Challenges of the Electronic Resources Life Cycle and Practical Ways to Overcome Them

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Abstract
This paper will discuss challenges throughout the electronic resources life cycle and practical workarounds of tools many academic libraries have on hand already. Those tools include: a discovery layer, electronic resource management system (ERM), link resolver, COUNTER and SUSHI standards, ticketing systems, and spreadsheets. The workflow was previously described by Oliver Pesch’s work (2008) on electronic resources life cycles. Themes of this discussion of the experience at Kansas State University Libraries will include documentation of efficiencies, transparency of workflow activity across library departments, and the movement to take action in user communities and vendor support.

Keywords
Electronic resources management, ERM, electronic resources life cycle
Introduction

Oliver Pesch (2008) illustrated the dynamic processes of electronic resources management in the framework of a life cycle. He differentiates stages for renewal and new resource acquisition, but essentially the nature of activity is the same for our purposes here. In this discussion of the challenges of electronic resources at Kansas State University Libraries, we will refer to the core of his model: moving from acquisition, providing access, administration, support, evaluation, and renewal. This sequence moves through various personnel at an institution of Kansas State University’s size, but the complications should be familiar to all. Before going further, discrepancies in praxis may arise from the consideration of tools available to an institution. We will be discussing the application of a discovery layer, electronic resource management system (more widely referred to as its acronym “ERM”), link resolver, COUNTER/SUSHI, ticketing system, and the bread and butter to technical services that is Microsoft Excel.

- A discovery layer is the public interface of record management made to facilitate and streamline use of library collections and services. In some libraries, such as Kansas State University’s use of Ex Libris Primo, the discovery layer entirely replaces the conventional presence of a catalog.
- An ERM is a system that facilitates the upkeep of electronic resource holdings belonging to the product’s user community and at the level of the university’s own access. It also has information gathering tools for statistics and collection development evaluation, passwords and contact information to make the vast number of interfaces more manageable, and a tool to link licenses and document their terms for other staff to browse. Some ERMs also incorporate a link resolver, although these may be administered in a separate interface.
- A link resolver is the means to access full text of a resource through an Open URL Standard from one database’s index to another database where it is available in subscribed or owned collection holdings. At Kansas State University, this opportunity to find full text is made visible through a branded “Get It” button.
- COUNTER and SUSHI are NISO standards that help streamline the acquisition of vendor usage data of electronic books, journals, and databases in a library setting. COUNTER may even be part of a vendor’s commitment in an electronic resource license. SUSHI is the protocol used to automate processing of this data.
- Kansas State University Library uses Redmine for its ticketing system. A ticketing system organizes tasks by priority, user role, and time management. For the purposes of this discussion, the electronic resources personnel have a general line ticketing system for support of the link resolver, electronic journals, databases and electronic books. Public services personnel relay patron access issues through tickets along with screenshots for tasks that then go through local and vendor support for resolution. We have about thirty new access issue requests a month.
- Microsoft Excel is a widely used spreadsheet software providing for text and numeric input for calculation, charting, and graphing. In a library, electronic resources personnel can use spreadsheets for budget projections, supplementing the information found in an ERM, charting cancellations, or comparing data in various forms.

With discussion of these tools and how Kansas State University Libraries uses them for the electronic resources life cycle Pesch (2008) describes, these insights may lead to more awareness of issues and efficiencies in their management elsewhere. Certainly, this field is suitable for collaboration, in-house and across Kansas, if not beyond.
Table 1

