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The LibValue Project: Three Reports on Values, Outcomes, and Return on Investment of Academic Libraries

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Introduction

In today's economic climate, university libraries are under pressure to measure and demonstrate their value to faculty, students, and their institutions.

And, with many opportunities for new services and new roles, academic librarians need tested ways to measure the benefits, value, and outcomes of both traditional and new services and collections (Tenopir, 2012).

Values, Outcomes, and Return on Investment of Academic Libraries ("Lib-Value"), a three year study funded by the Institute of Museum and Library Services (IMLS), is testing multiple methods for measuring multiple values of academic libraries to stakeholders. Lib-Value primary partners include the University of Tennessee, University of Illinois, Syracuse University, and the Association of Research Libraries, with many other academic libraries participating in individual studies

(<http://libvalue.cci.utk.edu/>). Lib-Value is looking at the contribution of the library to the university's functional areas of research, teaching and learning, and socialization or community building now and into the future. It is examining the value, outcomes, and return on investment of many library collections, services, and physical space issues. JISC Collections funded an expansion of the study of the value of scholarly collections to six universities in the U.K.

First, it is helpful to define value, outcomes, and return on investment. In the information context, economist Fritz Machlup described two types of value:

1. Purchase or exchange value: that is, what one is willing to pay for information in money and/or time.

2. Use value: the favorable consequences derived from reading and using the information. (This can also define outcomes.)

In the strict sense, return on investment (ROI) is an economic measure expressed as a ratio that shows the value returned to the institution for each monetary unit invested in the library. It can be used to show that the library contributes directly or indirectly to the income of the university, from increased success in grant proposals, increased donations, or economic contributions to the local or regional economy from an educated workforce (Luther; Florida). In a softer sense, ROI calculations can show values of all types that come to stakeholders and the institution from the library's collections, services, and contribution to its communities. Value, outcomes, and ROI can be measured in many ways (Tenopir & King, 2007).

This paper presents initial findings from three studies: 1) value and outcomes of e-journal collections; 2) value of the library instructional services to teaching and learning; and 3) use and value of e-book collections.

Value and Outcome of Article Readings

(Carol Tenopir)

Faculty members were surveyed in 2011 to determine the number of articles, books or book chapters, or other scholarly materials they read; how the readings were discovered and obtained; and the outcomes and value of those readings. Since these surveys ask questions about the last article reading, even those that did not come from the library's collections, the relative value of the library can be compared to the value of readings from other sources. By focusing on the critical incident of last

reading, specific outcomes that come as a result of a specific reading can be gathered using both quantitative and qualitative techniques. The surveys follow the techniques used since the late 1970s by Tenopir & King for article readings (see for example, Tenopir, et al 2000 and 2009).

The results presented here are from six universities in the United Kingdom, where surveys were conducted in the spring of 2011. Of approximately 12,600 total faculty members in these six universities, 2,117 responded to our web-based questionnaire, for a response rate of 16.8%. Several universities in the U.S. are surveying faculty members and students in the academic year 2011-2012.

Academics read a lot—they report on average reading each month 25 articles, 8 books or book chapters, and nearly 12 other publications (including conference proceedings, government documents, or other reports). This investment in time is one measure of the value of scholarly reading. This paper focuses just on the readings of scholarly articles.

Nearly two-thirds (65%) of article readings come from the library, in particular library-provided e-journal collections. Of the readings from the library, 93% are from the library's e-collections. An additional 14% of article readings are identified as coming from the "free web", some of which may in reality be made accessible as a result of linked library subscriptions that may not be readily apparent to end users.

Although the library is the main source for article readings, only 2% of all article readings in these six universities were actually read in the physical library. E-journal collections provide the value of convenience for faculty members by providing e-access and the ability to read in the office or laboratory (62% of article readings), at home (26% of article readings), or elsewhere.

Usage statistics also show how much library e-collections are used. They cannot show outcomes of readings, however, unlike surveys using critical incident of reading or in interviews. In the U.K. in 2011, academics reported many positive outcomes to the purpose of the last article reading. These include, in priority order:

1. Inspire new thinking or ideas (54%)
2. Improve results (38%)
3. Narrow, broaden, or change the focus (28%)
4. Resolve technical problems (10%)
5. Save time or other resources (10%)
6. Aid in faster completion of purpose (5%)
7. Assist or result in collaboration or joint research (4%)

Amounts of reading can also be tied to faculty success. Faculty members who demonstrate success by publishing or winning more awards on average also read more on average and read more from the library. These findings are confirmed by recent studies in the U.K., which demonstrated a relationship between faculty productivity and number of downloads (Research Information Network, 2011).

