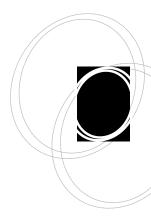April, 2017

Transforming Monograph Collections with a Model of Collections as a Service

Doug Way

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abstract: Financial pressures, changes in scholarly communications, the rise of online content, and the ability to easily share materials have provided libraries the opportunity to rethink their collections practices. This article provides an overview of these changes and outlines a framework for viewing collections as a service. It describes how libraries have begun to use this framework to move from traditional stand-alone print monograph collections toward a user-centric, just-in-time model that leverages technology and today's networked environment to efficiently connect users with resources. It also includes a discussion of what steps libraries should take to continue this evolution.

Introduction

The past 20 years have brought significant changes to academic libraries. Libraries today find themselves operating in an era of information abundance, but at the same time they see increasing pressure on their budgets from internal and external forces. Users today have more information choices than ever before and changing expectations, which are shaped by an assumption of ubiquitous access to content and a "good enough" mind-set, wherein users accept satisfactory results instead of pursuing the best possible. While the heart of what libraries do has remained the same, the roles they play and how they carry out their mission have evolved. Libraries and librarians no longer serve as the gatekeepers of information but are instead facilitators of access. Libraries are no longer just buyers of materials but are now also distributors, publishers, and partners in the creation of content and tools.

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In this evolving environment, there is also an emerging shift in how library collections are viewed. Authors and librarians have begun to articulate and discuss the model of collections as a service.[1] In this concept or framework, the focus and end goal of research library collection development is not the creation of a local collection. Instead, the focus is on the user, with an end goal of efficiently connecting users to content, regardless of the format or location of that content. In the collections-as-a-service framework, libraries harness technology and the networked environment, taking into account budgetary realities as they rethink and transform all parts of the collections cycle from selection and acquisition to discovery and delivery.

Certainly, meeting users' information needs has always been a goal of collection development, but at many colleges and universities—especially research universities—the end users got lost somewhere along the line. They were seen as secondary to the librarian or bibliographer's goal of developing a collection that was intellectually sound and thorough. Even today, many selectors hold the notion that current usage is irrelevant. Over the last decade, however, partially out of necessity and partially because of possibilities that emerged through the development of the Internet, libraries have begun to shift away from the traditional model of building local, stand-alone print collections toward new models that concentrate on easily connecting users to content regardless of the format or where the content is located. While this framework is relevant and applies to all components of library collections, in today's academic libraries the greatest opportunity exists within the realm of monograph collection development and management.

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The Challenges of Today

To understand this shift to a user-centric collections focus, one needs to start by looking at the challenges libraries face today, both in terms of economic pressures, as well as the changing nature of how collections are used. A key driver of change in monograph acquisitions is the impact of unabated price increases on journals. Hyperinflation continues to plague libraries' serials budgets, with journal prices going up year after year, far outpacing the Consumer Price Index and placing increasing pressure on library budgets.[2] Exacerbating the problems caused by publishers' price increases have been sharp increases in research and development spending[3] and scholarly output.[4] Publishers meet this increased scholarly output, not by being more selective, but by publishing more articles per journal[5] and establishing more new journals[6] that libraries are increasingly unable to afford. The cumulative effect is that many libraries have been forced into a seemingly endless cycle of journal cancellations and transferring money from book budgets to support the ever-increasing cost of maintaining access to journals.

In some cases, libraries no longer purchase any books. At the same time that journal prices, the number of journals, and the number of articles published have all been increasing, libraries' sponsoring institutions have been faced with declining financial support. The *Chronicle of Higher Education* reported that, from 2002 to 2010, funding for public research universities decreased by 20 percent.[7] Budgets at public colleges and universities have started to climb back to prerecession levels, but a sizable number of states still spend less on higher education than they did prior to the recession.[8] Even at those institutions where funding has returned to prerecession levels, it has failed to catch up with the inflation of the cost of scholarly resources that continued almost unabated throughout the recession. Adding to these pressures is that even before the recession, library expenditures as a percentage of overall university expenditures had steadily declined.[9]

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Changing Patterns of Use

Beyond the economic challenges libraries face, another factor driving the shifting nature of monograph acquisitions is the changing nature of how these collections are used. Users today have more ways than ever before to meet their information needs. That circulation in academic libraries has steadily declined for more than a decade is one such indicator of this reality.[10] Yet even before this decline began, how libraries built their collections almost ensured that large portions of them would never be used.

