

Murray State University

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Technical Services Assessment: Help for Navigating the Wilderness

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Technical Services Assessment: Help for Navigating the Wilderness

By Leslie Engelson, Murray State University

Viable and growing institutions of higher education must be organizations that change as they adjust to forces such as the needs of their constituents, educational trends, and market demand. Some of these changes include adding new majors, degree programs, and disciplines. Northwest University (NU) is one such institution. Founded in 1934 by the Northwest District of the Assemblies of God as Northwest Bible Institute for the purpose of training “young people in God’s word”¹, it has grown, over the ensuing 78 years, into a fully accredited liberal arts university. Still affiliated with the Assemblies of God, NU now has 60 undergraduate programs, 10 graduate programs, and an adult degree completion program.²

When Northwest University’s College of Ministry (CoM) developed its first two graduate programs slated to begin in the fall of 2008, I was requested, as the library liaison to the CoM and responsible for collection development in that area, to develop a Library Impact Statement (LIS). The purpose of the LIS was to indicate how these new programs would impact library resources and services and what funding, materials, and staffing would be necessary to support these programs. This tool was to be used whenever a new program, degree, or major was developed as a way of informing the development process of potential areas of need in the library that should be addressed.

Because of the history of the institution, which was grounded in Biblical studies, as well as its continued emphasis in this area, NU already had a very well-developed collection. It met the criteria of Study Level in the Northwest University’s Collection Development Policy as adapted from David Perkins’ *Guidelines for the Formulation of Collection Development Policies*³

Study Level

A collection which supports undergraduate or graduate course work, or sustained independent study; that is, which is adequate to maintain knowledge of a subject required for limited or generalized purposes, of less than research intensity. It includes a wide range of basic monographs, complete collections of the works of important writers, a selection of representative journals, and the reference tools and fundamental bibliographical apparatus pertaining to the subject.

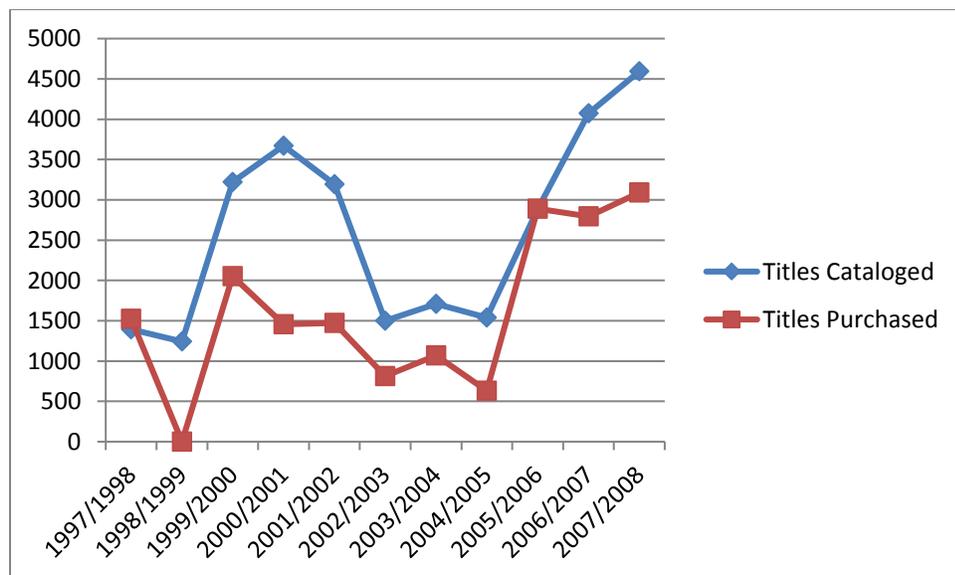
The collection included quality primary and secondary print resources; a robust print journal collection; access to databases such as ATLA, Christian Periodical Index, Religion and Philosophy Collection, and Religious Periodicals; as well as subscription and purchased access to eBooks. The need for start-up funding to build a collection for this program was unnecessary. However, ongoing collection development funds were required so the Dean of the College of Ministry, in consultation with the Provost, determined to include \$10,000 for library resource

funding in the budget for the new programs. This amount followed the University's pattern of funding previous new graduate programs at the level of \$10,000 for collection development.

