INVITED ARTICLE

Closing the Gap

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In this invited article, Andrew Pace discusses the functional gap that still exists for library operations as they relate to electronic resource management and integrated library systems. Pace also provides strategies for closing the content providers' gap in order to fulfill the needs of the end user. Participants in the library information service framework (libraries, content suppliers, and vendors) need to examine their practices and push through these gaps to evolve solutions for effective electronic resource management and fulfillment.

Keywords: electronic resource management (ERM), integrated library systems (ILS), gap analysis

INTRODUCTION

Throughout my career in librarianship, I've been obsessed with improving workflows, from technical services back-office operations to frontline circulation to end user search and discovery tools. It's why I became a systems librarian—in the hope of building better systems to manage, discover, and provide fulfillment services for library resources. Without a doubt, serial and electronic resources pose the biggest challenges for technical services and discovery systems. After 20 years of trying to control the nearly uncontrollable, I'm still convinced that the problems of serials and e-resource management and discovery are not insurmountable; however, I'm equally convinced that our own obsessions are our biggest obstacles. And when I write "our," I mean librarians, vendors or service providers, and content suppliers. The answer lies in closing the gaps among these three players in the library ecosystem.

Disclaimers

I always like to start with a few caveats. I am not a serials librarian. But I have worked with serials for my entire career, starting as a paraprofessional, then with a focus on OPAC (online public access catalog) displays, then as a systems specialist on Marc Format Holdings Location/Marc Format Holdings Data (MFHL/MFHD) displays, and for the last 7 years as a product portfolio director at OCLC with a well-established reluctance to redevelop traditional serials control into OCLC’s WorldShare Management Services.

What follows is not an implicit advertisement for OCLC or a self-congratulation piece on past systems built or workflows reimagined. It’s intended as a brief reflection on why we do things the way we do and whether our workflows serve a purpose or whether the workflows themselves are the purpose.

IF IT'S THAT HARD, YOU'RE DOING IT WRONG

While never technically a serials librarian, I've always been an antitradiotionalist, embracing an iconoclastic approach to one of librarianship’s most challenging disciplines. Like some of you (a dwindling number of you, I imagine), I started on the Kardex with serials check-in. It was my job in the tiny Library Science Library at The Catholic University of America to determine which issues of magazines and journals were not making it to the shelf. After all, that is the only discernible purpose of serials check-in—to determine what has not been checked in.

From the start, I was incredulous about the inefficiency of this process and equally doubtful about the hope of automating the process with the library's new NOTIS system. As the party also responsible for sending periodicals to the bindery, I quickly decided that determining the absence of issues during
the binding process made more sense than consulting a paper or electronic record that held little sway over whether the issues were actually on the shelf. Furthermore, my success rate at claiming and receiving lost issues before binding (which probably hovered below 50%) told me that using the Kardex was an utter waste of time. As a whimsical aside, I will note that the bindery process in a library science library was a frustratingly difficult task not because of delinquent or forgetful publishers and agents but because the faculty were notorious for “borrowing” the noncirculating issues of current journals despite my pleas and promises to furnish them with copies of whatever article their hearts desired.

Once (or if) those bound journals made their way to the shelf, I was faced with my next problem of patron fulfillment. It was the policy of the library to shelve bound volumes in LC call number order, even though the current periodicals were in alphabetical order. On an almost daily basis, I would escort students and faculty to our small periodical stacks to explain with mutual exasperation that Byte (QA classification) comes before American Libraries (Z classification). Now, I’ve always loved the alphabet because it’s the classification system that we all know by heart. For goodness sake, it even has a song! It would have been unimaginable a decade later to create lists of ejournals by physical classification rather than A–Z. Thankfully, old practice didn’t translate into new collections. With the promise of taking on all the physical labor myself, I was finally able to convince the branch librarian to allow me to reorder the bound journals alphabetically. Laziness is often the mother of innovation, and my mastery of the ABCs made me an instant hero to the library’s patrons.

CLOSING THE LIBRARY AND SYSTEMS GAPS

The previous example is meant to be somewhat flip but also illustrative of the Shirley Principle—"Institutions will try to preserve the problem to which they are the solution" (Kelly, 2010). This can be said of both libraries and system providers. I use "systems" gaps rather than "vendor," in order to both distinguish between middleware providers and content providers (the latter is addressed later) and also to take a holistic view of the systems landscape—vendors, not-for-profit service providers, consortium offices, homegrown and open source systems.

