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ABSTRACT

The purpose of this study is to look at how the academic library systems office (i.e., an entity or group of entities within a library whose purpose is to oversee the hardware and software systems functions within its electronic automated processes and services for the use of the staff and public) in Ohio has evolved to become a library-wide service and to explore the past and present roles and responsibilities of the systems office and its staff in relation to library automation's technological evolution and expansion. The study concentrated on the following three issues: the historical background of the systems office; the professional qualifications of staff; and the job responsibilities of the systems officer and staff. Through an analysis of automation literature and the use of a questionnaire survey, data were obtained and tabulated using the 17 academic libraries involved with OhioLINK as a sample population. The study found that the academic library systems office and staff evolved and expanded simultaneously with library automation technology. The library automation questionnaire is included in the appendix. (Contains 64 references.) (JLB)

THE ORIGINS AND DEVELOPMENT OF THE ACADEMIC LIBRARY SYSTEMS OFFICE IN OHIO, 1960-1990

A Master's Research Paper submitted to the
Kent State University School of Library Science
in partial fulfillment of the requirements
for the degree Master of Library Science

by

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December, 1990

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INTRODUCTION

Without experience and knowledge of the past, an entity lacks the basic framework with which to create and build a strong and lasting structure. To know the history of an entity is to know a part of its current state of being. The value of such history is twofold. One, it allows the entity, in its present state, to know what had previously been so as to learn and utilize its past experiences. And two, the entity has the ability to recognize possibilities for the future. Based on its past experiences, its history, the entity would be able to create and build upon new ideas and innovations that would strengthen its structure.

The value of experiencing and knowing the history of some thing can be compared to the value of studying, experiencing, and knowing the history of the various aspects of library and information science. This value is expressed by Dr. Jesse H. Shera. He states:

> It would seem to be a truism that the history of the library is related to the history of book production itself and that the two should be investigated in relation to each other. Yet we do not know what state of complexity a literature must achieve before society demands libraries of varying degrees of structural intricacy or subject specialization....an intensive analysis, not only for the special library, the large research library and other bibliographic services that have been stimulated by our increasingly complex system of....communication, would contribute...to our understanding of the place of the library in our society.[1]

[1]Dr.Jesse H. Shera, Knowing Books and Men; Knowing Computers, Too (Littleton, Colo.: Libraries Unlimited, 1973), 188.

With these thoughts in mind, the interest here lies in the historical impact technology has contributed to the library. Specifically, library automation technology's impact in relation to the creation and appearance of the academic library systems office.

A. Problem Statement

The need to change was recognized within the library as automated technologies, which directly affected libraries and their functions, became more sophisticated.[2] The need to automate library processes created organizational and professional position changes within the library.[3] With these technological changes, there was a subtle restructuring of the academic library's mission, policies, organization, and job descriptions.[4,5]

These changes took place within the academic libraries due to initial needs. These needs included making functions more efficient and cost effective, easing space problems, and increasing demands for better research tools and access to them.[6,7] The fulfillment of these needs through data

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[2]Kenneth E. Dowlin, The Electronic Library: The Promise and the Process, Information Management and Technology Series (New York: Neal-Shuman Publishers, 1984), 39-42.

[3]Ibid, 42-44.

[4]Richard de Gennaro, Libraries, Technology, and the Information Marketplace: Selected Papers (Boston, Mass.: G.K.Hall, 1987), 140-145.

[5]B.J. Busch, Automation and Reorganization of Technical and Public Services, SPEC Kit 112, (Washington, DC: Association of Research Libraries Office of Management Studies, 1985), v-vi.

[6]Peter T. Rohrbach. FIND: Automation at the Library of Congress, the First Twenty-five Years and Beyond (Washington,DC: US Government Printing Office, 1985), 8.

[7]Joseph Becker and Josephine S. Pulsifer, "Bridging the Gap: Librarians

processing of library functions would benefit the user, the library and its workers.[8]

The systems office and its staff seems to have evolved from this reassignment of time and energy in order to fulfill, support and manage automated services within the library.[9,10] How did this technological evolution and expansion of library automation technologies affect the internal structure and services of the academic library?

A brief fundamental review of the history of library automation from 1960 through 1990, with a look forward to the year 2000 and beyond, will serve to give this study background information to be used as a point of departure to assist in addressing this issue. Its main focus is based on the specifics which were involved with the origins and development of the academic library systems office. The historical synopsis is presented in conjunction with the literature review.

An examination into the systems office's organizational background, such as past and present titles of its staff positions, roles and responsibilities, and professional

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and Automation," in Application of Computer Technology to Library Processes: A Syllabus, (Metuchen, NJ: Scarecrow Press, 1973), 5.

[8]Frederick G. Kilgour, "History of Library Computerization," Journal of Library Automation 3 (September 1970), 218-19.

[9]William A.J. Marsterson, Information Technology and the Role of the Librarian, (Dover, NH: Croom Helm, 1986), 54-59.

[10]Sheila D. Creth, Beyond Technical Issues: The Impact of Automation on Library Organizations, in Questions and Answers: Strategies for Using the Electronic Reference Collection, ed. Linda C. Smith, (Urbana-Champaign, Ill.: Board of Trustees of the University of Illinois, 1987), 4-13.

qualifications, combined with the historical synopsis of library automation assisted in answering the following questions: How did the academic library systems office evolve to become a library-wide service? And, what are the past and present roles and responsibilities of the systems office and its staff in relation to library automation's technological evolution and expansion?

B. Need for the Study

Since this issue has not been directly or explicitly addressed in the literature within the field of library and information science, an historic understanding of the official functions and organizational structure of the academic library systems office needs to be developed. Therefore, a study specifically focussed on the origins and development of the academic library systems office based on the seventeen Ohio colleges and universities involved in the OhioLINK project would enhance and stimulate the understanding of what role automation technology has played in the library.

Through an examination of how automation technology has influenced the organizational structure and the library professional's job description and responsibilities within the academic library, it is hoped this study will be of use for future library automation processes such as needs analysis, Requests For Information and Requests For Proposal, selection, installation, implementation, and maintenance. This study could also open up inquiries as to new positions

in librarianship such as microcomputer, network, and online specialists. It may also reflect upon future technological trends and their placement and responsibilities within the library's organizational structure. For instance, where were these technologies placed and who was responsible for them? (e.g. microcomputers, CD-ROMs, video discs, etc.). This study will also add to the scholarly data already present in the field of library and information science so that it may be used for future educational purposes.

C. Limitations

Within the inter-disciplinary field of information science, this study will not address the following areas *specifically*. Although they are intertwined within the field of library and information science, they are not at issue here due to the inter-disciplinary nature of the field at large. Information science, according to Harold Borko,:

> ...is that discipline that investigates the properties and behavior of information, the forces governing the flow of information, and the means of processing information for optimum accessibility and usability. It is concerned with that body of knowledge relating to the origination, collection, organization, storage, retrieval, interpretation, transmission, transformation, and utilization of information. This includes the investigation of information representations in both natural and artificial systems, the use of codes for efficient message transmission, and the study of information processing devices and techniques such as computers and their programming systems. It is an inter-disciplinary science.[11]

This definition includes much of what the

[11]Harold Borko, "Information Science: What Is It?," American Documentation 19 (January 1968), 3.

responsibilities of an academic library systems office may be responsible for, such as "....the organization, storage, retrieval, and interpretation...[etc.]...of information...."[12] However, information science, for the purposes of this study, is to be addressed in conjunction with the field of library science.[13] Data processing, office automation, management of information systems, computer and punched card science, engineering, artificial intelligence, R & D documentation, abstracting and indexing, communication science, micro & macro publishing, video/optical science, computer graphics, database management, image processing, and information retrieval, and any other computer-related field are not specifically included in this study.[14] These areas will be traced and reported in a superficial manner to assist in historically tracing library automation within the context of its appearance in the academic library systems office.