In addition to serving as the library liaison to the College of Ministry, I was also the Technical Services Librarian. As the manager of a department which consisted of two full-time staff members as well as several student assistants in addition to myself, over the course of the previous ten years I observed a continued increase to the work load of the Technical Services personnel because of new programs added through the years along with a reduction in staff (1 FTE). I was concerned with the impact the addition of any increased materials budget would have on the Technical Services staff of the library.

In response to the increased workload and reduced staffing, and in order to make the workflow in the Technical Services area more streamlined and efficient, the department was restructured at the beginning of the 2003/2004 fiscal year. Instead of being organized by format, the restructured department was organized by function. All acquisitions tasks, whether related to monographs, serials, or electronic materials, were under the Acquisitions Supervisor's management and the Cataloging Supervisor oversaw all cataloging and processing responsibilities of all formats. Additionally, student workers were all cross-trained in order to be able to perform all of the student level tasks in each area: acquisitions, cataloging, and processing. With highly competent and well trained staff, our production numbers steadily increased. Figure 1 demonstrates the positive impact that this restructuring, as well as other changes, had on productivity. I felt that we were operating at our maximum capacity.

Figure 1

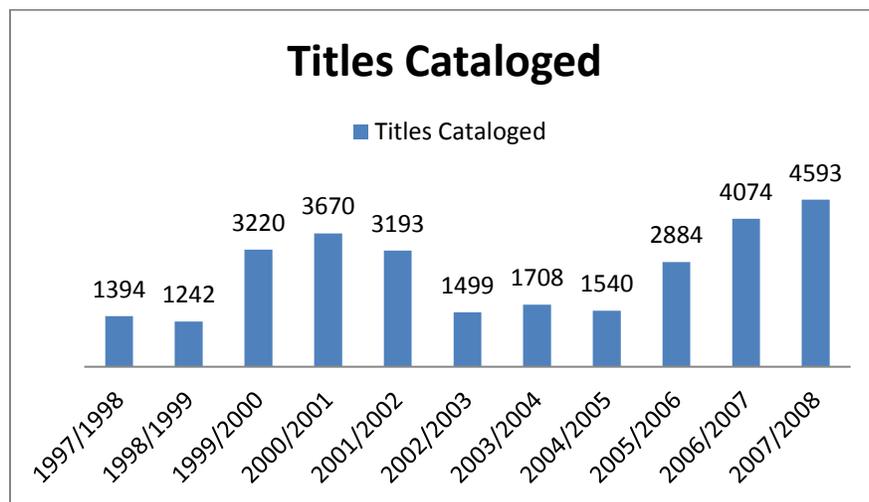


The acquisitions area included one full time staff member as well as two to four part-time student workers (shared with cataloging and processing). The Acquisitions Supervisor was responsible

for searching requests, ordering, receiving, invoicing, tracking, and claiming materials ordered for the collection. Additionally, the Acquisitions Supervisor served as the primary purchasing agent for all other library purchases and expenditures including supplies and travel expenses. Finally, she was responsible for all budgetary tasks including fiscal year rollover; balancing accounts with the University's accounting department; communication with vendors, consortia members, and University librarians; report writing; gift receipt; holdings maintenance; supervision of student workers; and served on the Book Sale Committee as well as other ad hoc committees as appropriate. Even with all of these responsibilities, fiscal year 2007/2008 saw the highest number of titles purchased at 3,089.

The cataloging area included one full time Cataloging Supervisor as well as some of the time of the Technical Services Librarian. Additionally, the cataloging area shared two to four student workers with the acquisitions area. The Cataloging Supervisor was responsible for all copy cataloging, adding tables of contents and summaries, performing some authority work and database maintenance, reclassification, withdrawing, mending, shared supervision of student workers, report writing, and serving on the Book Sale Committee and other ad hoc committees as appropriate. Figure 2 shows that the staff in this area cataloged the highest number of titles in fiscal year 2007/2008, with 4,593 titles cataloged⁴.

