NOTES ON OPERATIONS

Implementing a Transparent and Sustainable E-resource Assessment Plan in an Era of Continual Change

Taylor Ralph

Most academic libraries perform some level of collection assessment for e-resources. However, traditional e-resource assessment procedures pose multiple challenges related to their adaptability, transparency, and sustainability. At the Valley Library at Oregon State University, a multi-tiered assessment process is continually revised and refined to reflect the changing scholarly communication landscape and address the needs of both our library and our community. This paper discusses how this collection assessment system is currently set up, and outlines the challenges, benefits, and future considerations for other libraries interested in adapting their own e-resource assessment practices.

As library employees, we are aware of the fact that e-resources and subscriptions account for the majority of a library's collection budget, and continue to increase in price every year.[1] This fact, along with the reality that library budgets are often cut or remain stagnant, requires that we look closely at expensive e-resource subscriptions and make deliberate decisions about renewing, canceling, or unbundling in the form of collection assessment. Collection assessment is a well-established practice at many libraries, and is often completed on a systematic or project-based basis. However, libraries continue to struggle with elements related to the timing, staff responsibility, and consistency of this type of assessment. Additionally, as library principles and the current scholarly communication landscape change to prioritize access over ownership, support open scholarship, and disinvest in unsustainable "big deal" packages, collection assessment is challenged when resources are broken up, added, swapped, or deselected more regularly. At the Valley Library at Oregon State University we are addressing these issues by refining a multi-approach assessment process that, over the course of a year, analyzes all e-resource subscriptions and library tools in our collection by an interdepartmental group of relevant colleagues, most of whom engage in technical services work. This process allows us to keep track of new purchases and open access (OA) resources; includes a space to provide notes on usage trends, vendor relationships, access issues, and other internal documentation; and allows space for soliciting feedback from the library and larger institution in a sustainable way. This two-tiered, decentralized assessment process was presented at the Library Assessment Conference and Core Forum in 2022 and the Electronic Resources and Librarianship conference in 2023 as a way to introduce new ways of thinking about the structure and timing of collection assessment in libraries.[2] This article illustrates how one academic library approaches comprehensive collection assessment as a way to respond to a rapidly changing scholarly communication landscape and library priorities. It outlines how and when assessment processes take place during the year, and discusses the benefits, results, challenges, and future plans for this collection assessment strategy in an effort to encourage libraries to re-evaluate their own strategies.

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Literature Review

Collection assessment practices in libraries have been studied for over forty years. As libraries themselves have changed to keep up-to-date with technology and community needs during those years, collection assessment has changed as well, most notably with a shift toward collection assessment that is described as holistic by nature, and tied more deeply to institutional goals.[3] Recent research emphasizes the benefits of more collaborative models of collection development, and implementing ways to gather input on collections from multiple library departments and areas.[4] Systematic, rather than project-based assessment has also become a goal for assessment practitioners. Strategically assessing resources by subject area, type of resource, or physical area of the library attempts to ensure that no part of the collection is neglected, and that assessment can continue on a smaller, and therefore more manageable, scale.[5] However, there are few articles that focus specifically on how libraries can structure collection assessment, though providing access to collections, especially e-resources, is considered one of the most important services an academic library provides.[6] Many studies only partly address questions related to the what part of the collection should be assessed and when, who is doing the assessment, and assessment consistency. Although the goal of many new assessment models is to be synergistic, it is important to explore how this work is distributed within the library in order for it to be truly sustainable as well as adaptable.

A major consideration of recent collection assessment research focuses on when assessment should take place, and for which resources. Institutions cite personnel and time constraints as limiting factors for assessing the full e-resource collection.[7] One of the most common systematic collection assessment models is directed by subject area, often in alignment with the larger institution's program review cycle. However, assessment of every e-resource on this timeline, especially depending on the size of the library collection, can take up to five or more years in some cases.[8] Another common strategy, suggested by the Scholarly Publishing and Academic Resources Coalition, is to determine which library publisher subscription agreement costs the most money, and to start assessment there.[9] Like the institutional review strategy mentioned above, the design of this approach assesses the most expensive resources first to avoid overwhelming library staff with an overload of resources to review. Although longer timelines or strategic assessment may reduce the volume of resources assessed, there is a concern about adapting to the needs of current researchers, new programs, or being able to respond to external factors such as substantial budget cuts. These approaches can create extra work in having to create other tools such as a cancellation "watchlist" or having to squeeze in extra project-based assessment when the time arises.[10]

In a similar vein, some collection assessment research considers who is responsible for collection assessment projects in an effort to more evenly distribute workloads. Interestingly, much of the rationale behind structuring a collection assessment working group, or even tasking a certain individual, is dedicated to easing the burden of collection assessment from subject specialists or liaisons. This trend, which was first discussed in the 2010s, mirrors the contemporary and current transition away from the library liaison model in academic libraries in which subject liaisons or subject specialists manage the collection for their designated subject areas.[11] Although there are benefits to having subject specialists further removed from having to make all acquisition and cancellation or disinvestment decisions, including ensuring that "acquisitions were less sensitive to subject-specific biases," there is little said about the impact on staff that work in technical services, where much of this burden falls.[12] Many of these structures still rely on subject specialists to provide input on collections decisions, but only after collections assessment is complete and they are provided with "tangible results for their interpretation and use."[13] One unique structure for collection assessment relies on library staff to volunteer to create reports that support subject specialists during accreditation and program reviews.[14] Although these more centralized collaborative structures are not uncommon in today's library, especially as immediate concerns such as budget reductions are increasingly frequent,[15] there needs to be more in-depth discussion on who exactly is doing what work in regard to collection assessment, and why, as it especially impacts technical services staff. In order for collection assessment to be truly sustainable, the workload must be strategically distributed with the consideration of staff time and expertise.

