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# Redefining the Academic Library

*Managing the Migration to Digital Information Services*



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*Managing the Migration to Digital Information Services*



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## Top Lessons from the Study

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### *Transformational Change in the Information Landscape*

While predictions of radical change in library and information services are by no means new, a confluence of shifts in technology, changing user demands, and increasing budget pressures are now forcing academic libraries to either adapt or risk obsolescence. The library's traditional role as a repository for physical books and periodicals is quickly fading, with important implications for space utilization, resource acquisition, and staffing.

**1. Collection Size Rapidly Losing Importance**

Even the wealthiest academic libraries are abandoning the “collection arms race” as the value of physical resources declines. Increasingly, libraries must adapt to a world in which providing access to—rather than ownership of—scholarly resources is their primary role.

**2. Traditional Library Metrics Fail to Capture Value to Academic Mission**

Libraries can no longer demonstrate their educational and scholarly impact via traditional input measures such as the number of volumes and serial titles held, expenditures on monographs and staff, gate count, and reference requests. New measures of success (still under development) will emphasize impact on student learning outcomes, retention and graduation rates, faculty research productivity, and teaching support.

**3. Rising Journal Costs Inspiring Calls for Alternative Publishing Models**

Subscriptions to scholarly journals and electronic databases have steadily risen as a share of library budgets at what many believe is an unsustainable rate, particularly in an era of tightened budgets. While publishers see growing costs as an unavoidable consequence of expanded research output, many librarians and academic administrators feel that a transition to nonprofit, open-access journals would mean substantial savings and broader access for all.

**4. Viable Alternatives to the Library Now Boast Fastest Growth and Easiest Access**

With the rise of companies like Google and Amazon, as well as nonprofits like Wikipedia and HathiTrust, users now meet most of their information needs through sources outside of the library. The collections of articles, monographs, and ebooks made available through these organizations dwarf library collections in size and scope, and content is increasingly accessed virtually through web- and cloud-based distribution portals.

**5. Demand Declining for Traditional Library Services**

Very few students and a decreasing number of faculty start research in the library building or via the library website, opting instead for search engines and discipline-specific research resources. Circulation and reference requests have been steadily declining for years, driving the library's traditional core (providing access to books and guiding patrons through research) to the periphery.

**6. New Patron Demands Stretch Budget and Organizational Culture**

The modern library is caught between its historical role in managing print materials and new demand for digital resources and services, and it cannot afford to invest indefinitely in both. Today's users require a new set of services and accommodations from the academic library that necessitate a strategic paradigm shift: from building and maintaining a collection to engaging with students and faculty, as well as providing space for study, collaboration, and creativity. Traditional organizational boundaries are likely to fade and the word “library” will cease to adequately describe the suite of both virtual and physical academic support services offered to patrons.



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## I. Leveraging Digital Collections

As more books are either scanned and made available digitally or published as ebooks, libraries will need to adapt by diverting funds toward licensed digital access, rather than physical ownership and storage. New patron-driven costing models will finally allow libraries to avoid the risk and inefficiency associated with prospective collection-building and pay only for what patrons use, at the moment they use it.

### 7. Ebook Adoption Reaching a Tipping Point

In April 2011, ebooks began to outsell all print books on Amazon.com. Surveys of academic library directors indicate plans to substantially increase spending on ebooks within the next five years. While the move among students and faculty to ebooks has been slower than many anticipated, growing investments by publishers, interactive functionality, and the advent of tablet PCs are building substantial momentum toward adoption.

### 8. Large-Scale Digital Collections Offer Promise of Widespread, Low-Cost Access

Google Books, HathiTrust, Internet Archive, and other efforts have digitized millions of volumes and have made them fully searchable and browseable online. While legal barriers and publisher resistance currently prevent full access to these collections, a growing corpus of material is being made available to the public at little to no cost.

### 9. Technological Constraints Unlikely to Prevent Digital Transition

The breakneck pace of technological innovation will ensure that most usability limitations involved in the consumption of digital information and text will be addressed before patrons are aware of them. Format incompatibility, missing functionalities, and hard-to-read displays are likely to give way to better, less expensive reading technologies as publishing continues its digital migration.

### 10. Usage Restrictions and Copyright Remain the Largest Obstacles to Access

Current digital rights management (DRM) restrictions on ebooks and legal constraints surrounding copyright complicate the prospect of broad access to digital collections. Ironically, it is now easier to share physical books than electronic copies. Until licensed or “fair use” access to the mass-digitized corpus is resolved, colleges and universities will be unable to begin replacing physical collections with digital access to scanned material.