Figure 2



When analyzing the productivity of these departments, I sought a benchmark by which to compare the production numbers of NU's cataloging staff. In 2002, McCain and Shorten quantified productivity in academic libraries. Among the twenty-six libraries they surveyed, the top three cataloging productivity output levels were 3,544, 4,265, and 4,460 titles per FTE per year⁵. When adjusted by FTE to 4,490, we can see that by 2007, NU's production levels exceeded the top three libraries identified as the most efficient. While only one of those libraries ranked high in effectiveness, NU's cataloging staff performed the effectiveness tasks⁶ at the

same levels as that library, clearly indicating that NU's cataloging staff were performing at the highest levels of efficiency and effectiveness.

Lastly, the student workers pre-processed orders, unpacked new materials, searched the ILS for gift titles, updated holdings, checked in serials, processed all physical materials added to the collection, mended, and worked on projects related to database and collection maintenance.

Initially, the backlog of materials to be cataloged was very minimal and consisted primarily of materials that needed special treatment and/or original cataloging. However, in the summer of 2008, through the acquisition of a remote campus and their uncataloged library as well as the gift of a church library, the backlog increased by 22,786 titles.

Given their demonstrated highly efficient production as well as multiple job responsibilities, it was unclear how the TS staff would be able to accommodate the additional workload any new programs would add without a deleterious effect to either the quality or quantity of the work produced. Additionally, I was concerned about the negative impact to morale already evident with this backlog of materials which would only be compounded should quality controls be compromised. While the LIS addressed areas such as collection development, space issues (both for studying and collections), open hours, and inter-library loan, staffing was only addressed as it related to open hours. I wanted to be able to quantify the impact that new programs would have on the staff of the Technical Services area so that a dialog could begin in order to address that impact.

LITERATURE REVIEW

A thorough literature search revealed that costs of cataloging activities have been analyzed for over 100 years.⁷ In 1925, the American Library Association's Catalog Section released a "Plan for an Investigation into and Report on the Cost of Cataloging".⁸ This report included a list of cataloging activities that could be measured. However, with the advent of shared cataloging, automation, and outsourcing, that list looks quite different today. In 1991, the ALCTS Technical Services Costs Committee published a "Guide to Cost Analysis of Acquisitions and Cataloging in Libraries".⁹ This article provides a comprehensive list of activities performed in both acquisitions and cataloging areas as well as a form that can be used to calculate costs per activity.

In 1987, Iowa State University initiated a longitudinal time and cost study. This study was suspended in 2001.¹⁰ The wealth of data gathered facilitated the publication of many papers which explored the effects of automation on cataloging costs, identified high-cost tasks which could be targeted for cost-reduction actions, and assisted many other libraries in their consideration of cataloging costs. A subsequent paper based on this data was published in 2003 and addressed time and costs of acquisitions processes.¹¹

The University of Oregon Library System (U of O) attempted to provide benchmarks for monograph purchasing.¹² Time spent on various acquisitions tasks such as pre-order processing,

ordering, receiving, and invoicing from 11 randomly selected days over a year span were quantified by percentage of total time. The outcomes of this study were very similar to a previous study performed pre-automation in 1982/83 validating these numbers but also demonstrating that automation did not necessarily provide savings in time.

Stouthuysen ... (et al.) published results of a case study using a time-driven activity-based costing (TDABC) model of acquisitions processes seeking to understand the costs of these processes.¹³ A necessary component of the model includes activity cost drivers which measure the time each process takes to perform. After interviewing relevant staff, acquisitions tasks were identified. An observer then used a stop watch to time each activity performed in the process of ordering one book. While the pre-order and invoicing processes are similar to those used by NU's acquisitions staff, the processes for placing the order differ quite drastically so the resulting figure of time spent could not be used to quantify the increase to workload that would result from the addition of library materials funding.

