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Abstract

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Keywords

Consortia, collaboration, libraries

Return on Investment for Collaborative Collection Development: A Cost-Benefit Evaluation of Consortia Purchasing

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Abstract

This paper describes the cost-benefits and the return on investment of one consortium comprised of five separately administered libraries in the University of Colorado (CU) System. With a long history of collaboration, the libraries have developed an ideal cooperative arrangement for acquiring electronic content that is accessible across all campuses. The size and flexibility of this institution-based consortium allows it to be responsive and successful in collaborating across four campuses despite different sized budgets and unique local and institutional constraints. To demonstrate the value of jointly leveraging library budgets to university administrators, the authors conducted a consortium level cost-benefit analysis and describe the methodology used to quantify return on the university's investment. This paper addresses both qualitative and quantitative outcomes and underscores how consortial participation has become an essential way of doing business.

Introduction

Increasingly, electronic resources have become the mainstream format for academic libraries. For the five libraries of the University of Colorado (CU) System, this transition from print to digital has transformed the ways these separately administered libraries license and purchase online materials. By collaborating on the purchase of electronic resources, the CU libraries have built a virtual aggregated collection that provides resources and collections formerly unavailable across all campuses. To demonstrate that the benefits of collaborative collection development outweigh the costs, the CU libraries conducted a return on investment (ROI) analysis of their combined budget. In the current economic climate, when university administrators are looking for ways to balance the budget, these metrics provide supporting data that justify continued university investments in library funding. Yet, these collaborative successes are not necessarily scalable. Adding more members does not automatically imply more savings. The greatest strength of the CU consortium is its size, flexibility, and shared vision. Using experiences of the University Libraries at the Boulder campus

and the Auraria Library at the downtown Denver campus, the authors will evaluate the benefits and challenges of the CU consortium within the context of the library literature, explore the current conditions that have impacted their collection development, and quantify the value of this collaboration.

The University of Colorado Context

The University of Colorado was founded with the Boulder campus in 1876. ("CU-Boulder" is also subsequently referred to simply as "Boulder".) The system has evolved into a network of three universities, four campuses, and five libraries. The five libraries include Boulder's University Libraries and the William A. Wise Law Library, Colorado Springs' Kramer Family Library, and Denver's Auraria Library and Health Sciences Library. Boulder is the largest campus and considered the flagship with thirty thousand undergraduate and graduate students, and five hundred courses in more than 150 areas of study. The University of Colorado-Colorado Springs (UCCS) offers thirty-four bachelor, nineteen master, and five doctoral degree programs to a rapidly growing student population of about 8,900. Since 2004, University of Colorado-

Denver (UCD) has two campuses located in downtown Denver at the Auraria Campus, and at the Anschutz Medical Campus in the adjacent city of Aurora. Together, they enroll more than 28,000 students and offer more than one hundred study programs in twelve schools and colleges.¹ In addition, Auraria Library also collects materials for vocational programs as a tri-institutional academic library administered by UCD, additionally serving Metropolitan State College of Denver and the Community College of Denver. When possible, the five CU libraries negotiate with vendors and publishers to build competitively priced packages for electronic resources. The libraries simultaneously acquire shared collections that support the needs of each campus which has a distinct role and mission in the state.

During fiscal year 1997 the president of the university system, John C. Buechner, established an initiative to promote shared technology and electronic resources across all of the campuses of the CU System. This mandate included funding that supported the licensing of shared electronic databases and journal packages for the libraries. This initiative was well funded at the start, but in 2006, after several years of reduced allocations, the university formally ended the funding for this program. Some resources had to be cancelled due to lack of continued funds, and the CU libraries began in earnest to identify strategies for continued joint acquisitions. These efforts were further encouraged by the chairs of the respective faculty assemblies from each campus who began lobbying the libraries for access to the same set of electronic resources on each campus. In response, the CU libraries consortium developed a charge centered around three themes: 1) to leverage library budgets by obtaining advantageous system-wide pricing and access to as many shared resources as possible; 2) to participate in larger consortia opportunities to facilitate acquiring commonly held resources; 3) to negotiate single system licenses with publishers and vendors leading to streamlined procurement and legal review.