### 11. Patron-Driven Acquisition Models Allow “Just in Time” Purchasing Approach

A new business model for ebook delivery, commonly referred to as patron- or demand-driven acquisition, allows libraries to shift from a prospective, “just in case” purchasing strategy to a “just in time” approach in which the library pays only for books actually used by patrons. Via a mix of free access, short-term rentals, and loans of purchased items, patron-driven acquisition more effectively calibrates the library’s investment to demand, while significantly expanding the universe of available titles in the local catalog.

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## II. Rethinking the Scholarly Publishing Model

The rapidly rising costs of scientific journals and databases has led many of our contacts to believe that the current commercial publishing model is unsustainable. Three potential approaches—centralized purchasing, pay-per-article, and open access—all have the potential to bring down costs in the long term, but all three also face significant short-term implementation challenges.

### 12. Centralized Purchasing Authority Essential in Deriving Savings from Library Consortia

Most academic libraries are involved in consortial partnerships in which resource, service, and infrastructure costs may be shared. Contacts from libraries, publishers, and vendors alike reported that truly substantial savings require a greater degree of both financial and organizational centralization, as well as a larger membership (e.g., a large university system or an entire state) than is typical with most consortia. Many contacts are planning to share an increasing number of resources and back-end systems among institutional partners in the near future.

### 13. Pay-per-Article Models Emerging as an Alternative to the “Big Deal”

While per-article costs of scholarly articles remain high, making large-scale subscription cancellations impossible for many academic libraries, several new services are beginning to relieve the expenses and delays associated with acquiring single articles for patrons, providing significant advantages over inter-library loan. As libraries more carefully monitor usage data and continue to pressure publishers for more favorable delivery models, viable per-article services may gain traction over the next five to ten years.

### 14. Pressure for Open Access Likely to Disrupt Publishing Business Model

Public access mandates from federal research funders and increasing opposition to rising journal prices have begun to push publishers to make more content available on the web at no cost. While a complete transition to open-access publishing is unlikely to occur, many experts believe that the traditional business model undergirding scholarly communication will begin to unbundle as faculty embrace alternative modes of discourse and information consumers demand greater access at lower cost. Most faculty, however, are more concerned with publishing in prestigious journals than in supporting open access.

### 15. Many Institutions Incentivizing and Providing Infrastructure for Open Access

In an effort to divert funds away from consumption and toward the creation, hosting, and dissemination of research, a number of colleges and universities are now investing in a variety of open access initiatives:

- **Disciplinary repositories**—Hosted by libraries and run by faculty and scholarly societies, these web portals host and disseminate relevant scholarship and provide free public access.
- **Institutional repositories**—Often run by the library, these portals provide a publicly accessible home for faculty research data and copies of published articles (typically one year after first publication).
- **Open access fee subsidies**—Institutional funds help underwrite publication by students, faculty, or staff in open-access journals.
- **Open textbook pilots**—Faculty are commissioned to create digital textbooks for introductory undergraduate courses, published by the institution and available for free or at a small cost.

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### III. Repurposing Library Space

Demand among students and faculty for comfortable, collaborative learning spaces, media resources, and easier access to academic support services is leading libraries to think differently about how to optimize their facilities. As the value of large print collections continues to decline, the case for reducing space allocations for material storage and increasing allocations for higher-demand activities grows stronger.

#### 16. Local Print Collections Are Large, Expensive, and Rarely Used

At many institutions, less than half of the library's collection has ever circulated. Despite the steadily declining usage of print collections, they continue to occupy extensive (and typically central, and thus quite valuable) space on campus. Books housed in on-campus open stacks are five times as expensive to store as those kept in off-site, high-density storage. As library budgets tighten, need for space rises, and circulation continues to decline, more and more libraries will consider moving print materials off campus.

#### 17. Emerging Virtual Discovery Tools Provide Alternative Paths to Serendipity

Some faculty, particularly in the humanities and social sciences, suggest that browsing open stacks constitutes a central and irreplaceable mode of scholarly research and therefore oppose efforts to relocate or condense print collections. Many librarians and library directors report very low usage by faculty, however, and note that virtual discovery now offers a much broader selection and more sophisticated research tools compared to roaming the stacks.

