## ESSAY

# Counting the Costs of Acquisitions: Using Cost-Benefit Analysis in a Seminary and University Library

## by Verena Getahun and William Keillor

ABSTRACT: This essay considers how cost-benefit analysis may be used in a small to mid-sized library to identify cost-savings in the acquisitions of monographs. The essay highlights parallel studies conducted at Luther Seminary Library and Bethel University Library which compared prices, discounts, and time costs across a range of vendor types to identify whether searching for the best price per item is cost-effective, and how much this strategy could save yearly in acquisitions. Both libraries found that substantial potential savings were identified through this study.

#### INTRODUCTION

While not always at the forefront of the library literature, the subject of library acquisitions inevitably receives more attention in a difficult economy. Libraries may take a greater interest than usual in the acquisitions process, and in identifying ways to be cost-effective and efficient. However, it may not be clear how best to identify inefficiencies or to determine whether changes being contemplated will in fact be cost-effective. Furthermore, as budgets are under more scrutiny, better methods for collecting and presenting data may need to be identified, whether for use in the library or as a way of communicating to external constituents.

Luther Seminary Library and Bethel University Library acquisitions staff considered these issues within their departments by looking at relevant literature to find information from other libraries about examining costs, and subsequently each conducted similar cost-benefit studies to determine the cost-effectiveness of making changes to the way vendor services are used to acquire books. The purpose of these studies was to gather and analyze data for decision-making, but the usefulness of taking the time and effort to conduct such a study altogether was also a concern.

Both libraries found that there were a variety of benefits to the process. Each collected data to help to make informed decisions for how to reduce costs of acquiring materials. In addition, this process provided these two libraries with an opportunity to evaluate the time-costs of procedures and the performance of vendors, to find ways to collect data from that could be communicated easily to internal and external groups, and to cultivate a sense of readiness to react wisely to change by being well-informed.

## LUTHER SEMINARY LIBRARY

The library at Luther Seminary, located in St. Paul, MN, collects materials to support the information needs of the students in their studies at the Master's and Doctoral levels, and, to a lesser degree, of the faculty in their teaching and research. One part-time staff member handles acquisitions, and the selection process is a joint effort of the director, reference librarian, faculty, and seminary community. The materials budget is just under \$250,000, of which about 40% is spent on monographs. The library uses those funds to acquire materials through three main sources: a domestic library book vendor (about 30%), a foreign-language library book vendor (about 9%), and

Verena Getahun is Acquisitions Supervisor at Bethel University Library in Saint Paul, Minnesota. William Keillor is Acquisitions Coordinator at Luther Seminary Library in Saint Paul, Minnesota. online vendors, predominantly Amazon.com (also about 9%). This also leaves a large number of orders that are handled by miscellaneous vendors, distributors, and publishers.

In response to the recent economic crisis, the library is reviewing standing orders, which account for about 17% of the acquisitions budget. As cost becomes a determining factor, shifts occur in the selection of vendors used to handle these orders. This process of comparing vendors for standing orders, in combination with an ever-increasing percentage of orders being placed through Amazon.com or sources other than library vendors, has made the question of how to identify real savings both in terms of cost and time increasingly important to decision-making and evaluation.

## Bethel University Library

Bethel University, located in Arden Hills, MN, is a Christian liberal arts institution, enrolling around 3,000 undergraduates and just over 2,000 graduate and continuing education students. The University Library supports the educational pursuits of the Bethel community with twenty full-time staff and a materials budget just under \$0.5 million.

To identify the resource needs of the various programs the library serves, the collection development librarian works with department chairs or program directors to select materials. One full-time staff member, assisted by part-time student help during the school year, handles the processing of firm and standing orders and monitors the materials budget, of which 61% is spent on serials and 15% on monographs.