This study's scope is limited to the seventeen institutions involved in the OhioLINK project. This group of seventeen academic libraries is appropriate because each institution has achieved different levels of automation which range from fully automated integrated systems to locally produced systems to no system at all. This will offer the study a variety of environmental responses and professional

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[12]Ibid.

[13]John N. Olsgaard, "A Brief Overview of Information Science," chap. in Principles and Applications of Information Science for Library Professionals, ed. John N. Olsgaard, (Chicago: American Library Association, 1989), 3-9.

[14]Saul Herner, "Brief History of Information Science," Journal of the American Society for Information Science 35 (May 1984): 157.

qualifications. The years to be examined range from approximately 1960 through 1990 with a look forward to the year 2000 and beyond. This range is fairly comprehensive because it incorporates almost all aspects of library automation. All libraries to be examined, listed below, are designated as the main principal library:

1) Bowling Green State University, William T Jerome Libraries and Learning Resources Center;
2) Case Western Reserve University, University Libraries;
3) Central State University, Hallie Q. Brown Memorial Library;
4) Cleveland State University, University Libraries;
5) Kent State University--Main, University Libraries;
6) Miami University--Oxford, Edward W. King Library;
7) Medical College of Ohio at Toledo, Raymond H. Mulford Library;
8) North Eastern Ohio Universities College of Medicine, Ocasek Regional Medical Information Center;
9) Ohio State University--Main, William Oxley Thompson Memorial Library;
10) Ohio University--Main, Vernon Alden Library;
11) Shawnee State University, University Library;
12) University of Akron--Main, Bierce Library;
13) University of Cincinnati--Main, University Libraries;
14) University of Dayton, Roesch Library;
15) University of Toledo, William S. Carlson Library;
16) Wright State University--Main, Library; and,
17) Youngstown State University, William F. Maag Library.[15,16,17,18]

D. Objective

The objective of this study is twofold. First, with the examination into the history of the academic library systems

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[15]The College Blue Book, 22d ed, (New York: MacMillan Publishing, 1989), 335-55.

[16]Directory of Ohio Libraries (Columbus, Ohio: State Library of Ohio, 1990), 47-55.

[17]HEP: 1990 Higher Education Directory, (Falls Church, Vir..: Higher Education Publications, 1990), 260-75.

[18]American Library Directory, 1989-90, New York - Index, Vol. 2, (New York: RR Bowker, 1990), 1373-1447.

office as an organizational entity with all the inherent responsibilities and personnel, an appreciation for its social and technological complexities will be communicated.[19] And second, through the investigation of its sources and influences, a better understanding is had of how and why it functions as it does in the present.[20] This can give the library itself background information in relation to future social and technological undertakings.

Another objective of this study has been to empirically trace the origin and development of the academic library systems office so that the positive relationship that is believed to exist, between the evolution of library automation technology and the appearance and creation of the office, offers historical evidence to support such a premise.

The study is not typical of *all* systems offices, but is a point of departure to further interest in the field of library and information science.

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[19]Ronald R. Powell, Basic Research Methods for Librarians (Norwood, NJ: Ablex Publishing, 1985), 137.

[20]Ibid.

TWO

BACKGROUND

A. Literature Search

To prepare for the proposal a literature search, from January 1970 through July 1990, was conducted for each of the listed sources. The sources include print and non-print materials: Print--*Dissertation Abstracts International, Index to Kent State University School of Library Science Master's Research Papers, Library and Information Science Abstracts, Library Literature, Masters Abstracts International, Social Science Citation Index;* CD-ROMs--*ERIC* and *Library Literature;* Online services--*ERIC, Information Science Abstracts, Library and Information Science Abstracts, National Technical Information Service,* and *Social Science Citation Index.* The retrieved results cited few examples similar to the study's topic. But of those examined, none identically related to this study's scope or population. These examples are expanded upon in the Subsection C. "Literature Review".

B. Historical Review of Automation Literature

The issues that affected the advancement of automation are many. Therefore to limit such an expansive topic, this subsection will deal with those issues directly related to the advancement of automation within the field of library science. Only those texts examined and cited within the bibliography are pertinent here. The range of years to be examined include 1960 through 1990 with a look forward to the

year 2000 and beyond. This forty-odd year span has been broken into decades to make them manageable.

1. 1960-1970:

During the 1960s, after a mechanized method of indexing and retrieving documents was created, many changes took place in the way computers processed information. The computer became faster and better able to store large amounts of data in an organized manner. With this increase in computer storage and speed, the library could solve some of its data processing and storage problems. When this method of computerized information retrieval was combined with the Library of Congress' MAchine Readable Cataloging project,or MARC, in 1966, library systems advanced from a localized, offline batching era of automation into an era of online, library computer networking through the OCLC.

2. 1970-1980:

With the standardization of computer catalog records, and the resource sharing capabilities of OCLC, the seventies became a testing ground for centralized library automation systems with the possibility of creating a national online library network. The effort to create a national online networking system could not be met during the seventies due to the technological complexity of the project and the costs involved. The technology was available, but the levels of sophistication of automated technology *between* libraries could not be reconciled easily.

3. 1980-1990

At this point academic libraries began to establish offices directly related to overseeing library automation planning, selection, and implementation. Automation was becoming easier to work with for the professional and the user. The theoretical testing ground of the 1970s was being put to the practical test. The computerization of service functions and tools led to easier accessibility and more accuracy in regards to functions such as subject headings, interlibrary loans, and online database searching. These were in existence before, but now they were faster, easier to obtain onsite and more standardized. In computer terms, library automation functions became more user friendly. Data was being obtained almost instantaneously in comparison to the systems of the 1960s and 1970s. Automation technology was being used more effectively to support library functions. Due to these factors, libraries became more decentralized.

4. 1990-2000:

Within the decade to come, the trend seems to be that libraries are turning to each other to create a more consolidated front technologically. Many issues have lent themselves to changes which will meet current needs. Automation technology is becoming more specialized in the sense of greater needs for accessing data, the "right" data, and receiving it within the prescribed amount of time. Resource sharing has become a serious topic again due to

continued lack of funding and space for materials. Also, reference services have become more sophisticated because society is demanding highly specialized information in all forms on a global basis. Because of these two factors, interlibrary loan will be affected. ILL will need to become more cross-accessible through its accessing services on a local, national, and global level, so that society might be gratified as quickly as possible with whatever form of information it may need. The library of the 1990s will need to combine their independent, decentralized databases with a centralized inter-dependent database. With project OhioLINK, a proposed network of seventeen of Ohio's academic libraries sharing a common centralized database of combined resources, these deficits may be satisfied.

5. 2000 and Beyond

In the year two-thousand and one, the twenty-first century will begin. And as always, through the proof of past history, library issues will not fade. Needs change, and with these changing needs, libraries and the ways in which they are automated will change too. Because of the 1990s need for more space and easier accessibility to resources, resourse sharing has become an important issue. Other issues that may become important in the library of the 21st century are the need to reexamine the criteria of standardized library functions, collection management in relation to preservation, conservation of resources, increasing demands

of business and industry research needs, cost and budget considerations, and information retrieval needs These issues are current today and yet to be seen, but as history witnesses change, so it witnesses the library's ability to meet those changes.

