be one of the basic requirements for a well-managed state multitype library network. A follow-up question was asked about the linkage of groups of libraries via a computer. Many network libraries have a bibliographic database on CD-ROM and must send requests either through the mail or via fax machine. This

³ Betty J. Turock, "Organization Factors," 145-54.

question was designed to discover which types of libraries could speak to each other online.

The last introductory question was designed to discover what type of delivery service is used in each network. It was thought that most libraries rely extensively on the US Postal Service and facsimile machine, but data was needed on the extent of reliance on other types of courier service to better understand the reason, perhaps, for higher costs.

The questionnaire was pretested by a number of library staff acquaintances who know the interlibrary loan business before being mailed to the fifteen state libraries and their fifty-nine regional network units. A self-addressed stamped envelope was enclosed. All returns were monitored as they arrived. They were opened, scanned, and assigned an identification number. About four weeks after the first questionnaire was mailed out, a follow-up phone call was made and a second questionnaire was mailed out to those networks not responding to the first one. A response rate of at least 50 percent was considered adequate for analysis and reporting.

Chapter 5

Analysis of Data

Fifty-one completed questionnaires (see annotated list of respondents in Appendix B) were received by this researcher in the six-week time span allowed for data collection (a 69 percent return rate). Nine additional questionnaires arrived after that deadline (making a final 81 percent return rate). There were no significant differences noted in those last returns. Three states failed to contribute any data: Kentucky, South Carolina, and Vermont. These three state multitype library networks have no regional units and their interlibrary loan systems are all headquartered at their state libraries. From telephone conversations with each of those state offices it was noted that they handled interlibrary loan in a manner similar to other small states.

During the data collection period mention was made by the regional units in both Illinois and New Jersey that a number of their regional units are merging together. Illinois has four library systems which are merging resulting

in a reduction from fifteen library systems to twelve. New Jersey has downsized as well from five library cooperatives to four. Many regional units have already undergone reductions in staff and chose to respond to the questionnaire as the newly merged unit. This reduced the total study population from 74 to 70 network units. Taking that new population figure into account, the total response rate was 72 percent, a very successful return rate. Because the majority of networks are undergoing or about to undergo major changes, this proved to be an exciting time to be observing state multitype library networks.

The analysis of the data will be divided into two sections. The data collected from the questionnaire's first four questions will be described to give the reader an idea how these networks do their daily business. The second section will analyze the data collected on the variables of configuration, response time and cost (the last six questions on the questionnaire).

How Networks Do Business

One of the most essential tools for successfully handling interlibrary loan requests is to have adequate online and CD-ROM bibliographic tools such as state bibliographic databases, OCLC, RLIN, union lists or catalogs. Of the completed questionnaires, 45 percent of respondents indicated they have such databases (see Figure 1). Almost

half or 45.1 percent of the state multitype library networks indicated that all of their libraries possess these tools. The next largest number of responses was the 23.5 percent who stated that some of their library membership own these tools. As might be expected, public and academic libraries are the most likely to be using these instruments. School libraries, which often do not even have telephones, are least likely to have access to these databases.

A related question was asked about the linkage of libraries via computer. Public and academic libraries are again most likely to be linked electronically. It was surprising to see that as many as 35.3 percent of respondents stated that all their libraries were linked, while 25.5 noted that some of their library types were connected. Electronic linkage is something that is bound to reduce a network's response time (see Figure 2).

FIGURE 1

FIGURE 2

A number of states have developed their own state bibliographic databases, and this was indicated in the high positive response rate to this question. Indeed, 80.4 percent answered that they had such a database; and only 17.6 percent said they did not have one (see Figure 3).

More libraries used US Mail (70.6 percent) than any other interlibrary loan delivery services and this is not a surprise. The next highest delivery vehicle is a fax machine which is rapidly becoming a necessity for even the smallest libraries. The response rate was 62.7 percent on that question. Many networks have their own statewide or regional publicly funded courier delivery services, a fact revealed by the high (56.9 percent) number of libraries circling that response on question 4 of the questionnaire (see Appendix A). Fewer networks use private industry mail services such as United Parcel Service (UPS) and Federal Express (39.2 percent) and private business courier service (33.3 percent) due to their higher cost (see Figure 4).

FIGURE 3

FIGURE 4

Variables: Configuration, Response Time, and Cost

The central focus of this thesis was to determine how the independent variable configuration influenced the dependent variables of response time and cost. Many library network respondents stated that the configuration questions were the most difficult questions to answer. There were many sidebar notes written on the questionnaires explaining why the respondent could not answer with one simple reply. A significant number noted that a portion of their network was decentralized (with that portion increasing monthly), but there were still some smaller public or school libraries who required their centralized assistance. Some networks, such as those in Florida and New Jersey, still have the remnants of a more hierarchical network system. Thus, it was difficult to tabulate these data. To account for this complexity, three new categories were derived: "partial" centralized, "partial" hierarchical, or "partial" decentralized. Three of the total fifty-one respondents located in the more rural portions of Kansas and Minnesota reported that they had elements of all three configurations in their network.

More library networks were better able to answer the speed than the cost question--thus indicating the need for more research on the cost of interlibrary loan service. One of the rationales for decentralization, given by network managers, is that it will allow savings in cost. However,

there is little evidence that many networks have a true idea of interlibrary loan costs under any configuration. (A total of 35.3 percent of networks indicated that they did not know the cost of an ILL transaction.)

It was possible to do a Chi-square test of statistical significance for the data collected. The computer software programs, SPSS, Excel, and Claris Works were used to 1) summarize the data, 2) create appropriate tables, 3) examine relationships among the variables, and 4) perform tests of statistical significance for the hypothesis. Comparisons were made between the types of configurations and their delivery times and transaction costs. Due to the fact that a number of networks mentioned that they were slowly changing from one configuration to another, a new classification of "partial configuration" was created for each of the three configuration questions. (See Appendix A-2) A type of bivariate analysis was performed.⁴

⁴ Excel 4.0 Microsoft Corporation, Redmond, MA

Variable Tests

These Chi-square tests were run to see if the responses on the survey item were non-random. The null hypothesis was that the variables were uniformly, randomly distributed (all values were equally probable).

Speed--df=6 (two cells, questions 9e and 9f on the questionnaire, had 0 frequencies)

Chi-square=56.5

p<.001

Cost--df=5

Chi-square=22.4

p<.001

Hierarchy--df=2

Chi-square=51.3

p<.001

Hierarchy is highly centralized; 41 of 51 total respondents indicated that their networks were non-hierarchical. This may indicate that the item had little explanatory value, since nearly 80 percent of responses were in this category. Thus, even though the chi-square was significant, the test means only that the responses were not uniformly distributed.