Over the last two years, the library's budget has remained flat in the face of rapidly expanding graduate programs. The library has managed to save costs by judiciously cancelling periodical subscriptions and sharing electronic resources through consortium with seven other local institutions. When placing orders for monographs, the library submits orders to a variety of vendors, making item by item decisions based almost exclusively on price. This results in a distribution that, for this past fiscal year, saw almost 80% of firm orders going to online booksellers, with only 21% being supplied by a traditional book vendor.

### VENDOR SERVICES AND ACQUISITIONS

In general, the practice of library acquisitions has two driving principles: get the proper materials quickly, and get them as cheaply as possible. A review of acquisitions literature over the past few years shows an increasing reliance on electronic services, usually provided by the vendor, to meet the goal of getting and processing materials quickly.<sup>1</sup> Using services such as EDI ordering and importable bibliographic data, libraries have dramatically reduced the turnaround time for newly requested items.<sup>2</sup> Shelf-ready processing and electronic approval slips reduce the manual steps and staff time required<sup>3</sup> to get materials into the library.

<sup>&</sup>lt;sup>1</sup> Barbara S. Dunham and Trisha L. Davis, "Literature of Acquisitions in Review, 1996-2003," *Library Resources & Technical Services* 52, no. 4 (2008): 245-246.

<sup>&</sup>lt;sup>2</sup> Janet L. Flowers and Scott Perry, "Vendor-Assisted e-Selection and Online Ordering: Optimal Conditions," *Library Collections, Acquisitions, & Technical Services* 26, no. 4 (2002): 402. Sha Li Zhang, Dan Miller, and John Williams, "Allocating the Technology Dividend in Technical Services Through Using Vendor Services," *Library Collections, Acquisitions, & Technical Services* 26, no. 4 (2002): 387.

<sup>&</sup>lt;sup>3</sup> Sue McKnight, "Acquisition and Cataloguing Processes: Changes as a Result of Customer Value Discovery Research," *Evidence Based Library & Information Practice* 2, no. 4 (2007): 28-29. Jacqueline Coats and Joseph Kiegel, "Automating the Nexus of Book Selection, Acquisitions and Rapid Copy Cataloging," *Library Collections, Acquisitions, & Technical Services* 27, no. 1 (2003): 35.

But what of the other acquisitions priority, getting materials as cheaply as possible? As Zhang, Miller, and Williams<sup>4</sup> point out, the heavy investment vendors are making to develop ever-better technological aids may mean that libraries will need to accept slightly lower discounts to maintain a mutually beneficial relationship. In the face of shrinking budgets, libraries will need more reason than ever to demonstrate the benefits of increased efficiency, and some may choose to turn away from traditional vendors to the deep discounts available through Amazon.com and other online stores.

Discount bookstores such as Amazon.com are able to offer fast shipping and significantly lower prices<sup>5</sup> (especially for trade books; discounts on scholarly or academic titles are considered in the current study). In addition, these sites often provide a convenient link to third-party sellers (e.g., Amazon Marketplace), making the purchase of out-of-print or used books, widely available<sup>6</sup> on the Internet, increasingly easy. As online booksellers expand their reach, they are adding services<sup>7</sup> once offered only through traditional book vendors, such as adding spine labels and generating MARC records.

#### THE POTENTIAL OF COST-BENEFIT ANALYSIS IN LIBRARIES

With so many variables in the vendor relationship, the authors wondered what the optimal vendor, or combination of vendors, might be for their respective libraries. It seemed that cost-benefit analysis might be a good tool to employ in order to answer this question.

A cost-benefit analysis is a way of collecting and using data to help make decisions that will be cost effective. Hulme defines the cost-benefit analysis (also called a cost-effectiveness analysis) as being substantially similar to standard evaluations of any service that a library might conduct, with the exception that "it also adds the costs associated with the provision of these services into the mix<sup>8</sup>." A cost-benefit analysis can best be seen in the library setting as a potential tool for good decision making, as well as a way to establish ongoing evaluation if necessary, to clearly present a situation to constituents or administration, and to evaluate the nature of the library's work in the area that is studied.