While this paper is not concerned with the costs of cataloging or acquisitions tasks, any cost analysis must include a method of quantifying time spent on individual tasks. However, while the many time and cost studies published informed the development of the methodology used in this study, they could not be mimicked because of the different workflows and procedures used by each library. Smith and Benaud, Bordeianu, and Hanson present a variety of studies that looked at quantifying benchmarks but both agree that "...standards vary significantly from library to library."¹⁴ In fact, this lack of uniformity in workflow processes has been cited as the main difficulty in determining "...how many staff it takes to handle a defined workload..."¹⁵

None of the data from these previous studies could be used to determine the impact of new programs on the technical services area at NU because, while they quantified how long it took to catalog a particular item, the workflows varied from those utilized at NU. Additionally, it is difficult, in advance, to determine what types of resources will be purchased for a new program. What proportion of these materials will be print, audio-visual, or electronic? serials, monographs, or an assortment? all in English or a variety of languages? how many of the resources would be expensive reference works, inexpensive paperbacks, or a combination? Format and language variations impact the productivity numbers of both catalogers and acquisitions staff. Therefore, quantifying impact needed to be looked at from a different perspective than these studies would allow.

The research found documented cataloging costs, cataloging and acquisitions efficiencies, cataloging quality, and cost-benefit analysis of technical services processes. No articles were found which clearly documented the impact of new programs on the Technical Services area of the library. Therefore, queries were sent to four electronic listservs (AUTOCAT, OCLC-CAT, Voyager, and Atlantis) to determine if any other technical services departments had researched this area and had just not published about it.¹⁶ I received a number of helpful recommendations but no specific figures or formulas that I could use.

METHODOLOGY

In devising a method of gathering data, Slight-Gibney and Greci stated that it was important to make clear distinctions between the processes in each category analyzed but that this was often difficult to do as the same task, such as importing bibliographic records, could be handled by acquisitions or cataloging depending on what point in the overall workflow the activity occurred for each title. The suggestion was made to lump activities together into larger categories for ease of data gathering.¹⁷

The following formulas were developed for quantifying the impact of new programs on the Technical Services area of the library:

- $\text{Collection development budget} \div \text{Average amount the Acquisitions Supervisor can allocate and/or invoice in an hour} = \text{Impact on the Acquisitions Supervisor.}$
- $(\text{Collection development budget} - \text{Costs of databases and subscriptions}) \div \text{Cost of monographs} = \text{Number of monographs likely to be purchased.}$
- $\text{Number of monographs purchased} \times \text{Average time to catalog a title} = \text{Impact on cataloging staff.}$
- $\text{Number of monographs purchased} \times \text{Average time for cataloging and processing tasks by student workers} = \text{Impact on student workers.}$

Some of the data was readily available and could be plugged into the formulas, such as the collection development budget and costs of databases and subscriptions (program development and implementation did not wait for the results of this study so these initial purchases had already been made). The method for determining the average cost of monographs is addressed below. The only data remaining to be gathered was the average amount the Acquisitions Supervisor can allocate/invoice in an hour, the average time to catalog a resource, and the average time for cataloging and processing tasks performed by student workers.

In order to implement these formulas, all Technical Services staff, including student workers, kept a time analysis quantifying the amount of time spent on specific processes and tasks related directly to ordering, receiving, cataloging, and processing. For the cataloging area, the data was gathered over an eight month period beginning in October 2009 and ending in May 2010. This time frame covered a sufficient portion of the academic year that would be impacted by new program funding. By tracking time on tasks over a period of months, neither the ups and downs of the academic cycle nor the “halo” effect of only recording specific days would significantly skew the data. The Acquisitions Supervisor tracked her time starting in October 2009 and included the months of June and July 2010 in order to incorporate the fiscal rollover which consumed a significant amount of her time. Each staff member would tally the time spent on all tasks in increments of a quarter hour and round to the nearest quarter of an hour. The number of bibliographic resources cataloged would be counted by title with one bibliographic record

corresponding to one title. Units tracked for acquisitions would be number of dollars allocated or invoiced.

For purposes of this time analysis, the responsibilities of the Acquisitions Supervisor were divided up into seven broad categories: 1) monograph ordering and invoicing, 2) serials, standing orders, and networked resources ordering and invoicing, 3) accounting, 4) supervisory, 5) meetings, 6) administrative, and 7) miscellaneous as shown in Table 1. Breakdown of the first two tasks is as follows:

- 1) Monograph ordering and invoicing: searching for publication information, maintenance of book orders spreadsheets, selecting and importing records into the ILS or creating brief bibliographic records for ordering purposes, building purchase orders, canceling out-of-print orders, investigating status changes, reordering, receiving and invoicing using EDI, recording expected use tax from weekly vouchers, processing reports from accounting, and creating vouchers
- 2) Serials, standing orders, and networked resources ordering and invoicing: maintaining current subscriptions, standing orders, and networked resources spreadsheets; problem solving; check-in pattern maintenance; relocating back issues to storage; display rack maintenance; renewals and cancelations; invoicing; holdings maintenance (in the ILS and OCLC); and EJS linking.