The CU consortium has identified over eighty opportunities where two or more libraries found common needs and were able to negotiate a lower price or provide greater access to content through collective bargaining. This represents a 25 percent increase, more than twenty additional electronic resources, since 2006. By increasing the number of jointly licensed resources, the libraries have responded to formal requests from faculty for greater access to the same sets of resources. This is facilitated to the extent that publishers are willing to provide system licenses across campuses in three different locations and to the degree that individual campus budgets can support. In previous years faculty on one campus frequently complained about not having access to online resources available at another campus. While both the libraries and faculty assume there is value to shared journals and databases, explaining and championing the value of consortial purchasing in both qualitative and quantitative terms is becoming more and more important in economic downturns.

Benefits and Challenges of Library Consortia: a Literature Review

American libraries have a long history of working collaboratively and forming consortial organizations. This narrative begins in the 1890s and is well documented by Alexander² and Bostick.³ More recently, Perry⁴ and Guzzy⁵ chronicle the current trends in library consortia, despite practices varying widely in terms of mission, funding sources, staffing, structure, and services. To establish basic demographics of consortia, Perry surveyed the two hundred members of the International Coalition of Library Consortia (ICOLC), also known as the Consortium of Consortia. She found that 67 percent (28 out of 42) of participating consortia reported budgets of less than five million dollars, and nearly 60 percent (25 of 42) reported having one to five staff members. Most of Perry's respondents identified "licensing – renegotiations, budget management, and licensing – new acquisitions" as their top three priorities.⁶ From interviews

with fifteen consortia, Guzzy identified buying power, community building, and member advocacy as positive attributes. One consortia representative asserted that “their purchasing power helped to substantially reduce (sic) the cost for their members and save millions of dollars for these institutions.”⁷ Some challenges for consortia include shrinking budgets, membership decline, and inefficiencies. In particular, “the time spent on coordination may exceed the relatively small amount of money saved,” and “the ability to come to a consensus, get things accomplished, and communicate are still significant challenges in their organizations.”⁸

The positive and negative attributes identified by the consortia representatives are also echoed by the member libraries. At the local level, OhioLINK consortia libraries benefit from access to shared collections. They are able to pool funds and purchase electronic resources that many would not be able to afford.⁹ Challenges faced by OhioLINK include tracking consortia activities, relinquishing autonomy, contributing funds for programs that support consortia goals but may not benefit some individual members, and balancing commitments to multiple consortia. Kinner and Crosetto explain that “when a percentage of local funds is spent on consortial requirements, those funds are no longer available at the local level” and “losing any control of funds, especially in light of dwindling funds from upper administration, does impact resources offered at the local level.”¹⁰ Moreover, the weakness of consortia is passionately described by Peters in his list of “12 discontents”, including too many meetings, time delays, inefficiencies, ineffectiveness, sustainability issues, scalability issues, and too many consortia.¹¹

Despite certain management issues of consortia, the cost-effectiveness of collaborative collection development is well established. An important and effective strategy is the “Big Deal,” or multi-library contracts with publishers for access to electronic journals. Kohl and Sanville correct a common misunderstanding that the Big Deal saves money

or reduces expenditures; rather it is “primarily a means of substantially improving the purchasing power of the consortia and its library members by delivering proportionately more titles per dollar spent.” The justification is that “by paying a little more, [libraries can] get a lot more; it has become the overwhelmingly preferred mode of journal purchase for consortia worldwide,” which is another way of saying that libraries receive “more bang for the buck.”¹² In some ways the Big Deal benefits are related inversely to an institution’s collection development budget. Kohl and Sanville found that universities obtain a fourfold increase, four-year liberal arts colleges see a twentyfold increase, and community colleges’ benefits are “off the charts.”¹³ The savings and efficiencies of the Big Deal also have been demonstrated by Bucknell’s comparative evaluation,¹⁴ by Sanville’s cost per search/download analysis of databases,¹⁵ and by Bucknell’s usage-based study.¹⁶ Sanville asserts, generally, that we “can dramatically expand the information licensed per dollar spent and expand usage far above that possible (sic) through individual library action.”¹⁷

The vast majority of the library literature focuses on the history, creation, and benefits of consortia that are multi-institutional. Both consortia representatives and member library staff provide honest evaluations of the strengths and weaknesses of these relationships. While in the literature several authors quantify the increased access and purchasing power achieved by group licensing of electronic journals, the analysis presented here concerns a cost-benefit analysis of an *institution-based* consortium, and particularly purchases of electronic resources.