Traditionally, libraries built stand-alone collections, and until relatively recently, this practice made sense. In the past, it was difficult to know what other libraries owned, and it could be expensive and time-consuming to get items from other libraries. As a result, libraries needed to build comprehensive stand-alone collections that attempted to anticipate users' needs. Materials were acquired in case a user might someday need them. Volume counts were a marker of excellence because, theoretically, the larger the collection, the greater the likelihood that the library would meet a user's information needs.

The problem with this just-in-case model of collection development is that librarians have not been good at anticipating what users may need. In 1979, Allen Kent's seminal study of book usage at the University of Pittsburgh during the 1970s found that 40 percent of the books in that collection never circulated.[11] In more recent studies, Cornell University in Ithaca, New York, found that 55 percent of the monographs in its collection that were published since 1990 had never circulated.[12] An analysis of 179 academic library collections of varying sizes by Sustainable Collections Services, which provides assessment and deselection assistance to help libraries manage their print monograph collections, found that, on

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average, 41 percent of the titles in those collections had no recorded circulations.[13] These numbers show that, in any library, a significant portion of the institution's monograph budget is spent on materials that will never be used.

Beyond the money spent on unused books, there are also the ongoing costs of keeping these books on the shelves. Paul Courant and Matthew Nielsen calculated the cost of keeping a book on open shelves in a library at $4.26 per year over the life of that book.[14] If one uses the average percentage of unused books from Sustainable Collections Services, the maintenance of those unused books costs a small library with a 250,000-volume collection more than $430,000 every year. These costs in the form of time, space, and money are real, but equally real are the opportunity costs to libraries that these unused collections bring. If libraries did not house and maintain these books, they could do many more things with the physical space and staff time that would be gained.

Further complicating discussions about the traditional model of collection development is how collections are used. Kent's study and subsequent analyses show that high percentages of books in academic libraries are never used. Additional studies have shown that use is concentrated in a relatively small number of titles. In his classic 1969 examination of the use of library collections, Richard Trueswell found that 20 percent of a library's collection accounted for 80 percent of its use.[15] A more recent study by the OhioLINK library consortium and the Online Computer Library Center (OCLC) in 2011 found that only 6 percent of library collections accounted for 80 percent of use.[16] Because this study used a much larger sample than Trueswell's, it likely provides a better picture of library usage and shows that the vast majority of academic library users' needs are met by a small percentage of a library's collection.

A New Model

The implications of these collections usage studies seem clear. The traditional model of building large stand-alone collections is inefficient and ineffective. Add in the current economic climate and scholarly publishing landscape, and the traditional model seems unrealistic and unsustainable. Moreover, it is unnecessary. Technologies unavailable a generation ago present libraries today with a great opportunity to reinvent how they provide users access to information resources.

In the collections-as-a-service framework, local stand-alone print collections remain important, but they are only part of the equation. Other key elements in this model are curated access to print and electronic resources, collaborative collection management, coordinated collection development, experts to facilitate access, and resource sharing. While some of these elements are currently in place or emerging, the full realization of a user-centric collections model requires the continued evolution of other elements.