Table 1

Acquisitions Time Analysis	Hours spent	% of total time
Monograph ordering and invoicing	517	42.51%
Serials, standing orders, & networked resources ordering and invoicing	167	13.70%
Accounting	133	10.90%
Supervisory	125	10.28%
Meetings	45	3.68%
Administrative	181	14.86%
Miscellaneous	50	4.08%
TOTAL	1,216	100%

Not surprisingly, ordering and invoicing consumed 56.21% or 684 hours of the 1,216 hours analyzed. This time is fairly commensurate with the time spent by acquisitions staff at the U of O at 58.28% for those same tasks although the comparison cannot be exact since staff at the U of O used QuickCat and NU did not.¹⁸ Also during this time period, \$170,360 was spent on library resources. Dividing the total amount spent by the number of hours dedicated to the tasks related

to ordering and invoicing materials, the Acquisitions Supervisor is able to spend approximately \$249.00 each hour. Therefore, an additional \$10,000 would add a little over 40 hours of labor to the Acquisitions Supervisor's year.

Likewise, the Cataloging Supervisor's responsibilities were divided into six rough categories, several of which mimic the Acquisitions Supervisor's categories: 1) cataloging, 2) database maintenance, 3) supervisory, 4) meetings, 5) administration, and 6) miscellaneous as shown in Table 2.

The Cataloging Supervisor's tasks include all copy cataloging, including record enhancement with tables of content and summaries, and updating records in OCLC, as appropriate. Additionally, since NU uses the Dewey Decimal Classification System for classifying their resources, classification numbers provided on cataloging records were compared with the local catalog to ensure their uniqueness as well as fit in the collection and devised for those records which did not have a Dewey number. Cataloging tasks did not include authority work as the majority of that work was outsourced with clean-up occurring after receipt of reports from the vendor.

Table 2

Cataloging Supervisor Time Analysis	Hours Spent	% of total time
Cataloging	432	39.13%
Database maintenance	370	33.51%
Supervisory	66	5.98%
Meetings	44	3.99%
Administration	102	9.24%
Miscellaneous	90	8.15%
TOTAL	1,104	100.00%

Over 39% of the Cataloging Supervisor's time is spent on cataloging tasks. This equates to 432 of the 1,104 hours during the tracking period. The Technical Services Librarian also contributed to cataloging at 5.58% of her time or approximately 62 hours for a total amount of 494 hours devoted to cataloging by the cataloging staff. The Technical Services Librarian's activities which counted as cataloging included original cataloging, serial title changes, upgrading CIP and minimal level records, difficult copy cataloging, and devising call numbers as well as adding subject headings to copy cataloging records where they were inadequate. The total number of titles cataloged during the eight month time period was 2,428. By dividing the total number of minutes spent on all cataloging tasks (432 hours x 60 minutes = 29,640 minutes) by the number

of titles cataloged, it can be determined that it takes an average of a little over 12 minutes to catalog each title.

Since access to many databases as well as subscriptions in the area of theology were already purchased, it was determined that access to three additional databases as well as seven new print journal subscriptions, would be acquired. The cost of these resources was \$4,508 leaving \$5,492 remaining with which to purchase monographs.

In 2007 Williams and Schmidt published an article based on research they did to find the best method of determining the average cost of academic books. Comparing four methods of deriving this information: 1) the *Bowker Annual*, 2) local expenditures over a three year period, 3) approval plan profiles, and 4) Blackwells' *Approval Program Coverage and Cost Study*, they concluded that the methods for determining the average price of a book are not interchangeable. Each method has its own advantages and disadvantages and no method could be selected as the most accurate. For the purposes of this study, I chose to use the *Bowker* price despite the lag time of two years. For the area of religion and philosophy, the average price of an academic book published in the United States in 2006 was \$59.32.¹⁹ By dividing the amount available for purchasing new monographs by the average cost per title, the library would be able to purchase approximately 93 books in 2008/2009 to support these graduate programs.²⁰ If each title takes approximately 12 minutes to catalog, these books will add 1,116 minutes or almost 19 hours each year to the cataloging staff workload.