There are three basic steps to conducting a cost-benefit analysis. First, the central question and the range of choices must be defined. This is the driving force behind the analysis, because the nature of the question will affect the data that needs to be collected and the way in which that data in interpreted. Second, the data must be collected. Finally, the data must be evaluated as part of the overall picture of the costs and benefits of the different choices; this evaluation results in suggestions for the best decision, while also accounting for any problems or holes in the data and for costs or benefits that could not be measured.

The authors reviewed a sample of studies suggesting that cost-benefit analyses can be usefully applied in a library setting. Kingma<sup>9</sup> uses cost-benefit analysis to evaluate the potential for savings using consortial resource sharing,

<sup>&</sup>lt;sup>4</sup> Zhang, Miller, and Williams, "Allocating the Technology Dividend," 391.

<sup>&</sup>lt;sup>5</sup> Paul Orkiszewski, "A Comparative Study of Amazon.Com as a Library Book and Media Vendor," *Library Resources & Technical Services* 49, no. 3 (2005): 208.

<sup>&</sup>lt;sup>6</sup> Robert P. Holley and Kalyani Ankem, "The Effect of the Internet on the Out-of-Print Book Market: Implications for Libraries," *Library Collections, Acquisitions, & Technical Services* 29, no. 2 (2005): 130.

<sup>&</sup>lt;sup>7</sup> Ruth Fischer and Rick Lugg, "The Acquisitions Tool Belt," *Library Journal* 130 (2005): 2-3.

<sup>&</sup>lt;sup>8</sup> Claire Hulme, "Using Cost Effectiveness Analysis: A Beginner's Guide," *Evidence Based Library and Information Practice* 1, no. 4 (2006): 18.

<sup>&</sup>lt;sup>9</sup> Bruce R. Kingma, "Interlibrary Loan and Resource Sharing: The Economics of the SUNY Express Consortium," *Library Trends* 45, no. 3 (1997).

finding that canceling some journal subscriptions and using a consortium to provide access through inter-library loan would be cost effective. Kohl and Sanville<sup>10</sup> go further in suggesting that collaborative consortial collection development that avoids duplication will decrease the amount that each library needs to spend on acquisitions, allowing that money to be spent on ILL and more unique resources for each institution. White and Crawford present the use of a cost-benefit study in which the data showed the added cost of subscribing to a database against other options for providing access, but was used to argue that the ease of access would be worth the added cost. They suggest that "CBAs [cost-benefit analyses], even those performed by other institutions, are useful in proving to administrators that even though a new product or service may cost a lot up front, the returns and/or cost savings in other areas can easily outweigh the initial expense."<sup>11</sup>

However, there are limitations to how these tools can be adapted to use in libraries. White and Crawford point out that many of the benefits for libraries are intangible<sup>12</sup>, hard to quantify and to compare in a cost/benefit analysis. Dougherty, too, stresses that, while the library's benefit to society can be documented<sup>13</sup>, it is difficult to make a meaningful translation of those benefits into costs. Decisions about providing services may not always be based simply on the bottom line. Furthermore, Henderson<sup>14</sup> suggests that libraries are unlikely to get enough good data to do a proper cost-benefit study, and so resulting action would be flawed.

While cost-benefit analysis may be justifiably viewed with skepticism for evaluating certain aspects of library services, it is particularly well-suited to acquisitions, in which there are hard numbers for prices, and a basic understanding that good choices will keep in mind the bottom line. The concerns indicate, however, that a cost-benefit analysis should be carefully constructed, thoughtfully interpreted, and wisely integrated into the decision-making process.

### COST-BENEFIT ANALYSES FOR LUTHER SEMINARY AND BETHEL UNIVERSITY LIBRARIES

As the libraries at Luther Seminary and Bethel University considered the possibilities for reacting to the impact of the economic crisis on acquisitions budgets, questions were raised about the interplay of time costs and actual budget expenditures. While both libraries had at times searched item-by-item across a multitude of vendors to find best prices, it was not clear what sense the additional time investment made. For this project, then, the question was, "Is it more cost-effective to use a book jobber for acquisitions or to use an approach of searching for the best price per item from a variety of vendors?"