Decentralization--df=2

The computer software program Excel was used to compare the nine possible responses of the configuration questions to the dependent variables of speed and cost. The final data analysis failed to demonstrate that libraries should be basing their transition from centralized to decentralized configurations on savings in speed and cost. None of the comparisons disproved the null hypothesis that there is no relationship between the variables of configuration, speed, and cost. In a second review of the questionnaires, it was determined that the high rate (49 percent) of the networks currently undergoing change in configuration made this data extremely fluid. Another important point to make is that it is difficult to measure an entity that is changing monthly. As this situation is not likely to stabilize in the near future, it will continue to be difficult to have a truly

Chi-square=3.29

nonsignificant

The test here indicates that, even though the data suggest that decentralization does categorize respondents in a variety of ways, there are too few respondents to declare that the categorization is more than simply random.

Two variable tests

Cost-Decentralization

df=10

Chi-square=11.0

ns

Cost-Hierarchy

df=10

Chi-square=4.9

ns

Speed-Cost

df=16

Chi-square=12.6

ns

No interaction effects were found between any of the variables.

Speed-Decentralization

df=8

Chi-square=6.0

ns

Speed-Hierarchy

df=10

Chi-square=11.5

ns

scientific evaluation of this research problem. The results did point to the need for state multitype library networks to do more data gathering on interlibrary loan costs.

Interlibrary loan service is a significant portion of many networks' budgets and multitypes should have a better understanding of its expense.

Chapter 6

Discussion of Findings

This section will illustrate the diversity of findings made in the telephone conversations with each state library office and questionnaire responses from 58 multitype library network units. All libraries were very cooperative and wanted to know how they could help with the research. This happened during a time when some of the worst snowstorms in history hit the eastern half of the country where many of the state multitype library networks are located.

The questionnaires yielded much more qualitative than quantitative information about the current operations of state multitype library networks. This chapter will discuss a number of the following findings:

- The contracted research studies indicate that decentralization and downsizing the number of regional units can cut costs.
- CD-ROM bibliographic databases fill a need for smaller libraries which currently cannot afford online fees.

- There are a variety of protocols being used to more evenly distribute ILL requests throughout the systems.
- State libraries often do bibliographic searches for those network members not possessing bibliographic tools.
- Networks have improved their operations greatly after establishing electronic linkages between member libraries.
- Once library users become aware of the capabilities of network interlibrary loan services, the demand for interlibrary loan items increases.

Cost Cutting Through Decentralization and Downsizing

It was quickly apparent during the telephone interview and questionnaire gathering stages that this is a time of great flux for state multitype library networks in America. As is happening in the business world during these current recessionary times, many networks are finding it necessary to downsize in order to cut costs. All networks that are changing configuration (49 percent) noted they are slowly changing to a decentralized system so that libraries possessing the necessary bibliographic tools could handle all their own interlibrary loan requests. This is a return to the traditional way libraries have handled requests since World War II, but with electronic bibliographic tools and linkages, libraries can see a much higher fill rate on their ILL requests. Many respondents told this researcher that

this is resulting in a significant cut in costs and turnaround time. Research has sometimes been done prior to making the change. (See studies by Colorado, New Jersey and Indiana State Libraries in the "Review of the Literature" section, p.45-47.)

One remarkable thing learned by reading the forementioned Indiana State Library contracted research study is that the larger the volume of requests, the lower the cost per loan. Thus, an economy of scale can be observed. The researchers, F. Mason and Associates, concluded: "Interlibrary loan studies in Indiana and other states indicate economies of scale can be achieved through consolidating interlibrary loan processing....It may be desirable to centralize interlibrary loan processing into one or a very few centers."⁵ This economy of scale factor needs to be kept in mind when deciding how to handle the requests from libraries not having bibliographic search tools (such as smaller public libraries, school libraries, and special libraries). Indiana is debating internally now how to redesign its regional structure. This coincides with the national trend to reduce the number of regional units in all states. Costs have been significantly cut by doing so. There is likely to be a further reduction in the number of regional units in all the state networks except those who

⁵ F. Mason and Associates, A Plan for Indiana Statewide Excellence in Library Services, (Indianapolis: Indiana Library and Historical Board, 1992), 15.

coordinate all interlibrary loan activity from their state office (Kentucky, Rhode Island, South Carolina, South Dakota, Vermont, and Wyoming).

Economy and Efficiency of CD-ROM Databases

Questionnaire results indicate that a related issue which states such as Indiana are being forced to resolve is whether the future of all resource sharing is digital and online. A significant amount of money can be saved in state multitype library networks by either purchasing or creating a CD-ROM bibliographic database for those libraries that cannot afford online charges.

This is a great unresolved debate being argued among managers of state multitype library networks. Should they gamble that smaller public libraries and school libraries will be able to afford within the next decade to connect electronically to online bibliographic database services or should they fill "the ILL gap" by financing the design of CD-ROM bibliographic databases? Connecticut has a CD-ROM product called ReQuest in almost all public libraries and many high schools. Kansas has produced, in CD-ROM format, a Kansas Library Catalog, with 2.4 million titles and 7.5 million holdings, and a Kansas List of Serials. In New Jersey, three of five regional library cooperatives have regional CD-ROM discs. Participating libraries use these for verification and sending ILL requests. However, some

researchers, such as F. Mason and Associates, question whether setting up CD-ROM bibliographic databases is a wise move for the long-term when increasingly more information will be gathered via electronic technology.⁶

Most networks are resolving the debate by letting each member library choose its own fate. This means that those libraries without CD-ROM databases are increasingly dependent on regional or state library network centers for bibliographic verification. That is unfortunate because there always will be libraries that can not afford the high cost of online interlibrary loan services for the short term future.

Use of Protocols to Equitably Distribute ILL Requests

Many questionnaire respondents appended copies of their network's protocol or gave a summary of its design. Some regional units in Kansas expressed dissatisfaction with protocols that required them to go to the smallest library that owns the material first, regardless of proximity. This type of protocol was instituted to ease the ILL load of the larger resource libraries which feel the special burden of filling excess requests. A response time survey has not been done by Kansas as of yet, but there is bound to be a decrease in speed when items must be shipped over longer distances.

⁶ Ibid., 20.

Some states, such as Florida and New Jersey, focus much of their interlibrary loan activity on the state library (vestiges of their former hierarchical configuration.) Florida has a three-tiered protocol procedure for their regional consortia. Step 1 is to request material from the other members of the local consortium. Step 2 is to solicit items from other Florida Library Information Network member libraries (always requesting from those closest in proximity first.) Step 3 is the State Library of Florida which is a lending library on the automated network and a referral center for libraries using the manual access system and selective users of the automated network.

Use of State Libraries for Bibliographic Searches

New Jersey operates an Access Center for all libraries which do not have bibliographic tools. Libraries may call an 800 telephone number or fax their requests to the Access Center staff who then fill them on their OCLC ILL system. The one piece of research that was done on ILL photocopy costs documents a very high ILL cost due to the inclusion of all indirect costs.⁷ It is difficult to compare this study to the others which solely computed direct costs. About 130 libraries in the state are OCLC members themselves and do

⁷ Barbara M. Robinson, Costing Question Handling and ILL/Photocopying: a Study of Two State Contract Libraries in New Jersey Vol. 1: the Study Process, Findings, and Recommendations (Trenton: New Jersey State Library, 1989), 86.

direct interlibrary loan. Three of the four regional library cooperatives only have regional CD-ROM bibliographic databases. Thus, a large portion of the state network is dependent on the State Access Center for ILL service outside each region and state. When one adds on an expensive New Jersey statewide delivery service, it is wondered how New Jersey is managing such an expensive system. (This State Library was the only one denoting the \$30+ response for direct cost of the average completed interlibrary loan transaction.)