Collection Development within the CU Consortium

The CU libraries are members of several different consortia for cooperative collection building as well as shared services. Cooperative purchases represent 48 percent of Boulder’s and 56 percent of Auraria’s learning materials budget. For the most part,

Boulder and Auraria Libraries purchase their electronic resources cooperatively through three consortia: the CU system libraries, Colorado Alliance of Research Libraries (Alliance), and Greater Western Library Alliance (GWLA). Additionally libraries may belong to a network, such as Lyris, or to other consortia based on size and research library status. Generally, the CU libraries participate in Big Deals through the Alliance or GWLA. The Boulder campus' membership in GWLA allows participation by the other "sister" campuses. When it is appropriate or more advantageous the CU libraries will create CU System medium-sized deals. Their involvement in consortia depends on finding maximum access for minimum cost and effort. They will opt-out of an opportunity when there is no identifiable financial or time savings. According to established practices, the CU libraries have created an ideal cooperative arrangement that achieves an optimum balance of a library's individual and shared needs. As will become clear, unlike large multi-institutional consortia, the relatively small size of the CU-based consortium allows it to be efficient and effective.

In its 2003 survey report, the Center for Research Libraries (CRL) Working Group presented best practices for collaborative collection development. Based on interviews with leaders of eighteen programs, three basic categories of activities were identified: selection of print, electronic acquisitions, and access, storage and preservation. Chair of the CRL Working Group, UCLA Librarian, Cynthia Shelton, evaluated the programs in three areas: 1) formation and founding, 2) decision making, organization and administration; and 3) funding and infrastructure. The most favorable outcomes were achieved when consortia exhibited strong communication and consultation, adhered to clearly stated goals and maintained focus, demonstrated flexibility and adaptability, and attended to appropriate technological infrastructure.¹⁸

Using Shelton's analysis as a framework, the CU efforts can be viewed as a successful

example of an institution-based consortium focused on purchasing electronic resources. All five libraries are governed by the Regents of the University of Colorado, and as such they are obligated to follow the processes and procedures of the corporate entity. As members of the same university system, sister libraries are able to share the same contract administrator who is knowledgeable of individual and shared licenses, and share a centralized accounting system which enables CU libraries to charge one another's budgets. Each library has the authority to set priorities and to determine collection needs with budgetary and staffing oversight. Therefore, no obligation or requirement exists to participate in any CU consortium deals, and contributions are based on a library's ability to pay. This flexibility is essential.

Other consortia have noted the problematic nature of required participation. In particular, Westmoreland and Shirley explain that, "some libraries have been hurt by this forced acceptance of bundled packages and price escalation to the point where they are unable to purchase books and are expending all of their material funds trying to maintain their serial subscriptions. What's more, the problem extends to a lack of archival access."¹⁹ This point rings true for the CU consortia since each library has different priorities. For example, Boulder is Colorado's flagship public research library, and it has an obligation to maintain perpetual access to journal titles. In contrast, perpetual access is less of a priority to Auraria because its tri-institutional mission is focused on providing broad access to collections and supporting curriculum ranging from vocational training to doctoral programs.

The CU libraries follow Shelton's best practices by having shared goals and a history of clear communication, flexibility, and technological infrastructure. Rather than having dedicated consortium staff, each library is represented by one or two individuals from collection development, technical services, and acquisitions. Although this increases workloads for the representatives, the direct

contact with CU colleagues is highly beneficial. Members routinely meet every six to eight weeks, depending on the time of year and schedules. Face-to-face meetings are held at the Auraria Library because of its central location and easy access to public transportation. In advance of the meeting, members identify agenda items which typically include upcoming renewals, potential purchasing opportunities, relevant system-wide initiatives, and other operational issues. To help manage communication, the libraries subscribe to a web-based project management software, Basecamp. The software organizes in a centralized location emails, PDF licenses, title list spreadsheets, and other shared documents.

Many of the weaknesses that exist in other consortia are absent at CU. With only five libraries, the CU consortium is relatively small in number, but together they contribute to a combined budget of 7.5 million dollars in shared electronic resources. By comparison, only the top third of participants in Perry's survey had budgets greater than 5 million dollars.²⁰ Generally, then, the CU libraries jointly have a respectable budget, but not too many players who can delay the decision-making process. Negotiations occur relatively quickly, and meetings are effective, efficient, and scheduled at reasonable time intervals. The benefits gained for the CU libraries are derived from leveraging the consortium's size, buying power, and agility. However, if this consortium entertained adding more members outside of the CU group, it is likely that such a move could negatively impact communication, flexibility, and manageability.