|------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| Acquire          | • Arrange trial with vendor  
                  • Evaluate budget priorities  
                  • Evaluate and modify business terms and terms of use  
                  • Process invoice                                                                   | • Content Development Librarians  
                  • Content Development Librarians  
                  • Electronic Resources and Content Development Librarians  
                  • Acquisitions Staff                                                                   |
| Provide Access   | • Coordinate IP and proxy settings with vendor  
                  • Add stanza to local proxy server  
                  • Activate resource in discovery layer  
                  • Catalog record of holdings  
                  • Organize presence on library web pages                                                  | • Electronic Resources Librarian  
                  • Information Technology Staff  
                  • Electronic Resources Librarian  
                  • Acquisitions Staff  
                  • Content Development Librarians                                                   |
| Administration   | • Edit preferences in vendor administration module  
                  • URL maintenance  
                  • Restrict access to authorized users                                                  | • Electronic Resources Librarian  
                  • Acquisitions Staff  
                  • Information Technology Staff                                                      |
| Support          | • Troubleshoot patron access issues or metadata problems  
                  • Ensure hardware and software needs are met if license restricts to location or machine | • Electronic Resources Librarian  
                  • Information Technology Staff                                                        |
| Evaluation       | • Evaluate problem logs  
                  • Evaluate whether collection development goals were met  
                  • Review usage statistics and cost per use                                               | • Electronic Resources Librarian  
                  • Content Development Librarians                                                        |
| Renewal          | • Negotiate amendment or new terms for renewal  
                  • Document holdings for perpetual rights in historic and new licenses  
                  • Lessons learned from past use for workarounds and interface needs?                  | • Electronic Resources and Content Development Librarians  
                  • Electronic Resources Librarian and Acquisitions Staff  
                  • Electronic Resources Librarian and Content Development Librarians                   |

Efficiency Must Be Well Documented So the Practice Can Continue to Improve

The Content Development and Acquisitions Department at Kansas State University Libraries has faculty and staff working on different pieces of the electronic resources life cycle in an interdependent manner. For the Electronic Resources Librarian, there is some overlap in order to be present to all of needs throughout and to, in effect, tell a story of the product at all levels when it comes time to assess whether to renew. The department personnel share some documentation to pass information between roles as it proceeds in decision making. They do not, however, share the same workflow. Workflow development is left to the expertise of the individuals. When tasks are shared or staff temporarily take on another role, the personnel bring new skills to the collective experience. The lesson Kansas State Libraries has found is that efficiency must be well documented so that the practice can continue to improve. Over time, with system and personnel changes, the procedures are revised. When Kansas State University Libraries migrated to Alma, each staff member developed the procedures and expertise within the tools with which they directly managed electronic resources. With collaboration on projects, expert personnel regularly consult the documentation and add to its design and description to meet the needs of the other personnel’s level of experience with the system and ERM tools.

One area where this method is proven is in evaluation of licenses for acquisition of new resources. The Electronic Resources Librarian standardized the procedures for all user agreements since 2015. With a checklist in hand and business
terms and policy agreed upon by the Content Development Librarians, the Electronic Resources Librarian works in a manner that is consistent and known to the other personnel, including estimated time necessary for the stages of license review and negotiation. The Electronic Resources Librarian documents findings in spreadsheets and the ERM. As of this year, Kansas State University Libraries has also added terms of use to the discovery layer in order to make this knowledge of the products more broadly known to personnel and patrons without referral.

**Be Transparent and Make the Effort Visible Across the Library**

Transparency can become a bridge between technical and public services. Public Services will refer to the acquisitions team and Electronic Resources Librarian through a ticketing system for questions about the link resolver, discovery layer, and metadata questions in an ERM at the portfolio level. Content Development Librarians also use COUNTER by way of SUSHI harvest to collect data about electronic resources use by patrons across different parts of the academic calendar. The Content Development team shares the statistical data in their decision making partnered with the Academic Services Librarians serving faculty and students in their respective areas. This public facing side of technical services is not without scrutiny. There is always a decision that could have been communicated more effectively. There is always a resolution to a ticket that requires more understanding. Further, there is always a technical services librarian at an expert level of a tool that can perhaps execute an activity better than explaining to the layperson. Some of the technical services librarians at Kansas State University Libraries are tenure-track, and they may use their annually reviewed portfolios as a time to showcase their expert use of ERM and other system tools outside of their department. The various library departments also have pages they manage on the staff-accessible Intranet where up-to-date information on these tools and workflows are kept. By being more transparent, there is a swing of ticket activity on a pendulum of questions answered more thoroughly on a given subject, and suggestions to refine a process. By making the effort more visible across the library, there is more comradery to be found when working out a resolution between the library and a vendor, more progress seen by other personnel, and activity once siloed is brought to the attention of the organization.