Connecticut has instituted a maximum \$5 transaction fee for all OCLC transactions the state library performs. They have done this while facilitating their membership acquisition of CD-ROM and online bibliographic systems. This may be the wave of the future as state libraries will find it increasingly difficult to finance this free service. Some libraries may find it necessary to pass the fee along to their patrons but it would be wise not to do so until every cost-saving measure is performed first.

Electronic Linkages to Improve Network Operations

Colorado seems to be leading the nation with its Access Colorado Library and Information Network (ACLIN). ACLIN connects users via a telephone call, local or toll-free, using a microcomputer and modem from home, office, school, or library. ACLIN links the automated systems and online

catalogs of participating libraries in a single network and provides free access to over 120 library catalogs which list over 10.5 million books.

Illinois operates a similar database called IO or ILLINET Online which provides descriptive information about library materials located in some eight hundred Illinois libraries. There are still a few nonautomated libraries, however, that use the regional library system headquarters to do bibliographic searches.

Kansas has a number of attractive features in its network. The seven regional library systems are linked electronically to each other, the State Library, and libraries across the state through KICNET, an electronic mail system. This undoubtedly speeds up response time on interlibrary loan requests and reduces cost. The state also has a Kansas library card which serves as a means by which a patron of any Kansas library may borrow material from any cooperating library in the state. When this researcher asked the Kansas State Library to furnish a copy of their protocol procedure, she was furnished with a copy of the Kansas Interlibrary Loan Directory and Manual on diskette. Other states find many of Kansas's services quite attractive.

Rhode Island's library systems have changed from a hierarchical to a decentralized configuration due to technology and efficiency. System wide ILL holds can now be placed on the public library automated database network. It

is one of the few states where all public libraries are connected electronically.

User Awareness and Increase of ILL

The survey revealed that many states are having difficulty meeting the increasing demand for interlibrary loan service with their tight financial budgets. One example is the Minnesota Multitype Library Cooperation Program which was organized in late 1979. It is reported that most borrowers are so enamored of its interlibrary loan capabilities that many system units have had to reduce their other services. One interesting comment came from a rural part of Minnesota: "The more accustomed users become to computers, the faster they want full text information." Like this one, library regions across the country find themselves increasingly dependent on facsimile machines to deliver information in a timely fashion.

Summary

The questionnaire did yield a number of qualitative findings about the current operations of state multitype library networks. Multitype networks can save money by downsizing the number of regional units, purchasing or creating state CD-ROM bibliographic databases, and establishing where possible electronic linkages between member libraries. It remains to be seen whether

bibliographic searches at state libraries are cost effective since there appears to have been few cost studies evaluating this practice.

It was also observed that there are a variety of protocols being used to more evenly distribute ILL requests throughout the systems. More response time surveys are needed prior to changing protocols to verify timely responses to ILL requests.

As book budgets for all multitype libraries decrease, there is bound to be an increased interest in interlibrary loan services. Libraries should continually reevaluate all methods of timely delivery of information -- interlibrary loan service being one of the more inexpensive options.

Chapter 7

Conclusions and Recommendations

It is hoped that the following conclusions and recommendations can be used by the state multitype library networks currently in operation as well as those state libraries who are preparing plans for future operation. When times are financially tough, the library community needs to function as an extended family, and share its wealth of knowledge. Many networks have been in business over two decades and have much to teach.

Bibliographic Databases

This researcher thinks that it will likely be a decade or more before it is possible to interconnect electronically every single library in the current population of state multitype library networks. Thus, in the meantime it is necessary to serve these smaller member libraries who are becoming increasingly information poor. The less expensive CD-ROM databases can do an excellent job of supporting local

cooperation until state networks have the financial resources to go 100 percent digital and online. LSCA grants should continue to be available for these one time expenditures.

Configuration of Networks

Even though the data in this research did not prove it statistically, library managers all over the country have concluded on the basis of their own local experience that networks should be as decentralized as possible in order to save time and money in interlibrary loan transactions. However, if savings in cost and speed are to be the rationale for reconfiguration of networks, then more careful analysis should be done of these factors. More research and better recordkeeping are definitely needed.

Many state multitype library networks are also grappling with the need to cut the number of regional network units that provide a variety of services. Numerous network regional units are currently overburdened by the explosion of interlibrary loan requests being sent for bibliographic verification. Until networks are able to supply CD-ROM or online bibliographic database access to these smaller library members, it may be necessary to reduce the number of such processing centers to recover some economy of scale.

State multitype library networks have handled this problem in a multitude of ways. For example, New Jersey established an 800 toll-free telephone number. This

researcher believes that the most cost effective ways to handle this problem would be to assist all network library members in purchasing either facsimile machines or modems. Research should be done on what number of ILL requests need to be completed to recover an "economy of scale." It would be advantageous for each regional headquarters to have access to an online bibliographic database of the state's academic and public library holdings. If that is not affordable, at a minimum, CD-ROM network databases should be sited at each referral center. Cost reductions can also be seen by having staff work early mornings (before 8 AM) to reduce the cost of going online.

Response Time

Protocol can be considered a significant factor in the success of any multitype library network. Response time should be considered before instituting a policy of "smallest" library first regardless of proximity. It makes more sense to use a protocol procedure of "nearest and smallest library first."

Communication is also very important to the performance of a well-run interlibrary loan system. Many libraries cite the following reasons for the success of direct interlibrary loan (a decentralized network configuration): control of ILL requests since there is knowledge where and when the request was forwarded, notices are received directly from the lender,

and a shorter turnaround time is achieved since there is no middle person. Many libraries send their requests by facsimile, US Mail or courier service. It would be wise for more library networks to study whether they can afford to establish an electronic mail system, as KICNET has done, for at least their larger library members and regional centers. This speeds up the ILL response rate and helps network members to better understand each others' operations.

Cost

The results of this research project point out the glaring absence of data on the cost of interlibrary loan services. More states should be doing as Colorado, Indiana, and New Jersey have done and do definitive studies of the cost involved. Certainly such studies should be done before significant changes are made in network configuration.

Some librarians question how they can afford a growing interlibrary loan operation in the future when dollars for libraries are not likely to be plentiful. The question could be asked--who should pay for this? There is a good argument to make that all taxpayers should not be forced to pay for the high cost of interlibrary loan materials. This topic is outside of the scope of this project, but fees are something with which every library network will find itself grappling in the future. This researcher recommends that fees never be so cost prohibitive as to prevent library clientele from

seeking their needed information. User surveys would be a good first step to take before implementing such fees.