Once this question had been formulated, the authors began brainstorming about the costs and benefits associated with each of the options. These areas included such things as the ease of placing and maintaining orders, quality of customer service, method of payment for and receipt of materials, capital costs to use vendor services, and a variety of other areas. Some of these costs and benefits were subjective, or otherwise difficult to measure, such as customer service, and others were held in common between the two options, such as the time cost of importing bibliographic

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<sup>&</sup>lt;sup>10</sup> David F. Kohl and Tom Sanville, "More Bang for the Buck: Increasing the Effectiveness of Library Expenditures through Cooperation," *Library Trends* 54, no. 3 (2006).

<sup>&</sup>lt;sup>11</sup> Gary W. White and Gregory A. Crawford, "Cost-Benefit Analysis of Electronic Information: A Case Study," *College & Research Libraries* 59, no. 6 (1998): 510.

<sup>&</sup>lt;sup>12</sup> Ibid., 504.

<sup>&</sup>lt;sup>13</sup> Richard M. Dougherty, *Streamlining Library Services: What We Do, How Much Time It Takes, What It Costs, How We Can Do It Better* (Lanham, Md: Scarecrow Press, 2008), 183.

<sup>&</sup>lt;sup>14</sup> A. Henderson, "A Solution to the Futility of Cost-Effective Librarianship," Science & Technology Libraries 12, no. 1 (1991).

records for items ordered. Areas in common need not be measured for a comparison, whereas subjective factors should be considered in addition to the discussion of the data collected. While it was recognized at the outset that it would be impossible to measure each factor, at the same time it was desirable to base the analysis on as much data as possible within the scope of this project.

In order to also compare the two libraries' results so as to strengthen the study, it was agreed to use a common set of areas in which to gather data. These areas included discounts available from the different vendors, delivery time, cost of shipping, and other elements of traditional vendor analysis, as well as time costs associated with processing orders and invoices. The time costs were gathered in two ways. First, each library kept records of the amount of time spent processing orders and invoices for the different options over a period of time. Second, at Luther, processing times collected from the integrated library system (ILS) database were also considered, as described below.

It was agreed to calculate two basic data points for each vendor: the average price per item and the average number of processing minutes per item. In order to compare the time costs of vendor alternatives, the price and time elements of the data would be converted into the same unit of measurement: dollars per item. Since the data for processing time were collected over the course of only five weeks, the dollar costs calculated from the time costs were understood as estimates, despite the inclusion of some long-term data from the ILS. Fortunately, the comparison between options revealed a fairly wide separation between them, making the estimates sufficient for the purposes of this study. At this point in the analysis, research approaches diverged as each library worked with its own set of data.

## LUTHER SEMINARY LIBRARY

Because the overall volume of orders for Luther Seminary Library is relatively low (in comparison to a general college or university library, for example), it was decided to attempt to use system-gathered information from the ILS database whenever possible to generate a larger sample. Also, because Luther's ILS is for a single, stand-alone library with no branches or consortium library catalogs included, the database is much more navigable than it might otherwise be. The ILS has design features in place to assist in basic vendor evaluation, such as reports on days to receipt, rate of fulfillment, and number of orders placed and received. In addition, information is readily available in the database using queries.

As mentioned above, it was determined that the basic unit of measurement for comparison would be average cost per item. The total time cost would be calculated as dollars per minute and added to the average cost per item after discounts. The average cost per item for each vendor was calculated by determining the average list price for all items ordered through a variety of vendors and deducting the average discounts offered by the vendor for the sample set of titles. At this point, it was possible to work backwards to find how much time one could spend at the dollar per minute rate before the benefit of the discount was used up. This initial comparison was sufficient to provide a rough sense of whether acquisitions staff time is being used well, even if time data had not been collected.

