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Analytical Skills for Collection Development and Journal Management

Emily Stambaugh

University of California Riverside Libraries, emily.stambaugh@ucr.edu

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pensive. Extrapolating the **UNCG** usage data over the course of a year, we see that there would be around 16,000 uses of non-subscribed articles across the three **Carolina Consortium** academic journal publisher deals. Processing that volume through ILL instead would require multiple new staff and would be far, far more expensive than participating in the consortium.

Of course, **UNCG** would be highly unlikely to see an additional 16,000 ILL requests should they opt to leave the consortium. Many of the users would no doubt instead give up on a particular article that was no longer immediately available online. Most would probably opt not to submit an ILL request and wait for the article — even though **UNCG's** average turnaround time for articles via ILL is now less than two working days. It is difficult, if not impossible, to apply a cost estimate to these lost opportunities to provide researchers and students with the articles they were seeking.

Perhaps a more realistic alternative is pay-per-view. Like direct subscription and consortium access, it offers real time availability of

full text articles online. But here, too, the data shows consortium access to be significantly cheaper. For example, in 2004 **UNCG** offered pay-per-view access to all unsubscribed **Kluwer** titles via **EBSCO**. The cost totaled \$5251.50. In 2005 all of those same **Kluwer** titles are available to **UNCG** at no cost via the consortium's title-sharing arrangement. If we assume that the local demand for **Kluwer** articles remains the same as last year, this new arrangement should save the University over five thousand dollars.

Consortium Growth

Another potential way to measure the success of an endeavor is to use a business approach and measure growth and retention of customers or, in this case, institutional members. By these measures, the **Carolina Consortium** has been inordinately successful in its second year, expanding by nearly 500% the number of deals that its members have requested, adding more than a dozen new schools, and retaining 100% of last year's participants.

Conclusion

It is easy for a cooperative e-journal sharing group such as the **Carolina Consortium** to tout

its huge cost avoidance and its greatly expanded number of accessible journal titles. In aggregate, those numbers are both impressive and important. But for any library consortium, and particularly for a buyer's club group where schools can easily opt in or out of deals, the success of the whole can only be achieved if the group's constituent schools derive significant benefits through the consortium deals. If there is little local demand for the consortium's expanded content, or if there is an alternative, cheaper way to access it, then schools will drop out and the consortium may ultimately fail. In reviewing the early data for one of the **Carolina Consortium** schools, the **University of North Carolina at Greensboro**, I found that students and faculty heavily used a wide variety of consortium titles, and that the consortium was indeed providing the most cost-effective access mechanism for that information. The current **Carolina Consortium** deals seem to be a success for both libraries and their users, and the fact that more libraries are joining the consortium and asking for more deals indicates a high level of satisfaction that will hopefully be translated into even greater benefits for North Carolina and South Carolina libraries in the future.

Analytical Skills for Collection Development and Journal Management

by **Emily Stambaugh** (Social Science Bibliographer and Collection Analyst, University of California Riverside Libraries)
<emily.stambaugh@ucr.edu>

Collection Development librarians strive to make informed evidence-based decisions about journal collections. We seek information about cost, usage, terms of acquisition and formats. Often we struggle to keep pace with the rate of change in the publishing industry. Our information systems may not produce appropriate reports for decision-making, coordination between library units may be disjointed, or the journal management life-cycle may not include important functions such as preservation and budget planning.

To effectively manage collections in a digital age, libraries could benefit from a set of analytical skills commonly found in the private-sector. Trained analysts can transform decision-support requirements into systematic practices across the organization. Types of analytic skills that may be useful in the library environment include **Business Systems Analysis**, **Requirements Analysis** and **Information Systems Analysis**. These skills allow an organization to change effectively and at a comparable pace with the publishing and IT industries. Librarians can use analytical skills to transform a collection strategy or any other strategic goal into a regular, sustainable flexible program.

At **Z. Smith Reynolds Library, Wake Forest University** the strategy for reviewing serials was transformed from a one-time, ad hoc project to a sustainable, on-going process of evidence-based reviews. The reviews were designed to involve all stakeholders in the serials collections, including faculty, with the supports needed to make informed decisions about formats, cancellations and package renewals. The example demonstrates how a skilled analyst can guide a team of people to think about how their activities support journal collection strategies and to streamline activities for regular, evidence-based evaluation of the collections.

Analytical Skills Defined

There are three general types of analytical skills: **Business Systems Analysis**, **Requirements Analysis** and **Information Systems Analysis**. **Business Systems Analysis** refers to the process of translating strategic goals into practical, repeatable activities with measurable outcomes. One strategic goal for the library might be to develop a culture of regular assessment of serials in all formats with input from faculty and liaisons.