Finally, the student worker's time was also tracked. Processing tasks included all physical processing of materials including stamping with a property stamp, printing and attaching a call number label (if the book included a dust jacket, one label was attached to the spine of the book and a second label was attached to the dust jacket which was not covered with Mylar or taped to the book), a label protector was applied over the spine label, and a security strip was applied. If the book was a paperback, book tape was placed over the length of the spine of the book. Audiovisual materials received similar treatment sometimes with the application of additional labels including copyright labels. Cataloging tasks included pre-searching orders in the local ILS to check for duplicate titles as well as searching Amazon.com for ISBN and price information. For cataloging and processing tasks, students spent a total of 1,149 minutes on 253 titles for an average of 4.5 minutes per book. Multiplying this figure by the potential number of books to be purchased (93) equates to almost seven hours of additional student worker time per year²¹.

Table 3

Area	Time	Impact
Acquisitions	\$249 p/hour	40 hours
Cataloging	12 min. p/title	19 hours
Processing	4.5 min. p/book	7 hours

Table 3 summarizes the total impact on the technical services staff of an increase in library materials budget of \$10,000. While these figures clearly do not equate to an entire FTE position, this formula can be used for future new programs or significantly increased funding, and indeed, can be applied to programs that have already been added to determine the cumulative impact of all collection development funds on the technical services department of the library. Bear in mind that these figures do not account for the myriad of other tasks performed in the technical services department and these tasks will be impacted as well. However, in order to design a formula that was manageable, I erred on the side of developing one that would closely (if not exactly) reflect the impact on the major tasks in the Technical Services area.

These figures will be affected by many factors including the subject area involved (religion resources cost a relatively small amount compared to science or technology resources). Inflation will also impact the amount of titles purchased, especially if the funding amount for new programs (\$10,000 in the case of NU) does not increase. As libraries collect more electronic resources and fewer print, this could potentially change the workflow in Technical Services affecting the average time to catalog a title as well as how much can be spent in a given time period. Future time analysis will need to take into consideration the effect purchasing and cataloging electronic resources has on the work load. For instance, often ebooks are purchased as a package with thousands of titles so while this process would not significantly impact ordering and invoicing time, dealing with the records for these thousands of titles will have a significant impact on the cataloging staff.

OPTIONS

This information has quantified the impact of new programs to the technical services department of the library. From this, a conversation can begin between the TS Librarian and Library Director as to options for mitigating that impact. Lynden suggested one option for addressing rising costs is for the University to limit the number of programs which it offers.²² While I think it is important for University administration to be aware of these hidden costs of additional programs, limiting them because of the cost to the library is highly unlikely to happen nor would that be the best response. For the purposes of this paper, I will explore a few of the library's more realistic options.

Workflow assessment: Initially, the workflow of all technical services staff should be assessed for efficiency as well as unnecessary practices. This is often difficult to do as workflow can become entrenched and the value of change to the workflow is often questioned because of the time it takes to learn and adjust to the new workflow. Questions to ask when assessing workflow are: is this a task that needs to be done? Do we get enough value for the time spent on the task? Can it be done by someone else, for instance, a student worker? Can this task be automated? Often staff are nervous when these questions are raised as they may be concerned about the security of their position or their ability to adjust to new methods or systems. To

mitigate their concerns, it is important for staff to have buy-in on this process. They need to see that the positive outcomes of the potential change outweigh the initial difficulties or learning curve.²³

Additional staffing: This is the obvious but probably least likely option. Because many libraries are facing budget cuts, additional personnel positions must be clearly justified. More often than not, they come as a result of restructuring, eliminating a position in one area of the library in order to add one to a different area. Costs for new staff are high and not only in the areas of salary and benefits. The Library Director needs to consider the cost for advertising the vacant position, the time and expense related to the interviewing process, and finally the cost of training the new person as well as the delay until they are able to perform the job independently. Ideally the library would hire the perfect person for the position but unfortunately, sometimes a hire is not a good fit and the cost in time, energy, and delay until that person is replaced can be onerous.