Lastly, most research dedicated to collection assessment, and especially those cited above, agree that consistent assessment is a key component to manageable and effective assessment of library resources. There is also a need to adapt collection assessment to new resources and the needs of a changing scholarly communication landscape. For example, libraries are currently considering OA and open educational resources in collections decisions. New publishing models have changed collections profiles.[16] With this shift to open, which includes the addition of OA resources, the adoption of transformative agreements, and investing in open publishing and institutional repositories, there needs to be a way to assess these e-resources in addition to those purchased. However, we also know that assessing OA resources presents new and unique challenges, as standardized data such as usage and turnaway data are likely not available without the use of external tools or plug-ins.[17] As responsible stewards of library collections, collection assessment consistency should also allow for adaptability, as library collections, collection development models, and acquisitions models change.

Institutional Context

Collection assessment practices can vary widely between libraries and may depend heavily on their type, size, and staffing and funding levels. At the Valley Library we face challenges including frequent turnover in the technical services department and low staffing and funding levels compared to peer institutions of a similar size, all of which have informed how and when we can perform effective collection assessment. Also, like many other institutions, the yearly collections budget does not always meet the rate of inflation, so we need to ensure that we are spending that budget in the most effective manner. Over the past few years, the library has established principles dedicated to open and sustainable scholarship, as well as preferred negotiation principles that prioritize OA, transparency, and researcher privacy. These principles act as strong guidance in decision making, whether we are reviewing e-resources for cancellation or renewal, deciding which publishers to work with, or exploring transformative agreements.

The initial solution was to create a decentralized group of librarians, library technicians, and professional staff that spans multiple job responsibilities related to acquisitions, electronic resource management, assessment, directing branch libraries, and supervision. The Collection Council, formed in 2014, is a standing group that meets on a weekly basis, and makes decisions and suggestions for the entirety of the library's general collection. Through this approach, the group accomplishes all processes including working with vendors, reviewing new resource requests, discovery and implementation, assessment, and outreach. Each member of the Council is responsible for one or more pieces of assessment processes, which are reviewed on both monthly and yearly timelines. Overall, the organization of the Collection Council has made it more possible to establish a collection assessment plan that continues on a regular, consistent basis that disperses the burdens of collection assessment more evenly across its standing members.

During the course of a year, the Collection Council reviews about 1,200 e-resource subscriptions in addition to library tools used to catalog and assess the collection. These subscriptions include databases, journal packages, and journals provided through a subscription agent. The assessment reviews occur through a two-tiered system differentiated by a monthly and yearly review process that is determined by renewal dates. First, we create a list of resources, gather data, schedule discussions, and solicit feedback on a predetermined timeline. In order for this large-scale, systematic assessment plan to be successful and adaptable, it is important to consider the following: setting reasonable expectations, creating a timeline that is comprehensive and sustainable, gathering the most relevant data, determining appropriate interested parties, and making efforts to solicit feedback and share information in a meaningful way.

Implementing an Assessment Plan

At our academic library, we conduct three types of e-resource collection assessment: monthly reviews, yearly reviews, and reviews on an ad hoc basis. These processes, established with the advent of the Collection Council, are continually reviewed and refined over the years as new assessment trends are identified, employment shifts, and as library priorities are re-established. All of these processes include multiple steps that can be generally broken down to the following: gathering the resource list; pulling, presenting, and organizing usage data for those resources; a discussion on quantitative and qualitative data related to those resources; sharing the data with relevant parties; and soliciting feedback.
The outcomes of this process closely mimic a study from 2011, which acknowledges that a path to implementing manageable collection assessment includes "creating a data snapshot of the collection using both quantitative and qualitative data; focusing on the collection in smaller, more manageable sections rather than all at once; and developing a plan of action for the future of the collection based on the assessment, including recommendations for deselection and for new resource acquisition."[18]
Importantly, these assessment plans all necessitate group work and knowledge sharing. In considering the implementation or restructure of a new e-resource plan for your institution, the following steps, detailed below, are integral to success at any scale or level of commitment.

Setting Expectations and Responsibilities

The first and very important consideration in implementing an e-resource collection assessment plan is to set expectations and assign responsibilities. In a similar collection assessment model that spans multiple departments in one academic library, a workflow system "was drafted with the input of individuals from all [relevant] library departments . . . and required final approval from a team composed of the department heads and library administration."[19] At our institution, responsibilities related to the Collection Council are now included in position descriptions. This groundwork is essential, especially if a collection assessment model has to retrofit into an already established departmental organization. Re-prioritization of current work may be necessary unless there are monetary resources or positions available to fill this gap.

A purpose statement for the assessment process may inform which library staff to involve in this work. Positions related to acquisitions, electronic resource management, licensing, assessment, subject liaising, and administration may all have the expertise to meaningfully contribute to this process. Ideally, a group may consist of library staff who regularly interact with vendors, understand the library system and resource discovery, are familiar with library usage data, or are in a position to make executive decisions about purchasing or canceling library materials, which is the current case at our institution. If there is currently little or no expertise within the library staff about resource usage data, some time will need to be dedicated to education, and then also to setting up the systems required to access and gather usage data.

The amount of time required to assess e-resources in library collections depends on a multitude of factors, including the number of resources that are assessed on a regular basis, the knowledge of the practitioners, and the availability of the resource usage data. Time for meetings about the collection assessment process will also have to be considered and set. Ultimately, more staff time and knowledge will be necessary at implementation, but once assessment has been progressing regularly, it is easier to manage and melds into daily work. It is important to note that, especially with regard to the sustainability of the assessment plan, this work cannot be done by a single individual. The work and subsequent decisions should be enhanced by discussion and knowledge sharing amongst other library experts.