The business analyst's job is to formally identify where the organization stands with respect to that strategic goal, where it

needs to go and how it will know it has gone in the right direction. **Business Systems Analysis** is an iterative process that requires certain people skills, comfort with "the unknown," and a strong ability to break down and reformulate components of the big picture (strategic directions, organizational structures, processes and data sets). It is important to note that while this type of analysis may result in adjusted workflows, it goes beyond workflow analysis into strategic planning and assessment.

The staff at **Reynolds Library** started by documenting all of the skills, processes, tasks, products and services currently involved in managing serials across the organization. They interviewed people in each step of the serials management process. The Library Director and the Collection Development Librarian were asked to define expectations for the serials collections. Technical service librarians explored how serials and orders, payments, usage and descriptive metadata are managed in the ILS, other systems and between the library and serials agents. These existing functions and inputs were mapped against the desired goals and outcomes. Inevitably, there will be gaps between the current state of things and the desired goals. The next task was to design and oversee implementation of new functions across the various units.

Requirements Analysis identifies the processes, roles, skills and infrastructure needed

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to accomplish a new function. For example, for a serials review, some required processes may be to produce, test and distribute reports, conduct reviews, recommend changes, record, summarize and approve recommendations, adjust subscriptions and project budgetary impact. Roles for the review process might include subject specialists and budget analysts. Infrastructure requirements might include a report and a recommendation tool designed for non-technical reviewers. Skills might include knowledge of publishers, editorial boards, research emphases, impact factors and advanced Excel techniques. The analyst documents these functional requirements formally and gets approval from each library unit. It is essential to document and seek approval of functional requirements *before* "technical" requirements and systems analysis occurs. This ensures that the business process drives information system design, not vice versa.

Information Systems Analysis is used to assess the capabilities of an electronic system, network architecture, and IT interoperability based on the functional analysis. An information systems analyst reviews a functional requirements document and recommends new software or modifications to existing software. Information systems analysts may also recommend methods of transferring data between people, systems and serials agents. **Information Systems Analysis** requires strong programming, database design, networking and testing skills as well as communication skills to translate functional language into "tech-ese".

Often a working team will have several trained analysts: a Business Systems Analyst, Requirements Analyst and Information Systems Analyst. Such teams are well equipped to create and implement change quickly and effectively. They are accustomed to "change" as a constant in the work environment and can transform strategic goals into practice.

Practical Application

Last year, a team of librarians at **Reynolds Library** embarked on a review of the journal collections, which included approximately 4,600 print titles and 14,000 electronic titles in the arts, humanities, social sciences and natural sciences. Initially, the team consisted of Collection Development, Acquisitions, Cataloging, and Information Systems Librarians and later included Library Administration, Electronic Resource librarians, Library Liaisons and Faculty. It was headed by a librarian who was also a skilled business analyst.

We began with structured interviews of key stakeholders in the review process. The first interviews were dedicated to defining strategic goals and requirements. One immediate goal was to review the journal collections for cancellation or format changes, but we discovered that the longer term vision was to create a culture of on-going annual evaluation of serials collections. Such a culture would allow Collection Development to make agile decisions about journals, formats and journal packages on a regular basis. The library hoped to engage faculty, liaisons, administrators and collection

development officers in the serials review process. We wanted faculty and liaisons to review the titles in a given discipline for content and fit within the University's current and anticipated curriculum and research needs. Finally, we wanted to take a subject-based approach to the review; as opposed to a review based on financial definitions of the collections. We did not want to give target dollar amounts for collection growth, cancellations or format changes.

We hoped to make effective use of our liaison and faculty's time and skills. We recognized that while our reviewers are knowledgeable about journals and publishers, they may not have the skills to troubleshoot technical and bibliographic glitches such as title changes, missing cost data, and access vs. ownership status. It was unreasonable to expect reviewers to dig through the integrated library and usage systems for each journal. Reviewers needed a single report containing all of the information our various systems could provide for each title. The complete list of titles had to be broken down by subject and put back together easily. The list had to capture recommendations and decision-making notes to inform the current and future reviews.

