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ABSTRACT

The Ohio State Library developed a TWX Interlibrary Loan (TWXIL) pilot project in 1971 in order to: (1) produce information that would be helpful in the design and operation of a reference and information network, and (2) produce improvements in library services and sharing of existing resources through the strengthening and limited extension of two existing interlibrary networks, and (3) improve interlibrary loan service through the state library. The state library and three large public libraries were connected by teletypewriters, and the state library had a computer terminal to interface with Ohio State University and the Ohio College Library Center. One of the three public libraries, Cleveland, was a communication link with seven other public and two academic libraries, four of which had a union catalog of adult nonfiction. Results of the pilot project were encouraging. Ninety percent of library requests were filled within eight working days, and 11,518 transactions took place in the year July 1972 through June 1973. Some possibilities for future improvements included better report forms, wider instruction of librarians in the knowledge and use of the TWXIL system, increased communication between the cooperating organizations, cost sharing, inclusion of subject requests, and system expansion. (LS)

INTRODUCTION

In 1968, the Blasingame Survey was published by the State Library of Ohio.¹ Among its recommendations were several relating to the improvement of communications between all public libraries, state agencies and the State Library, as well as to the improvement of state-wide reference service. As revised and sharpened in the Ohio Library Development Plan (OLDP, rev. 1976), these recommendations were subsumed as part of the implementation of a major Plan goal: developing adequate network and book-sharing facilities. As expressed in the OLDP, its purpose was to help libraries to "adequately meet the mounting demands caused by Ohio's cultural, industrial and economic growth." Network development was seen as requiring "a reorganization of library resources in such a way that while preserving the independence of each library, the goal of equal access to enriched library resources can be achieved."

In support of this goal, the State Library began at the end of 1971 a federally-funded project to operate an interlibrary loan teletype network in selected Ohio libraries. Its objectives were to produce information that would be helpful in the design and operation of a reference and information network, and to produce improvements in library services and sharing of existing resources through the strengthening and limited expansion of two existing interlibrary networks, and the improvement of interlibrary loan service through the State Library.

With a library system which is almost entirely unstaffed, the State Library is unable to provide the services which are needed to achieve these objectives.

The TWIL Interlibrary Loan (TWIL) Network began operation in January 1972. Teletypewriters were installed at the Cleveland Public Library, the Public Library of Cincinnati and Hamilton County, the State Library, and the State Library Development Center. Computer terminals were installed at the State Library to interface with the Ohio State University Library's circulation system and with the Ohio College Library Center (OCLC). The Cleveland Public Library served as a communication link to the seven other public and two academic libraries in the Cleveland Area Interlibrary Network (CAIN). The holdings of four of these CAIN libraries (Cleveland Public Library, Cuyahoga County Public Library, East Cleveland Public Library, and Lakewood Public Library) are listed in the State Library Union Catalog. The Union Catalog served as a switching center and referred inquiries from requests to the appropriate resource library. Since the Union Catalog is an author listing of adult non-fiction, only requests for adult non-fiction were accepted into the TWIL network for referral to the resource libraries. Requests from any library in the state could be referred to Cincinnati or to any of the four listed CAIN libraries.

Two elements of the TWIL network expedited handling of requests. One was the arrangement by which the union catalog staff referred a request to one of the network resource libraries, which in turn sent the requested item directly to the borrowing library. The other element was rapid communication between network outlets which was made possible by teletypewriter and radio-voice terminals. Extension of teletype communication and inclusion of other major public libraries in TWIL will further improve this service.

The Interlibrary Loan service of the State Library is an important part of network service. The State Library in 1973 loaned 32,214 items

to libraries of all types. Regional network resource libraries which could not fill requests called on the state library. If the State Library could not supply the materials needed, the request was referred into the IMLS network. Through an arrangement with the Ohio State University Libraries, the State Library also made available to other libraries photocopies of periodicals not in the State Library's own collection.

During the experimental period, the Ohio Valley Area Libraries (OVAL), which in 1972 became the first Area Library Service Organization (ALSO), was included in the network on a trial basis. Requests from OVAL accounting for about one-fourth of the total number of requests referred into the network, could be referred to Cincinnati, the Miami GAIN Libraries, ~~if~~ if there were no listings in the Union Catalog, to the GAIN network (on the theory that one of the national libraries might own the item), to the Ohio State University Libraries, and to CLIC, as indicated above.

If a requested item was not available at the first location queried, other nearby libraries were contacted. A single request might be referred to as many as four locations.

RESULTS

Efficiency in service, which was considerable, is illustrated in the following sections on "General Remarks" and "Network Usage and Referral Patterns." In summary, it will be emphasized that the time needed to fill a library's request was often reduced by three or more days. Almost 90% of requests were filled within 8 working days. And, as shown in Table II, fewer than all of the requests took as much as two weeks to fill. One of the longer-range implications of IMLS appear in the "Conclusion and Comment" which conclude this report.