n=200	List Price	Jobber	Amazon.com	Amazon Marketplace	Best Choice/Item
Avg. Price/Item	\$64.98	\$57.45	\$56.49	\$51.98	\$48.99
Avg. Disc./Item	0	9.38%	12.84%	16.37%	24.61%
Avg. Savings/Item	0	\$7.53	\$8.49	\$13.01	\$15.99
Savings as Min.ª	0	25.1	28.3	43.36	53.31
Min. better than worst			3.2	18.3	28.21
Min. better than next best				15.1	9.91

TABLE 1: Luther Seminary	y Library Vendor	Comparison
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<sup>a</sup> At \$0.30/min

Table 1 shows the results of a study of the cost of 200 books that were purchased through a jobber. The list price was taken from the PO line item price (and was also checked again during the Amazon.com search), the price paid was taken from the invoice line item price, and ISBNs were searched using an Amazon Bulk Search. That is why in this table, the alternate options are Amazon.com and Amazon Marketplace (new books only). While Amazon Marketplace is not always an accurate measure of the very best price that is available anywhere online, for the sake of time it was used as a stand-in for the rest of the online book market. The best price per item represents searching across the vendors and always choosing the lowest price. It should be noted that, while applying the discount per item to all items firm-ordered domestically does not account for items that could not be supplied by one vendor or another, this difference is accounted for in time costs for pre-order and order maintenance.

The mean price and discount are related, and the table lists the amount of money saved off list price per item through the different options. The savings in minutes is the number of minutes, at \$0.30 per minute, that can be spent processing an item before the total item price plus time cost will reach list price. Below is shown how many more minutes of processing time are allowable for each option before it would be the worst of the three options.

What is striking is that purchases made through Amazon Marketplace can take an additional 18.3 minutes per item before they will no longer be worth the effort relative to the book jobber, and 15.1 minutes relative to Amazon. com itself. It should be noted that some of the titles in the sample of 200 carried an additional fee from the book jobber. If these were eliminated through more careful ordering, the mean discount for the book jobber would be about 13%, putting it above Amazon.com for the sample titles (which were academic religious titles, primarily). Searching across vendors for the best price will clearly yield the greatest overall savings, based on this study.

Vandan	Process	Avg. Time/	Avg. Time Cost/
vendor		Item	Item
	Pre-Order	5	\$ 1.50
Online Vender	Purchase Order	1.83	\$ 0.55
Online vendor	Invoice	1.29	\$ 0.39
	Total	8.12	\$ <b>2.</b> 44
	Pre-Order	2	\$ 0.60
	Purchase Order	0.98	\$ 0.29
book Jobber	Invoice	3.08	\$ 0.92
	Total	6.06	\$ 1.82
	Pre-Order	6	\$ 1.80
	Purchase Order	1.52	\$ 0.46
Best Choice/Item	Invoice	1.86	\$ 0.56
	Total	9.38	\$ 2.81
Estimated Yearly Savings using Best Choice/Item			<b>\$13,000</b> ª

<sup>a</sup> Estimate based on buying 1,000 books/year at a mean savings/item of \$13

Table 2 shows the time costs associated with different sources for purchasing. These time costs were taken from the ILS, which creates a timestamp at the creation and approval, or endpoint, of purchase orders and invoices. Added to this are the estimated pre-ordering time costs, which are based on a smaller sample of data, gathered over the course of a month. This table shows that the number of minutes taken to process orders from each vendor is well within the time limit established in Table 1.

The data presented in Tables 1 and 2 indicate that, based on the sample of titles and the sample of processing time, the savings of using multiple vendors to search for the best price is worth the time cost involved in processing orders in that manner. While the extra time may add a dollar or two per item for processing costs, using multiple vendors may save as much as \$13 per item, roughly calculating savings per item from Table 1 minus the cost per item for "Best Choice/Item" from Table 2. It is unlikely that, in practice, it would be feasible to find the best price for every item, thus lowering the savings per item, but over the course of a year purchasing over a thousand books, there could be at least a \$13,000 savings.