Whether because of the exactness required by library serials claiming, the tediousness of bindery operations, or the lack of usability of library systems or even physical layouts, libraries and system providers have decades and even centuries of practice that require reexamination in a digital world. The following section investigates further gaps in library operations pertaining to e-resource management based on an OCLC report published in 2014. Meeting the E-Resources Challenge (OCLC, n.d.) was a short report intended to summarize the discussions of OCLC’s E-resources Advisory Group, convened to study the systems gaps in e-resource management and fulfillment. The report is available for free download at http://www.oclc.org/content/dam/oclc/reports/pdfs/OCLC-B-Resources-Report-UK.pdf and, while highly recommended, is not required reading for this commentary. The brief white paper intends to juxtapose the issues faced by librarians against the strides made in electronic resource management (ERM); while it does that to a great extent, it also highlights the gaps that need to be addressed by future systems and future library workflows. Not all of these commentaries have to do with serials, but I’m taking liberty in expanding the scope of this article to include continuing resources and licensed collections as part of the ongoing challenge for serials librarians.

Demand-Driven Acquisitions (DDA)

Volumes have been written about the latest trend in library acquisitions, and I won’t try to replicate prolific publication or even attempt to summarize it. Suffice it to say that libraries are working and experimenting diligently with new workflows that create efficiencies in acquisitions while simultaneously fulfilling the just-in-time needs of patrons. System suppliers are working with equal diligence to ensure the synchronization between knowledgebases and traditional bibliographic utilities and databases, as well as providing DDA record sets from key ebook suppliers.

Library exploration of DDA makes it clear that more development is needed. First, systems will need to determine when a brief browsing of materials should convert into a short-term loan and when a certain number of short-term or long-term loans should be converted into purchases. Depending on the popularity of such programs, libraries may need new tools for mediating requests without unnecessarily slowing down fulfillment. Such mediation should also take into account the need to defrost most of the interlibrary loan (ILL) requests that might come in for DDA “collections.” Finally, it’s not sufficient to assume that purchase decisions are all well made when based on temporal demand-driven need. Libraries will need tools to efficiently analyze usage of materials purchased or more fully licensed based on DDA activity.

New Workflows and New Skill Sets

ERM systems (ERMs) were originally conceived and developed as separate systems for use by libraries. This was partly because legacy integrated library systems (ILS) were not up to the challenge of managing and providing fulfillment services for electronic collections. More importantly, libraries separated the workflows and the staff from traditional workflows. It was not uncommon in the early part of the 21st century for larger academic libraries to have an e-resources librarian in the Systems department, another specialist in Reference, and one or two in Acquisitions or in Cataloging.
While collections budgets for electronic materials crossed the 50% threshold, much fewer than half the staff were devoted to these separate systems and workflows. The major flaw of ERMs is that they were built for purpose, the same way that an ILS was; that is, just as the ILS was built almost exclusively for physical materials, ERMs were similarly suited only to electronic materials. When it came to true serials control—print or electronic—libraries were faced with the decision to choose a preferred database of record. Workflow efficiency remained elusive with multiple systems still in play.

To compensate, newly developed systems—primarily next-generation ILSs, or as Marshall Breeding has coined them, "Library Service Platforms"—use knowledgebases natively in the acquisitions modules; and knowledgebase holdings can be updated at the time of acquisition rather than as an afterthought of e-contract workflows. Some systems might introduce purchasing interrupts to alert libraries to the existence of electronic versions of new titles, and APIs (application programming interface) to license terms allow the hard work of rights metadata management to be available in other systems, such as course management and discovery tools.

But libraries need even more. Acquisitions modules must introduce the levels of management necessary to handle complex orders, packages, and title lists available on multiple platforms with multiple purchasing mechanisms. The interfaces and workflows need to be intuitive in order for libraries to cross-train staff in ways that allow them to restore rescoring balance that matches their spending balance. And finally, as the gap between ordering and licensing materials closes, libraries must look closely at the gap between Acquisitions and Cataloging and determine if such a gap is as necessary in the e-resource world as it was in the purchased and print world. The cyclical nature of e-resource management is breaking down the walls between these classically separated departments.

Descriptive Metadata

Great strides have been made by some suppliers to provide rich metadata for e-resource collections. In some cases, that includes the provision of full MARC records for local systems in order to enhance discovery of expensive e-content. This introduces the need for new workflows from system providers and in libraries—systems that indicate record readiness and loading alerts for libraries using a traditional ILS; interfaces for customizing updates for local use; and the supply of consistently rich, high-quality metadata that minimizes the need to customize records for local use.