Overall, library automation has become more sophisticated as, technologically speaking, computers become faster and smarter, and as society tends to become more sophisticated in inquiring about data to fulfill its specialized needs.

C. Literature Review

The following articles reviewed here are the closest found to the topic of the origins and development of the academic library systems office based on the literature search. There are other texts cited in the bibliography that consist of overviews of library automation and information technology, histories of information science, and future trends in automation technology. None of the texts examined have a specific report on, or analysis of, this study's topic. Due to this lack of literature, it is certain, based on this study's topic, scope, population, and limitations, that this specific study has not been done before.

Lucy A.Tedd, in "Computer-Based Library Systems: A Review of the Last Twenty-One Years," traces the history of library automation from its advent and brings the library

process up to date through March 1987; however, it is just as it says it is-- a review. It is an in-depth view of the process of automation, but it lacks the systems office and officer's angle. It is not applicable as a substitute.

In 1987, Richard De Gennaro compiled selected papers centering around the library and technology. One such paper he chose was "Library Automation: Changing Patterns and New Directions". Reprinted from *Library Journal*, January 1, 1976, it identifies and discusses various approaches to automation and the strategies used for pursuing them. After covering aspects of automation in the 1960s, De Gennaro goes on to discuss "the evolutionary approach to a total system", how to build the automation capability, and who might staff automated library systems. The author also discusses equipment, the organizational restructuring of the academic library to include a permanent systems office, networks, costs, minicomputers, vendor and local systems formats, and future technologies. This is a very thorough approach to the complicated facets of library automation, but the author does not specify the systems office in particular. Nor does the author explain the role and responsibilities of any one particular person to oversee the library automation process. It is not specific enough to challenge the topic of this study.

Another example is SPEC KIT #126, Automated Library Systems in ARL Libraries. It covers the planning, implementation, and operational aspects of automation in

twelve ARL libraries. It offers examples of each of these stages, but does not give any conclusionary statement or examination as is usually the case for SPEC KITs. They only offer a point of departure for further research. It is within this study, as a further point of departure, that the origins and developments of the academic library systems office will be analyzed and reported.

D. Definition of Terms

The definitions that were chosen below reflect the terms pertinent to the study's problem statement and objectives. Any other terms used in this study are defined and analyzed at the time of their use.

1) *Academic library* is a library whose purpose is towards the promotion of higher education and scholarly research and/or pursuits.

It was important to specify what type of library has been addressed within this study. This specification became especially significant when a comparison was attempted between the creation of systems office and staff and the maturation of library automation technology. The population to be explored called for a certain lev.l of sophistication in its library operations. Therefore, academic libraries were chosen to fulfill that level of sophistication through its promotion of higher education, scholarly research and pursuits.

2) *Integrated library system* is a computer-based library database management system which combines one or more

library functions to create an online database system that can be accessed through common commands and processes.

It was necessary to make this distinction based on Subsection E: "Assumptions" which follows. It was important to define what constituted an integrated library system because there are differing concepts of this definition, especially in relation to what an integrated system may have represented in the 1960s compared to what they may represent in the year 2000 and beyond. For example, an integrated system in 1970 is not the same conceptually as an integrated system in 1990.

3) *OhioLINK* is a project sponsored, in part, by the state of Ohio to create one statewide library and information system made up of the seventeen institutions previously listed so that their pooled resources will be made more accessible, and operationally, easier to obtain for citizens, patrons, and staff alike.

Since the seventeen member libraries of OhioLINK were used as the formative base for the population statement, it seemed important to describe what the project represented for the library community at large. In turn, this description may add to the future representation of library automation technology. It also offered a variety of levels of sophistication each library has currently reached in library automation technology.

4) *Systems office* is an entity or group of entities within a library whose purpose is to oversee the hardware and software systems functions, such as online catalog, circulation, CD-ROMs, interlibrary loan, etc., within its electronic automated processes and services for the use of the staff and public.

Of special importance is the definition of the systems office. It was needed to assist in accurately gathering data and expressing the concepts involved in the analysis of this study. Also, it needed to include specifications of responsibilities so that a frame of reference could be established to create the boundaries to be explored for the study's results, summary and conclusions.

E. Assumptions

The pre-existing conditions were assumed to be in place at the time of this study. These assumptions are important because they allowed for the setting of boundaries and function as controls within which to analyze this study.

1) The academic library has had a need to automate its library services.

This is important because as stated before, a need to automate assumed that an office and staff would be necessary to maintain library automation technologies within an academic library.

2) To some degree, each library has begun to automate its services (e.g. OCLC, acquisitions, cataloging, online catalog, serials, and administrative functions, etc.).

It was assumed that normally once the need for automation had taken place an opening for library systems office and staff and the library organization was soon made apparent. This assumption stabilized assumption number one through the fulfillment of the need to automate.

THREE

METHODOLOGY

A. Population and Sample

Because this study's objective was to discover the relationship, if any, between the appearance of the academic library systems office and library automation technology, a seemingly large and unmanageable subject, it was necessary to limit the population. A selective group of academic libraries in Ohio was chosen.

The original choice, as a sample of Ohio's academic population, were those colleges and universities with a student enrollment of 10,000 or more who were fully or partially state-funded. This method produced only twelve institutions.[21,22,23,24] The sample was changed due to narrow criteria chosen before such as funding and the lack of a technological standard.

The population and sample finally chosen were the seventeen member libraries involved in the OhioLINK project. In fact, the population is described as a purposive sample, i.e. "a sample which contains specific elements with certain characteristics."[25] The member libraries are all in Ohio, all academic in nature; they number a manageable seventeen and

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[21] The College Blue Book, 335-55.

[22] Directory of Ohio Libraries, 47-55.

[23] HEP:1990 Higher Education Directory, 260-75.

[24] American Library Directory, 1989-90, New York - Index, 1373-1447.

[25] David Dooley, Social Research Methods (Engelwood Cliffs, NJ: Prentice-Hall, 1984), S.v. "Purposive sampling," 248.

have all used library automation to varying degrees of technological sophistication, and they all are involved in a state library networking project.

B. Sources of Data

Among the types of data collected for the historical purpose of this study were preliminary, primary, and secondary sources. They are explicitly enumerated within this paper within SECTION TWO: "Background", Subsection A: "Literature Search".

Preliminary sources were used for the location of articles, studies and information basic to the study's premise such as histories of computing, information science, and library automation. These sources included abstracts, bibliographies, encyclopedias, and indexes.

Primary sources, which encompassed original documentation such as printed and handwritten materials including a survey, phone discussions, government documents, job descriptions, and personal observations, concentrated on the specific topic of academic library systems and its structure within the library.

Secondary sources are represented as second-,or third-, person reporting on the specifics of library automation, libraries and the impact of technology on them, and the future prospects and trends of library automation in an academic setting. These sources included monographs, proceedings, library-specific journal articles, etc.

C. Data Collection Techniques and Instruments

Preliminary, primary and secondary sources of data were collected through the analysis of published evidence, observations, and conversations. A questionnaire survey served as an instrument for the collection of primary sources of data (see appendix 3). The questionnaire survey consisted of current and historically based questions. The questions attempted to cover the three basic issues related to the problem statement:

1) The historical background of the systems office, when it began and how automated library services technology evolved in relation to the internal organization of the academic library.