It has already been mentioned how costs could be reduced by finding some "economy of scale" at referral centers. Another way to keep costs down is to reduce the number of non-network requests via OCLC. Every effort should be made to get the maximum number of library holdings on the state bibliographic database. This can be financed through LSCA or other grants. Many school libraries will be acquiring computers and modems in the future to access the INTERNET. This is an excellent time to be developing state information networks so that libraries as well as citizens with modems can learn the bibliographic holdings of libraries across the state. Educators and librarians need to forge stronger alliances to finance such information systems. We should not be in competition for limited public funds but rather jointly present our case to the public.

There are also too many taxpayers who are unaware of the valuable services available to them through their local library. Interlibrary loan should no longer be a well kept secret except for those patrons astute enough to ask about it. It would be wise for any state multitype library network seeking additional public funding to develop public service announcements (PSAs) both on television and radio explaining the valuable services library networks can provide. The PSAs could show the joy in patrons' eyes (both school students and

adults) when they receive facsimiles to help them do their homework or books that they thought could never be found. It is time for librarians to make their invaluable work better known.

Summary

It is the hope of this researcher that this thesis has given the library community some food for thought on how to improve the management of interlibrary loan systems in multitype library networks even though the original research problem was never satisfactorily resolved. This researcher would like to encourage all state multitype library networks to do data gathering and research before changing configurations. Many funding sources require proof of efficiency and cost effectiveness if networks are to stay in business.

It has been her goal to research the ways that the current fifteen state multitype library networks save time and money so that a service, that she considers to be an invaluable research tool, need never be reduced or eliminated during times of fiscal strain. Imagine what it must have felt like in the late nineteenth and early twentieth century when researchers had to travel from library to library to gather the needed information. Librarians should never consider turning the clock back to those times, but rather

work to facilitate the most efficient and cost effective information retrieval that can possibly be done.

Anyone who doubts the value of the interlibrary loan service should contemplate what the world would be like without that smile on the face of the patron receiving a long sought information item. Those smiles are what makes the long hard days worthwhile.

Bibliography

WORKS CITED

American Library Association. Public Library Service: A Guide to Evaluation, with Minimum Standards. Chicago: American Library Association, 1956.

American Library Directory, 1993-94. New Providence, NJ: R.R. Bowker, 1993.

Ballard, Thomas H. "Dogma Clouds the Facts." American Libraries 16 (April 1985): 257-59.

_____. The Failure of Resource Sharing in Public Libraries and Alternative Strategies for Service. Chicago: American Library Association, 1986.

Boucher, Virginia. Library Resource Sharing in Colorado. Denver: Colorado State Library, 1988.

Budd, John. "Interlibrary Loan Service: A Study of Turnaround Time." RQ 26 (Fall 1986): 75-80.

Excel 4.0 Microsoft Corp. Redmond, WA.

Fiels, Keith Michael and Ronald P. Naylor. Delivery of Information and Materials Between Libraries: The State of the Art. Chicago: American Library Association, Association of Specialized and Cooperative Library Agencies, 1991.

- Fiels, Keith Michael, Joan Neumann, and Eva R. Brown. Multitype Library Cooperation: State Laws, Regulations and Pending Legislation. Chicago: American Library Association, Association of Specialized and Cooperative Library Agencies, 1991.
- Hamilton, Beth A. and William B. Ernst, eds. Multitype Library Cooperation. New York: R.R. Bowker Co., 1977.
- Herstand, Jo Ellen. "Interlibrary Loan Cost Study and Comparison." RQ 20 (Spring 1981): 249-56.
- Hiebing, Dottie. "OCLC Groups Access: One Library Cooperative's Experience." PALINET News (February 1992): 1-3, 5.
- Jackson, Mary E. "Revising the National ILL Code: an Overview." Wilson Library Bulletin 67 (February 1993): 75-76.
- _____. "Trends in Resource Sharing." Wilson Library Bulletin 64 (April 1990): 54-55, 128.
- _____. "Trends in Resource Sharing (Part II)." Wilson Library Bulletin 64 (June 1990): 99-100.
- Joeckel, Carleton B. and Amy Winslow. A National Plan for Public Library Service. Chicago: American Library Association, 1948.
- Journey to the 21st Century: a Summary of OCLC's Strategic Plan. Dublin, Ohio: Online Computer Library Center, Inc., 1991.
- Kent, Allen and Thomas J. Galvin, eds. Library Resource Sharing. New York: Marcel Dekker, 1977.

- _____. The Structure and Governance of Library Networks. New York: Marcel Dekker, 1977.
- Khalil, Mounir. "Document Delivery: a Better Option?" Library Journal 118 (1 February 1993): 43-47.
- Mason, Florence and Associates. A Plan for Indiana Statewide Excellence in Library Services. Indianapolis: Indiana Library and Historical Board, 1992.
- Nevins, Kate and Darryl Lang. "Interlibrary Loan - a Cooperative Effort Among OCLC Users." Wilson Library Bulletin 67 (February 1993): 37-40.
- Newman, Richard W. "Four North American Bibliographic Networks." Library Technology Reports 26, no. 4 (July/August 1990): 485-95.
- Palmour, Vernon E. A Study of the Characteristics, Costs and Magnitude of Interlibrary Loans in Academic Libraries. Westport: Greenwood Publishing Co., 1972.
- Robinson, Barbara M. Costing Question Handling and ILL/Photocopying: a Study of Two State Contract Libraries in New Jersey, Vol. 1: the Study Process, Findings, and Recommendations. Trenton: New Jersey State Library, 1989.
- Roche, Marilyn M. ARL/RLG Interlibrary Loan Cost Study. Washington, D.C.: Association of Research Libraries, 1993.
- Rouse William B. and Sandra H. Rouse. Management of Library Networks: Policy Analysis, Implementation, and Control. New York: John Wiley & Sons, Inc., 1980.
- Shubert, Joseph F. "The Impact of the Federal Library Services and Construction Act." Library Trends 24 (July 1975): 27-44.

Standards for Cooperative Multitype Library Organizations.
Chicago: American Library Association, 1990.

Stevens, Norman D. "Library Networks and Resource Sharing in the United States: an Historical and Philosophical Overview." Journal of the American Society for Information Science 31 (November 1980): 405-12.

Stuart-Stubbs, Basil. "An Historical Look at Resource Sharing." Library Trends 23 (April 1975): 649-64.

Townley, Charles. Human Relations in Library Network Development. Hamden: Shoestring Press, Inc., 1988.

"Trends in Networking, Parts 1 and 2." Public Libraries 25 (Winter 1986): 126-29.

Trezza, Alphonse F., ed. Public Libraries and the Challenges of the Next Two Decades. Littleton, CO: Libraries Unlimited, Inc., 1985.

Turock, Betty J. "Organization Factors in Multitype Library Networking." Library and Information Science Research 6 (April 1984): 349-81.

_____. "Organization Factors in Multitype Library Networking: A National Test of the Model." Library and Information Science Research 8 (April 1986): 117-54.

