Policy and Cost Implications for Libraries in Statewide Consortia:
The OhioLINK Experience

Don L. Tolliver

Ohio is a major industrial and agricultural state located in the North Central United States. In the recent decades, Ohio has developed a strong business base in information-related industries, including Chemical Abstracts, Lexis/Nexis, and OCLC. The population of Ohio currently stands at over 11 million and is served by 61 publicly funded universities, colleges, and technical schools. Only 13 of the 61 campus sites offer four-year degree programs and most of these also provide graduate programs at the masters or Ph.D. level.

These state-assisted institutions of higher education serve about 410,000 students. In addition, Ohio has 95 privately funded institutions of higher education, serving an additional 130,000 students. While many of these students are from Ohio, a significant portion come from other states within the U.S. and many nations throughout the world. It must be noted that although Ohio supports approximately 410,000 students in public higher education, it is still below the national average in terms of the percentage of state population served by higher education. While the number of high school graduates in Ohio has consistently ranked above the national average, the percentage of citizens attending institutions of higher education is just over 39%, compared to the national average of 45.2%. This is possibly because Ohio has a long history of successful industrial manufacturing and a strong agricultural base; blue-collar jobs traditionally are plentiful which, no doubt, contributes to Ohio's lower percentage of higher education students.

Within higher education in the U.S.A., there are many consortia arrangements in place. These consortia are typically created to provide value added services or to bring together scholarly expertise to study specific issues or problems. Ohio, too, has several consortia arrangements in higher education, including our library and information consortium: OhioLINK.

OhioLINK is a statewide information system created and funded by the Ohio Board of Regents to provide information resources to higher education students, faculty, and staff throughout Ohio. It is an Internet-based electronic information system that serves all public and most private institutions of higher education in the State. Today, the system accommodates over 4,500 simultaneous users at 104 locations, serving approximately 540,000 students, and thousands of faculty and staff. The merged central catalog contains more

than 6 million records, representing the holdings of all member libraries, and encompassing extraordinary collection depth and breadth.

The OhioLINK consortium evolved as a result of a 1986 study conducted by a seventeen-member committee formed by the Ohio Board of Regents, at the request of the Ohio General Assembly. The committee was asked to "conduct a study of the need for, and alternatives to, a significant expansion of space for state colleges and university libraries". Shortages of physical library space were severe during the 1980s, for most academic libraries had been built or received additions to space twenty years earlier, when institutions of higher education enjoyed a major period of expansion.

The committee carefully studied library space needs among the 13 major state-assisted colleges and universities. In this process, library technologies and trends in the publishing industry were mined and visits were made to numerous library sites throughout the country. The committee's report, entitled Academic Libraries in Ohio, Progress Through Collaboration, Storage and Technology, was published in September, 1987 and described two important goals recommended by the committee:

1. construction of regional book storage facilities as an option for additional prime library space
2. use of new information technology to improve access and sharing of re-sources.

Since 1987, five high-density depository facilities have been built, each of which houses considerably more material, in less space than regular library shelving. These five expandable depositories serve all state-assisted institutions in Ohio and each provides space to house between one and two million library volumes.

OhioLINK grew out of the second program proposed in the 1987 report. A follow-up study of the growing problems in information management in Ohio libraries and higher education in general was completed in 1989. This second report detailed the importance and possible uses of technology to improve access to information and methods of enhancing the sharing of resources among academic libraries in Ohio. Centralized funding from the Ohio Board of Regents provided a high priority line item budget which ensured critical financial support. This approach bypassed the need to seek budget support from the funding authorities of each university and college who, in turn, would naturally want to fund their own particular priorities.

During the past seven years, OhioLINK has undertaken efforts to address the issues identified in the 1989 report, recognizing that issues related to infor-mation management continue to change and intensify. The ways scholars find and use information has altered significantly. Many materials published to-day appear in electronic form, and not only is text available, but graphical and audio information may be included as well. Further, the volume of published materials (books and journals) continues to expand rapidly. The cost

of acquiring, cataloging, and storing published materials is increasing at a pace which far exceeds the ability and fiscal resources of libraries to keep up.