2) The professional background of the systems officer, i.e. MLS or not, computer science background, etc.

3) The systems officer and staff's job responsibilities including the support and maintenance of microcomputer, CD-ROMs, systems training of staff and patrons, etc.

These questions were of direct importance to this study due to its historical nature, because they represented, based on the OhioLINK population, seventeen primary sources. These sources were asked to share their educational background, experience and knowledge of automated library systems within an academic library so that a comparison of other relevant sources might lead to the discovery of a positive relationship between the creation and appearance of the academic library systems office and the maturation of library automation technologies.

D. Data Analysis Techniques

Due to the historical, exploratory, and descriptive nature of this study, the techniques used to analyze collected data were based on qualitative methods. The analytic techniques used were approached and tested through the internal and positive methods of criticism (see appendix 1).[26] External criticism was found to be a mute point of analysis due to the modern types of data collected.

By definition, the internal method focuses on the credibility of the data source. For example, were the reporters biased in any manner, were they reporting accurately, and were they qualified to report on automated library technology?[27] These questions established the contextual framework upon which the problem statement was to be justified. Internal criticism offered this study a firm background with which to begin its inquiry into a possible relationship between the advent of the academic library systems office and staff and the maturation of library automation technology. The next step was the actual testing of the content of collected data.

Positive criticism was used to test the content of the data. This method is also know as positivism. It is "...an

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[26]L.R. Wynar, "Historical & Other Methodologies," unit in Kent State University School of Library Science: 60604 Research Methods (Kent, Ohio: School of Library Science, 1989), 189.

[27]Gerhard Lang and George D. Heiss, A Practical Guide to Research Methods, 3d ed, (Lanham, MD: University Press of America, 1984), 73.

approach to knowledge based on the assumption of an objective reality which can be discovered by offering tentative theories and then testing them empirically."[28] Primary sources were used to empirically test the problem statement. Through the analysis of personal discussions,observations, and the experiential questionnaire, in combination with preliminary and secondary sources, the problem statement was tested for its content. The content of these sources were then assumed to be the objective reality. With this reality in place and tested through the use of the questionnaire, a comparison, between the creation and appearance of the academic library systems office and staff and library automated technology, was theorized, synthesized, and reported in SECTION FOUR: "Results" and SECTION FIVE: "Summary and Conclusions".

[28] Social Research Methods, S.v. "Positivism," 283.

FOUR

RESULTS

A. Participating Academic Libraries

The questionnaire was sent out to the seventeen academic libraries involved in the OhioLINK project. A total of twelve libraries returned the survey. This offered a return rate of approximately seventy-one percent. The libraries that participated were:

1) Bowling Green State University, William T Jerome Libraries and Learning Resources Center;
2) Case Western Reserve University, University Libraries;
3) Cleveland State University, University Libraries;
4) Kent State University--Main, University Libraries;
5) Miami University--Oxford, Edward W. King Library;
6) Medical College of Ohio at Toledo, Raymond H. Mulford Library;
7) North Eastern Ohio Universities College of Medicine, Ocasek Regional Medical Information Center;
8) Ohio State University--Main, William Oxley Thompson Memorial Library;
9) University of Akron--Main, Bierce Library;
10) University of Cincinnati--Main, University Libraries;
11) University of Dayton, Roesch Library; and,
12) Youngstown State University, William F. Maag Library.

The basic text of the questionnaire has been reproduced as an appendix to offer the reader a frame of reference (see appendix six). Overall, the results of the questionnaire encompass a variety of different educational, technical, and professional backgrounds.

B. Questionnaire Findings:

Half of the offices use the term "systems" in their title. Other terms used are "automation" or a combination of

the two. One office uses information technology, while two of the respondents do not have an office dedicated to library systems at all. Three of the twelve offices changed their office title. Case Western Reserve University changed its name from Systems to "Library Information Technologies" in 1988. Miami University created its "Automation & Technical Services" in April of 1990. And, Ohio State University had used Research & Development in 1967, but changed to "Automation Office" Of the officers that responded, 66.7% are either head, director, or coordinator of their office. The other 33.3% are either systems librarians or part of technical services. All of the systems offices indicated that they report directly to their library administration.

Almost 84% of the systems offices are located within the library proper. Of those systems office that are located in the library, 33.3% of them are located in administration, while circulation/technical services made up 8.3%, and 16.7% of them are a separate office. One-quarter of the systems offices located are in technical services, while 8.3% are dispersed throughout the institution at large. Toledo Medical, at 8.3% does not have an office specifically devoted to library automation as of yet. The computer that runs the library systems itself, in 50% of the cases, is located within the library also. Of those computers within the library, 41.7% are located within computer services, while 25% are in technical services, and another 8.3% being located in administration.

The first use of OCLC ranges between 1969-1978, with the largest percentage of first use being 33.3% in 1971. The years in which an office was established for automation range from 1980-1990, with 16.7% each in 1984 and 1986. The years in which the first integrated library system was installed ranged from 1980-1990 with 25% taking place in 1984. Half of the officers were in their current position and assisted in the planning and selection of their current library automation systems. Of all the respondents, 75% were involved in the implementation of their automation system. Table 1 reflects which modules have been or are being implemented by the twelve institutions participating.

TABLE 1

Automated Functions Implemented

	YES	NO
Acquisitions	66.7%	16.7%
Cataloging	83.3%	0.0%
Circulation	75.0%	8.3%
Collection Management and Development	33.3%	16.7%
Document Delivery	16.7%	33.3%
Interlibrary Loan	33.3%	25.0%
Online Public Access Catalog	83.3%	0.0%
Reserves	66.7%	25.0%
Serials	75.0%	8.3%

The following table reflects the percentage of those systems offices which have primary responsibility in the areas of selection, purchase, installation, support and maintenance concerning library automation technologies.

TABLE 2

Primary Areas of Responsibility

	Selection and Purchase	*Installation, Support, and Maintenance*
Microcomputers	83.3%	75.0%
CD-ROMs	33.3%	66.7%
Laserdisc technology	25.0%	25.0%
Online reference service	8.3%	16.7%
Telecommunications/Modems	83.3%	58.3%
Networking locally	83.3%	33.3%
Networking nationally	58.3%	33.3%
Bitnet	25.0%	25.0%
E-Mail	41.7%	50.0%
Internet	25.0%	25.0%
Dial-access	58.3%	58.3%
LAN access	75.0%	58.3%

As for the systems office and staff, 50% of the respondents were female and 50% were male. Of the professionals participating, 66.7% are between the ages of 41 and 50. Those between 31 and 40 made up 16.7% of the respondents, while 8.3% were 30 or younger, or 51 and older. Within their position as a "systems" person, 16.7% worked at their institution five years or less. Those who have worked under ten years at their institution made up 33.3% of the population. The same percentage applies to those who had worked between sixteen and twenty years. Of those years within the institution, 41.6% have worked in automated services less thar five years. Those who have worked between six and ten years made up 25% of the population. And those who have worked between eleven and fifteen, and sixteen and twenty years respectively, made up 16.7% of the population.