Currently, libraries and system providers must also take into account the record-sharing restrictions that come with the provision of some e-content. Current workflows need to alert libraries to the gaps that are created between metadata management and discovery when certain records cannot be loaded into union catalogs or shared via bibliographic utilities.

Comprehensiveness, Currency, and Accuracy

Providers of next-generation discovery tools have endeavored to pour more and more content into centrally indexed search repositories in order to satisfy the one-stop-shopping expectations of end users. Even libraries that have ceded this territory to Google Scholar and other scholarly repositories are endeavoring to make sure that their collections are well represented in these discovery interfaces.

This transition has shifted focus and resources away from management of purchased content to management of data sources and repositories—e-resources in the catalog, link-resolver databases, and institutional repositories. What was once an ancillary activity to reflect e-content holdings as best as possible to end users is now a critical activity that assumes that the most comprehensive, current, and accurate e-content holdings are resident in the systems being accessed by end users. Based on the amount of local knowledgebase editing, library complaints to content providers about holdings inaccuracies, and a remarkably robust set of offerings from the knowledgebase companies, we know this is still too far from reality.

Striving for this iron triangle of library content still requires a great deal of effort for libraries. The best hope, in my opinion, is for third-party systems to play middleman between libraries and content providers to accurately reflect library holdings in local knowledgebases; that is, move metadata management upstream from libraries to not only build global knowledgebases but also automatically reflect actual collections held at the local level. The more system providers can ensure consistently comprehensive, current, and accurate reflections of library holdings, the better it is for end users.

Satisfying the End User

It’s been almost a decade since the fixation on next-generation discovery started (aka “next-gen OPAC”—a phrase I avoid for both its anachronistic and oxymoronic qualities). OPACs are largely a thing of the past or firmly tied to the legacy ILSes with which they are made available. Nevertheless, libraries should be reluctant to leave the race almost finished. The goal, after all, of streamlined acquisitions, efficient metadata management, and 21st century discovery systems is fulfillment. That is, all the work is for naught if the end users of the resource can’t get their hands or eyeballs on it.

For the serials librarian, the challenge of 100% fulfillment continues, especially for the library that customizes packages. While most discovery service providers are trying to synchronize holdings from content providers with their discovery service, the truth is that content packages are roughly only 95% standard. That is, the data being synchronized might not be correct from the start. Would that systems could account for this disparity, but the situation is
still largely hit or miss. A good first step, however, is bringing vendor, licensing, and subscription management into a single solution, governed by globally maintained (and ideally, globally edited!) knowledgebases.

Ebooks create another problem for fulfillment, especially in academic libraries, which are less likely to provide a single ebook platform. Libraries are beholden to the lending model established by the ebook platform, not the lending rules of the library system. Can you imagine a circulation policy file for physical books that was governed by publisher or the date of publication? Even if libraries must accept a policy based on vendor platform, libraries and system providers are still stuck ignoring circulation systems that are built to govern loan, hold, and recall policies when it comes to the most expensive materials the library is collecting. There’s no technical reason this should be the case, but as noted earlier, technical hurdles are often the easiest to hop.

Finally, we must consider basic user experience, user interface design, and usability of current discovery systems. The least usable interface end users will accept is often the best interface they have ever seen. Device compatibility, mobile accessibility, and operating system restrictions can all cause headaches for accessing content. Sometimes these limitations are unclear at the point of acquisition. When the user encounters a problem, most systems lack robust problem reporting to isolate the point of the problem, and this incurs expense for libraries as they must investigate every link in the fulfillment chain—rights management, the discovery tool, the link resolver, the proxy tool, the local network, and the authentication system. It is nearly impossible to reduce the variables in such troubleshooting, but systems could do better to lead libraries—if not the end user—to a resolution. As my colleague, Helene Blowers, laments, it’s time we stopped putting the “end user” at the end.

Reliable Reporting to Usable Analytics

Like the alphabet that represents a near-universal classification system, incremental counting is still our preferred method for judging the usefulness of electronic resources. We’ve taken some advantage of the COUNTER standard and the ability to count things that have never been counted before, but these are still mostly focused on simple usage counts, crude attempts at cost per use and cost-benefit, and most rarely, evidence-based collection development and management. But are systems and suppliers doing enough to give libraries the metrics they need?