A Sustainable Model of Cooperative Collection Building

In the four years since system funding for joint purchases ended, the CU libraries have successfully built a sustainable model for the cooperative acquisition of electronic resources. This infrastructure will become increasingly important as technology driven enhancements lead to new formats for content and new ways to package and present

content, such as streaming media, social media, and mobile devices. At the same time, economics and the changing marketplace make it increasingly challenging to identify the greatest return on investments.

The five libraries are quite different in terms of materials expenditures. However, by building a collection of as many commonly held resources as possible, the CU consortium has leveled the library landscape. Resources formerly available only on the Boulder campus are now accessible at the smaller campus in Colorado Springs. The University can point to a virtual shared collection accessible at each library. As noted earlier, the main library at Boulder is the largest institution and contributes the largest percentage of funding to support system-wide acquisitions. Boulder takes the lead on more than half of the negotiations, renewals, and licensing. As an example of this leadership, when possible, some publishers will offer the other campuses access to CU-Boulder-licensed resources for a modest annual fee while Boulder retains the subscriptions to the full-text journal package. A few publishers, especially providers of historical databases where new content is not added, also allow access across the entire CU system to resources purchased by one library. In these scenarios, other campuses may contribute to funding the leading library's expenditure, if needed. In certain cases, resources are of interest to two campuses but not to the others, but for a single price two or more libraries can subscribe. For instance, both the Health Sciences and the Colorado Springs libraries support nursing programs and acquire databases and journals in this subject area. They may acquire a database that three libraries are interested in while the Boulder campus libraries that do not support nursing degrees will opt out. In short, the institution-based consortium allows for considerable flexibility.

Most recently, the CU consortium is working with a vendor that will permit multi-user access of patron-driven acquisitions of e-books through the Boulder library. To support cooperative collection building, the



proposed plan is for the other campus libraries to acquire multi-user access to titles in areas of mutual interest that will result in significant cost savings. The growing emergence of e-books, as well as vendor options for patron-driven acquisition of print books, opens up unlimited possibilities for collaboration. Given the shared vision and ability for the five libraries to jointly acquire e-content, coordinating patron driven selection plans will be far less challenging than it would be in a larger consortium where the membership is much more independent and the numbers far greater than five.

While the literature describes challenges for consortia related to issues of operational management, autonomy and funding, the CU consortium has found that its size, flexibility, and common goals have led to a more systematic approach in acquiring and renewing major packages. The group has developed standardized consortial practices involving consistent workflows and communication with campus legal officers, deans, directors, and others. The CU consortium also offers a venue for the participants to discuss development of the collections and publisher trends, to explore campus issues and programs, and to consider responses in relation to activities spearheaded by other consortia.

As budget cuts have taken hold across all the libraries, this infrastructure has helped to lessen the impact of the cuts to e-journals and databases. The members as a group are able to re-negotiate contribution levels and are not locked into the same levels that were originally determined. This occurs when a resource is paid for mostly by one campus but with the other libraries contributing for the greater good. In times of budget cuts one member's contributions may be significantly decreased but others may increase their share. In larger consortia there are examples of flexibility during economic downturns, but the experience at CU reveals an ability to hold members harmless in a manner far more flexible than in larger consortia.

Qualitative and Quantitative Evidence

By the fall of 2009, Boulder was facing a second round of inevitable budget reductions. Instinctively, the CU libraries knew that cutting Boulder's library materials budget could have catastrophic impact on their consortial purchasing and on the other libraries' collections ultimately. The need to communicate the interdependent relationship of the CU libraries and its continued support to the university officials arose. The complexities of the Big Deals can be overwhelming and confusing even to experienced collection development and acquisitions librarians. Communicating the nuances of intricate negotiations in quick and simple concepts for senior library administrators and university officials is daunting. The fear is that short "sound-bites" will be misunderstood, which could lead to uninformed decision-making with dire consequences for the library.

Established models of collection development analysis rely either on detailed study of titles held or on cost-per-use. These are valid ways for librarians to assess collections, but such data could be misinterpreted (or misused) by senior administrators. Recently, Cornell University libraries offered a different approach in conducting a fair market assessment of library collections and services to point out the low cost and value that academic libraries provide as opposed to the costs for these services if they were delivered openly by for-profit business entities.²¹ For the CU consortium, another metric was chosen that points out the greater value of its shared collection building for the University system, an approach that used a combination of qualitative and quantitative analyses.