Creating a Timeline and Choosing Resources

The next consideration is to determine which e-resources need to be assessed and when they should be assessed. This list of resources and its related timeline should consider library priorities. Primarily, e-resource assessment should have a purpose with a direct and required outcome, and those outcomes may help in identifying a resource list and assessment plan. Additionally, providing a clear motivation for assessment benefits libraries as it removes any impulse to collect data for the sake of having data that may or may not be relevant to collection goals.[20]

A sustainable assessment plan emphasizes regular and expected work. One of the benefits of systematic assessment is that it can help develop a culture of assessment and greater understanding of the library collection.[21] Also, planning assessment around a cycle can minimize extra workload for relevant parties.[22] Having an assessment timeline structured around the calendar year or fiscal year may be the most effective for setting an assessment plan into motion that is not only sustainable, but predictable for those involved in doing the work, and for those from who we solicit feedback. At our institution, collection assessment is scheduled around resource renewal dates, and conducted on an ad hoc basis for projects that fall out of the set renewal timeline. In addition to providing a relatively consistent schedule, planning assessment around renewal dates also forces the library to pay closer attention to price increases and discuss potential resource upgrades or reductions. We collect a list of resources with recurring costs in advance of their renewal date. To accomplish this task, we extract data from Alma—our library services platform—which includes renewal dates, price history, and bibliographic information to export a list of resources with the predetermined renewal date. The major benefit of assessing resources based on renewal dates is the opportunity to review every e-resource within the course of a single year.

Gathering Data

Recent research suggests that the most effective route for assessing collections is to look at library resources holistically, and use both quantitative and qualitative data to inform decision-making.[23] Analyzing quantitative data such as resource usage and standards statistics, and supplementing those numbers with solicited feedback and information specifically concerning resource content, accessibility, discoverability, or publisher values not only allows for a deeper understanding of the resource and its relevancy to current institutional objectives, but also reinforces the reality that library staff are experts who use their skills and knowledge make informed decisions. Also, quantitative and qualitative data insights can inform each other.

Before creating a collection assessment plan for electronic resources, take inventory on which previous assessment measures have been taken at your institution, if any. These documents or spreadsheets could provide information as to what data were gathered, collection assessment tools to which you may have access, or the systems that have been set into place to gather data. Past initiatives can provide insight into previous assessment priorities, and past data is also integral to tracking usage trends over time. Through these projects you might also find accompanying relevant documentation, such as instructions for pulling data, tools utilized, or information on accessing administrative accounts for vendor sites. Gaining administrative access to vendor administrative sites can pose a huge potential roadblock to gathering usage data. Usernames or passwords may be kept by one person, lost over time, or disorganized. Creating a system to keep this login information and usage in a can shared place, such as within an electronic resource management system (ERMS), library services platform (LSP), or shared spreadsheet, ensures continued access to this important information. Administrative pages on vendor sites can not only provide information on holdings and access information but may also link to usage data or credentials for your institution that are necessary in order to set up usage data harvesting.

Quantitative Data

Collection Assessment most commonly relies on quantitative data, especially e-resource usage data. Usage data can include the number of times a resource is used or accessed, how many times a patron was turned away or unsuccessful in accessing a resource due to either licensing restrictions or subscription coverage, and how many times a resource was accessed as a part of subscribed or OA content. Most large library vendors are compliant with the COUNTER Code of Practice, used by librarians, publishers, and other content providers for reporting usage statistics for electronic resources in a standardized way.[24] COUNTER derives usage statistics from a number of standardized reports that allow library staff to compare library resources and calculate cost per use across electronic collections.

Many of these vendors also follow the Standardized Usage Statistics Harvesting Initiative (SUSHI), which automatically pulls COUNTER usage data on a monthly basis for designated reports through an API. A number of third-party vendor systems and tools support SUSHI harvesting, and what follows are a few examples. In Ex Libris's Alma, there is the option to set up SUSHI harvesting via vendor pages. To set up SUSHI harvesting on any account institutional credentials, which requires the SUSHI Account URL for the publisher, the Requestor ID, Customer ID, and the API key are required. This information may be found on the publisher's administrative site, or through a publisher contact. Once set up, you can enable all of the reports supported by the publisher. Vendors may only allow certain reports to be pulled based on the product, but it is recommended to set up reports that include usage statistics for proprietary content, turnaway information, and OA usage data if it is available. The Springshare product LibApps also allows SUSHI harvesting set-up for title, platform, and database master reports through the LibInsight module. The process for enabling SUSHI harvesting requires the same information and credentials for your institution as above. If your library does not utilize third-party tools that support SUSHI such as Alma or LibApps' LibInsight, SUSHI harvesting can be set up through a Microsoft Access database, with some knowledge of coding or through a paid service such as CELUS.

However, not all library vendors comply with COUNTER, as maintaining compliance requires audits on a regular basis and an associated cost. Smaller, independent publishers may not provide COUNTER reports for resource usage but may be able to track usage in other ways such as site visits, page views, or downloads. These measures may still be used to calculate cost per use and visualize usage trends over time but may not be equivalent to do a one to one comparison with a similar resource that has COUNTER usage. Some e-resources, especially those that provide access to fully open resources may not have measurable usage at all. Other data sources such as link resolver statistics, article purchasing services such as the Copyright Clearance Center's Get it Now or Reprints Desk's Article Galaxy, or linking services such as LibKey may need to be considered as well. In some cases, it is important to rely more heavily on the qualitative data available.

At our library, we consider multiple quantitative data points during all of our reviews. Although most of our data comes directly from COUNTER- compliant vendors and is gathered through Alma, there are some instances in which we rely on data sent from vendors via email communication. With our recent implementation of LibKey, we can now also look at linking data for resources where data is otherwise not available, such as for OA resources, directly on their administrative platform. Where no data is available, we add a note to the spreadsheet as to that reasoning. For each resource up for renewal, we add notes about the data source, which metric is used, and any inconsistencies or disruptions to usage.