Libraries have finite supply (budgets, continuing resource allocations, and staff) and variable demand. Currently, libraries are forced into either an active (system suggested) or passive (functionally supported workflow without built-in analytics) role in determining the decision metrics for a given resource or collection of resources. Could more alternative metrics (“altmetrics” if you must) and a more cooperative and scaled gathering of such data better help libraries balance supply and demand? Even if they could, the remaining complication is that demand is characterized using odd, sometimes anachronistic, and almost always library-specific rubrics—ephemeral popularity, impact factors, citation analysis scores, journal preferences scoring, subject growth, author productivity, and institution productivity.

In short, we should move beyond standard metrics to measure the collection value of various electronic resources. But just what that beyond looks like, what it costs, or where it will take collection management in libraries remains unclear.

CLOSING THE CONTENT PROVIDER GAP

It’s difficult to address one part of the library ecosystem without engaging all players. Several of the topics addressed earlier are not solely the domain of libraries and software providers. In short, the e-resource content providers, aggregators, and jobbers must also take note of the demands of libraries and the expectations of their end users. It has always been true that the hurdles of new workflows and new technologies are lower than the legal, political, and business model hurdles faced by our industry. For example, it might make perfect sense to libraries that unlimited simultaneous access to e-content be made available at the same price for a single print copy of the same title. But that business model can be unobtainable from a legal and political perspective, let alone the reality of profitability for the content owner or creator.

Nevertheless, it’s worth pointing out the areas in which content suppliers and aggregators themselves could play an important role in closing the gaps of e-resource management and fulfillment in libraries. This is not meant to be an exhaustive list, nor is the list discussed in the kind of detail given to library and system suppliers previously. I’ve purposely left some room for either a sequel to this article or a rebuttal from content suppliers.

Loan Conversion

Converting DDA views into loans and short-term loans into purchases will remain very difficult as long as content providers offer disparate business models of licensing and purchasing content. I’m not suggesting a homogenization of business models, just a finite list with which various systems could deal.

Metadata Management

In some instances, metadata supplied by content owners cannot be acted on or analyzed cooperatively. For example, a metadata set can only be loaded once into a single local library system, forbidding uploads to union catalogs or bibliographic utilities. Not only does this hamper scaled
improvement of the metadata, it also restricts the kind of usable analytics described above.

Concurrent Usage

Concurrent seats are still primarily used as a pricing strategy. Most systems don’t facilitate using the data in concurrent seat management to govern licensing and purchasing decisions. Ideally, content providers could explore pricing alternatives that are not simply a “factor of x” when seats are maxed out. These one-ebook, one-borrower or one-database seat, one-searcher models are antithetical to the nature of the Web; librarians and content providers should seek more creative licensing options.

Fair Linking

This issue, first raised by the National Information Standards Organization’s (NISO) Open Discovery Initiative (http://www.niso.org/workrooms/odi/), draws attention to the dangers of conflict of interests arising from mixing system provisioning with content supply and other business relationships between content providers and/or system vendors. Fair linking means that content ownership and business relationships should not govern relevance ranking and link order for e-resources. Libraries should govern the preference and priority of content suppliers when more than one is available for fulfillment, discovery service providers should be transparent about any dealings with content suppliers, discovery services should provide affirmative statements on the neutrality of their relevance and sorting algorithms, link presentation should be customizable, links to native interfaces should be made available, and discovery services should make libraries and content providers aware of changes to software that substantially changes search results.

Many of these requirements put an onus on the discovery service provider, but content providers play a major role in the success and adoption of fair linking practices.

When I became a librarian, I was warned that baby boomer retirements were going to decimate our workforce. Library schools were warned that they could not graduate professionals fast enough to fill the seats that would be vacated in the coming decades. Wanting neither to wait for retirements nor reduce the productivity of the library factory, I chose a focus on automation and system development as a natural solution to a diminished workforce. While it’s true that vendors, service providers, and even content providers have always shared the burden of library work, there’s certainly no need to see these efficiencies as threatening. Frankly, I view them as a chance for more intellectually challenging and stimulating work in a highly demanding profession. It’s my sincere hope that some of that intellectual effort and plain hard work will be brought to bear on the gaps described herein. As consistent as my critiques of our market is my optimism that together, all the players in that market—libraries, system providers, and content providers—can cooperate and collaborate to build new conceptual frameworks that allow all three to move forward (or toward each other) rather than each waiting for the other to close the gap. I much prefer Helen Keller to Shirky—“True happiness . . . is not attained through self-gratification, but through fidelity to a worthy purpose.”

REFERENCES