Of those participating, 83.3% had attained a

Baccalaureate degree, 91.7% have their M.L.S., and 25% have another Masters degree. The largest percentage of highest degree received was 41.7%, which took place between 1980-90, and 33.3% between 1970-80. Of the positions reporting, 58.3% had computer training/experience prior to their current position. Those who had five or less years of computer training/experience made up 41.7% of the population. Those having between eleven and fifteen years of computer training/experience made up 8.3% of the respondents. The kinds of experience ranged from on-the-job training to high-level language programming.

There are seven full-time equivalent staff members who report directly to their systems office that have a professional degree. There are eleven and a half full-time equivalent para-professional staff members and twelve and a half full-time equivalent student workers, based on the total population of the study, who also report directly to the systems office. Of these members, 33.3 % have had computer experience/training prior to their position as professional systems staff members, while 58.3% of the para-professionals and 41.7% of the student workers have had computer experience prior to their position. Twenty-five percent of the total staff population did not have any computer experience at all.

FIVE

SUMMARY AND CONCLUSIONS

A. Summary:

Throughout this study, the main focus has been on answering two questions: How did the academic library systems office evolve to become a library-wide service? And, what are the past and present roles and responsibilities of the systems office and its staff in relation to library automation's technological evolution and expansion? To answer these questions, the study concentrated on three issues basic to the above problem statement. They are:

1) the historical background of the systems office;
2) the professional qualifications of the systems officer and staff; and,
3) the job responsibilities of said professional and staff.

Through the analysis of automation literature and the use of a questionnaire survey, data was obtained and tabulated using the seventeen academic libraries involved with OhioLINK as a sample population. The following conclusions are based on the tabulated questionnaire, the historical review of automation literature, and the citations listed in the bibliography.

B. Conclusions:

Automation has become an essential part of the academic library. From the advent of mechanized data processing, the academic library has been better able to store and organize

its vast resources due to the automation of its functions. Whether automation took the form of a locally produced system, or a vendor supported "turnkey" system, or a software-based system, libraries have been better able to access and acquire data now in comparison to forty years ago.

These changes took place within the academic library systems office in various ways. The way that is of primary importance to this study is how the academic library systems office evolved to become a library-wide service. And also, once this service was established, what were the roles and responsibilities of those in charge of said office.

According to the results of the questionnaire, the academic library systems office evolved from computer-based library functions, such as technical services, specifically the MARC records produced by OCLC. Of the twelve respondents, all of them began using OCLC in the 1970s, except for Cleveland State University which installed OCLC in 1969. The largest percentage of OCLC first use was in 1971 at 33.3%.

When OCLC was incorporated within the academic library, in most cases, it became the responsibility of technical services or cataloging. With this responsibility, librarians needed to come to terms with the increasing use of computer-based technology within the library. Because library automation technology became more prevalent during the 1970s, the process of planning, selection, and implementation was begun.

At the same time, as OCLC and library automation technology matured, the need to establish an office that was initially responsible for library systems functions, such as planning, selecting, and implementation, became apparent. Of the responding institutions, 75% established an office for library systems automation during the 1980s. Two of the reporting institutions had established offices before and after the 1980s, one in 1970 and the other in 1990, respectively.

But, due to the high costs of implementing a system and the technological sophistication of maintaining library automation processes, most academic libraries were barred from incorporating an online integrated library system all at once. Therefore, it is assumed that much of the systems office responsibilities were involved in the planning for, and selection of, a library automated system during the interim between the time their office first used OCLC, i.e. 1970, and when they first installed an integrated library systems module, i.e. 1984.

Of the professionals participating, 50% were involved in the planning and selection of their system while in their current position. The professionals involved, that were not in their current position as systems officer, were all employed in some part of technical services. Of the twelve institutions, 75% were directly involved in the initial implementation of their system. From the 1960s through the 1990s, first through the incorporation of MARC records and

OCLC, then with the recognition of the need to create an office whose initial responsibilities involved the planning for, selecting and implementing of an automated system, academic library systems offices evolved simultaneously with automation technology to become a library-wide service.

Overall, as library automation technology became simpler to use and faster to access, systems offices responsibilities evolved along side of these advances. The tables below represents the number of systems offices that have direct responsibility for the following services' selection and purchase, and installation, support, and maintenance:

TABLE 3

Primary Areas of Responsibility
(based on 100%)

	Selection and Purchase	*Installation, Support, and Maintenance*
Microcomputers	83.3	75.0
CD-ROMs	33.3	66.7
Laserdisc technology	25.0	25.0
Online reference service	8.3	16.7
Telecommunications/Modems	83.3	58.3
Networking locally	83.3	33.3
Networking nationally	58.3	33.3
Bitnet	25.0	25.0
E-Mail	41.7	50.0
Internet	25.0	25.0
Dial-access	58.3	58.3
LAN access	75.0	58.3

This table is evidence of two things. One, it demonstrates the amount of technological responsibility

placed within the academic library systems office. And two, it exemplifies the level of sophistication technology has reached in the library itself. The service percentages that are underlined serve to represent those services responsibilities the office has 50% or more control over. Microcomputers, Telecommunications/Modems, Dial-access, and LAN access services are listed in each table with 50% or above of the primary responsibilities going to the academic library systems office. These services are all relatively new automation-related technologies for which the office is responsible. This service participation tends to allow the office to operate within the library as a whole. This table is evidence of one more thing. It points out and supports the premise that the academic library systems office has evolved simultaneously with the changes in automation technologies.

Along with the simultaneous evolution between the academic library systems office and automation technology, the officer and staff were followers. As members of the systems office, officers and staff had a place in the organization. To meet the needs of that place within the organization, the educational and technological background of the participating systems officer and staff are to be examined.

Of those officers who responded, 66.7% of them are either the head, director, or coordinator of their systems office. The remaining 33.3% of the titles are either systems

librarians, or are part of technical services. All of the officers report to library administration for their direction. These results reflect the role that the systems officer fulfills as a member of the academic library.

It seems for the most part, the position is administrative in design, yet technological in nature. To wit, of the respondents, 91.7% have a Masters degree in Library Science, a professional-based occupation. Of these respondents, 58.3% have had some computer experience or training prior to their position as systems officers. However, it is interesting to note that the amount of time that the systems officer has worked in the institution does not seem to be related to the number of years worked within automated services. This could be due perhaps to the relative newness of the participating officers and staff into field of library automation. Because of this discrepancy, this relationship could be examined in further studies.

As for the staff positions who report directly to the systems office, there are seven full time equivalent professionals with an MLS or higher within the total responding population. The para-professional and student worker positions total twenty-four full time equivalent employees within the total responding population. Of these systems staff members, 33.3% of the professionals had computer experience or training prior to their present position. Of the para-professionals,58.3% and 41.7% of the student workers, respectively, have had computer experience

or training prior to their present position. Those without any experience or training held only 25% of the total responding population These figures support the fact that the role and responsibilities of the systems office personnel do involve some type of computer technology background. Most of the positions cited were established during the 1980s. This corresponds to the level of sophistication that the participating academic libraries were at when their first automation modules were being installed and implemented.

Based on the evidence presented-- the incorporation of MARC and OCLC into technical services; the increasing amount of computer experience needed to perform the roles and responsibilities within the systems office and library; the "new" types of technology that the systems office has direct responsibility to select, purchase, install, support, and maintain; and the educational background that the systems officer needs to have-- all support the premise that the academic library systems office and staff evolved and expanded simultaneously with library automation technology. This relationship created and helped build the office that controls and is responsible for library automation functions. The academic library systems office and staff cross traditional library boundaries through their increased technological roles and responsibilities in a direct and positive way in relation to the evolution of automation technologies within the academic library.