Outsourcing: Unfortunately, outsourcing has been regarded with suspicion by librarians in the past and yet, if carefully implemented, outsourcing could bring needed relief to overworked staff. Outsourcing can take many forms and can be a temporary arrangement, an addition to the staff already in place, or a replacement for staff positions eliminated.

Most, if not all, technical services departments are currently outsourcing, to one degree or another, some responsibilities of the department. For instance, if cataloging records are acquired through a utility such as OCLC, or the ILS is maintained off site by the vendor, or jobbers are used for purchasing materials, the library is already utilizing a form of outsourcing. The members of each technical services department need to consider to what degree they want or need to outsource other tasks. Most vendors are flexible and can provide services that specifically benefit each library from project specific to long-term arrangements. Outsourcing entities can be contract catalogers, utilities or vendors which provide and maintain records (bibliographic and authority), publishers who provide records as well as process new materials, and system vendors who host and maintain the server.

If outsourcing is to be considered, the library needs to be aware of all the costs associated with it. These costs are both monetary as well as intangible. The initial monetary cost could be quite large, depending on set up costs, the service being provided, and the size of the database. There are ongoing costs to maintain the service which will vary depending on the size of the institution, the size of the project, and how customized the service will be. The intangible costs relate to the quality of the product as well as whether or not local practices can be maintained by the service provider. Intangible savings include freeing up staffing for other projects, speeding up availability of resources, and utilizing expertise that the library might not otherwise be able to afford.

Outsourcing does not eliminate all work on the technical services department's side. An outsourcing manager should be identified. This person will be the contact person with the provider and will monitor the work the provider is doing, communicating changes in local practice, assessing the quality of the work and product, and managing the receipt of the product or service on the library's side.

It is crucial when starting an outsourced service to pay careful attention to the details. If a contract is set up, all expectations should be clearly explicated, time frames should be stated, and any local practices spelled out. Clear communication between the provider and the staff member managing the outsourcing must be maintained, including addressing errors or unexpected results, to ensure that the outsourcing work is of the quality expected and does not increase unnecessary workload to the permanent staff.

Outsourcing will require changes in the current workflow and consideration should be made for accommodating additional processes or procedures as well as being able to make quality assessments. Sometimes multiple workflows will be necessary if a variety of entities are providing similar products or services for the library. For instance, a library could outsource the cataloging of all electronic resources but continue in-house cataloging of print resources, using copy cataloging from a utility when appropriate. Likewise, a vendor may be utilized for purchasing the majority of library materials and providing catalog records for each item ordered, while rush items would be purchased without the aid of a vendor and no catalog record provided. The procedures for each of these different workflows should be documented in detail so that each process can be understood and followed clearly and completely.

Service elimination: The final but probably most dreaded option to consider is elimination of one or more services. Technical services staff who take pride in immaculate cataloging records, a quality database, precise acquisitions records and reports, or quick turn-around of materials ordered, may not want to easily give up either the quantity or quality of these services. However, difficult decisions sometimes need to be made. As White so practically stated, "...questions about the level and extent of the bibliographic analysis and costs incurred or saved in accepting lower levels of detail become factors in overall library strategy."²⁴

Therefore, it is crucial on the part of management to communicate the value of what the staff in the technical services department provides to the community it serves and that the process of eliminating some of those services is not done lightly without considered thought and clear demonstration of minimal impact to that community.

In order to do this well, it is helpful to make assessments of targeted products and/or services. These assessments should keep in mind the mission of the library as well as the cost/benefit ratio. A search of the library literature for articles related to assessment, evaluation, and cost and benefit can provide information on which specific tasks to consider as well as the tools to use to make this assessment. I think it is clear, however, that we can no longer afford the luxury of

customizing every record received in order for the catalog to represent a consistent standard. Changes in cataloging standards, both in the past as well as future with RDA, are differences to which both the cataloging community as well as users will just have to adjust.