Harnessing Electronic Books

Libraries moving to this new model increasingly rely on electronic books (e-books), which provide many advantages over traditional print books. E-books allow libraries to overcome the limits of time and place. A library need not remain open for a user to access an e-book. In fact, the user need not even be in the same city or state to access

these resources. E-books can allow more than one user to simultaneously access a work and can often be more cost-effective than traditional print books. This is not to say that e-books do not have limitations. Digital rights management software, intended to prevent unauthorized or nonpaying users from viewing electronic content; the reliance on third parties for access; and license restrictions are all issues that libraries must take into consideration. So, too, are concerns about some users' ongoing expressed preference for print books.[17]

For many libraries, the benefits and opportunity that e-books provide outweigh these concerns, and while many users express concerns about e-books, many libraries' e-book collections see strong use. For example, at the University of Wisconsin-Madison, print circulation has decreased by more than 50 percent over the past decade, while the use of e-books has increased every year since 2007. Over that period, e-book usage has grown from 71,000 chapter views in 2007 to nearly 1 million in 2015. While part of that increase can be attributed to the growth of e-book collections, over that same period the library's print collection grew at a greater rate than its e-book collection. This seems to suggest that while users may state a preference for print books, their actions do not always match, and there is a growing acceptance of e-books by library users.

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Accompanying the increased acceptance and use of e-books is a shift in collecting methods by libraries. Libraries have moved away from title-by-title selection as they begin to see that just-in-case collecting is not effective and that it leads to large, underused collections. Title-by-title selection is also time-consuming for librarians, who have increasing and emerging demands on their time. By relying on just-in-time and purchase-on-demand acquisition models for collection development, libraries allow their librarians to focus on other tasks and priorities.

Just-in-time and purchase-on-demand collection development practices also free libraries from the need to purchase items in advance, on the chance that a patron may need that item. Libraries have purchased materials on demand for patrons for a long time. For example, most libraries consider patrons' purchase requests, and many libraries automatically purchase patrons' interlibrary loan requests that meet certain criteria. The difference between these kinds of purchase-on-demand programs and just-in-time acquisitions is technology. Technology allows libraries to purchase and receive from Amazon.com or another vendor a book requested through interlibrary loan (ILL) within 24 to 48 hours, much faster than it could request and receive that same item from another library through traditional ILL. Technology allows libraries to print and bind books in a matter of minutes using print-on-demand devices such as the Espresso Book Machine. Technology also allows libraries to implement large-scale purchase-on-demand e-book programs. These kinds of e-book acquisition programs enable libraries to make large numbers of books available to patrons at a relatively low cost and to pay for only those books that are used. The models can vary widely. In one model, the library automatically purchases or leases books that receive a specific amount of use or certain kinds of use,

such as printing or the copying and pasting of text. In another kind of model, a library makes an up-front spending commitment to a publisher or vendor and can then make large numbers of titles available for use. The library selects individual titles for ownership after seeing how each book has been used. In spite of the different characteristics, these models all share certain attributes. All of them allow libraries to make large numbers of books available that may never be paid for by the library, and in each model, purchases and leases of content are based on actual use. In addition, the purchase or leasing process is completely seamless to the patrons. They do not know whether a library owns a book or not. They only know they have access to the content when they need it and how they want it. Moreover, because of the relative low cost of these programs, libraries often can make more books available to their users than they could otherwise do, while freeing librarians from title-by-title selection.

Cooperative Collection Management

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are available in an electronic format.[18] Large collections of older monographs fill libraries' shelves. Within the collections-as-a-service framework, providing users with easy access to these materials is just as important as providing access to e-books. Yet, libraries know from the studies mentioned earlier that the vast majority of books in their collections see little or no use, and they know from other studies that library collections overlap significantly.[19] At the same time, libraries face increasing pressure to reallocate the space that holds little-used titles to other uses, ranging from collaborative study space to offices to coffee bars. This creates tension between the need for space and the need to preserve and provide access to collections. Digital surrogates such as the HathiTrust, a repository of content digitized from research libraries, can lessen certain concerns about preservation, but they do not resolve the issue of ensuring access to monographs that are under copyright. To address these issues, many libraries are turning to cooperative collection management solutions.