## Bethel University Library

Bethel University Library staff began data collection with traditional vendor analysis and moved on to examine the cost of time spent processing. Two essential factors of vendor performance were considered first: how much the library is charged, and how quickly the books arrive. These data were supplied through the library's ILS.

	Sole-source Vendor	Multiple Vendors
Discount off list price	16%	27%
Order Delivery	4.88 weeks	2.54 weeks
Order Fulfillment	97%	99%
Return rate <sup>ª</sup>	1%	1.2%

#### TABLE 3: Bethel University Library Vendor Comparison

<sup>a</sup> Due to damage or incorrect receipt. Does not count returns due to the library's error, which are negligible.

This basic evaluation showed plainly the advantages of working with multiple vendors (Table 3). The considerable discount and shorter delivery times achieved with online booksellers were not surprising to acquisitions staff. However, the similar rates of return between the two alternatives were a surprise; the perception had been that orders from online booksellers needed to be returned much more frequently due to damage or incorrect receipt. In reality, the number of returns to online booksellers *is* much higher, but that number is in proportion to the higher quantity of books ordered from online booksellers.

Though the sole-source option fared poorly in the initial results, the authors also needed to account for the additional time spent working with multiple vendors. The next move was to precisely time the steps involved in ordering and invoicing materials.

#### Method

Over the course of one week, 249 records were set aside for the purpose of the study. The set of 249 records was fairly representative of the types of requests submitted to the library; they included titles from disparate academic disciplines as well as general interest titles, and the requests had been submitted both online and in paper form. The time category was divided into two parts, ordering and invoicing, and each was then further divided into three steps (Figure 3).

#### FIGURE 1: Bethel University Library Time Categories

Order Processing	• Price checking: searching an online site with variable discounts and comparing the discounted price to the flat-fee discounts available through other vendors; includes searching for used copies
	• Order placement: creating a list of titles, either on the vendor's website or within the ILS, and submitting or transmitting them to the vendor
	• Order entry: creating a purchase order within the ILS, including importing bibliographic information
Invoice Processing	• Invoice Preparation: locating and printing out copies of invoices for books that arrive with no paperwork; this step is required for Amazon Marketplace purchases only
	• Invoice Posting: creating an invoice record within the ILS
	• Reconciliation: verifying the charges to a corporate credit card with the ILS-processed invoices; this process is done monthly

For the set of 249 records, prices were checked first to determine which vendor would offer the best price for each item. Although both of the libraries considered here submit orders to dozens of vendors throughout the year, the vast majority of orders are concentrated among four main vendors: a traditional book jobber, two online bookstores, and an online site offering used books from a variety of sellers. The 249 records were grouped according to vendor and each step of the ordering process was timed separately.

To measure invoice-processing time, the acquisitions staff worked with a separate set of titles that arrived during the week of data collection. The invoice preparation and invoice posting steps were timed precisely, while an estimated time was used for the reconciliation step.

The data on costs per item were collected from the ILS, using estimated price and invoice amounts from the previous fiscal year. These data, including 2,450 firm orders, provided reliable numbers for the average cost per item among the four main vendors.

#### Data

Using the processing times measured on the sample set divided by the number of records, the average minutesper-record rate of processing was calculated for each step. To convert the average minutes per record to a dollar amount, the estimated wage per minute was multiplied. To find the average time costs among a variety of vendors, a weighted average, based on the percentage of orders placed with each vendor in the previous fiscal year, was used.

#### TABLE 4: Bethel University Library Costs Per Item

	Sole-Source Vendor	Multiple Vendors
Processing Time Total	2.7 min/record	5.4 min/record
Order Processing	1.9 min/record	2.88 min/record
Invoice Processing	0.8 min/record	2.52 min/record
Processing Costs <sup>a</sup> Per Item	\$0.67	\$1.35
Avg Price Per Item	\$34.06	\$28.45
Total Cost Per Item	\$34.73	\$29.80
Savings Per Item		\$4.93
Estimated Yearly Exp <sup>b</sup>	\$85,101.00	\$73,010.00
Estimated Yearly Savings		\$12,091.00
% of Yearly Expense Saved		14.2%

<sup>a</sup>Based on an estimated wage per minute of \$0.25. <sup>b</sup>Based on a total of 2,450 firm orders in FY09.