APPENDICES

There were six appendices used for this study. A chart which shows the suggested guidelines of historical criticism is the first appendix. It allowed for the use of different types of historical analysis (see Appendix 1). An introductory cover letter stating the purpose of the study is the second appendix (see Appendix 2). The questionnaire survey itself is represented in the third appendix. It was used as a source of primary data to confirm the suspected relationship between academic library systems office and staff and library automation technology (see Appendix 3). A follow-up letter that was to be sent at a specific time interval along with a duplicate questionnaire is present as the fourth appendix (see Appendix 4). A consent form, was required by the Kent State University Human Subjects Review Board to insure survey confidentiality and its voluntary nature (see Appendix 5). The tabulation results of the questionnaire survey can be seen in the sixth appendix.

APPENDIX 1

HISTORICAL CRITICISM

EXTERNAL (AUTHENTICITY)	***INTERNAL (CREDIBILITY)***	
Determination of author and date a) content analysis b) comparison of pieces of evidence c) physical properties of evidence	***POSITIVE*** CRITICISM	NEGATIVE CRITICISM
	Literal & Meaning	Observation of the Detail a) Physical & Social ability to observe b) Reporting the detail 1) ability to report 2) intent of composition 3) types of distortion in reporting

Source: L.R. Wynar, "Historical & Other Methodologies," unit in Kent State School of Library Science: 60604 Research Methods, (Kent, Ohio: School of Library Science, 1989), 189.

APPENDIX 2

Dear Systems Officer:

Please find enclosed a questionnaire pertaining to the origins and development your library's automated services. I am conducting a survey of the seventeen institutions involved in the OhioLINK project. This study is being conducted by myself under the auspices of the Kent State University School of Library Science to fulfill a research paper requirement.

Your help is needed to assure that the appropriate sample of academic systems offices are involved in this study. It is essential that I include you and your systems office to fulfill the study's obligations. I would like to request that you complete the questionnaire which will take about fifteen minutes of your time. All responses will be completely anonymous. No one individual or office will be identified. The name of your institution will be used only for sample identification purposes within the study's findings. Your assistance in this effort is crucial.

This study's inquiries center around the organizational and developmental history of your automated library services office and its support staff. With your answers it is hoped that a positive relationship between the organizational changes within OhioLINK academic library systems offices and the evolution and expansion of systems office services and responsibilities will be seen.

For your convenience, the Kent State School of Library Science's FAX number is (216) 672-7965. It is essential that you return the questionnaire by Friday, October 26, 1990. If you would be interested in receiving a final copy of this study, please let me know.

Thank you for your cooperation.

Sincerely,

Jan A. Featherstone
Principle Investigator

encl.

APPENDIX 3

LIBRARY AUTOMATION QUESTIONNAIRE

1. Name of Institution:

_____

2. Official title of library automated services office:

_____

3. Please list any other previous names of the library systems office and when established:

_____ _____year

_____ _____year

_____ _____year

4. What is your title?

_____

5. To whom, or to what office, do you report (e.g. administration, technical services, computer services)?

_____

6. Which degree(s) you have attained (mark all that apply):

[] Associate Degree [] Library Technician

[] Baccalaureate Degree [] Masters of Library Science Degree

[] Doctorate of Philosophy [] Other(please specify)_____

7. Date received highest degree? _____ year

8. How many years have you worked in this institution?

_____years

9. How many years have you worked in automated services as a professional? _____years

10. What was your title immediately prior to your systems position?

_____

11. Have you had any computer training/experience prior to this position? [Y] [N]

a. If yes, how many years? _____years

b. If yes, specify the kind of training/experience:

_____

12. Your sex: []Female []Male Your age: _____years

Questions 13 through 26 are directed at those institutions which have already installed an integrated library system (e.g. NOTIS, LCS, VTLS, DRA, etc.). If your library has ***not*** *installed an integrated library system, please skip to question 27.*

13. When did your library first begin using OCLC? _____ year
14. When did your library first establish an office dealing with automation? _____ year
15. When did your library install its *integrated* library system? _____ year
    a. In what functional area was it installed?

    _____

16. Were you involved in the planning and selection of the system? [Y] [N]
    a. If yes, were you in your current position? [Y] [N]
       i. If no, what was your position at the time?

       _____

17. Are, or were, you involved in the implementation of said system? [Y] [N]
18. Please indicate which of the automated functions have been or are being implemented?
    a. Acquisitions [Y] [N]
    b. Cataloging [Y] [N]
    c. Circulation [Y] [N]
    d. Collection Management and Development [Y] [N]
    e. Document Delivery [Y] [N]
    f. Interlibrary Loan [Y] [N]
    g. Online Public Access Catalog [Y] [N]
    h. Reserves [Y] [N]
    i. Serials [Y] [N]
    j. Other(please specify)_____
    k. Other(please specify)_____
    l. Other(please specify)_____
19. Please indicate if your office has primary or secondary responsibility for the following services (mark all that apply):

[P]= direct responsibility for service's selection & purchase recommendation
[S]= Selection and purchase recommendation done by another office

a. Microcomputers	[P]	[S]
b. CD-ROMs	[P]	[S]
c. Laserdisc technology	[P]	[S]
d. Online reference service	[P]	[S]
e. Telecommunications/Modems	[P]	[S]
f. Networking locally	[P]	[S]
g. Networking nationally	[P]	[S]
h. Bitnet	[P]	[S]
i. E-Mail	[P]	[S]
j. Internet	[P]	[S]
k. Dial-access	[P]	[S]
l. LAN access	[P]	[S]
m. Other(please specify) _____		
n. Other(please specify) _____		
o. Other(please specify) _____		

20. Please indicate if your office has primary or secondary responsibility for the following services (mark all that apply):

[P]= direct responsibility for service's installation, support and maintenance
[S]= maintains and supports service for another department

a. Microcomputers	[P]	[S]
b. CD-ROMs	[P]	[S]
c. Laserdisc technology	[P]	[S]
d. Online reference service	[P]	[S]
e. Telecommunications/Modems	[P]	[S]
f. Networking locally	[P]	[S]
g. Networking nationally	[P]	[S]
h. Bitnet	[P]	[S]
i. E-Mail	[P]	[S]
j. Internet	[P]	[S]
k. Dial-access	[P]	[S]
l. LAN access	[P]	[S]

m. Other(please specify) _____

n. Other(please specify) _____

o. Other(please specify) _____

21. Please list the number of FTE who report directly to your office:

a. Professional staff (M.L.S or higher degree) _____FTE

b. Para-professional staff (B.A., B.S., A.A., A.S.) _____FTE

c. Student workers _____FTE

22. Please list the titles of staff positions and when established:

a. Professional:

i. _____ _____ year

ii. _____ _____ year

iii. _____ _____ year

b. Para-professional

i. _____ _____ year

ii. _____ _____ year

iii. _____ _____ year

c. Student workers

i. _____ _____ year

ii. _____ _____ year

23. Please list which of the above staff have had computer experience/training prior to their position (e.g. ai, biii, cii, etc.): _____

24. Is the systems office located in the library? [Y] [N]

a.In what area is it located (e.g. administration, technical services, computer services, etc.)?

_____

25. Is the library systems computer located in the library? [Y] [N]

a.In what area is it located (e.g. administration, technical services, computer services, etc.)?