While some of these solutions focus on the preservation of collections, many other projects concentrate much more on ensuring access to content for library users. The Michigan Shared Print Initiative and the Central Iowa Collaborative Collections Initiative are two examples of partnerships among academic libraries to cooperatively manage their widely held, low-use, legacy monographs.[20] In these programs, one or more libraries in the group retain targeted books, allowing partner libraries to withdraw these items with a high level of confidence that they will remain available for their users in the future. The Big Ten Academic Alliance (BTAA), an academic consortium of the universities that make up the Big Ten athletic conference plus the University of Chicago, has a

shared print journal program, which provides another example of cooperative collection management.[21] The BTAA's Shared Print Repository program is gathering 250,000 widely held print volumes of journals from such publishers as Elsevier, John Wiley & Sons, and Springer. The BTAA will keep these volumes in a high-density storage facility at Indiana University in Bloomington. Users will have access to the online versions of these journals, and if for some reason they need to access the print volumes, they can request and receive the print version. Projects like these allow libraries to reallocate space, ease overfilled stacks, and improve the usability of their collections, while ameliorating concerns about availability and access that often arise during deselection projects.

Coordinated Collection Development

While cooperative collection management efforts revolve around ensuring that users have access to legacy print collections, coordinated collection development focuses on limiting the number of duplicate print copies of books acquired by member libraries, while ensuring access to newly published print content. Libraries have taken a number of approaches to accomplish this. One approach is to use a shared approval plan, wherein a single copy of a book that is covered by the approval profile is sent to one library in the group, with the other libraries relying on that single copy for access.[22] Another model that is used by consortia such as the Orbis Cascade Alliance, a group of academic libraries in the northwestern United States, is the "soft cap" or threshold approach.[23] In this model, the consortium members attempt to limit the number of books acquired within the group by agreeing upon the maximum number of copies for any single title within the group. Once that cap or threshold has been met for a given title, then theoretically consortium members will not acquire additional copies of that work.

Looking Forward

Technology seems to point toward additional opportunities in coordinated collection management. Approaches such as shared approval plans or the soft cap can work to minimize the amount of duplication in a collection, but there are times when duplication is actually needed to meet user demand for high-use titles. Moreover, these approaches do not assist libraries in identifying when duplication has become no longer necessary. In the collections-as-a-service framework, libraries look to maximize access to information, while also extending their budgets by minimizing unnecessary duplication. As libraries move from stand-alone integrated library systems to newer cloud-based systems

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from such vendors as Ex Libris and OCLC, libraries should push for the development of tools that take advantage of this shared infrastructure and data sets. Such tools would automatically determine when additional copies of works are needed within a consortium and also tell libraries when there are excess copies of a title in a consortium. For years,

public libraries have taken this kind of data-driven approach.[24] Academic libraries need to take this same approach in managing their local and collective collections, freeing librarians from making obvious decisions regarding acquiring high-demand titles and withdrawing low-demand titles, allowing them to instead focus on other priorities, such as connecting users with collections.

Leveraging Expertise

The rise of the modern research library beginning in the 1950s saw the emergence of bibliographers or subject specialists whose deep knowledge and expertise was used to acquire content and build collections. In the twenty-first century research library, there is still a need for subject specialists' skills and knowledge to build unique, deep, and specialized collections, especially those supporting area studies and special collections. However, for the majority of what libraries acquire—commercially available materials published in North America and Western Europe—there is decreasing need for subject specialists to facilitate acquisitions. The "big deal," an arrangement by which publishers of electronic journals bundle their entire content into a large package, has transformed how libraries acquire journals. Libraries can often efficiently manage the acquisition of commercially available materials published in North America through approval plans, just-in-time purchasing models, and the centralized large-scale acquisition of e-book collections.

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This is not to say that subject specialists are no longer important. In this era of information abundance, when publishers produce more content than ever, when the information environment has become increasingly complex, and when academics specialize in more and more subdisciplines, subject specialists are in many ways more essential than ever in helping to facilitate access to information. In the collections-as-a-service model, the librarian no longer serves as a gatekeeper who dictates what content is available to the user. Instead, in a world where many streams of information have been democratized and where satisficing is the norm, the librarian has become an educator, guide, and facilitator to lead users to the best available information. The challenge libraries face is getting these librarians to see their role in aiding discovery and access as integral to the user-centric collections model, just as many of them view their traditional model of collection development, focused on selection, as essential to meeting the needs of library users.