We documented the functional requirements: faculty and liaison involvement, subject-based analysis, analysis informed by cost, usage and bibliographic information, a single report and a tool to capture recommendations. The formal Requirements Document included not only a prose description of our needs, but also a sample report. The sample report was designed in **Microsoft Excel** with "fake" data for a small set of journals. It included column headings, and financial report headers and footers. The sample journal titles represented anomalies we expected to find in our serials collections such as titles with no usage or cost data, quirky holdings information, and suspended titles. In an iterative process, the analyst asked how the data should appear in those strange cases. She worked with technical service librarians to figure out how to make the data act the way we needed it to and to identify additional data that had to be captured in the system. The sample report was vetted several times by the Head of Collection Development and Technical Service Librarians and was formally approved before we went into the **Information Systems Analysis** phase.

The **Information Systems Analysis** phase generated a Technical Requirements Document and the infrastructure to produce, distribute and archive reports. The technical requirements documented where data resides, how specific fields in the MARC record and Purchase Order were to be used to supply information for serials reviews, and how usage data would be extracted. The technical requirements also included a description of how and where the information would be archived.

The Information Systems librarian set out to "program and test" a data extract. The programming touched records in all modules of the

ILS system as well as the home-grown usage system. The programming effort took eight months (not full-time). As sample extracts were produced, the team got together to test them and identify problems in the data or logic used. A simple interface was designed to allow Collection Development librarians to "kick off" the report on demand.

We tested initial data extracts with a few simple quality assurance measures. We looked for a total dollar amount within 1% of what our ILS and home-grown spreadsheets indicated. We compared the total number of titles extracted versus a raw count of serial titles in the system (regardless of title changes). We also tested several known problem titles.

Throughout the process, the team's discussions not only served to hash out technical details, but also to cross-train members in all aspects of serials management in the library. Team members learned more about package negotia-

"I see a great opportunity in the next five years for a more rigorous and pragmatic partnership between librarians, IT professionals and scholars."

tion, specific fields on the MARC record, standards, communicating with serials agents, order management, accounts payable, bar-coding and usage data than we ever imagined!

As the programming and testing phase neared the end, the analyst and Collection Development Librarian put finishing touches on the faculty and liaison review program. Liaisons received two training sessions on the review process, interpreting the data, advanced Excel techniques and possible recommendations. We talked about quality and content assessments, popular versus scholarly content, titles that no longer served research initiatives on campus, review sources and questions to ask faculty. We discussed when to consider an electronic publisher "stable enough" to cancel print. We advised a cautious approach to cost per use calculations and explained why some data is problematic. We showed liaisons how to assess the price charged versus the average price in the discipline (LC Class). Finally, we discussed expectations, deadlines and how to capture feedback. We reassured librarians that the Business Systems Analyst and Head of Collection Development would support them with uncooperative or unresponsive faculty.

Collection Development Librarians also received training. We learned how to receive lists electronically, compile them across subjects, analyze interdisciplinary packages, memberships and publishers for renewal negotiations, and generate summary financial reports for budget planning.

Results

The immediate result of the serials review was a thorough assessment of the serials collection which occurred between February and May, 2004. Faculty and liaisons submitted recommendations to change formats or cancel

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nearly 700 titles for a total savings of approximately \$145,000. Fortunately, Collection Development did not need to make as many cancellations as were offered, but it was very useful to have that feedback for the future. Faculty also recommended new titles that were suitable for emerging curriculum and research needs.

In general, faculty and liaisons responded positively to the process and were pleased to see title lists. Only one academic department did not respond to our request for recommendations and two departments grew defensive, but eventually came around.

There were many other outcomes beyond the immediate title recommendations. We achieved transparency in reporting and decision-making by producing complete lists of journals that served specific subject areas. We showed how much the titles cost over time and how much they were used. We adjusted internal workflows to produce the information needed to support the decision-making process. Librarians were cross-trained in serials management and most important, we designed a review process that is *repeatable* and that can be conducted for the entire collection or subsets of it at any time.

Another welcome, though unintended, outcome of the process was to prepare the library organizationally (in cross-functional teams) and technically for the serials portion of an Elec-

tronic Resource Management System. By analyzing our serials management functions, we captured technical and decision-support data in our systems in such a way that it could be easily migrated to an ERM system.

Conclusion

The serials review process could not have been put in place without a team effort across serials management functions, facilitated by a skilled business analyst. In the latest **OCLC Environmental Scan**, **Chuck Henry** aptly summarized this need for collaboration in the future,

"I see a great opportunity in the next five years for a more rigorous and pragmatic partnership between librarians, IT professionals and scholars. While that may sound obvious, it really has not been done."

The collaboration he refers to may not be getting done, in part, because librarians are not equipped with the analytical skills to facilitate such partnerships. A team of librarians skilled in Business Systems, Requirements and Information Systems Analysis, could successfully engage faculty and IT staff to develop any number of strategic goals into workable, repeatable library programs.