The Lib-Value and JISC reading studies reported here use quantitative and qualitative techniques to measure and demonstrate exchange value and use value/outcomes of access to library e-collections. The value of library instructional services to teaching is discussed in the next section.

Value of Library Instructional Services to Teaching and Learning

(Rachel A. Fleming-May)

While value and return on investment studies have investigated the role of library resources and services in faculty productivity, attention has only recently turned to assessing the impact of academic libraries on teaching effectiveness. This fall, researchers at the University of Tennessee launched a large-scale study of this issue, the first phase of which was a campus-wide survey of instructors, including tenured and tenure-track faculty, full-time clinical faculty, part-time instructors, and graduate teaching assistants. Survey respondents were asked to describe the ways in which they utilize the UTK Libraries in support of their teaching. Specifically, the survey inquired about use of print and electronic collections, physical space in the libraries like the Commons and group study rooms, facilities like the digital media creation studio, reserve and circulation services, and the expertise of UTK research and instruction librarians. Although we tend to think of education's value in terms on non-tangibles, we

asked instructors to estimate the amount of time and money they save in a typical semester as a result of using library resources and services to facilitate their teaching and their students' learning. In light of the legislation related to the cost of textbook materials to students recently passed at both state and federal levels,¹ we were particularly interested in ascertaining the extent to which library-subscribed e-resources were being adopted as course readings.

While the study is still ongoing, preliminary findings are intriguing. Respondents from all demographic and disciplinary areas report broad usage of the libraries' resources and services in support of teaching, and they acknowledge their value in time savings, especially. Many report improvement in their students' work as a result of using the library as well as gains in their own teaching success.

Unforeseen difficulty in distributing invitations to participate in the survey has extended the data collection phase for this project; we have recently released a second round of invitations targeted to specific academic departments and programs that we felt were underrepresented in the initial wave of responses. Getting the survey to graduate teaching assistants and part-time (or adjunct) instructors has been particularly challenging. Ironically, these are groups of instructors we anticipate reporting the most use of the libraries' physical facilities. Although we know that GTA's and other non-full time instructors meet with students, read, and prepare course materials in campus libraries across the country, we are anxious to generate empirical data demonstrating the importance of this function for instructors who do not have the luxury of a private—or any—office. These are also the instructor groups we perceive as most likely to be in a position to appreciate the financial savings afforded to them by using the library.

The survey is also serving the purpose of both informing respondents of resources and services of which they may not have previously been aware, and providing them with the opportunity to submit contact information in order to "learn more" about the libraries' teaching support. We plan to follow the survey with real-time conversations with instructors and have used the survey to collect con-

tact information for those willing to speak with us further.

E-book Value at the University of Illinois at Urbana-Champaign (UIUC)

(Tina E. Chrzastowski)

The University of Illinois at Urbana-Champaign (UIUC) Library's participation in the Lib-Value grant focused on an important and growing collection that had not yet been locally studied: e-books. Beginning in the early 2000s, UIUC began to systematically purchase e-books in large packages. In addition to collecting e-books by broad subject areas, other, more specific collection practices, such as acquisitions from e-book vendors and as single purchases from an individual publisher, continued to add e-books to the collection. In FY2011, over 129,000 e-books were added to the collection, now totaling over 610,000 e-books. This study looked at numbers of e-books in the UIUC Library collection, their cost, use, and cost-per-use. In addition, the opportunity was presented to participate in a global study of e-book use sponsored by Elsevier publishers. Since the focus of this study was the value of e-books to users, the UIUC library readily agreed to participate, hoping to determine how our users value e-books.