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Maximizing Resource Sharing

Resource sharing has long been a key service libraries provide, and it is essential within the collections-as-a-service framework. But the increased emphasis on collective collections in this model necessitates a rethinking of resource sharing. If libraries are to rely on shared collections, they must make it easier for users to become aware of them. Libraries should integrate shared holdings into their online catalogs or discovery layers and should make it just as easy to obtain a book from another institution as they make it to retrieve a book from a branch library or an off-site storage facility. Cloud-based, integrated library systems that rely on Web-based services instead of local servers and that have open architecture, which enables users to customize the system's capabilities to suit their individual requirements, provide libraries the opportunity to make resource retrieval fast and easy. In many cases, however, these systems still require significant investments in time and resources to leverage the application program interfaces (APIs) that enable software programs to communicate with one another and to build bridges between systems. Equally important is getting books from other institutions to users quickly and allowing them extended access to those books. Books from a shared print collection should be available just as long as a book from a local collection would be, and users should not wait one to two weeks for a print book to arrive. To do so, libraries must coordinate borrowing terms and invest in infrastructure and services to quickly move books between libraries.

Beyond rethinking how to facilitate discovery and access to shared collections, libraries also need to rethink what they are willing to consider a shared collection. For too long, libraries have been unwilling to lend items from their special collections, in spite of the fact that many such items are neither rare, exceedingly valuable, nor fragile. Certainly unusual, precious, and delicate items exist in special collections, and they warrant special care and handling. For other items, however, libraries should look at ways to get them into the hands of users. Dennis Massie has argued for a tiered approach to lending special collections that "acknowledges differences in user needs, collections, institutions, and resources."[25] In this model, while libraries acknowledge that some items in special collections need special care and handling, they also understand that many resources could be lent with minor safeguards in place, and still others could be lent in the same manner as "regular" collections. When it is not feasible or possible to provide users with access to the tangible object, libraries should invest in resources and develop services that provide remote users with rapid digitization and on-demand access to the digital surrogate. As with regular collections, the goal of special collections should not be the collection per se, but connecting users to this content.

A New Course

Many libraries have begun to make strides toward a user-focused model where collections are viewed as a means rather than an end. This model looks to leverage technology and our networked environment to maximize both access to information and libraries' limited resources. However, many more libraries continue to operate much as they have in the past with few changes to the core of how they provide access to information resources.

In some ways, it is easy to see why they do so. Each of the practices discussed earlier carries a certain level of risk. Companies we rely on can go out of business. Publishers can withdraw content from third-party vendors. Partner-libraries can break their promises. Patrons can, and do, lose books. Yet, a greater risk than any of those things is the thinking that libraries can continue as they have for the last hundred years. In some ways, with all the challenges and pressures that libraries face, the greatest threat comes from libraries themselves. Libraries are too often unwilling to change or give up any measure of local control and are driven by fears of "what if" and the unknown. Instead of taking risks, they choose to do what is easy and what they perceive as safe.

The reality is that libraries have arrived at a fork in the road. They can take the familiar path that is focused on continuing to build collections in the same way they did throughout the twentieth century. This path risks, at best, a diminished ability to meet their users' information needs, and at worst, irrelevance. Or libraries can chart a new course for themselves. By shifting the focus of their efforts from the collection to the user, taking advantage of technology, being willing to take risks, implementing more efficient collections practices, and working with partners to provide access to content, libraries can make better use of their resources and save time, money, and space. When libraries do that, they create opportunities for the new and the unknown—services and spaces that they never considered or addressed in the past. In this era of information abundance, it is not libraries' collections that will make them stand out in the twenty-first century. Instead, it will be those services and spaces that build upon their collections. Libraries will be able to offer those services and spaces because they moved down the road toward a new model of user-centered library resources.

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