The CU libraries gathered accounts and reports that described the benefits that students and faculty received from consortia purchases. Members of the CU consortium requested feedback from subject selectors and reference librarians on collaboratively purchased e-resources. Auraria Library reference and instruction librarians could im-

mediately list several journal packages and databases that were purchased through the CU consortium and were well-used by students and faculty in the areas of Biology, Economics, Engineering, Health Sciences, Political Science, Psychology, Public Affairs, Sciences and even Sport, Fitness, and Physical Education. Some e-resources identified included ACM Digital Library, American Chemical Society Journals, American Institute of Physics Journals, Cochrane Library, IEEE Xplore, Knovel Library, LexisNexis Congressional, Nature journals, Proceedings of the National Academy of Sciences, Sage Journals, ScienceDirect, SpringerLink, and Wiley-Blackwell Journals. To explain the impact of the CU consortium acquisitions on Auraria Library's collection, the Science and Engineering Collection Development Librarian, Elaine Jurries states:

I would get numerous requests from faculty to order this journal or that journal, along with the comment "what a lousy journal collection Auraria has," or words to that effect. In the past four to five years, I rarely get requests for individual journals. The silence from the faculty in regard to journals, tells me that by and large, their journal needs are being met by the wealth of journal access we now have by virtue of the CU deals.... These packages represent literally thousands of journals with full text access. On our own, I would venture to say that we would have access to a couple hundred of these journals.

Jurries also described two specific instances when the CU purchases made a profound impact. In 2007 she recalled that two UCD faculty members in the engineering and mathematics departments requested a science journal which had a list price between seven and eight thousand dollars. The Auraria representative asked the CU libraries to consider negotiating for a consortial purchase.

In the end, the CU libraries succeeded in obtaining the entire collection for approximately the price that Auraria would have paid for the single title. More recently, Jurries helped a UCD Engineering Ph.D. student who was desperate for an article in an Energy and Environment journal. She was able to steer the student quickly to the online version. He was ecstatic. This happy moment was made possible by a CU and GWLA consortial agreement. Jurries concluded by saying, "We would not have been able to afford all this content on our own, and our PhD programs would not be as richly served."²² These types of anecdotes gave the CU deals wider, qualitative context for understanding the personal significance and meaning of these purchases.

Cost Benefit and Return on Investment

To quantify the relationship, the CU libraries used a combination of Cost Benefit Analysis (CBA) and Return on Investment (ROI). CBA/ROI studies have become increasingly popular in librarianship. A well known ROI article is the Elsevier sponsored study of the library's value of grant funding at the University of Illinois Urbana Champaign in 2008 and at eight institutions in eight countries in 2010.²³ More recently, Springer commissioned the research firm, Outsell, to conduct an ROI study on science, technology, and medicine e-journals in corporate libraries.²⁴ This study notes that there are "few standardized approaches to the enterprise level ROI assessment," and it stresses the importance of creating methodologies to "communicate the business impacts of information investment and usage".²⁵ In addition, the National Network of Libraries of Medicine (NNLM) has been providing since 2008 "Measuring Your Impact: Using Evaluation for Library Advocacy" workshops that feature CBA/ROI studies.²⁶

Inspired by these activities, the Boulder and Auraria libraries applied CBA and ROI calculations to convey the value of their collaborative purchasing. This practice appears to be largely uncommon. A scan of the lite-

rature identified only Daniels as publishing an account of a cost-benefit analysis to prove the worth of medical libraries in a pediatric hospital system.²⁷ Since Boulder is the ARL (Association of Research Libraries) member library for the CU system, it has the largest budget and often takes a lead role during pricing and licensing discussions. Together, the five libraries have the buying power of over seven million dollars, an amount that provides financial leverage to negotiate with a variety of vendors and publishers.

Moving to the CU analysis then, and drawing on the work of executives from the NNLM, Susan Barnes and Maryanne Blake, it is understood that “CBA is the ratio showing dollar value of benefits gained for dollar value of costs,” and “ROI is the percentage showing the return or increase in value on dollars spent to achieve a benefit.”²⁸ Both formulas use the same variables, benefits and costs, to describe a calculated value expressed as a ratio (CBA) or percentage (ROI).

No deal is too small or too large for CU libraries. To calculate the CBA/ROI, the library included any purchase where at least two CU libraries obtained access, reflecting Peggy Johnson’s definition of collaborative collection development as “the sharing of responsibilities among two or more libraries for the process of acquiring materials, developing collections, and managing the growth and maintenance of collections in a user-beneficial and cost-beneficial way.”²⁹ The types of e-resources CU libraries purchased or renewed range from a single-journal title to a large publisher package—the lowest cost being one hundred dollars and the highest over two million dollars for a single publisher package. The average cost was \$83,590.26, and the median cost \$10,494.00 during the 2010 fiscal year (July 2009 to June 2010).