Depending on your project you might want to consider using assessment tools, which can analyze and organize quantitative data into reports. Commonly, assessment tools can give insight into content overlap, author activity, cost per use, open access usage and content, subject analysis reports, and can even forecast future scenarios based on changes to an e-resource subscription. Some of these tools are free, but many are subscription based or have a one-time associated cost. A few collection assessment tools to consider include: GreenGlass, Goldrush, Unsub, and CELUS. Dimensions, which has free and paid versions, allows librarians to assess OA publishing output and authorship activity for your institution. We regularly use an overlap analysis via Goldrush or through Alma to determine where we have duplicate coverage, especially as we consider major cancellations or the acquisition of new resources.

Qualitative Data

Collection assessment reports created from quantitative usage data may not be sufficient to make a final decision on a resource or part of the library's larger collection. For example, one resource may have low usage data, but could be the only and most important resource supporting a small college or group of niche researchers. Some resources may have lower usage because they are difficult to find in the catalog, or are not promoted effectively in LibGuides or classes. This potential gap in knowledge illustrates why it is necessary to use qualitative data in collection assessment. Involving relevant parties such as library staff who have expertise in discovery, promotion of library resources, web accessibility, and subject specialists can help make more informed decisions about collections and their impact on the larger institution. If an issue is noticed, such as a resource that is not indexed correctly in the library system, a relevant colleague can fix that issue and usage data can be revisited at another point in the future.

Gathering qualitative data may take more time and effort than quantitative data, and libraries have explored multiple ways to assess collections utilizing values-based questions and relevancy feedback. The use of a values matrix, or scorecard, to assess e-resources allows for consistent comparison between resources, and also produces a digestible visualization of checks or misses that can be more easily shared.[25] At our institution, discussion on qualitative data is embedded in the decision-making process with the expert make-up of the Collection Council. Each month, members of the Collection Council that work with e-resource discovery make notes about titles up for renewal, considering ease of discovery and accessibility concerns. Because of the makeup of staff on the Collection Council, however, there are gaps in knowledge specifically concerning needs of colleges and departments, so reliance on email communication with subject librarians is necessary. For others, "cross-unit feedback is built into the committee structure and lessens the risk of creating processes and programs that neglect any potential stakeholder expertise and concerns."[26] After gathering suggestions about the collection is complete, liaisons and public-facing library staff receive an email with usage data and information about indexing, as well as notes about accessibility and vendor values with a timeline to submit feedback for initial decisions.

Determining Interested Parties

It is necessary to determine the parties that should be kept up-to-date with decisions about changes to e-resource collections. These parties should not only be identified as partners in the actual assessment of collections, but also as those who are directly impacted by changes to the library collection, both inside of and outside of the library. Library staff in public-facing positions will be impacted by collections decisions as they work with patrons and recommend library resources, and technical services staff may have to work on removing any canceled resources from the library site and management system. Patrons are one obvious community, as they use library resources for research and other pursuits. For each group it is important to make decisions about what information will be shared about collections decisions, how much of it will be shared, and when it will be shared. Some pieces of assessment, such as cost per use, may not be able to be shared out publicly due to licensing language and agreements. If embarking on a major negotiation with a publisher, it also would be wise to keep assessment specifics to a limited number of people.

In the interest of transparency, we include interested parties at different steps of the assessment process. For our monthly and yearly renewals, data and preliminary decisions are always shared with the larger library before being shared publicly with the institution. Rather than share initial decisions with certain departments or individual library staff, we include the entire library. Each department has a specific stake in collections outcomes, and sharing any potential changes in advance is necessary. Information shared includes the reviewed titles, price increases, notes, and any quantitative or qualitative data available. Because this information is shared only internally with the library, there is greater flexibility from license agreements to share usage and cost information.

There is more strategy required when communicating at the institutional-level. For example, if we are considering cancellation of a discipline-specific resource, we may work with the subject liaison librarians to solicit feedback or inquire about monetary support from the identified department. However, all cancellations decisions are shared publicly on a LibGuide, ideally a year in advance of loss of access. This is also true for larger negotiations. We widely share the negotiation process and information related to the disruption of access to resources with the institution through the LibGuide, library website, and potentially through town hall or department meetings, depending on the resources in question. As mentioned above, more specific pricing information may not be able to be shared, but any alternate access options are highlighted. Again, in identifying interested parties, transparency is always prioritized, as is the impact of any disruption to access for specific groups.

Sharing Data and Soliciting Feedback

After the assessment process is complete, it is vital to share information with identified parties. Having transparent conversations about collections decisions and the reasoning behind those decisions has the potential to increase trust both within and in the library. One option would be to work with subject liaison librarians or library administration to gather targeted feedback about preliminary collection decisions based on data and conversations with communities outside of the library. Presenting organized data and substantive input can also be used to justify decisions to the larger institution.

Depending on the assessment project, and the size of its outcome, different strategies for sharing data may be more appropriate than others. A large-scale cancellation may necessitate a webpage or a portal where patrons can easily access and digest the information, whereas a single cancellation may just be shared in an email with the rest of the library. Clearly providing an avenue for feedback, whether through a survey or through a department or individual email is integral to soliciting the feedback necessary to make informed decisions. Targeted solicitation may also be effective—such as asking a subject specialist or group of patrons—as a personal investment in a resource more likely leads to constructive feedback. It is also practical to clearly set a timeline for feedback that is neither too long or too short, so that patrons and others do not forget to provide input or miss that opportunity.