_____. "Performance Factors in Multitype Library Networking." Resource Sharing and Information Networks 3, no. 1 (Fall 1985-Winter 1985-86): 15-38.

_____. "Performance, Organization and Attitude: Model for Planning and Evaluating the Multitype Library Network." Journal of Library Administration 6, no.6 (Winter 1985-86): 33-52.

U.S. Department of Education. Office of Educational Research and Improvement. Public Libraries in the U.S.: 1990. Washington, D.C.: GPO, June, 1992.

Waldart, Thomas J. "Patterns of Interlibrary Loan in the U.S.: a Review of Research." Library & Information Science Research 7 (July 1985): 209-29.

_____. "Performance Evaluation of Interlibrary Loan in the United States: a Review of Research." Library and Information Science Research 7 (October- December 1985): 313-31.

Wilkins, Jean E., ed. The Report on Library Cooperation, 1989. 7th ed. Chicago: American Library Association, Association of Specialized and Cooperative Library Agencies, 1990.

WORKS CONSULTED BUT NOT CITED

Monographs

Boucher, Virginia. Interlibrary Loan Practices Handbook. Chicago: American Library Association, 1984.

King, Donald W., Dennis D. McDonald and Nancy K. Roderer. Scientific Journals in the United States: Their Production, Use, and Economics. New York: Stroudsburg Hutchinson Ross, 1981.

Reynolds, Michael M., ed. Reader in Library Cooperation. Washington, D.C.: NCR/Microcard Editions, 1972.

Trezza, Alphonse F., ed. Not Alone...but Together: a Conference on Multitype Library Cooperation. Tallahassee: Florida State University, 1987.

Woodsworth, Anne. Library Cooperation and Networks: a Basic Reader. New York: Neal-Schuman Publishers, Inc., 1991.

Periodicals

Abbott, Peter and Rosemary Kavanagh. "Electronic Resource Sharing Changes Interloan Patterns." Library Journal 111 (1 October 1986): 56-58.

Atkinson, Hugh C. "Atkinson on Networks." American Libraries 18 (June 1987): 432-39.

_____. "Strategies for Change, Part II." Library Journal 109 (14 March 1984): 556-57.

Ballard, Thomas H. "We'll Wait and See." Resource Sharing & Information Networks 3, no. 2 (Spring/Summer 1986): 41-55.

Billings, Harold. "Governing Library Networks: the Quick and the Dead for the 1990s." Library Journal 114 (1 November 1989): 49-54.

Bills, Linda G. "Cost and Benefits of OCLC Use in Small and Medium Size Public Libraries." Resource Sharing and Information Networks 3, no. 2 (Spring/Summer 1986): 9-34.

Broadbent, H.E. "Evaluation of Resource Sharing in Networks and Cooperatives: A Literature Review for Library Managers." Resource Sharing and Library Networks 1, no.4 (Summer 1982): 27-40.

Brown, Eva R. "Multitype Library Cooperation in Illinois, USA." Inspel 17, no. 2 (1983): 92-106.

- Cabeen, S. K. "The Engineering Societies Library and the New York State Interlibrary Loan Program: One Special Library's Experience in a Network." Science and Technology Libraries 1, no. 2 (Winter 1980): 23-25.
- Callahan, Betty E. "The Future is Now: Building the South Carolina Library Network." South Carolina Librarian 30 (Spring 1986): 8-10.
- Chepesiuk, Ron. "Developing a Statewide Network South Carolina Style." Wilson Library Bulletin 64 (May 1990): 39-40, 132.
- Culkin, Patricia "The CARL System." Library Journal 110 (1 February 1985): 68-70.
- Curry, Elizabeth. "Costs and Benefits of Library Networking and Cooperation: a SEFLIN Example." Florida Libraries 36 (January 1993): 9-11.
- Dalrymple, Prudence Ward, Timothy Cole, Bryce Allen and Debra Johnson. "Measuring Statewide Interlibrary Loan among Multitype Libraries: a Testing of Data Collection Approaches." RQ 30 (Summer 1991): 534-44.
- DeProspero, Ernest R., Jr. "Federal Funds in Governance of Local Library Institutions: A Reappraisal." Library Trends 26 (Fall 1977): 195-205.
- Drescher, Robert A. "The New Jersey Library Network: An Overview of Beginning." Resource Sharing and Information Networks 4, no. 1 (Winter 1987): 39-52.
- Dustin, M.J. "The MINITEX Reference Service: a Publicly Funded Information Broker." Reference Librarian no.22 (1988): 133-43.
- Everett, David. "Interlibrary Loan Fees." Journal of Academic Librarianship 12 (September 1986): 232-33.

- Fiels, Keith Michael and Roert A. Drescher. "Planning for Multitype Networking and Change." Resource Sharing and Information Networks 4, no. 1 (Winter 1987): 3-16.
- Flanders, Bruce L. "Interlibrary Loan in Kansas: a Low Cost Alternative to OCLC." Wilson Library Bulletin 61 (March 1987): 31-34.
- Flanders, Bruce L. "KICNET: Interlibrary Loan on a Wide-Area Network in Kansas." ONLINE 15, no.2 (March 1991): 55-60.
- Hoshiko, Rose. "Multiple Benefits from Multitype Cooperation!" Illinois Libraries 72, no. 7, (October 1990): 540-44.
- "Interlibrary Cooperation: Balancing Capabilities, Objections, and Long Term Benefits." Library Issues 9 (May 1989): 1-2,4.
- Lenzini, Rebecca T. and Ward Shaw. "Creating a New Definition of Library Cooperation: Past Present, and Future Models." Library Administration and Management 5, no. 1 (Winter 1991): 37-40.
- Madaus, J. Richard. "Networking: a Statewide Project Perspective." Southeastern Librarian 42 (Winter 1992): 105-107.
- Martin, Noelene P. "Interlibrary Loan and Resource Sharing: New Approaches." Journal of Library Administration 3, nos. 3/4 (Fall/Winter 1982): 99-108.
- Miller, Laurence A. "Interlibrary Cooperation and Library Consortia: View from the Library." Florida Libraries 36 (January 1993): 6-7.
- Mulroy, Kathleen Colson and Mary Page. "Who is NJQ and Why Do They Borrow So Much? A Library Network Success Story." Journal of Interlibrary Loan & Information Supply 2, no. 1 (1991): 9-24.

"Multitype Library Cooperation Task Force Report." Minnesota Libraries 27 (Summer 1984): 272-82.

"Multitype Library Networks in New York and New Jersey," MLA News 179 (October 1985): 7-9.

Paskoff, Beth M. "Networks and Networking: How and Why Should Special Libraries Be Involved." Special Libraries 80, no. 2 (Spring 1989): 94-100.

Potter, William Gray. "Collection Overlap in the LCS Network in Illinois." Library Quarterly 56, no. 2 (April 1986): 119-40.

Schuman, Patricia Glass. "Library Networks: a Means, Not an End." Library Journal 112 (1 February 1987): 33-37.