#### 18. Leverage Data on Usage, Electronic Access, and Local Holdings to Prioritize Local Collections

Deaccession (or "weeding") is practically and politically difficult when poorly planned. There are now a variety of resources designed to aid libraries in the process of determining which volumes to relocate or remove. Librarians can prioritize resources and streamline decisions about collection management using objective data on usage, access to electronic alternatives, holdings by consortial partners, and preservation agreements.

#### 19. Mitigate Opposition to Relocating Resources by Regularizing and Systematizing Deaccession

Resistance to deaccession is much more likely to arise when materials are withdrawn in one sweeping, public initiative by the administration. Contacts advise implementing regular deaccession "audits" into collection management protocols and asking faculty to appeal individual items on withdrawal lists, rather than encouraging them to nominate or approve candidates for withdrawal.

#### 20. Avoid Unnecessary Duplication Through Collaborative Storage and Acquisition Plans

In order to more rationally match print collections with demonstrated demand, some institutions are working together to organize shared storage facilities that eliminate duplicate copies. These facilities ensure access to and preservation of materials and remove excess holdings from collections to free up room for new acquisitions. Others are taking collaborative collection management further, coordinating disciplinary areas of specialization and avoiding duplication in acquisition plans across institutions as well.

#### 21. Repurpose Library Space to Support Collaborative Learning

Often the rationale for deaccessioning is to free up space for new uses. New or renovated library space is now commonly repurposed to bring students together to work, study, and socialize. The "learning commons" typically offers comfortable furniture for both individual and group study, modular furnishings that allow users to customize the environment to suit their needs, access to wireless networks and electrical outlets, multimedia labs and support, and often a café accompanied by relaxed food and drink restrictions. Related academic support units, such as centers for teaching and learning, specialized labs for math, writing, and languages, student advising, and technical support often share space in these new facilities, providing students with a "one-stop shop" for academic assistance.

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## IV. Redeploying Library Staff

As the focus of the library shifts away from the acquisition, preservation, and distribution of physical volumes, the role of librarians is changing as well. Many libraries, however, have been resistant to discontinuing in traditional activities and services, pulling staff in many conflicting directions. Library leadership must identify areas of activity that can be reduced or eliminated and begin to migrate staff to higher-value responsibilities.

### 22. Cataloging No Longer a Local Activity

As one contact put it, “We don’t need a thousand different descriptions of the same book.” The ability to standardize and share basic catalog entries for almost all holdings eliminates much of the need for dedicated catalogers in academic libraries. Books can now be purchased “shelf-ready” from vendors, arriving fully processed and ready to lend to patrons.

### 23. Tiered Reference Services Free Up Librarian Time

Reference librarians at most academic institutions are fielding fewer and fewer requests by students each year, though many still spend as much time behind the central help desk as ever. Some libraries are making better use of staff time and expertise by training students or paraprofessional staff to answer basic reference questions and providing in-depth research consultations with librarians by appointment.

### 24. Crowd-Sourced Reference Matches Supply to Decreased Demand

Libraries are also able to share reference staff among institutions, through various consortial, regional, and even international cooperatives. Institutions minimize the local staff time devoted to basic troubleshooting and common search questions, while librarians devote more energy to developing the library’s unique assets and providing instruction and research support on campus.

### 25. Successful Integrated Information Technology/Library Units Rely on Expertise, Mission Congruence

The late 1980s and early 1990s saw a trend toward merged library and information technology units, as administrators hoped to leverage technology expertise across silos while reducing overall operating costs. Most institutions failed to make the marriage work, but joint library/IT units still thrive in some areas, particularly among small, liberal arts colleges. Contacts suggested that the success of such a merger hinges on the ability and expertise of the chief information officer and the extent to which both units share a common mission and culture.

### 26. Students in Need of Information Literacy Beyond “Library 101”

Though information literacy is a growing presence in student learning outcomes and general education requirements, most institutions currently offer little more than a brief introduction to the campus library and its website. Studies on the research habits and abilities of undergraduates suggest that students require a much deeper understanding of common information sources and reliable sourcing standards, and librarians are perfectly positioned to provide that education. Some are beginning to refocus student sessions on the inner workings of Google and Wikipedia, encouraging students to be better lifelong judges of information and better users of common search tools.