Librarians have known for decades that any single library cannot be expected to maintain a comprehensive collection of materials in varying formats and in all major fields of study. Also, scholars and other users of libraries are having difficulty keeping abreast with the changes in the methods for accessing this material. Experts in specialized fields are often challenged in their efforts to identify and access resources they might need to complete their work. In fact, today, as we look back on the report issued in 1989, there is a clear sense that the problem has increased rapidly in its intensity and is now more complex than originally anticipated. As a result, the fundamental objectives of Ohio-LINK have evolved and today are: 1) to expand the availability and use of the information resources found in many academic libraries throughout the state; 2) efficiently access needed information; while 3) containing costs through a collaborative program which reduces expenses (when compared to purchasing those same services, if libraries were to act independently).

Like any other complex organization, OhioLINK experienced some false starts during the early days of its creation. Nevertheless, a prescribed course was generally followed. It was recognized that each institution would have to invest in, or have access to, the same integrated library system with each supporting identical software. Assurances were made that institutions would receive financial support to make investments in new technologies. Staff had to prepare local card-based catalogs for an online environment if their particular library lacked an existing online system. For those that enjoyed an existing online system, migrating to the one required for OhioLINK participation was not always an easy task.

Also, a central catalog needed to be built which would merge and mirror all local catalogs. This central catalog would need to be a database which permits real-time updating of cataloging and circulation activities and includes online borrowing by patrons. The central system had to accommodate the loading of major databases, and the rapid access and delivery of materials -regardless of their original location- had to be assured. Add to all of this the small number of OhioLINK central staff, a heavy reliance on committees which represent all participating libraries, and the oversight roles of library directors, provosts, and the faculty, and it is clear that the environment required very special leadership.

Momentum began to increase dramatically in 1992, following the hiring of Mr. Tom Sanville as executive director of OhioLINK. Tom holds an MBA degree and had previous experience in the information industry. He grasped the unique nature of the project and the need to encourage and develop a collaborative organizational environment. Tom brought an understanding of economic and information management issues, coupled with a leadership style which facilitates collaboration. Through his efforts, we began to build upon the cooperative and supportive spirit found throughout the academic

library community in the state of Ohio. Under Tom's leadership, and with support from librarians in the participating institutions and those who fund higher education, Ohio has created a world-class, Internet-based, electronic library information system.

OhioLINK programs are supported by a robust network and related infrastructure which permit storage of and access to numerous databases, full text files, and the central online catalog. Some of the projects currently being implemented or planned for the near future include: storage and access to satellite mapping data images; online access to historic and unique aviation photographs; and from our own Kent collection, digital imaging of Kent's costume collection.

Within libraries, traditional practices are causing us to fall further behind as we attempt to cope with the influx of published information and the costs for that information, which have reached surd levels. Current planning within OhioLINK, therefore, calls for more use of the Internet and World Wide Web functionality to leverage investments made in electronic-based information. The OhioLINK system offers users the option to pass a search for an item from the local institution's online catalog to the central catalog, where availability of that item throughout the state is determined. If the item is not available locally, but is available in another library, it can then be checked out online and delivered to that particular user's local library. This generally takes about three working days and the service is provided to all users -students, staff, and faculty- completely free of charge.

Since the beginning of patron online borrowing in January of 1994, the central OhioLINK catalog (which now holds over 6 million titles representing over 21 million items) has been used to fill over 500,000 book requests. In the past, traditional interlibrary loans totaled only about 20,000 filled requests per year across member libraries. This is at least a six-fold increase in use. The escalating cost of books has placed more emphasis on sharing and planning for collaborative purchases. We know resource sharing through OhioLINK is both effective and efficient. Over 75% of requested items are delivered within three days to the patron's own library, using a courier delivery system whose cost to the library is about 20 cents per item shipped. Searching of the databases maintained by OhioLINK has grown dramatically since 1992, rising to over 10 million searches annually and still climbing. In November of 1992, OhioLINK supported access to ABI Inform, Dissertation Abstracts, Newspaper Abstracts and Periodical Abstracts. Today, access is provided to nearly 50 databases. Total OhioLINK central costs were running just under 30 cents per search in 1996 and these costs include license fees, staffing, hardware, software, and other operating expenses associated with providing access services. This represents an excellent value for the money invested.