INTERLIBRARY LENDING

A copy of the form shown in Figure 1 was attached to each request referred from the Union Catalog. This form was used to record the status of a request from the time it entered the network until its final status was recorded by the requesting library. Figure 2 shows a form as it might be filled in to indicate that: the request was received at the State Library on March 6, 1973; the Union Catalog shows that Cincinnati, Cuyahoga County, and East Cleveland Public Libraries own the item; the request was referred on March 7 to Cincinnati which reported the item in use on March 8; the request was referred on March 9 to Cuyahoga County which reported on March 12 that it had sent the requested item; on March 12 the Union Catalog returned the Interlibrary Loan form to the requesting library indicating that Cuyahoga County had sent the requested book.

Figure 3 shows the UWLH Monthly Report Form which was used by the Union Catalog to record the number of network transactions. A total of the columns under "NETWORK" and "RE-REFERENCE" will yield the total number of requests referred into the network. The column under "RE-REFERENCES" represent transactions involving requests which were not available at the first (or second, or third) location tried. Figure 4 shows the form used to record the results of the use of the CSU terminal.

NETWORK USAGE AND REFERRAL PATTERN

A tabulation of figures from the Monthly Report Form for the period from July 1, 1972 to June 30, 1973 shows the following activity:

TABLE I

Book Staff Requests and Transactions

July 1, 1972 to June 30, 1973

Requests referred into the network	4,756
Re-referrals into the network	2,016
Total referrals into the network	6,772
Requests not referred into the network	4,746
Total number of requests	9,502
Total number of transactions	11,518

Table II indicates to what resource libraries these requests were referred.

TABLE II

Referred Portion of Requests

Number of initial referrals to

Cincinnati	1879
Cleveland	1975
CAIL	663
OSU	234
Total	4756

Requests not referred into the network

Listed in the Union Catalog	1614
Not listed in the Union Catalog	3072
Total	4746

(cont'd)

TABLE 11 (cont'd)

Trans. data referred to

Eliminated	269
Canceled	403
CATN	62
OTL	758
OCIC	584
Total	2016

Using the format outlined in appendix 1 to all requests, Robert Hatch and Arnold Holman, members of the Operations Research department at Los Alamos National Laboratory, analyzed completed requests processed between July 1, 1971 and June 30, 1972 to determine: (1) the degree of success in filling requests, (2) the reasons given for unfilled requests, and (3) the number of days required to process filled requests.*

Table 11 shows the degree of success of each of the resource libraries in filling requests referred to them. OLL and OCIC are not included because of inadequate data.

During processing, it was found that some items of information were missing from most of the forms. For this reason, missing data given in one table were not included in other data in other tables.

TABLE III

Degree of success in filling requests

RESOURCE LIBRARY	Number of referrals	Number filled	Percentage filled
GAIN	1018	328	53.1%
Cincinnati	2033	1039	50.8%
Cleveland	2065	963	46.6%
Cuyahoga County	406	257	63.3%
East Cleveland	132	67	50.7%
Inland	157	89	56.6%

In this Table, the number of referrals does not equal the number of requests. Some of the requests were referred to more than one library. This means that the number of referrals is considerably higher than the number of requests. Thus the Table shows the degree of success of each of the resource libraries in filling requests referred to them, but it does not show the actual degree of success, or fill rate, for the network. A total of 4522 requests were referred to these libraries and 2771 of them were filled. This produces a fill rate of 61.3%.

The actual fill rate for the network was somewhat higher than indicated because of the requests that GAI was able to fill. However, the exact number is not available because of incomplete information on the TWXII form (Fig. 1) regarding requests referred to O.S.U. Figures taken from the form shown in Figure 4 for a different period of time indicate that of the 364 requests referred to O.S.U. between June and October 1973/74, or 70.3%, were available.

TABLE IV

Reasons for unfilled requests

REASON	CINCINNATI	CLEVELAND	TOTAL	PERCENTAGE
In use	669	279	928	57.1%
Non-circulating	217	304	621	38.2%
Not owned	20	40	60	3.7%
Other	0	16	16	1.0%
Total	886	639	1625	100.0%

Table IV shows that by far the most frequently given reason for unfilled requests is that the requested item was in use at the resource library. Slightly more than a third of the unfilled requests were for non-circulating materials. In a relatively small number of instances, the Union Catalog and the Resource Library did not agree. That is, the Union Catalog showed that the Resource Library owned the item, but the library reported that it did not. Other reasons reported were "In Use", "In Demand", and "Missing." This experience is generally in line with usual 111 percentages of satisfaction of their requests.