Current Method Outline

Monthly Reviews

As the name suggests, monthly reviews happen on a monthly timeline when there are resources up for renewal. Currently, we do not have all of our e-resources on the same renewal calendar. Renewal dates are scattered across the year, with some months requiring assessment of a longer list of titles or memberships than others. There is an effort to consolidate renewal dates so that they fall at the end of the fiscal year, but this is not possible with all vendors. We also assess resources in multi-year contracts on a yearly basis, even if they are not up for renewal that year. This helps us keep track of usage trends and allows us to predict future cancellations, which we then share with the library and larger institution. Even if your library has all e-resource renewal decisions due during the same month, it could still be beneficial to divide resource assessment across the calendar or fiscal year. This reduces the number of resources that need to be assessed at one time, and also allows for a greater timeline for informing your community about potential cancellations. For us, there is a collection of about 140 e-resources, including databases, subscriptions, open access resources, and services that need to be reviewed regularly. Individual journal titles are reviewed during our annual review period, outlined below. The steps for the monthly review process are as follows:

1. The preceding month, we pull a list of resources from Alma that all have a renewal date set in ninety days. We upload the lists to a shared spreadsheet.
   a. The list of resources includes: the title of the resource, the vendor, publisher, purchase order line, last fiscal year's price, the current fiscal year price, any cancellation restrictions, resource type, and any identifying numbers such as ISSN.
2. For each resource on the list, we gather usage data when applicable. Data may be COUNTER compliant from the vendor site, harvested via SUSHI, or provided directly from the vendor or publisher. The data is added to the resource list on the shared spreadsheet. For COUNTER data, we consider TR_J1 reports for journals, TR_B1 reports for e-book packages and DR_D1 reports for database usage.
3. We calculate the cost per use with the new price and median usage over available years and add it to the shared spreadsheet.

4. The Collections Council meets to discuss the usage data and cost per use for each resource. For each resource, there is discussion on how it is indexed in our catalog and if it is easily discoverable by researchers. Discussion may also include accessibility concerns, resource interfaces, potential overlapping content with other resources, and particular vendor ethics. These notes are added directly into the renewal spreadsheet.
5. The group makes suggestions on whether or not the library should renew or cancel the resource based on the discussion.
6. The suggestions are then sent out to all library staff via an all-staff email list with the opportunity to provide feedback within a two-week window.
7. If no feedback is provided, the group suggestions are taken, and the appropriate steps are taken by the acquisition team to cancel or renew the resource through the vendor.
8. If feedback is provided, that is considered and discussed by the group via email or during a future meeting.
9. Once decisions are made, the LibGuide is updated to include a list of titles that will be canceled if any, alternate access points or other suggested resources, and the reason for cancellation.

Annual Reviews

In addition to monthly renewals, there is a large set of electronic serials from individual publishers through our major subscription package that have a renewal date in the fall. These titles are not part of database or aggregator subscriptions. Unlike the monthly renewal list, this assessment project only includes individual journals, and does not include databases, open resources, or services. Because of the large number of individual serials that need to be reviewed (most years over 1,000), the assessment process takes longer. The larger library is also more deeply embedded in discussing the suggestions to cancel or renew certain resources, and the results of these discussions are also shared more publicly with the larger institution. The steps for this process are outlined below:

1. In the beginning of January of the renewal year, we extract an Alma list of active serials from our primary subscription agent, Harrassowitz.
2. At the end of January and in early February, acquisition staff checks the accuracy of the list and organizes it by invoice date and subscription package or publisher.
3. From February to March, we pull usage data for each resource for the full preceding year. If possible, we gather data from at least three years.
   a. In our case, the data comes from SUSHI harvesting, from individual publisher sites when necessary, and from Alma Analytics.
   b. We use the COUNTER TR_J1 report, which details the number of times articles in a journal have been viewed in full text or downloaded, and the number of times abstracts, tables of contents, and citation lists have been viewed.
   c. For each resource, we gather aggregator data in addition to usage for the individual resource through SUSHI harvesting in Alma. Aggregator overlap is marked when there is significant usage overlap, or if usage from the aggregator is higher. Significance is defined by a TR_J1

count that is within 20 percent between platforms. If there is an OA option, this is also noted on the spreadsheet.

   d. From the usage data, we calculate median use and cost per median use with the current price.

4. In March the group meets to discuss the spreadsheet and ask clarifying questions. The spreadsheet may need to be tweaked or changed in accordance with group suggestions.
5. In April we share the spreadsheet with the larger library, and library staff are invited to a meeting to discuss the spreadsheet, including reasoning as to which resources are included, and an explanation of the usage data.
6. From April to June library staff make suggestions for the cancellation or renewal of each resource.
7. In June we share the list of suggestions with the larger institutional community, with the option to submit feedback from June until August.
8. In August the group considers any feedback and discusses it at a Collection Council meeting.
9. At the end of August, the group will make final decisions on each resource, and the appropriate steps are taken by the acquisition team to cancel or renew the resource through the vendor.
10. After the decisions are made, notice of any cancellations are shared publicly on the library website.

In addition to monthly and yearly reviews, some assessment needs to be done on an ad hoc basis, though these are not substantial projects. Situations that require such assessment include when a publisher has a large price increase for a specific journal or resource, or when there are offers that could be considered for end of the year purchases. In these cases, the usage data and discussion are unique to the particular resource, and we set a timeline and expectations for when Collection Council decisions must be made to the relevant vendor.

Results

Regular assessment promotes responsible stewardship of our library's general collections. Cancellation decisions from these reviews are based on low usage, duplication of content through an alternate resource or those available OA, or result from values-based conversations with specific vendors. Overall, collection changes have net positive results. The annual review process in particular allows for the opportunity to review titles from our larger journal publishers and make decisions about canceling or swapping out journals on a yearly basis when possible. As seen in figure 1, the process of swapping out low-use titles for higher turnaway titles of equivalent value has had the effect of lowering overall cost per use. With the exception of Publisher 3, with whom we reduced our overall spend through some larger cancellations in 2019, prices for all other publishers have increased with inflation, but still reflect a lower cost per use. We can partially attribute this drop to swapping out identified titles, which was first accomplished for fiscal year 2021, and also recognize higher e-resource usage post COVID-19 pandemic university closures. We identify titles to swap with cooperative vendors every year during the annual review process, and inquire about giving up access to lower use titles for titles that have a higher number of turnaways with an equivalent price value.