Further Reading

Consider reading the "Functional Requirements" for an Electronic Resource Management System produced by the Digital Library Federation. Who do you need to interview in your

library to prioritize the ERM requirements for your local business functions? Once prioritized, what are the gaps between your current processes and the DLF's processes? Then what? An analyst can help.

Jewell, et al. *Electronic resource management: report of the DLF ERM initiative. Appendix A: Functional Requirements*. Washington, D.C.: DLF, 2004. <http://www.diglib.org/pubs/dlfermi0408/> [July 14, 2005].

The following Websites describe analytical skills in more detail. This is not an endorsement of the quality of training or services these organizations offer.

Silicon Beach Training. "Systems Analysis and Design Training." http://www.siliconbeachtraining.co.uk/systems_analysis_design_training/systems_analysis_design_training.htm [July 14, 2005].

Look at "Business Analysis Essentials." Hathaway & Associates. <http://www.thehathaway.com/BusinessRequirementsGathering.html#A-GI> [July 14, 2005].

Inteq Group, Inc. <http://www.inteqgroup.com/default.aspx> [July 14, 2005].

Endnotes

1. De Rosa, et. al. *The 2003 OCLC Environmental Scan: Pattern Recognition*. Dublin, OH: OCLC, 2004. p. 62.

Adventures in Librarianship — A Difficult Birth

by **Ned Kraft** (Ralph J. Bunche Library, U.S. Department of State) <kraftno@state.gov>

In its ongoing effort to educate younger librarians about the history of their noble profession, *ATG* presents a short narrative of early vocational developments.

The concept of "reference services" as a separate specialty began in 1876 with the publication of **Samuel Grope's** *Personal Relations Between Librarians and Readers*. Other monographs followed, most notably **Horstead's** *Library Intercourse* and **Plank's** *The Satisfied Patron*, but **Grope** is remembered as the Father of Reference Services. "Insofar as the mind is a bucket of milk, do not o'er flow that bucket to the waiting cats with tasks too disparate; rather let those librarians of social standing and a fondness for chatter escort the visitors and advise, while those of surly disposition, unkempt appearance, and bad manners index and calculate and labor unseen in the dark recesses of the library." With that statement, library specialization was born.

What followed was a sudden and irrational enthusiasm for focused librarianship from Victorian middle class patrons. In large city libraries one found such oddities as Chief Phreno-

logical Librarian, Librarian of Mesmerism, and the Anatomical Bibliographer. It is part of the lore of our profession that **Albany Public Library**, in the 1890s, set up an Occultist Reference Desk which, during its short life, served more patrons, both living and deceased, than any other.

Remote reference services began at **Princeton University** in 1888 when a group of young men in Saint Barnabus hired two down-on-their-luck pensioners to constantly tread back and forth from the dormitory to the library with enquiries and answers. The Library eventually hired the two old men, gave them small desks, and agreed to pay for shoe resoling every month. Boston Public expanded the concept by offering "Carriage Reference" to Beacon Hill residents, a savvy political move which led to a doubling of the library's annual budget. Equine delivery of information gave birth to the saying "right from the horse's mouth," still heard today in some circles.

The first instance of ILL actually began as a book theft. In 1897, **Orson Keen**, a charming but indolent **Yale** student, was planning to plagiarize his way through an overdue paper on

the economy of southern Austria. To avoid detection he pulled his source material not from the **Yale Library**, but from Columbia. On his way toward the door, three tomes under his coat, **Keen** was approached by the nearsighted but lovely **Lucrecia Copeswell**, Librarian of Antonyms & Waterfowl. Feeling cornered, Keen claimed to be a librarian himself... an "Inter-Library Loan" librarian. Over coffee he explained the concept. Over lunch, the two agreed on procedures. Over dinner, they drafted the official forms to be used. And at the conclusion of the next morning's breakfast, **Miss Keen** agreed to draft a document on the economy of southern Austria. **Yale** officials were baffled when they began receiving ILL forms from Columbia, but eventually they got the gist of it.

By 1910, the specialties of reference services were well established. But what is known today as "Technical Services," was still a backwater. Those laboring "unseen in the dark recesses of the library," had not evolved in the same way. Their tasks were a confusing swirl of purchasing, repairing, indexing, labeling, card writing, floor sweeping and whatnot. Until the second World War, when Technical Services finally began to define itself, many went mad, some fell prey to exotic joint illnesses, a few even began writing library satire.