The speed with which requests were filled is shown in table V. This table shows that the highest number of requests were filled on the ninth, seventh, and eighth days, and that after eight days, nearly 90% of the requests that would eventually be filled has been filled. This is especially interesting in view of the fact that several organizations might be involved in the transaction, and considering also that one or two non-working days were probably part of the total shown. The longest period needed to fill a request was 15 days. This was, of course, an unusual case. Fewer than 2% of the requests took two weeks or more to fill.

TABLE V

STATUS OF THE FILLING PERIODS

Day	Number filled on nth day	Number filled by nth day	Percentage filled by nth day
1	1	1	1.00%
2	26	27	1.06%
3	373	400	14.177
4	367	767	27.117
5	282	1049	37.161
6	430	1479	52.017
7	415	2107	74.527
8	456	2563	89.242
9	114	2677	93.875
10-13	131	2773	98.257
14-17	25	2798	99.587
18-21	17	2815	99.787
22-	5	2819	100.00%

ADMINISTRATIVE FINDINGS

The summary and review of activity in TWN-1 which forms the body of this report, together with a review of operations and of the operation book during the organizational period and during the operational period, and the results for the entire program, such statements, when taken before the fact, in fact, are subject to immediate and prompt review by a selected group of personnel, the program director and another person or persons, and, in order to avoid the cost of the review, the work.

1. The elements indicated in the preceding paper, highlighting the revealed section, independent of the various project forms. This is usually the case, particularly with a new approach, due to the reason that TWIL was developed as a pilot project, and the difficulties in developing and maintaining the system with such a small team. Additional modifications are less important in a project like this than participant satisfaction which was, as indicated before, a major goal.

2. The other kind, redesign of the processing and tracking system would be a more important revision, since making statistical summary and/or analysis is essential, and would, making possible the development of a more efficient system, and thus requiring additional equipment. This is a very important area.

3. A second kind, redesign of the system, in its own way, the need for better analysis, evaluation, and TWIL has been a long process, in fact, but it is not simple.

4. The third kind, redesign of the system, in its own way, the need for better analysis, evaluation, and TWIL has been a long process, in fact, but it is not simple.

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7. The sixth kind, redesign of the system, in its own way, the need for better analysis, evaluation, and TWIL has been a long process, in fact, but it is not simple.

8. The seventh kind, redesign of the system, in its own way, the need for better analysis, evaluation, and TWIL has been a long process, in fact, but it is not simple.

9. The eighth kind, redesign of the system, in its own way, the need for better analysis, evaluation, and TWIL has been a long process, in fact, but it is not simple.

10. The ninth kind, redesign of the system, in its own way, the need for better analysis, evaluation, and TWIL has been a long process, in fact, but it is not simple.

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unfamiliarity with content of request, proceeding.

4. Financing of a series of projects which I shall just glance at here: the high cost of ill was often mentioned. But on the other hand, librarians as part of the larger education enterprise felt that financing "some" could be found locally or more support TWIL or more successive schemes and ill. By such efforts they meant a contribution towards TWIL and providing them with a versatile and useful for other purposes as well. Financing was not mentioned as a problem in the theoretical work.

Incidentally, the source of funding was a partial or complete mystery to several respondents, including one who at a very large source library. And indeed, the person had been on the job only a short time. This situation cannot be put back in the case of system malfunction, there is no one to direct or inhibit local

work. The ill was a very serious adult child and had, according to a number of ill, been as indicated in the main report, in the context of the entire library. But, as one respondent in an ill, library pointed out, a serious specification of appropriate titles had also been a problem for ill reports and ill work. Concerning in relation to ill work, the ill had a wide range of ill work and ill work. Ill work was

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Participants might be asked in special cases to evaluate whether
 criteria were a plus or a minus factor.

- a. Explore inclination to over-sharing
- b. Reconsider the possibility of subject requests
- c. Arrange with agents for every multi-country comparative.

Finally, I would conclude with a group of ideas for systematic reflection,
 both the consensus of the librarians and staff interviewed and my own
 opinion. That the complexities of organization and operation of this pro-
 ject have been an most ably, conscientiously and expertly met by Mr.
 Ineson, who should be congratulated on his vision, perseverance, and
 persistence.

Bibliography

(None of the following references are intended to fill out the Ohio
 network development; this is not intended in any sense to be
 a full bibliography of experience in network system design.)

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FIGURE 2

TRIAL INDICES

	INDEX	REFERENCE	STATUS	DATE
ML				
CAIC				
CIRC	✓	3/7/73	In Use	3/8/73
CLPV				
CF	✓	3/9/73	SENT	3/12/73
CHC	✓			
THL				
COL				
COLC				
OTHER				
Total number of trials				3/6/73
Total number of trials in use				3/12/73