Table 4 shows that although the average time spent processing an item is doubled when working with multiple vendors, the average amount saved per item far exceeds the cost of time spent. These data suggest that the strategy of choosing the vendor offering the lowest price per item is a cost-effective method for the Bethel University Library.

### OUTCOMES OF SAMPLE COST-BENEFIT ANALYSIS

#### LIMITATIONS

The study described here is not comprehensive enough to be applied wholesale in other library contexts. Limitations include the lack of data for important aspects of acquisitions such as selection, for which library vendor-supplied announcements create time savings, and customer service, which is essentially very difficult to measure, but could be seen as a major difference between the options. Also, the sample sizes for the time measurements may not be significant enough to be considered definitive results even for the library contexts considered here.

Even with these limitations, this study can serve as an example of how to collect and evaluate information to make informed decisions. The results of this study seem to commend a middle-of-the road approach: maintaining a

reasonable level of ordering with a jobber while making use of their added services, and also aggressively searching for the best price on items that are likely to have good discounts online. This approach increases confidence that in terms of the processing from pre-ordering to receiving, the time it takes to search out the best price is justifiable, strictly in financial terms. Finally, it may be in the interest of the library to incorporate this type of analysis periodically into respective workflows as relationships with publishers, distributors, and vendors continue to develop.

#### **OBSERVATIONS**

One of the benefits of collecting and analyzing data is that it facilitates the testing of otherwise subjective judgments that can be formed in the course of carrying out acquisitions processes. For instance, prior to completing this analysis, it was assumed that the most time-consuming step was at the point of ordering; because online booksellers do not work directly with the ILS, each order has to be keyed in twice, first through the vendor's website and then again via the ILS. The analysis showed that the most significant difference between the two libraries' two options was in fact at the point of invoicing. This is due to the very low ratio of records per invoice (1:1) from one online bookseller as compared to the 9:1 ratio of the book jobber. With this knowledge, it may be possible to concentrate on increasing efficiency in making purchases from online providers.

The greatest value of this analysis is that it confirmed and clarified the otherwise "fuzzy" assumption that money was being saved through using multiple vendors. This will help strengthen each library's understanding of its situation should the decision be made to negotiate with a vendor. Cost-benefit analysis can help inform this type of conversation with library vendors. It may be possible to open discussion about terms that have remained unchanged for many years. It may also be a chance for library vendors to provide libraries with additional information that will facilitate the evaluation of their services and the potential benefits to a particular library. A cost-benefit analysis should not be seen as definitive proof that one vendor is better than another, or that a vendor will unfailingly offer better terms, but instead as one way of entering into the conversation with a better rationale than the fact that new budget restraints have recently been enacted. A wise library vendor will appreciate a library that is well informed and inquisitive about how to increase efficiency and keep terms competitive.

### CONCLUSION

Taking the time to collect and evaluate data for a cost-benefit analysis is a serious commitment. It requires planning and a span of time for execution. It is important to ask at the beginning why the analysis is being undertaken, and what would demonstrate that the effort had been worthwhile. Returning to these questions at the end of the present study turned up a number of reasons why the effort was worthwhile. First, the information helps to inform work practices and decisions. Second, the process of planning and execution, as well as the data that were collected on time costs, were helpful in evaluating workflows and identifying inefficiencies. Third, the data can be used in many ways beyond the decision of how to order books, some of which may be more useful than the original purpose. A month-long cost-benefit analysis project can end up revealing ways to save time, save money, and foster a professional culture of healthy evaluation for sound decisions that will keep one's library in a position to maintain collection currency through budget cuts or maintain good practices during the best of fiscal years.

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