_____

26. List any other duties not mentioned that fall under the responsibility of your office on back of page.

This concludes the questions directed at those institutions which have already installed an integrated library system. Please skip to question 35 for further instructions.

*If your institution has **not** already installed an integrated library system, please answer questions 27 through 34.*

27. When did your library first begin using OCLC? _____ year

28. Are you planning to automate library services? [Y] [N]

    a. If yes, have you created or do you plan to create a library systems office? [Y] [N]

    b. If yes, have you staffed or do you plan to staff this office? [Y] [N]

    c. If yes, to whom, or to what office, will this officer report (e.g. administration, technical services, computer services)? _____

    d. If yes, when staffed will you require this officer to have a/an (mark highest degree required):

    [] Associate Degree [] Library Technician Degree

    [] Baccalaureate Degree [] Masters of Library Science Degree

    [] Doctorate of Philosophy [] Other(please specify)_____

29. Will you require this officer to have computer experience/training prior to this position? [Y] [N]

    b. If yes, specify the kind of training/experience:

    _____

30. Please list the number of FTE who will report directly to your library systems officer:

    a. Professional staff (M.L.S or higher degree) _____FTE

    b. Para-professional staff (B.A., B.S., A.A., A.S.) _____FTE

    c. Student workers _____FTE

31. Will you require the staff to have computer experience/training prior to this position? [Y] [N]

    a. If yes, specify the kind of training/experience your office would require for the listed position:

    i. Professional:

    _____

    _____

ii. Para-professional

_____

_____

iii. Student worker

_____

_____

32. When will your library install its first integrated library systems application? _____year

a. In what functional area will it be installed?

_____

33. If planning to utilize any of the services below, please indicate if your office has decided to take primary or secondary responsibility (mark all that apply):

[P]= direct responsibility for service's selection & purchase recommendation
[S]= selection & purchase recommendation done by another department

a. Microcomputers	[P]	[S]
b. CD-ROMs	[P]	[S]
c. Laserdisc technology	[P]	[S]
d. Online reference service	[P]	[S]
e. Telecommunications/Modems	[P]	[S]
f. Networking locally	[P]	[S]
g. Networking nationally	[P]	[S]
h. Bitnet	[P]	[S]
i. E-Mail	[P]	[S]
j. Internet	[P]	[S]
k. Dial-access	[P]	[S]
l. LAN access	[P]	[S]

m. Other(please specify) _____

n. Other(please specify) _____

o. Other(please specify) _____

34. If planning to utilize any of the services below, please indicate if your office has decided to take primary or secondary responsibility (mark all that apply):

[P]= direct responsibility for service's installation, support and maintenance
[S]= maintains and supports service for another department

a. Microcomputers	[P]	[S]
b. CD-ROMs	[P]	[S]
c. Laserdisc technology	[P]	[S]
d. Online reference service	[P]	[S]
e. Telecommunications/Modems	[P]	[S]
f. Networking locally	[P]	[S]
g. Networking nationally	[P]	[S]
h. Bitnet	[P]	[S]
i. E-Mail	[P]	[S]
j. Internet	[P]	[S]
k. Dial-access	[P]	[S]
l. LAN access	[P]	[S]

m. Other(please specify) _____

n. Other(please specify) _____

o. Other(please specify) _____

*This concludes the questions for institutions which have **not** installed an integrated library system. Please continue with questions 35 and 36.*

35. Please attach any and all papers that would be pertinent to the origins and development of your library systems office, such as: officer and staff job descriptions, mission statements, goals and objectives, position papers, white papers, relevant areas from the Annual Report, and any other materials specific to the automation of your library and the creation of your library systems office. Thank you.

36. Comments. If necessary, please use back of paper:

_____

_____

_____

_____

_____

_____

_____

APPENDIX 4

Dear Systems Officer:

A week or so ago, I requested your participation in a study about the origins and development of academic systems offices in Ohio.

If you have already completed and returned the questionnaire, I am extremely grateful. If not, I would like to urge you once again to contribute your unique information to this study.

I have extended our deadline to Friday, November 2, 1990 in the hope that you would still like to help with this study. A duplicate questionnaire is enclosed, along with a stamped self-addressed envelope. And remember, your questionnaire will remain completely anonymous.

Won't you please take the fifteen minutes or so needed to assist with this study? I am depending on your assistance.

Thank you very much.

Sincerely,

Jan A. Featherstone
Principle Investigator

encl.

APPENDIX 5

CONSENT FORM:

THE ORIGINS AND DEVELOPMENT OF THE ACADEMIC LIBRARY SYSTEMS OFFICE IN OHIO

To Systems Officer:

I want to do research on "The Origins and Development of the Academic Library Systems Office in Ohio". I want to do this because it fulfills a research requirement for my college, but more so because I am interested in the history of automation in academic libraries and have found this to be a manageable topic. I would like you to take part in this project. If you decide to do this you will be asked to take fifteen minutes of your time to fill out a questionnaire. All individual persons and libraries taking part in this study are assured of complete confidentiality and anonymity. Only the names of the parent institution will be used for identification purposes

If you take part in this project you will be adding to the scholarly literature concerning libraries and automation. Also, this project will be of benefit to your library by tracing the historical steps it took to achieve its place now. It will also benefit the field of library and information science and society at large. Taking part in this project is entirely up to you, and no one will hold it against you if you decide not to do it. If you do take part, you may stop at any time.

If you want to know more about this research project, please call me at (216) 678-0701, or contact Greg Byerly, this project's faculty advisor at (216) 672-2782. The project has been approved by Kent State University. If you have questions about Kent State University's rules of research, please call Dr. Adriaan de Vries, telephone(216) 672-2070.

You will get a copy of this form.

Sincerely,

Jan A. Featherstone
Principle Investigator

APPENDIX 5 (con't)

CONSENT FORM - SIGNATURE PAGE

THE ORIGINS AND DEVELOPMENT OF THE ACADEMIC LIBRARY SYSTEMS OFFICE IN OHIO

CONSENT STATEMENT:

I agree to take part in this project. I know what I will have to do and that I can stop at any time.

_____ _____

Signature Date

APPENDIX 6

Questionnaire Tabulations

For the purposes of this appendix, the libraries will be addressed with their acronyms which mirror the order listed above. They are as follows:

1)	BGSU	5)	MIAMI	9)	UA
2)	CWRU	6)	Tol. Med.	10)	UC
3)	CSU	7)	NEOUCOM	11)	UD
4)	KSU	8)	OSU	12)	YSU

2. Official title of library automated services office:
50.0% use the term "systems" within their office title,
16.7% use "automation",
8.3% combine the two terms,
8.3% use "information technology", and
16.7% do not have a dedicated office

3. Previous names of the library systems office and when established:
25.0% of the respondent listed previous names and years:
CWRU changed its name from Systems to "Library Information Technologies" in 1988
MIAMI created its "Automation & Technical Services" in April of 1990
OSU had used Research & Development in 1967, but changed to "Automation Office"

4. Systems officer's title:
66.7% listed as head, director, or coordinator,
25.0% listed as Systems librarians
8.3% listed as Head of Technical Services

5. Office reported to (e.g.administration, technical services, computer services):
100% report to library administration

6. Degrees attained:
0.0% Associate
0.0% Library Technician
83.3% Baccalaureate
91.7% Masters of Library Science
25.0% Other(please specify): MBA and MAs
0.0% Doctorate of Philosophy

7. Date received highest degree:
1960-70: 16.7%
1970-80: 33.3%
1980-90: 41.7%
1990: 8.3%

8. Number of years worked at institution:
1 - 5: 16.7%
6 - 10: 33.3%
11 - 15: 16.7%
16 - 20: 33.3%

9. Number of years worked in automated services as a professional:
1 - 5: 41.6%
6 - 10: 25.0%
11 - 15: 16.7%
16 - 20: 16.7%

10. Title prior to systems position:
Assistant Director, Library Systems Office;
Assistant Professor and Information Specialist;
Cataloger;
Catalog Librarian;
Cataloging Associate;
Head, Bibliographic Services;
Head of Access Services, Head of Circulation;
Head of Technical Services
Head, Order Unit/Acquisitions Department;
Microcomputer Services/Reference Librarian;
Manager-Computer Services;
Reference librarian, /Database Searcher.