### 27. Embedded Librarians and Services Offer On-Demand, Online Guidance to Students and Faculty

Rather than hoping for reference and circulation trends to reverse, progressive librarians are bringing their skills directly to users, embedding in classrooms, online course portals, and even departmental meetings and research teams. As research and study sessions become more and more virtual in nature, libraries will have to migrate their staff and services online, integrating resource guides and on-demand guidance into the web.

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**28. Data Management Standards Require New Information Infrastructure**

New rules from the National Science Foundation and other research funders will increasingly require faculty to think more carefully about organizing, storing, and describing their research data. Contacts suggest that this is a perfect opportunity for librarians at research institutions to play new roles in shepherding researchers through effective stewardship of their work and in connecting various stakeholders on campus (from computing and legal services to grants and administration) in an effort to comply with evolving research standards.

**29. Targeted Specialists Provide Expertise and Flexibility**

Rapidly changing needs and tightened budgets have made long-term staffing decisions in academic libraries more difficult than ever. Some libraries have responded by hiring highly specialized professionals or post-docs, sharing their time with other units or departments on campus. By splitting the cost, both units are able to procure limited-term staff that they could not afford on their own, and effective hires are often able to bring a unique perspective to new library projects while teaching courses or conducting research in departments.

**30. Publisher Partnerships Bring New Life to Special Collections**

In an era when large collections of monographs and journals no longer signify distinction among academic libraries, special collections have become an oft-cited source of prestige. However, libraries struggle to derive maximal value from these archives and may not be able to afford to digitize, promote, and disseminate their contents. Partnerships with publishers and other organizations can transfer much of that responsibility to those with the appropriate resources, while granting libraries the chance to build their “brand” and expand the reach of their collections through digitization and distribution.

## Understanding Your Current Practice

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The following questions are designed to guide members in evaluating their current library services and activities. These categories should be used to spotlight tactics that map to institutional challenges.

<b>Leveraging Digital Collections</b>	<b>Yes</b>	<b>No</b>
1. Has the library adopted an “e-priority policy,” acquiring only the electronic version of a volume where one exists?	<input type="checkbox"/>	<input type="checkbox"/>
2. Is the library staff aware and exploring usage of alternative modes of access to ebooks and digital resources, such as HathiTrust and Internet Archive?	<input type="checkbox"/>	<input type="checkbox"/>
3. Does the library have a clear “fair use” policy with regard to electronic copies of resources?	<input type="checkbox"/>	<input type="checkbox"/>
4. Is the library devoting a portion of its monograph budget toward a patron-driven acquisition program for ebooks?	<input type="checkbox"/>	<input type="checkbox"/>
5. Have library staff calculated what percentage of the physical collection could potentially be accessed through ebooks?	<input type="checkbox"/>	<input type="checkbox"/>

*If you answered “no” to any of the above questions, please turn to Chapter I: Leveraging Digital Collections on page 19.*

<b>Rethinking the Scholarly Publishing Model</b>	<b>Yes</b>	<b>No</b>
6. Does the library track usage data by journal and publisher to determine the most cost-effective balance between subscription and per-article access?	<input type="checkbox"/>	<input type="checkbox"/>
7. Is the institution involved in consortial agreements that significantly reduce the costs of journals and other resources for participating members?	<input type="checkbox"/>	<input type="checkbox"/>
8. Are print subscriptions discontinued when digital editions become available?	<input type="checkbox"/>	<input type="checkbox"/>
9. Does the library track the cost (and time) to access individual articles through interlibrary loan compared to pay-per-article services?	<input type="checkbox"/>	<input type="checkbox"/>
10. Do library staff collect and promote free, open-access resources?	<input type="checkbox"/>	<input type="checkbox"/>
11. Does the library have staff and resources in place to support faculty negotiating copyright agreements with academic publishers?	<input type="checkbox"/>	<input type="checkbox"/>
12. Are faculty encouraged to submit copies or preprints of their work to a digital repository, in full compliance with funder public-access mandates?	<input type="checkbox"/>	<input type="checkbox"/>
13. Does the institution subsidize author fees for faculty publishing in open-access journals?	<input type="checkbox"/>	<input type="checkbox"/>

*If you answered “no” to any of the above questions, please turn to Chapter II: Rethinking the Scholarly Publishing Model on page 33.*