Simpson, Donald B. "Library Consortia and Access to Information: Costs and Cost Justification." Journal of Library Administration 12, no. 3 (1990): 83-96.

Sloan, Bernard. "Resource Sharing in Times of Retrenchment." Library Administration and Management 6, no. 1 (Winter 1992): 26-28.

_____. "Sharing Resources in Illinois." Wilson Library Bulletin 59 (December 1984): 259-61.

Sloan, Bernard and J. David Stewart. "ILLINET Online: Enhancing and Expanding Access to Library Resources in Illinois." Library Hi Tech 6, no. 3 (1988): 95-101.

Stevens, Charles H. "Governance of Library Networks." Library Trends 26 (Fall 1977): 219-39.

Strong, Gary E. "Public Libraries Can Make the Difference in California's Future." California State Library Newsletter no. 143 (November 1993): 1-2.

- Turock, Betty J. "Attitude Factors in Multitype Library Networking." Resource Sharing & Information Networks 1, nos. 3-4 (Spring/Summer 1984): 33-73.
- Weaver, Barbara F. "New Jersey Library Network Development." Education Libraries 14, no. 3 (Fall 1989): 97-100.
- Will, Barbara. "Library Networks in California." Education Libraries 14, no. 3 (Fall 1989): 101-105.
- Wilcox, Alice E. and Nancy H. Marshall. "MINITEX and WILS." RQ 13 (Summer 1974): 299-307.
- Woodsworth, Anne. "Governance of Library Networks: Structures and Issues." Advances in Librarianship 15 (1991): 155-75.

Reports

- California State Library, California Library Networking Task Force. Proceedings California Conferences on Networking: September 22-27, 1988. Sacramento: California State Library Foundation, 1988.
- California State Library, California Library Networking Task Force. "Networking Planning Sessions, Phase IV." Sacramento: California State Library, December 9, 1992.
- Smith Automation Systems, Inc. "California Library Telecommunications Study Project, Report #1." Sacramento: California State Library, September 26, 1992.

Appendices

Appendix A-1 Questionnaire

PURPOSE

The purpose of this questionnaire is to collect data from employees of state multitype library networks and their regional units on the structural configuration of their interlibrary loan communication and delivery service. For purposes of this study, interlibrary loan includes facsimile transmission, forwarding of a copy, or the actual lending of the item itself. In the end, the data will be analyzed to see what type of configuration (centralized, hierarchical, or decentralized) allows for the most efficient and cost-effective interlibrary loan service.

In a centralized structure, requests are routed to a designated central point such as a state library (sometimes for verification or for purposes of filtering the requests) and from there to the desired location. In a hierarchical structure, requests are routed through a hierarchical pattern usually resulting in the largest research libraries making final judgment before the requests are sent out to the region and beyond. In a decentralized structure, requests are usually sent directly to the desired location after verification on network or bibliographic databases.

QUESTIONNAIRE

Name of Library Network: _____

Address: _____

Contact Person: _____

Phone # _____

DIRECTIONS:

Please answer all of the following 10 questions based on your experience in the multitype network named on this questionnaire. **Circle the most appropriate letter or letters** in the case of more than one appropriate answer in the first four questions.

A major part of interlibrary loan work is request verification, network communication, and delivery services. The following four questions give the outsider a glimpse at how your network performs these functions.

1. What type of libraries in your network have the following bibliographic tools to identify the resources and locations most likely to satisfy users' requests (i.e. OCLC, RLIN, network bibliographic databases, union lists, or catalogs):

a. School Libraries	e. All of the above
b. Public Libraries	f. None of the above
c. Academic Libraries	g. Don't know
d. Special Libraries	

2. Does your network have a state bibliographic database available in some way to all network member libraries?

a. Yes	c. Don't know
b. No	

3. What groups of libraries in your network are linked by computer?

a. School Libraries	e. All of the above
b. Public Libraries	f. None of the above
c. Academic Libraries	g. Don't know
d. Special Libraries	

4. What type of delivery service is used in your network?

a. United States Mail	e. Fax service
b. UPS, FedEx, etc.	f. Other _____
c. Private courier service	g. Don't know
d. Publicly funded courier service	

In questions 5 - 7, contemplate which of the three configurations (centralized, hierarchical, or decentralized) best describes your entire state multitype network. Please do not choose more than one configuration to describe your network.

5. Are requests routed immediately to a centrally designated location in your network where they are verified and filtered (to avoid burdening any one source), and from there routed to the holding library as illustrated here? (centralized)

- a. Yes
b. No

c. Don't know

6. Are requests routed in a certain specified two or more step pattern through your network (such as routed eventually through the largest research libraries) before being sent to the holding library as illustrated here? (hierarchical)

- a. Yes
b. No

c. Don't know

7. Are requests routed directly in your network to the holding library after being verified locally as illustrated here? (decentralized)

- a. Yes
b. No

c. Don't know

8. If your network has in recent years changed its configuration, could you simply state from what configuration it changed and why.

In questions 9 and 10, contemplate your interlibrary loan experiences. Please give only **one answer** using this knowledge.

9. How long does it take your network to receive the quickest 1/2 of a batch of requested items from the time of patron initiating the request to delivery of the item and patron being notified (including faxes)?

a. Next day	e. 15-30 days
b. 3 or less days	f. 31+ days
c. 4-7 days	g. Don't know
d. 8-14 days	

10. What do you **estimate** to be the total cost of the average completed ILL transaction in your network (combining borrowing and lending components)? Please include only direct costs such as those listed below. Please leave out all indirect costs such as general overhead.

communication	equipment
pickup and delivery	software
photocopying and faxing	personnel (staff costs)
supplies	other borrowing and lending charges
-
a. Less than \$10	d. \$26-\$29
b. \$11-\$19	e. \$30+
c. \$20-\$25	f. Don't know

Do you feel your users are satisfied with your current interlibrary loan service? What seems to be working well in your network and why?

Do you wish a copy of the results of this questionnaire when it is completed? _____

For purposes of completely understanding your network's configuration and how the load of interlibrary loan is fairly distributed, could you please mail a copy of your network's ILL routing protocol procedures in the enclosed envelope along with the completed questionnaire.

Appendix A-2
Responses To Questionnaire (51 total responses)

PURPOSE

The purpose of this questionnaire is to collect data from employees of state multitype library networks and their regional units on the structural configuration of their interlibrary loan communication and delivery service. For purposes of this study, interlibrary loan includes facsimile transmission, forwarding of a copy, or the actual lending of the item itself. In the end, the data will be analyzed to see what type of configuration (centralized, hierarchical, or decentralized) allows for the most efficient and cost-effective interlibrary loan service.

In a centralized structure, requests are routed to a designated central point such as a state library (sometimes for verification or for purposes of filtering the requests) and from there to the desired location. In a hierarchical structure, requests are routed through a hierarchical pattern usually resulting in the largest research libraries making final judgment before the requests are sent out to the region and beyond. In a decentralized structure, requests are usually sent directly to the desired location after verification on network or bibliographic databases.