**Read the Manual: Be Honest about a System’s Limitations but Also Think Outside of the Box It Came In**

After becoming familiar with the electronic resources life cycle, a librarian should make time to read available product manuals and user wikis for the ERM, link resolver, and discovery layer. This helps not only discover the system functionalities, but also devise workarounds for possible shortcomings. The vendors appreciate hearing ideas for improving a tool. Sometimes they offer incentives. Librarians should also make friends with information technology support staff to put those ideas on paper (or code) to better articulate the results desired for the library. Librarians should also be willing to listen to colleagues who are certified in the backend of the system. Librarians might be able to have the workflow or additional record description desired through another tool at the library’s disposal: Excel. ERMs were built for adding to collections, not cancellations. The department should ensure it is well maintained and in a safe location for your electronic resources personnel to use long term, perhaps into perpetuity if perpetual access rights are concerned.

Kansas State University Libraries uses additional Excel spreadsheets from the foundation of the resources’ journey on the life cycle. Pesch (2008) described the first stage, Acquire, as evaluating budget priorities, working out the business terms, and processing the invoice. The challenge here is: How can all of this information be collected? The solution is a combination of the ERM and spreadsheets. Content Development and Acquisitions process funds real time with the invoicing tools on the ERM; however, the cost projections for multi-year deals and inflation are calculated on an Excel spreadsheet. Likewise, the
Electronic Resources Librarian can document the business terms and terms of use in the ERM, but beforehand there is a systematic way of charting the progress of license acquisition and budget priorities on a spreadsheet. Kansas State University Libraries has a similar workaround for the second stage, Provide Access. Pesch (2008) describes this stage as the activation and organization of holdings of a resource to be present in a library in the backend of library systems and in public use. The challenge here? Journals change platforms at a pace unmanageable in an ERM without the ready assistance of up-to-date spreadsheets with information of mergers and changes found in LISTSERVs and vendor memos. Changes are then made to the record management and link resolver available through the ERM.

**Find Community in Commiseration: Discuss Action Points with User Interest Groups**

LISTSERVs and user group conferences are excellent opportunities to discuss workarounds and suggestions to take to a vendor for ERM product enhancements. For general interests in electronic resources management, two recommended LISTSERVS are ERIL-L and Liblicense-L. Discussion on Electronic Resources in Libraries (ERIL-L) envelopes the whole life cycle of electronic resources: whether checking system status user wide of online resources, discussion of new mergers, acquisition techniques, or workarounds possibly helpful to most libraries. Liblicense-L focuses on the licensing and copyright concerns of libraries, and also provides vendor insight. It is also important to look at a system product’s community. Ex Libris users can meet regularly at the Ex Libris Users of North America Conference, regional user group conferences, and online through Ex Libris LISTSERVs such as ALMA-L. If a library is looking at a possible library system migration, librarians should join the user group LISTSERV to get a sense of how to manage library resources with that tool. With a broader network of colleagues, librarians may even rally an interest into production. An example of this is the voting measures that Ex Libris has in place for ranking requests of product enhancements for its library tools. Electronic resources personnel at Kansas State University worked together to analyze our collective interests in the electronic resource management tools we use before our library voted for new enhancements on ALMA and our discovery layer, Primo. Librarians should use the notes that acquisitions team and content development gather throughout the life of an electronic resource as it reaches the point of consideration for renewal. Colleagues across other departments may offer up their own ideas documented in the ticketing system for electronic resource access issues. That is one more reason to be transparent in electronic resource processing activity: the more eyes on the backend and frontend experience of a resource, the more insight there is to improve.

**Table 2**

<table>
<thead>
<tr>
<th>Questions for Further Discussion</th>
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<tbody>
<tr>
<td>• Looking at work distribution at Kansas State University or your own institution, are the assigned roles in the life cycle leading to effective collaboration to fully understand electronic resources’ issues and needs?</td>
</tr>
<tr>
<td>• Where does documentation of your local practices take place and how is it made available to other staff?</td>
</tr>
<tr>
<td>• What procedures have you developed or gleaned from other libraries’ practices to better manage what tools you have available to manage electronic resources?</td>
</tr>
<tr>
<td>• What LISTSERVs and communities do you partake to learn and critique these practices and tools?</td>
</tr>
</tbody>
</table>

**REFERENCE**