Licensing of databases on a statewide level has been accomplished at a fraction of the cost when compared to individual library licensing agreements.

This is beneficial to all libraries both large and small. Kent would never have acquired more than a small fraction of these databases and certainly few would be available through network access. Resources once considered unavailable by many students and faculty can now be part of the primary collection that is searched, due to their increased accessibility.

The provision of electronically-based full-text journal articles is a strong example of the economic power of OhioLINK. Users can now order online an image copy of select periodical articles that a user has identified using an OhioLINK research database. The available full-text articles are from 1,000 general interest and business-related journal publications. Introduced just two years ago, this service has resulted in 700,000 articles and over 2.7 million pages, delivered at a cost this past year of 45 cents per article (compare with traditional document services that typically cost between $4.00-$20.00 per article). This service, called Power Pages, permits users to order journal articles contained in the database either from their own workstation or from workstations in the library. Once ordered, the copy of the article arrives in the local library within about 10 minutes and an image quality copy is printed for their use. This has been a very popular service, and has reduced the need to access many of our journal holdings.

Several months ago, OhioLINK achieved a precedent-setting agreement with Academic Press publishing house. This agreement provides electronic access to 175 primary research journals, beginning with the 1996 issues which are now be accessible electronically to constituents of OhioLINK member institutions. This one particular license agreement represents the equivalent of over 6,100 traditional library print subscriptions statewide and provides a five-fold increase, in terms of access, at a cost which is only 11 % over concurrent expenditures. In 1998, similar access will be provided to Elsevier journal titles. These examples and other activities of OhioLINK translate into a major enrichment of the library support available to assist the instructional mission and research goals of the universities and colleges in Ohio. This consortia arrangement clearly helps the state of Ohio attract the best students and faculty, for it provides a resource that maximizes use of information in classroom assignments and supports the research efforts of graduate students and faculty.

Now let's look at some of the advantages and disadvantages associated with participation in such consortium activities. Initially, OhioLINK subsidized the cost of hardware and software for local system host machines. For the 13 charter member institutions, this was an excellent way to get the consortium started. However, this event may have lulled campuses into a false sense of complacency. Now, four years later, when libraries face the first replacement cycle for these machines, they may not be prepared for the significant costs of replacing their local system. Kent State University will need to replace its KentLINK computer and upgrade its software within a year or so, which will total nearly $330,000. Also, it should be noted that once a consortium decision is made to purchase hardware and software from a particular vendor,

each member institution is then forced to accommodate and support that particular brand of equipment and related software in its local computing environment.

Equipment costs, systems and service support have changed dramatically with the advent of OhioLINK. In years prior to OhioLINK, most libraries needed relatively few computer workstations, because library could afford to maintain only a few online resources. Most libraries continued to rely largely on print sources. In an environment that supports only a local integrated library system and a few site licenses, equipment costs remained somewhat manageable. The work for systems departments was also relatively easy, with fewer workstations and only one or two different generations of machines, including those that supported the integrated online system. Thus, service support issues were relatively simple when compared with today, and decisions resided at the local level.

In today's OhioLINK environment, there is a pressing need for more workstations. Our users must increasingly rely on various of electronic products, for libraries have canceled most print counterparts. This heavy reliance on electronic sources means that every major library must support several hundred workstations of various generations, and in a complex networked environment which continuously requires additional wiring and upgrades. The fast pace of technological change has led to increased obsolescence, with the expected life of a computer workstation now at about three years. A larger and better trained systems support staff is needed to manage public service and staff work areas, various classrooms, and training of staff who make numerous and more sophisticated demands. For the library staff in general, there is a continuous need for training, for there are always more products and systems to learn, along with the related enhancements of each.