Before the study could begin, it was necessary to determine the definition of value. Three types of valuation emerged as critical to e-book assessment: the financial valuation of e-books, the usefulness of e-books to our user population, and finally the "esteem" our users assigned to e-books. The first two types of value (both quantitative), cost and use, were determined by examining local data gathered from our Voyager acquisitions system and from publisher use data. Voyager coding, input into each e-book purchase, helped us to determine the number of e-books purchased and the cost associated with those purchases. Because we depended on this internal coding, and knowing that coding can sometimes be unreliable, the data are ballpark at best; but even ballpark data have proved useful. Use data was more laborious to retrieve and meant visiting each publisher site with a correct login and password to locate and download e-book use data. COUNTER data were used for this study and a "use" of an e-book was counted when a user successfully

viewed or downloaded a section (generally by chapter) of an e-book through the vendor's portal. This method corresponds to COUNTER Book Report 2 (Number of Successful Section Requests by Month and Title). Of the vendors for which we could get

information, 75% used COUNTER-compliant statistics; however, only 82% (33 of 40) of e-book publishers were able to provide use data, resulting in an undercounting of e-book use.

Table 1. E-book use and cost data for the UIUC Library's eBook collection, FY2008-2011. (From Chrzastowski, 9th Northumbria Performance Measurement Conference Proceedings).

Fiscal Year	#E-books (Cumulative)	Amount Spent	#E-books Added from Previous Year	Avg. \$ per new E-book	Total Uses	Cost Per Use
2007	292,002	\$185,991				
2008	345,186	\$224,047	27,531	\$8.14	151,089	\$1.48
2009	411,364	\$204,678	66,178	\$3.09	251,273	\$0.81
2010	484,768	\$383,167	73,404	\$5.22	563,871	\$0.68
2011	614,203	\$732,725	129,435	\$5.66	709,944	\$1.05

The data in Table 1 show the very reasonable cost per e-book and the corresponding use, which results in a cost-effective cost-per-e-book-use. The growing number of e-books uses over time offers encouragement to selectors who might be wondering if e-books are successfully finding users. Data also showed that use continues to grow, outpacing collection expansion. In 2008, 20.2% of the e-book collection was used, and by 2011 that percentage of use has grown to 36.9%, showing that growth in use is not based solely on growing numbers of titles available.

Based on the data gathered to quantitatively study the e-book collection, a good case can be made from the library's perspective to continue to invest in e-books and make them accessible. However, libraries are service-driven and more important than quantitatively understanding a collection's value; libraries need to answer a more critical question: what do users think?

In 2010, the UIUC Library was asked to participate in a global study of e-book value conducted by Elsevier.

The project, which allowed us to look specifically at our UIUC users, asked researchers to fill out logbook diaries for up to four Elsevier e-book; participants were given up to four weeks to complete the diaries. After the final logbook diary was completed, a final questionnaire was administered. Three questions concerning value were posed; researchers were asked to rank the value of each e-book used on a 1-10 scale, they were asked to categorize each e-book viewed on a scale from "could have done without" to "need to have," and finally they were asked to rank value on a seven-point scale, from "extremely valuable" to "not at all valuable."

The results were very similar to those found in previous user studies. Overall, e-book users value the e-book format; 67.4% of respondents characterized the e-book they used as either "nice to have" or "need to have." Interestingly, the qualities that e-book users valued were predictable (download a PDF, read from the screen), but most interesting was what they did not value. Survey respondents did not value sharing e-book text with others, making print copies from e-books, or "copy and pasting"

parts of text. These findings should help to relieve publisher fears of oversharing from e-book formats.

Taken altogether, this study shows that e-books are growing in use and popularity at UIUC, that they are incredibly cost-effective to own, and that users value having access to e-books. The results from this study were first presented at the 9th Northumbria Performance Measurement Conference on August 25, 2011 and the proceedings will be published by Emerald Publishers. Please see that site for a full representation of this study's results, including more detailed tables and figures.

Conclusions

These three diverse examples of measuring value in libraries are just a few of the many Lib-Value projects now underway. A complete list of projects can be found at <http://libvalue.cci.utk.edu/>. In order to inspire libraries to undertake and complete assessment projects, Lib-Value plans to offer many models, tools, and strategies tailored to meet diverse environments and differing needs. In addition, our website hosts an extensive database of library value and ROI-related literature and an opportunity for you to leave us feedback or contact us for more information. Please visit us soon!

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ⁱ See the Higher Education Opportunity Act, P.L. 110-305, Sect. 112 and 133; Walters, Anne K. "New Laws on the Books." *The Chronicle of Higher Education*, July 7 2006.