By reviewing each resource on a yearly basis, we are able to determine the return on the investments. For example, over the past three fiscal years the library has upgraded six large databases to expand content and to adjust access from abstract only to include the full-text. Because these numbers are readily available through the review system, it simplifies an analysis such as that in table 1, which compares the median monthly usage of the resources pre- and post- upgrade. These upgrades cost more for the library, but by comparing usage and cost per use statistics we can gauge the impact of those changes. For example, there is a greatly positive reaction from our researchers when adding full-text access for a database. We use this information to inform future decisions and if needed, justify budget expenditures. By contrast, we can also determine which investments are not as well received by researchers and adjust our expenditures accordingly.

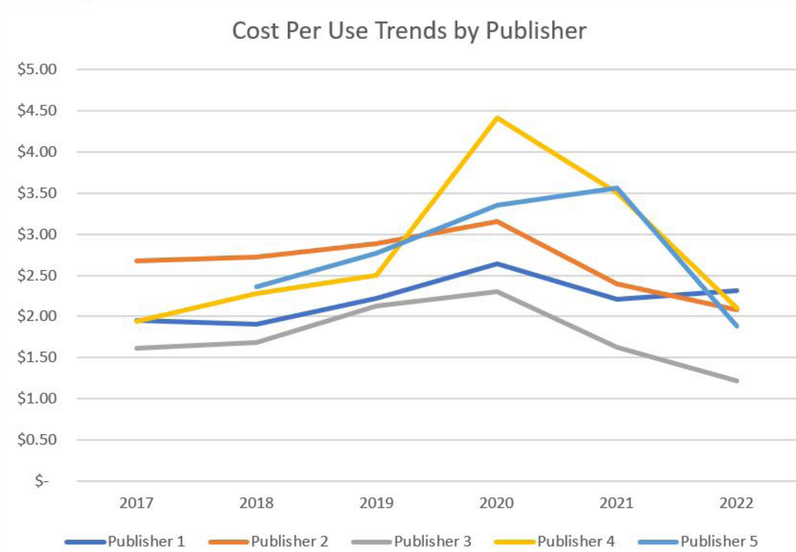

Figure 1. Publisher cost per use trends pre- and post-title swapping.

Other results are less tangible, but nonetheless important. Colleagues outside of the Collection Council indicate appreciation and trust in collections decisions and have provided regular and valuable input on major decisions. The consistency of the reviews allows those involved with gathering data, requesting pricing information or other vendor communication, and checking access impediments with our discovery system to anticipate and prioritize work in other areas. Lastly, we regularly review and discuss new resources and become more familiar overall with the content of the general collection.

Roadblocks and Limitations

Though this assessment approach has proven valuable to our library, roadblocks encountered during the implementation process persist, and some require ongoing attention. Many of these roadblocks relate directly to gathering usage data. If just embarking on implementing an e-resource assessment plan, setting up and maintaining SUSHI harvesting for COUNTER data may prove a time-consuming process. And, depending on the library system, it may be much simpler for some than others. The API Key, Requestor ID, and Customer ID required to set up SUSHI harvesting is usually kept behind administrative access on vendor or publisher websites, and each publisher will need to be set up individually for harvesting data. To get this information it may require reaching out to vendor representatives, and we are all familiar with the fact that these representatives often change and may not have information readily available. There are also instances of inconsistencies in vendor-supplied data, which may be then retroactively changed or corrected. So even though setting up these automated systems is useful in the long run, there can be a substantial amount of front-end work and ongoing maintenance to ensure links are unbroken and up-to-date.

Table 1. Pre- and post-upgrade usage for six databases.

	Median Monthly Content Usage Pre-Upgrade	Median Monthly Content Usage Post-Upgrade	% Change
Database Upgrade 1	508	535	5.31
Database Upgrade 2	3,717	1,684	-54.69
Database Upgrade 3	939	902	-3.94
	Median Monthly Search Activity Pre-Upgrade	**Median Monthly Search Activity Post-Upgrade**	**% Change**
Database Full-Text Addition 1	736	2,148	191.85
Database Full-Text Addition 2	261	2,154	725.29
Database Full-Text Addition 3	20	2,126	10,530.00

One major challenge we recently encountered concerned organizing and understanding past usage data. For monthly reviews, annual reviews, and other major projects there was no labeling or indication of which metrics or report type were used to represent the quantitative data. In most cases, this data could not be replicated. And, with the current COUNTER release updating from R4 to R5 in 2018, it was even more difficult to verify and adjust past data. Starting in 2021 there was an effort to verify and fix existing data where necessary and ensure greater transparency for new data. Now, all data metrics for quantitative data are clearly labeled in monthly review and annual review spreadsheets with explanations for what each metric counts. Data sources are also clearly labeled, whether they are supplied directly from a publisher or through SUSHI harvesting. This effort has made it easier to compare resources by using consistent metrics and lessens confusion moving forward. The presence of transparent data documentation has bolstered confidence in reporting and makes it easier for the library to justify decisions about canceling, renewing, or swapping resources to the larger institution or individual researchers.

A final potential roadblock concerns larger communication practices. As mentioned above, it is important to set expectations for who will be doing this work, and when, especially if limited staffing or high turnover are common at your institution. Including this work in position descriptions and having clear and updated documentation help immensely as new staff come in or organizational structures are changed. These communication roadblocks also include getting attention from the larger library and institution. Even if collections decisions directly impact the function of multiple departments, especially those that are public-facing, it has been historically challenging to garner interest and solicit feedback from these groups in particular. Our current method to address this issue has been to send out consistent messaging, reminders, and timelines for contributing feedback. The persistence of this messaging signals that this important work is continually accomplished, and that feedback is expected and considered. For the larger institution we have created a LibGuide that includes information on past cancellations, alternative access points, reasons for cancellation decisions, a list of resources that we are considering for cancellation in the next fiscal year as identified by our monthly and annual reviews, and an updated faculty request list which shows the progress our technical services department is making toward either purchasing or denying the request. The institutional feedback form is linked to from the

LibGuide. The guide also tracks our current vendor negotiations, and any progress made. Though this guide is new, we have had some activity on our survey feedback form about our current negotiations and the essential resources that researchers want to ensure we maintain.