It is also possible to encounter a centrally-selected vendor who provides very little service. Within our consortium, we have had experience with vendors selected to complete specific projects who simply fail to perform. They may fail to deliver the equipment, maintain it, or fix it when it is broken. Further, software maintenance costs may be higher because a selected vendor may demand a more expensive maintenance agreement. Additionally, vendors sometimes fail to adhere to industry standards. The resulting non-standard applications can lead to untold staff hours across the consortium spent diagnosing and correcting a problem that would not have occurred otherwise.

The successful operation of the consortium requires an investment by local staff both in time and travel. Sometimes local sites need to support the re-writing of programs to process coming from other campus sources. For example, the Innovative Interfaces, Inc. (III) system used by the OhioLINK consortium requires that patron records appear in a MARC format. This change forced our Kent Library to work closely with the Registrar, Personnel, and Computer Services offices to rewrite code used to convert data from the Registrar and Personnel's offices into MARC format. Consortium-based

activities require considerable staff time from local library systems offices to maintain connections and centrally provide resources. Often these same staff will be asked to spend time testing software that has been developed for specific applications within the consortium (for instance, Kent has been asked several times to beta text and/or debug specific software that is being developed or tested for consortium-wide implementation).

Consortium functions occasionally require us to make fiscal commitments from local funds to support joint purchase of materials, products, services, and contracts which may not be of the highest priority at the local level, but clearly serve the common good. Local resource commitments are necessary to support consortium operations. This practice may mean that libraries must support a collective consortium-wide decision making process which may provide databases that are less important to their users than to users in other university environment.

As mentioned earlier, there are many benefits which result from a consortium relationship. Among them, one can consult many colleagues in the consortium who are struggling with the exact same policy decisions and hardware and software problems. By working together, colleagues quickly learn the issues and intricacies of the automated system. Also, group contracts can be negotiated with vendors, and hardware and software maintenance agreement costs can be reduced dramatically through such economies of scale. Another positive benefit of the consortium is that much of the staff training is provided through the coordination and support of the consortium. The consortium arranges discounted training from vendors and documentation can be written at the consortium level and shared with member libraries. Thus, the reliance on centralized services has an obvious "up" side. Most libraries do not have the funding or the expertise to provide such. (Further, some campuses have network policies and/or infrastructure problems that prohibit the implementation of CD ROM-based information networks). Another positive benefit of consortium participation is that local libraries cancel several subscriptions to electronic products that are now provided through the consortium. Thus, libraries are free to reallocate funds to support access to other unique materials and products that they otherwise could not afford.

The reliance on centralized services has meant that libraries have had to follow time lines and specific instructions as to when upgrades will be made in service offerings. Thus, the consortium by its very nature forces local libraries to make positive changes for the common good and in time frames as dictated centrally, e.g., many libraries are moving to Web-based services when normally they likely would have maintained a VT 100 environment for a much longer period of time.

Consortia like OhioLINK provide users with unparalleled access to materials, databases and resources. However, a much larger percentage of local staff resources will likely be devoted to support activities originating from other libraries. For example, at Kent, about 12% of our circulation activity last

year was devoted to users at other OhioLINK institutions. Of course, Kent users also received thousands of books from other member libraries.

While there is a loss of some local autonomy, we must not forget the many positive benefits of such consortia relationships. OhioLINK's recently negotiated prices with Elsevier and Academic Press dramatically illustrate the benefits. An annual inflation rate below 10% for the next three years was negotiated with each of these publishers. We have been able to cancel support for locally supported databases because OhioLINK maintains these same databases centrally. There are huge economies of scale. It should be noted that not all consortia enjoy central funding to support such advances in information management. However, most statewide or regional-wide consortia have an advantage over individual libraries, in that they are able to negotiate much lower prices for services.

Also, because of OhioLINK, we have been able to increase our local purchasing power by avoiding needless duplication in our book and journal collections. Currently, we are considering the possibility of a statewide approval plan which potentially could reduce service fees associated with vendor services. Overall, better informed collection development strategies are now possible at the local level, for we know what has been purchased by other libraries throughout the State.

It is obvious that, through OhioLINK, local libraries have options never before possible. It is now possible to engage in serious resource sharing activities, including cooperative and non-repetitive collection development efforts. Opportunities provided through consortium programming are truly significant.