<b>Repurposing Library Space</b>	<b>Yes</b>	<b>No</b>
14. Are print backfiles of journals withdrawn from shelves as electronic copies become available?	<input type="checkbox"/>	<input type="checkbox"/>
15. Do library staff actively use data on circulation, reshelving, electronic alternatives, and external holdings to prioritize the storage and placement of print materials?	<input type="checkbox"/>	<input type="checkbox"/>
16. Are unused and low-priority resources moved to more cost-effective space, such as high-density storage facilities?	<input type="checkbox"/>	<input type="checkbox"/>
17. Is there a process to ensure that less commonly held (if not unique) volumes are preserved across the region or state?	<input type="checkbox"/>	<input type="checkbox"/>
18. Does the library leverage shared storage space with other regional libraries?	<input type="checkbox"/>	<input type="checkbox"/>
19. Does the shared storage facility deduplicate holdings across institutions?	<input type="checkbox"/>	<input type="checkbox"/>
20. Are print acquisitions planned in coordination with consortial partners to reduce duplicate holdings?	<input type="checkbox"/>	<input type="checkbox"/>

- |  |                          |                          |
|--|--------------------------|--------------------------|
| 21. Has the library implemented a regular deaccession (or “weeding”) cycle?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 22. If faculty are consulted before removing print volumes, are they required to justify appeals to withdrawal lists?                                      | <input type="checkbox"/> | <input type="checkbox"/> |
| 23. Does the library include a “learning commons,” incorporating comfortable space for collaboration, study, and access to computer and network resources? | <input type="checkbox"/> | <input type="checkbox"/> |
| 24. Are other academic support services physically and organizationally connected with the library?  | <input type="checkbox"/> | <input type="checkbox"/> |

*If you answered “no” to any of the above questions, please turn to Chapter III: Repurposing Library Space on page 47.*

### **Redeploying Library Staff**

- |  | <b>Yes</b>               | <b>No</b>                |
|--|--------------------------|--------------------------|
| 25. Does the library track reference service usage over time, including email, chat, and mobile requests?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. Are books cataloged and processed externally, arriving “shelf-ready” from vendors?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 27. Are students or paraprofessionals trained to answer basic patron questions, with reference librarians available for consultations by appointment?                          | <input type="checkbox"/> | <input type="checkbox"/> |
| 28. Does the library participate in shared reference services with other institutions?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 29. Do the library and information technology units collaborate effectively on back-end system needs and technical support?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 30. Are students required to demonstrate information literacy as a component of general undergraduate learning outcomes?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 31. Does information literacy instruction go beyond library-specific resources, emphasizing awareness and understanding of common research tools such as Google and Wikipedia? | <input type="checkbox"/> | <input type="checkbox"/> |
| 32. Are librarians embedded in and available through course management systems and online course portals?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 33. Have library staff created resource guides for specific courses to push relevant research tools and resources to students?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 34. Does the library provide adequate multimedia hardware and support for students and faculty?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 35. Are students able to access library information and resources on their mobile devices?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 36. Are research faculty provided with support for data management, storage, and curation?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 37. Do librarians actively participate in graduate and faculty research teams and provide on-demand support for literature reviews?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 38. Does the library employ graduate students, post-docs, or specialists for targeted projects?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 39. Have relevant special collections been satisfactorily cataloged, digitized, and promoted to a broad audience?  | <input type="checkbox"/> | <input type="checkbox"/> |

*If you answered “no” to any of the above questions, please turn to Chapter IV: Redeploying Library Staff on page 65.*







## Transformational Change in the Information Landscape

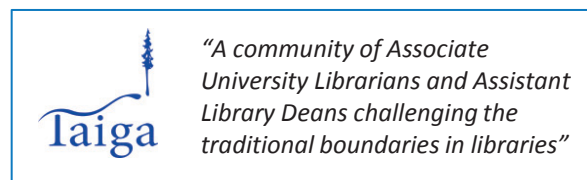
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- ☞ Unsustainable Costs
- ☞ Viable Alternatives
- ☞ Declining Usage
- ☞ New Patron Demands

Though many assume that questions surrounding the future of the library originate from the skepticism of outsiders, criticism of the traditional library service model is increasingly emanating from librarians themselves. This emerging recognition of the need for, or even inevitability of, disruptive change is perhaps best exemplified by the Taiga Forum, a group of associate and assistant library deans.

## Writing Our Own Obituary

*Library Professionals Themselves See Abrupt End to Traditional Models*



### **By 2015...**

#### **Patrons Go Elsewhere for Information**

"Our users will meet more than 90% of their information needs from sources that are not directly connected to the library."