QUESTIONNAIRE

Name of Library Network: _____

Address: _____

Contact Person: _____

Phone # _____

DIRECTIONS:

Please answer all of the following 10 questions based on your experience in the multitype network named on this questionnaire. **Circle the most appropriate letter or letters** in the case of more than one appropriate answer in the first four questions.

A major part of interlibrary loan work is request verification, network communication, and delivery services. The following four questions give the outsider a glimpse at how your network performs these functions.

1. What type of libraries in your network have the following bibliographic tools to identify the resources and locations most likely to satisfy users' requests (i.e. OCLC, RLIN, network bibliographic databases, union lists, or catalogs):

a. School Libraries (4)	e. All of the above (23)
b. Public Libraries (15)	f. Many of the above (12)*
c. Academic Libraries (14)	g. None of the above (0)
d. Special Libraries (5)	h. Don't know (1)

* new category created by many respondents

2. Does your network have a state bibliographic database available in some way to all network member libraries?

a. Yes (41)	c. Don't know (1)
b. No (9)	

3. What groups of libraries in your network are linked by computer?

a. School Libraries (3)	e. All of the above (18)
b. Public Libraries (14)	f. Many of the above (13)*
c. Academic Libraries (15)	g. None of the above (2)
d. Special Libraries (3)	h. Don't know (0)

* new category created by many respondents

4. What type of delivery service is used in your network?

a. United States Mail (36)	e. Fax service (32)
b. UPS, FedEx, etc. (20)	f. Other <u>(1, electronic mail)</u>
c. Private courier service (17)	g. Don't know (0)
d. Publicly funded courier service (29)	

In questions 5 - 7, contemplate which of the three configurations (centralized, hierarchical, or decentralized) best describes your entire state multitype network. Please do not choose more than one configuration to describe your network.

5. Are requests routed immediately to a centrally designated location in your network where they are verified and filtered (to avoid burdening any one source), and from there routed to the holding library as illustrated here? (centralized)

a. Yes (8)

c. Don't know (0)

b. No (26)

d. Partially centralized (17)*

* new category created by many respondents

6. Are requests routed in a certain specified two or more step pattern through your network (such as routed eventually through the largest research libraries) before being sent to the holding library as illustrated here? (hierarchical)

a. Yes (3)

c. Don't know (0)

b. No (41)

d. Partially hierarchical (7)*

* new category created by many respondents

7. Are requests routed directly in your network to the holding library after being verified locally as illustrated here? (decentralized)

a. Yes (19)

c. Don't know (0)

b. No (11)

d. Partially decentralized (21)*

* new category created by many respondents

8. If your network has in recent years changed its configuration, could you simply state from what configuration it changed and why.

In questions 9 and 10, contemplate your interlibrary loan experiences. Please give only **one answer** using this knowledge.

9. How long does it take your network to receive the quickest 1/2 of a batch of requested items from the time of patron initiating the request to delivery of the item and patron being notified (including faxes)?

a. Next day (1)	e. 15-30 days (0)
b. 3 or less days (12)	f. 31+ days (0)
c. 4-7 days (22)	g. Don't know (11)
d. 8-14 days (5)	

10. What do you **estimate** to be the total cost of the average completed ILL transaction in your network (combining borrowing and lending components)? Please include only direct costs such as those listed below. Please leave out all indirect costs such as general overhead.

communication	equipment
pickup and delivery	software
photocopying and faxing	personnel (staff costs)
supplies	other borrowing and lending charges
-
a. Less than \$10 (18)	d. \$26-\$29 (0)
b. \$11-\$19 (9)	e. \$30+ (2)
c. \$20-\$25 (4)	f. Don't know (18)

Do you feel your users are satisfied with your current interlibrary loan service? What seems to be working well in your network and why?

Do you wish a copy of the results of this questionnaire when it is completed? _____

For purposes of completely understanding your network's configuration and how the load of interlibrary loan is fairly distributed, could you please mail a copy of your network's ILL routing protocol procedures in the enclosed envelope along with the completed questionnaire.

Appendix B**Multitype Library Network Contact List**

List is alphabetized by state with state library headquarters always listed first.

* indicates network responded to questionnaire

Colorado Resource Sharing Network *

c/o Colorado State Library

201 E. Colfax

Denver, CO 80203-1799

Contact: Susan Fayad

Arkansas Valley Regional Library Service System

635 W. Corona, Ste. 113

Pueblo, CO 81004

Contact: Donna Jones Morris

Central Colorado Library System

4350 Wadsworth, #340

Wheat Ridge, CO 80033-0200

Contact: Gordon Berhydt

High Plains Regional Library Service System*

800 Eighth Ave., Suite 341

Greeley, CO 80631

Contact: Nancy Knepel

Southwest Regional Library Service System*

P.O. Drawer B

Durango, CO 81302

Contact: Jane Ulrich

Pathfinder Library System*

P.O. Box 670

Montrose, CO 81402

Contact: John Campbell

Plains & Peaks Regional Library System*

530 Communications Circle, Ste. 205

1761 S. Eighty St.

Colorado Springs, CO 80905

Contact: Mary Jeanne Owen

Three Rivers Regional Library Service System*

P.O. Box 1429

Glenwood Springs, CO 81602

Contact: Sandra Scott

Connecticut State Library
Department of Planning & Network Services
231 Capitol Ave.
Hartford, CN 06106
Contact: Patricia L. Owens

Capitol Regional Library Council*
599 Matianuch Ave.
Windsor, CN 06095-3567
Contact: Dency Sargeant

Eastern Connecticut Library Association
1084 Shennecossett Rd.
Groton, CN 06340-6097
Contact: Marietta Johnson

Southern Connecticut Library Council
2405 Whitney Ave.
Hamden, CN 06518
Contact: Susan Carlquist Muro

Western Connecticut Library Council*
P.O. Box 1284
Middlebury, CN 06762
Contact: Tom Lawrence

Bureau of Library & Network Services*

State Library of Florida

R.A. Gray Bldg.