CONCLUSION

It is clear that additional programs, when accompanied by increased library materials funding, have a direct impact on the work load of technical services staff. When collection development budgets increase significantly, it is incumbent upon the manager of the technical services area as well as the Library Director to consider that impact and plan accordingly in order to strategically accommodate the impact in a manner that creates the least disruption to the staff as well as users of the library. Finally, even if library materials budgets are being cut, quantitative data delineating staff hours required in relationship to library materials funding provides supportive data for directors of Technical Services areas in their efforts to preserve staffing levels.

Notes

¹ Marjorie Stewart, *The Light Shines Out*. (Kirkland, Wash.: Northwest University, 2003), 10.

² "Northwest University Academics," Northwest University, accessed April 11, 2012, <http://www.northwestu.edu/academics/>.

³ Slightly modified as defined in: *Guidelines for the Formulation of Collection Development Policies*, David L. Perkins, ed. (Collection Development Committee, Resources and Technical Division, American Library Association, 1979). The Study Level corresponds to Perkins' Advanced Study Level.

⁴ A higher number of titles were added to the collection in the 2003/2004 fiscal year (5,167) due to the addition of the Library's first eBook collection totaling 3,459 titles. The catalog records for these titles were provided by the eBook vendor so no local cataloging was necessary; therefore, they are not included.

⁵ Cheryl McCain and Jay Shorten, "Cataloging Efficiency and Effectiveness," *Library Resources and Technical Services* 46 no.1 (2002): 29.

⁶ Ibid. These factors include "...the presence, nature, and size of backlogs; the practice of authority control; and holdings maintenance."

⁷ William Warner Bishop, *Cataloging as an Asset: an Address to the New York State Library School, May 15, 1915*. (Baltimore: Waverly, 1916), 4.

⁸ "Papers and Proceedings of the Forty-seventh Annual Meeting of the American Library Association, Catalog Section," *A.L.A. Bulletin* 19, (July 1925): 277-286.

⁹ ALCTS Technical Services Costs Committee. "Guide to Cost Analysis of Acquisitions and Cataloging in Libraries," *ALCTS Newsletter* 2.5 (1991): 49-52.

¹⁰ Dilys E. Morris, "Staff Time and Costs for Cataloging," *Library Resources and Technical Services* 31 no.1 (January 1992): 79-95.

¹¹ David C. Fowler and Janet Arcand, "Monographs Acquisitions Time and Cost Studies: the Next Generation," *Library Resources and Technical Services* 47 no. 3 (July 2003): 109-124.

¹² Nancy Slight-Gibney, "How Far Have We Come? Benchmarking Time and Costs for Monograph Purchasing," *Library Collections, Acquisitions, & Technical Services* 23 no. 1 (1999): 47-59.

¹³ Kristof Stouthuysen, "Time-Driven Activity-Based Costing for a Library Acquisition Process: a Case Study in a Belgian University," *Library Collections, Acquisitions, & Technical Services* 34 no. 2/3 (June 2010): 83-91.

¹⁴ Michael D. Charbonneau, "Production Benchmarks for Catalogers in Academic Libraries," 49 no. 1 (January 2005): 41.

¹⁵ McCain and Jay Shorten. "Cataloging Efficiency and Effectiveness," 24.

¹⁶ Kevin Smith to Autocat mailing list, July 24, 2008, <http://listserv.syr.edu/archives/autocat.html>

¹⁷ Slight-Gibney, Grecni, and Blackwell. "Starting with an Empty Map" 289.

¹⁸ *Ibid.*, 51.

¹⁹ Dave Bogart, ed., "North American Academic Books: Average Prices and Price Indexes 2004-2006," *Library and Book Trade Almanac* (Medford, N.J. : Information Today, 2008), 519.

²⁰ Unfortunately, funding for library resources was severely cut in the 2008/2009 fiscal year, including funds to support new programs, so there is no way of knowing how many actual titles would have been purchased that year.

²¹ This is a more difficult figure to establish as each title could consist of one or more volumes.

²² Frederick C. Lynden, "Cost Analysis of Monographs and Serials," *Journal of Library Administration* 12 no. 3 (1990): 21.

²³ An excellent resource for guiding managers through the process of analyzing workflow and streamlining process is: Dougherty, Richard M. *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.

²⁴ Herbert S. White, "We Do, Do,Do, and Don't Know Why Cataloguing Practices Cry Out for Re-examination," *American Libraries* 12 (June 1981): 318.

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