It is important to note that although our main goal in addressing these issues and maintaining a sustainable assessment process is transparency in our processes, decision making, and sharing of information, there are limitations outside of our control; we can only be as transparent as library publishers allow. Though we and many other libraries are pushing for the removal of non-disclosure agreements, this is not always successful. There is some information that we are not able to share publicly outside of the library, and we are limited by what information publishers and vendors are willing to share as well. We commonly encounter lack of transparency on individual pricing for electronic titles and packages, data gathering and selling practices, and how other fees are calculated.

Conference Reception, Discussion, and Future Work

Our systematic and transparent collection assessment practices reflect the wave of interest in holistic collection assessment that are developing and have been written about in academic libraries around the country. Presentations about this process fit in well with other 2022 Core Forum presentations dedicated to collection assessment that focused on data ethics, anti-racist acquisitions, and challenging the relevancy of library collections. Many presentations at the 2023 Electronic Resources and Librarianship Conference, specifically in the Collection Development and Assessment track, mirrored the efforts that other libraries are taking to ensure assessment efficiency, and using measures outside of usage statistics to make informed decisions.[27] Conversations with conference attendees about our process illustrate that although systematic and transparent collection assessment is a priority, many libraries are still struggling in aggregating and utilizing usage statistics for the e-resources problems include staffing, lack of support, concerns about privacy, and unavailability of data.

More broadly, conversations about assessment with conference attendees reinforce our practice that collection assessment processes should be continually examined and refined as the priorities of the library shift. Changes in the scholarly communication landscape also heavily dictate those priorities, and impact how we view library collections and subscription access. Transformative and open agreements, the 2022 Office of Science and Technology Policy (OSTP) memo, and the continued rise of subscription costs has some libraries, including ours, concentrating more seriously on access models over ownership models.[28] Funds spent on e-resource subscriptions are being re-directed to tools or systems that provide individual access to proprietary content. These changes will undoubtedly dictate how e-resources are assessed as resources are unbundled and decentralized, and reliance on data from the systems themselves will become increasingly important in making collections decisions. In regard to the library collection itself, recent Collection Council decisions reflect current shifts in the scholarly communications landscape. Over the past few years we have paused or disinvested in publisher "big deals" in an attempt to both lower overall costs and to adhere to principles of privacy, accessibility, and transparency that were not present in specific resource licenses. This trend is not uncommon in academic or other library types as prices continue to increase despite the greater availability of OA Gold content in these subscription packages, and more concerns are raised about researcher privacy related to data selling and sharing by some library publishers. And it pushes libraries to prioritize access-based collection development over investment in large subscription packages and potentially invest more time in making open scholarship content available to researchers. Part of our current strategic initiatives focus specifically on open scholarship and finding ways to incorporate, make discoverable, and assess these e-resources regularly.

Future work includes considering realities concerning the scholarly communication landscape, and directing work toward even more transparent deliverables that can increase comprehension and ease community anxiety about the future of e-resource collections. We are currently considering how the scholarly communication landscape shift to open will impact work in technical services departments, and collection assessment in particular. With the adoption of LibKey and a new article delivery service, we will have to consider how these measures fit into our regular assessment process and how it will inform decision-making about our collections moving forward.

Conclusion

Overall, this systematic assessment process has been effective for the library in making decisions about our expansive e-resource collection. Due to this structure, the internal library public-facing library staff and library administration have come to expect and participate more regularly in collections decisions. We have been able to propose data-driven suggestions about cancellations and renewals, and generally receive supportive feedback or insightful questions about those suggestions from public-facing staff and subject specialists. A thorough and thoughtful examination of the e-resource collection has helped to establish both the Collections Council and the library itself as responsible stewards of our library budget and resources and as a result, has increased confidence and trust in those making decisions that could potentially impact e-resources access through the library. The consistent timeline-based schedule also allows participants to plan and prioritize daily work so that assessment workloads do not become too burdensome. It was also important to include expectations of this work in position descriptions, as it allows library administration to see how this work can be balanced with other expectations and mitigates occurrences of shifting responsibilities.

This structure, which follows best practices for holistic and systematic collection assessment, offers even more advantages. For example, we are able to review each and every e-resource to which we subscribe or have purchased during the course of a single year, even though we have a significant amount of resources as a large research institution. It also offers us the adaptability to incorporate OA resources, and to see how the results of major collections decisions, such as disinvestments, impact our researchers. By regularly and more frequently assessing these resources, we also have the information on hand to respond to publisher opportunities such as invitations for transformative agreements or options to swap out low use material without having to create a new assessment project. This type of adaptability is increasingly important as the ways in which libraries acquire materials are continuously changing.

Systematic electronic resource assessment does not need to be a point of anxiety for library staff and can be implemented at some level in an institution of any size or type. This complicated process can be made simpler by setting a strong organizational foundation, knowing the current data landscape, and having transparent conversations about decision-making with relevant communities.