11. Computer training/experience prior to position:
Yes: 58.3%
No: 41.7%

a. Number of years:
1 - 5: 41.7%
6 - 10: 0.0%
11 - 15: 8.3%
16 - 20: 0.0%
No Answer: 8.3%

b. Kind of training/experience.

COBOL	Hardware
Component of Job	Introductory Programming
Component of Job	Job experience
Courses in programming	Market Research
Database courses	OJT
FORTRAN	PASCAL
Grad courses	Train end-users
Software applications for library	

12. Gender:
Female: 50.0%
Male: 50.0%

Age:
20 - 30: 8.3%
31 - 40: 16.7%
41 - 50: 66.7%
51 - 60: 8.3%

13. First use of OCLC:
1969, '70, '72, '73, '74, '77, '78: each 8.3%
1971: 33.3%

14. First established office for automation:
1967, '80, '82, '83, '85, '87, '90: each 8.3%
1984: 16.7%
1986: 16.7%

15. Year of integrated library system installation:
1970, '80, '85, '86, '87, '88, '89, '90: each 8.3%
1984: 25.0%

16. Involved in planning and selection of the system:
Yes: 50.0%
No: 41.7%

a. If yes, were you in your current position:
Yes: 50.0%
No: 40.0%
No Answer: 10.0%

i. If no, what was position at the time
Assistant Director, Library Systems Office
Catalog Associate
Cataloging Librarian
Different employer
Microcomputer Services/Reference Librarian
Head, Order Unit/Acquisitions Department

17. Involved in implementation of system:
Yes: 75.0%
No: 16.7%

18. Automated functions implemented:

a. Acquisitions	Yes: 66.7%	No: 16.7%
b. Cataloging	Yes: 83.3%	No: 0.0%
c. Circulation	Yes: 75.0%	No: 8.3%
d. Collection Management and Development	Yes: 33.3%	No: 16.7%
e. Document Delivery	Yes: 16.7%	No: 33.3%

f. Interlibrary Loan	Yes: 33.3%	No: 25.0%
g. Online Public Access Catalog	Yes: 83.3%	No: 0.0%
h. Reserves	Yes: 66.7%	No: 25.0%
i. Serials	Yes: 75.0%	No: 8.3%
j. Other(please specify)		
Authority Control	Networked CD-ROMs	
Fiscal Control	Process Control	
Holding Files	Word/Boolean Searching	

19. Primary or secondary responsibility for the following services (mark all that apply):

P = direct responsibility for service's *selection & purchase recommendation*
S = Selection and purchase recommendation done *by* another office

a. Microcomputers	P: 83.3%	S: 0.0%
b. CD-ROMs	P: 33.3%	S: 50.0%
c. Laserdisc technology	P: 25.0%	S: 25.0%
d. Online reference service	P: 8.3%	S: 58.3%
e. Telecommunications/Modems	P: 83.3%	S: 8.3%
f. Networking locally	P: 83.3%	S: 0.0%
g. Networking nationally	P: 58.3%	S: 16.7%
h. Bitnet	P: 25.0%	S: 50.0%
i. E-Mail	P: 41.7%	S: 33.3%
j. Internet	P: 25.0%	S: 50.0%
k. Dial-access	P: 58.3%	S: 16.7%
l. LAN access	P: 75.0%	S: 8.3%

m. Other(please specify)
- In general, we recommend on all hardware and have responsibility for non-information services selection (but we may recommend.
- Hardware related to microcomputer-tape drives.
- CD-ROM Players.

20. Primary or secondary responsibility for the following services (mark all that apply):

[P]= direct responsibility for service's *installation, support and maintenance*
[S]= maintains and supports service *for* another department

a. Microcomputers	P: 75.0%	S: 8.3%
b. CD-ROMs	P: 66.7%	S: 16.7%
c. Laserdisc technology	P: 25.0%	S: 16.7%
d. Online reference service	P: 16.7%	S: 41.7%
e. Telecommunications/Modems	P: 58.3%	S: 25.0%
f. Networking locally	P: 33.3%	S: 33.3%
g. Networking nationally	P: 33.3%	S: 33.3%
h. Bitnet	P: 25.0%	S: 41.7%
i. E-Mail	P: 50.0%	S: 25.0%
j. Internet	P: 25.0%	S: 41.7%
k. Dial-access	P: 58.3%	S: 16.7%
l. LAN access	P: 58.3%	S: 16.7%

Comments:

- Question is unclear. We are responsible for installing, supporting, and maintaining all PC-based systems and network infrastructure.
- [Online Reference Service] within library; for some, considerable support is from computer services
- To the extent that we facilitate libraries [nationally] participating in accessing these networks.

21. Number of FTE who report directly to office:

a. Professional staff (M.L.S or higher degree)
7.0 FTE for total population

b. Para-professional staff (B.A., B.S., A.A., A.S.)
11.5 FTE for total population

c. Student workers
12.5 FTE for total population

22. Titles of staff positions and when established:

a. Professional:
Head of Integrated Library Systems, 1989.
Systems librarian, 1984; '85; '85; '90.

b. Para-professional
Systems Analyst/Programmer, 1982.
Microcomputer Specialist/Technician, 1987.
Assistant Head of Information Library Services, 1989.
LAN Manager/Database Parameter Specialist, 1988.
Systems Specialist, 1988.
Systems Technician, 1990.
Programmer Analyst Lead, 1987.
Computer Specialist, 1990.
Library Systems Development Assistant, 1987; '90.
Secretary, 1982.

c. Student workers
Automation Assistant, 1990.
Systems Graduate assistant, 1990.
Microcomputer Assistant, 1986.
Microcomputer Technician, 1990.
Student Assistant, 1985; '87; '88.

23. Staff computer experience/training prior to position:

a. Professional:
33.3% of total population

b. Para-professional
58.3% of total population

c. Student workers
41.7% of total population
d. No experience
25.0% of total population
e. No Answer
8.3% of total population

24. Systems office located in library:
Yes: 83.3%
No: 16.7%

a. Area located (e.g. administration, technical services, computer services, etc.):

Administration:	33.3%
Circulation/Technical Services:	8.3%
Separate Office or Department:	16.7%
Technical Services:	25.0%
Several Areas:	8.3%

25. Library systems *computer* located in library:
Yes: 50.0%
No: 41.7%

a. Area located (e.g. administration, technical services, computer services, etc.):

Administration:	8.3%
Technical Services:	25.0%
Computer Services:	41.7%
No Answer:	25.0%

SEVEN

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