With guidance from Barnes and Blake, the CU libraries adapted the CBA and ROI formulas to its consortium analysis. A CBA is typically calculated by dividing benefits by costs (Benefits ÷ Costs). In collaborative pur-

chasing, the CBA value of the benefit is based on the total consortia cost to access the shared CU e-resources divided by the individual library’s monetary contribution for those materials. For example, Auraria has access to about sixty CU deals, the value of the benefit to purchase these e-resources is 6,940,215.51, and Auraria’s share of the cost is \$851,043.76. Therefore, for every US dollar Auraria spends, they receive \$8.15 in consortium purchased e-resources. By comparison, for every US dollar Boulder spends, they receive \$1.56 because they pay \$4,693,822.83 to access over eighty e-resources having a combined value of \$7,316,937.08 (see Table 1).

The formula for ROI is benefits minus costs divided by cost multiplied by one hundred, or ((BENEFITS - COSTS) ÷ COSTS) × 100. The CU libraries determined their ROI by subtracting the individual library contribution from the system price, by dividing each library’s portion, and then multiplying by one hundred. Using the same CBA variables, the ROI for consortia purchasing is 715 percent for Auraria and 56 percent for Boulder (see Table 2). This analysis also provides a way for the CU libraries to emphasize Boulder’s significant role in the consortium, since they contribute 64 percent, the greatest proportion of the expenses, versus Auraria’s 12 percent share. For example, a 10 percent cut to Boulder’s budget would reduce their portion by almost 470,000 dollars which in turn would lower the CU libraries shared budget by 6.4 percent, or to 6.9 million dollars. By presenting a combination of qualitative and quantitative evidence, the Boulder and Auraria libraries provided compelling evidence for the value of collaborative purchasing to library administrators and university officials. In the end, they were able to take their consortia purchases “off the table” for cuts and continue to provide greater access to e-resources for at least another year.

Table 1. Auraria and Boulder Libraries Cost Benefit Analysis (CBA)

| Library | # of Resources | System Price | Library Share | CBA |
|---------|----------------|-----------------|-----------------|--------|
| Auraria | 61 | \$ 6,940,215.51 | \$ 851,043.76 | \$8.15 |
| Boulder | 81 | \$ 7,316,937.08 | \$ 4,693,822.83 | \$1.56 |

Table 2. Auraria and Boulder Libraries Return on Investment (ROI)

| Library | # of Resources | System Price | Library Share | ROI |
|---------|----------------|-----------------|-----------------|------|
| Auraria | 61 | \$ 6,940,215.51 | \$ 851,043.76 | 715% |
| Boulder | 81 | \$ 7,316,937.08 | \$ 4,693,822.83 | 56% |

Conclusion

Although the notion of collaboration among university systems is not new and is highly visible among consortia such as the University of California system, this paper addresses the collaborative model of a smaller and more nimble institutional consortium. Consortial benefits have financial and organizational limitations that must be factored into the value assessment. The qualitative and quantitative analysis presented in this study is a beginning step toward a long range methodology to create a value assessment picture for one university consortium's collection investments. While campus administrators and faculty hold a perceived value of the library and its role as central to teaching and learning, pointing to a range of metrics that can translate into sound-bites and quick statistics helps to prove the case. Metrics such as CBA, ROI, cost-per-use, cost avoidance, and fair market values are all important indicators of value assessment. What would be even more useful, but outside the scope of this paper, is to provide additional quantitative and qualitative data that demonstrate the impact on the university's teaching and research mission. How does access to these resources increase efficiency? How does it improve teaching? Can we trace the use of library resources to obtaining research grants and the dollars generated? Does access and use translate into scholarly articles, and is this quantifiable?

It is clear that in today's world of technological innovation, publisher mergers and

buy-outs, along with growing economic constraints, libraries can no longer afford to view collection building as a solitary, individual library-driven activity. Although consortial benefits are assumed, there exist downsides to participation in large consortial arrangements, such as inflexibility, required contributions with little benefit, inefficient communication and time management. As Perry states "...every single consortium is unique in terms of its mission, funding sources, staffing patterns, priorities, membership, history, and so forth."³⁰ It is hoped that this focus on a tightly knit university system consortium highlights the over-arching benefits, and that this article will contribute to a broader discussion of the role consortia play in library collaboration.

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