References and Notes

1. Stephen Bosch, Barbara Albee, and Sion Romaine, "Are We There Yet? | Periodicals Price Survey 2022," *Library Journal,* April 14, 2022, https://www.libraryjournal.com/story/Are-We-There-Yet-Periodicals-Price-Survey-2022.
2. Taylor Ralph, "Liaising Through Numbers: Implementing a Transparent and Sustainable E-Resource Assessment Plan," virtual poster presented at the Library Assessment Conference, November 1, 2022; Taylor Ralph, "Implementing a Transparent and Sustainable E-Resource Assessment Plan," poster presented at the Core Forum, Salt Lake City, UT, October 14, 2022; Taylor Ralph, "Implementing a Transparent and Sustainable E-Resource Assessment Plan," virtual presentation at the Electronic Resources and Librarianship Conference, March 3, 2023.
3. Alana M. Nuth, "Consistent, Holistic, and Objective: Using a Scorecard for Electronic Resource Evaluation and Renewal Decision-Making," *Collection Management* 43, no. 3 (July 3, 2018): 209–22; Qiana Johnson, "Moving from Analysis to Assessment: Strategic Assessment of Library Collections," *Journal of Library Administration* 56, no. 4 (June 5, 2016): 488–98, https://doi.org/10.1080/01930826.2016.1157425.
4. Kimberly Looby, "Subject Librarians Vs Collection Data: How to Use Data to Visualize a Small Monograph Collection," *Technical Services Quarterly* 38, no. 1 (January 2, 2021): 33–53, https://doi.org/10.1080/07317131.2020.1854576; Tricia Lantzy, Talitha Matlin, and Judy Opdahl, "Creating a Library-Wide Collection Management Cycle: One Academic Library's Approach to Continuous Collection Assessment," *Journal of Library Administration* 60, no. 2 (February 17, 2020): 155–66, https://doi.org/10.1080/01930826.2019.1677092.
5. Madeline Kelly, "Applying the Tiers of Assessment: A Holistic and Systematic Approach to Assessing Library Collections," *Journal of Academic Librarianship* 40, no. 6 (November 1, 2014): 585–91, https://doi.org/10.1016/j.acalib.2014.10.002.
6. Ioana Hulbert, "Navigating the New Normal," *US Library Survey 2022,* March 30, 2023, https://doi.org/10.18665/sr.318642.
7. Laurel Sammonds Crawford et al., "Implementing a Just-in-Time Collection Development Model in an Academic Library," *Journal of Academic Librarianship* 46, no. 2 (March 1, 2020): 1–9, https://doi.org/10.1016/j.acalib.2019.102101.
8. Lantzy, Malin, and Opdahl, "Creating a Library-Wide Collection Management Cycle," 160.
9. Katharine Macy, "Qualitative Data Provides Depth in Resource Evaluation and Negotiation Planning," *SPARC*, accessed February 8, 2023, https://sparcopen.org/our-work/negotiation-resources/data-analysis/qualitative-data-provides-depth-in-resource-evaluation-and-negotiation-planning/.
10. Crawford et al., "Implementing a Just-in-Time Collection Development Model," 6.

11. Janice Jaguszewski and Karen Williams, "New Roles for New Times: Transforming Liaison Roles in Research Libraries," *Association of Research Libraries Report* (August 2013), http://conservancy.umn.edu/handle/11299/169867.

12. Crawford et al., "Implementing a Just-in-Time Collection Development Model," 4.

13. Kelly, "Applying the Tiers of Assessment," 589.

14. Evan Rusch and Nat Gustafson-Sundell, "Journal Collection Analysis: How We Developed New Tools to Improve Collection Assessment, Evaluation, and Outreach," *Serials Librarian* 76, no. 4 (2018): 96–102, https://doi.org/10.1080/0361526X.2019.1540269.

15. Megan Inman and M. R. Rose, "Batten Down the Hatches! Collection Management in Rough Seas," *Serials Review* 46, no. 3 (July 2, 2020): 190–92, https://doi.org/10.1080/00987913.2020.1806650.

16. Cynthia Kane, "Connections of Evidence: Using Best Practices of Assessment in an Ongoing Serials Analysis Project," *Serials Librarian* 78, no. 1–4 (June 1, 2020): 191–97, https://doi.org/10.1080/0361526X.2020.1696728; Helen N. Levenson and Amanda Nichols Hess, "Collaborative Collection Development: Current Perspectives Leading to Future Initiatives," *Journal of Academic Librarianship* 46, no. 5 (September 1, 2020): 102201, https://doi.org/10.1016/j.acalib.2020.102201.

17. Elena Azadbakht and Teresa Schultz, "At the Click of a Button: Assessing the User Experience of Open Access Finding Tools," *Information Technology and Libraries* 39, no. 2 (June 11, 2020), https://doi.org/10.6017/ital.v39i2.12041.

18. Vicki L. Gregory, "Assessment and Evaluation of the Collection, Including Deselection" in *Collection Development and Management for 21st Century Library Collections: An Introduction*, ed. Vicki Gregory, 113–30 (New York: Neal-Schuman, 2011).

19. Lantzy, Malin, and Opdahl, "Creating a Library-Wide Collection Management Cycle," 159,

20. Madeline Kelly and Genya O'Gara, "Collections Assessment: Developing Sustainable Programs and Projects," *Serials Librarian* 74, no. 1–4 (May 31, 2018): 19–29, https://doi.org/10.1080/0361526X.2018.1428453.

21. Kelly and O'Gara, "Collections Assessment," 20.

22. Lantzy, Malin, and Opdahl, "Creating a Library-Wide Collection Management Cycle," 162.

23. Kelly, "Applying Tiers of Assessment," 588; Johnson, "Moving from Analysis to Assessment," 488.

24. "COUNTER for Libraries," Project Counter, accessed January 2023, https://www.projectcounter.org/about/counter-for-libraries.

25. Nuth, "Consistent, Holistic, and Objective," 209.

26. Lantzy, Malin, and Opdahl, "Creating a Library-Wide Collection Management Cycle," 159.

27. Electronic Resources and Libraries, "2023 Conference Program," last modified March 2023, https://electroniclibrarian.org/2023-program/.

28. Executive Office of the President, Office of Science and Technology Policy, "Ensuring Free, Immediate, and Equitable Access to Federally Funded Research," memorandum, August 25, 2022, https://www.whitehouse.gov/wp-content/uploads/2022/08/08-2022-OSTP-Public-access-Memo.pdf.