Tallahassee, FL 32399-0250

Contact: Linda Fuchs

Central Florida Library Consortium

P.O. Box 521233

Longwood, FL 32752-1233

Contact: Marta Westall

Panhandle Library Accesss Network *

4 Harrison Ave., Ste. 5

Panama City, FL 32401

Contact: Selma Jackowski

Tampa Bay Library Consortium *

10002 Princess Palm Ave., Ste. 124

Tampa, FL 33619

Contact: Barbara Stites

Southeast Florida Library Information Network *

100 S. Andrews Ave.

Ft. Lauderdale, FL 33301

Contact: Elizabeth Curry

Northeast Florida Library Network*

Swisher Library, Jacksonville University

2800 University Blvd. N.

Jacksonville, FL 32211

Contact: Dave Whisenant

Illinois Library & Information Network *

c/o Illinois State Library

300 S. Second St.

Springfield, IL 62701-1796

Contact: Barbara Allen

Chicago Library System *

400 State St., 10th Floor

Chicago, IL 60605

Contact: Alice Calabrese

Illinois Valley Library System *

845 Brenkman Dr.

Pekin, IL 61554

Attn: Valerie Wilford

River Bend Library System *

P.O. Box 125

Coal Valley, IL 61240

Contact: Mary Root

Suburban Library System

125 Tower Dr.

Burr Ridge, IL 60521

Contact: James O'Brien

Shawnee Library System *

511 Greenbriar Rd.

Carterville, IL 62918-9502

Contact: James A. Ubel

Lincoln Trail Libraries System *

1704 W. Interstate Dr.

Champaign, IL 61821-1068

Contact: Jan Ison

Lewis & Clark Library System

425 Goshen Rd.

Edwardsville, IL 62025

Contact: Margaret M. Stefanak

Western Illinois Library System

1518 S. Henderson St.

Galesburg, IL 61401-5708

Contact: Sherwood Kirk

Dupage Library System *

127 S. First St.

P.O. Box 268

Geneva, IL 60134

Contact: Pamela P. Feathers

Corn Belt Library System *

P.O. Box 1744

Bloomington, IL 61702-1744

Contact: Georgina Olson

Great River Library System *

515 York St.

Quincy, IL 62301

Contact: Travis E. Tyer

Northern Illinois Library System

4034 E. State St.

Rockford, IL 61108-2094

Contact: Patricia Lund

North Suburban Library System *

200 W. Dundee

Wheeling, IL 60090

Contact: Sarah A. Long

Heritage Trail Library System *

405 Earl Rd.

Shorewood, IL 60436

Contact: Joseph McElroy

Rolling Prairie Library System *

345 W. Eldorado St.

Decatur, IL 62522

Contact: Robert Plotzke

Indiana State Library *

140 Senate Ave.

Indianapolis, IN 46204-2296

Contact: Martha Roblee

Area Library Services Authority, Region 2 *

209 Lincolnway E.

Mishawaka, IN 46544-2084

Contact: Shirleen R. Martens

Central Indiana Area Library Services Authority *

1100 W. 42nd St., Ste. 305

Indianapolis, IN 46208-3302

Contact: Tim Holt

Eastern Indiana Area Library Services Authority *

111 E. 12th St.

Anderson, IN 46016

Contact: Jan Gillespie

Four Rivers Area Library Services Authority *

Old Vanderburgh Co. Court House

201 NW Fourth St., Room #5

Evansville, IN 47708

Contact: Ida L. McDowell

Northwest Indiana Area Library Services Authority *

1919 W. 81st Ave.

Merrillville, IN 46410

Contact: Barbara Topp

Southeastern Indiana Area Library Services Authority

128 W. Spring St.

New Albany, IN 47150-3639

Contact: Sue Stultz

Stone Hills Library Network *

112 N Walnut St. #500

Bloomington, IN 47408

Contact: Sara Laughlin

Wabash Valley Library Network

P.O. Box 2270

Fort Wayne, IN 46801-2270

Contact: David McHenry

Kansas Library Network Board *

300 SW 10th Ave., Rm. #343

Topeka, KS 6661-1593

Contact: Michael Piper & Bruce Flanders

Southwest Kansas Library System

1001 Second Ave.

Dodge City, KS 67801-4484

Contact: Jane Hatch

South Central Kansas Library System *

901 N. Main St.

Hutchinson, KS 67501

Contact: Leroy Gattin

Southeast Kansas Library System *

218 Madison

Iola, KS 66749

Contact: Roger Carswell

Central Kansas Library System *

1409 Williams

Great Bend, KS 67530-4090

Contact: James Swan

North Central Kansas Libraries System

Juliette & Poyntz

Manhattan, KS 66502-5049

Contact: Fred Atchison

Northeast Kansas Library System *

1000 W. 75th St., Ste. #130

Shawnee Mission, KS 66204-2217

Contact: Glen Plaisted

Northwest Kansas Library System *

P.O. Box 446

Norton, KS 67654-0446

Contact: Ann C. Bailey

Kentucky Library Network

P.O. Box 537

Frankfort, KY 40602

Contact: Linda Sherrow

Office of Library Development & Services *

Minnesota State Library Agency

440 Capitol Square Bldg.

St. Paul, MN 55101

Contact: Roger Sween

Central Minnesota Libraries Exchange

c/o Learning Resources, Rm #61

Saint Cloud State University

Saint Cloud, MN 56301-4498

Contact: Patricia E. Peterson

METRONET *

226 Metro Square Bldg.

Seventh & Roberts Streets

Saint Paul, MN 55101

Contact: Mary Birmingham

North County Library Cooperative *

P.O. Box 845

Alexandria, MN 56308-0845

Contact: Joan B. Larson

Northern Lights Library Network *

P.O. Box 845

Alexandria, MN 56308-0845

Joan B. Larson

Southcentral Minnesota Inter-Library Exchange *

P.O. Box 3031

Mankato, MN 56001

Contact: Lucy Lowry

Southeast Library System

107 W. Frontage Rd., Hwy. 52N

Rochester, MN 55901

Contact: Roger Leachman

Southwest Area Minnesota M.I.E.

Southwest State University Library

Marshall, MN 56258

Contact: Mary Ann Hagemeyer

New Jersey Library Network *

Library Development Bureau

184 W. State St., CN-520

Trenton, NJ 08625-0520

Contact: Marilyn Veldof

Regional Library Cooperative, Region 1 *

P.O. Box 486

Chester, NJ 07930

Contact: Diane Macht Solomon

Regional Library Cooperative, Region 2

326 Lafayette Ave.

Hawthorne, NJ 07506

Contact: Executive Director

Regional Library Cooperative, Region 3

350 Scotland Rd., Ste. #201

Orange, NJ 07050

Contact: Gladys Odette

Regional Library Cooperative, Region 4

44 Shelton Rd., Ste. #330

Piscataway, NJ 08854

Contact: Gail Rosenberg

Regional Library Cooperative, Region 5 *

55 Schanck Rd., No. B-15

Freehold, NJ 07728-2942

Contact: Dottie Hiebing

North Dakota Network for Knowledge *

c/o North Dakota State Library

604 E. Blvd. Ave.

Bismarck, ND 58505-0800

Contact: William Strader

New Dimensions Network *

Willeston Community Library

1302 Davidson Dr.

Willeston, ND 58801

Contact: Cynthia Schaf

Rhode Island Library Network *

300 Richmond St.

Providence, RI 02903-4222

Contact: Sheila Carlson

South Carolina State Library

South Carolina Library Network

P.O. Box 11469

Columbia, SC 29211-1469

Contact: Liea Walsh

South Dakota State Library *

800 Governors Dr.

Pierre, SD 57501-2294

Contact: Jane Kolbe

Vermont Resources Sharing Network

c/o Vermont Department of Libraries

109 State Street

Montpelier, VT 05609-0601

Contact: Sybil McShane

Wyoming Library Network *

c/o Wyoming State Library

Supreme Court & State Library Bldg.

Cheyenne, WY 82002

Contact: Jerry Krois