#### **No Need for Traditional Librarians**

"Successful libraries will be those that have managed to turn over the majority of their staff or reassigned staff to different roles within the library."

#### **A Space for More Than Just Books**

"Most library space will be taken over by functions that have nothing to do with library collections or services."

Source: Taiga Forum 2010-2011 Draft Provocative Statements.

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Each year, the Taiga Forum publishes a set of "Provocative Statements" intended to outline major shifts likely to take place in the near future and to stimulate discussion around the capacity of academic libraries to evolve and adapt. These statements are deliberately bold, but they provide an intriguing look into just how different the future of information services may look from the conventional arrangements we see today.

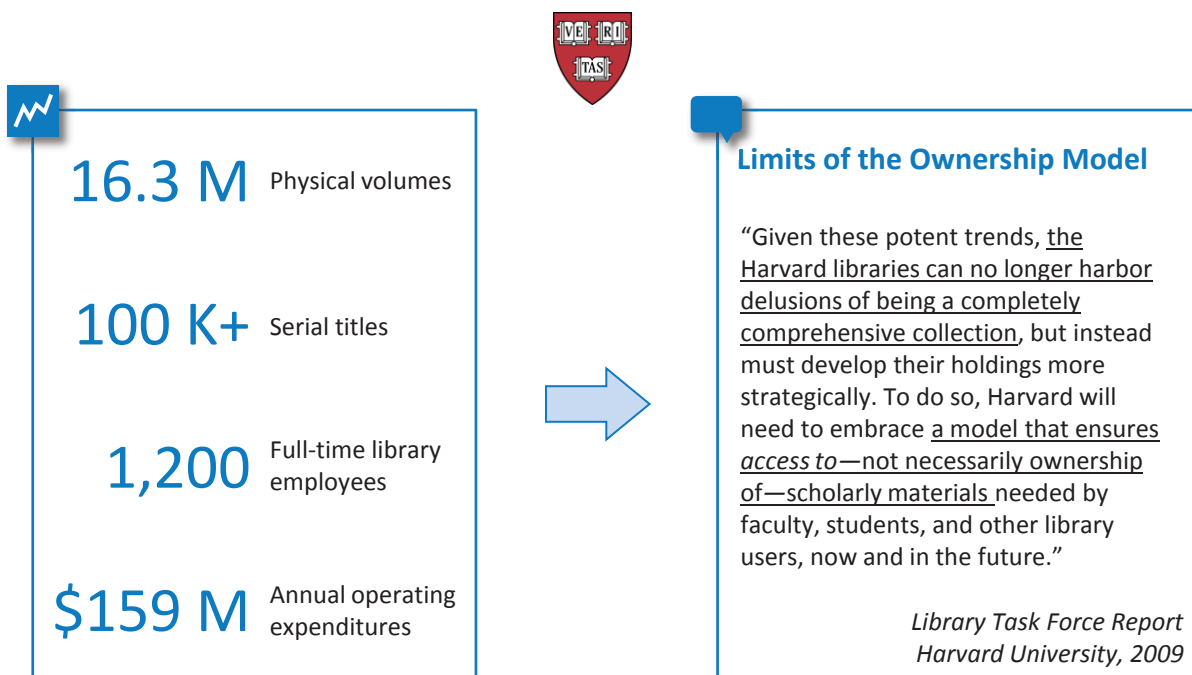
The three propositions featured above each predict dramatic consequences for libraries in the wake of the digital revolution. They suggest that by 2015, students and faculty will meet the vast majority of their information needs from sources outside of the library, and as result, libraries will need to almost entirely repurpose their staff and space.

Most libraries are unlikely to undergo such a radical transformation in just five years, but few would question the directional trends at play and the impact that the rapid expansion of digital and web-based information resources will have on services built around the physical storage and distribution of books.

No library is immune from the changes surrounding information and technology that have occurred over the past few decades. Even Harvard's library—by far the largest and wealthiest of any university—recently recognized the need to alter its approach.

## Too Rich Even for the Deepest Pockets

*Even Top Institutions Pushing Back on “Best Library at Any Cost” Model*



Source: “Report of the Task Force on University Libraries,” Harvard University, Nov 2009.

With nearly \$160 million in annual operating expenditures, Harvard's libraries can afford many more staff, resources, and technologies than most institutions could dream of. And yet, a 2009 task force reported they “can no longer harbor delusions of being a completely comprehensive collection,” and must embrace a strategy in which the library offers “access to—not necessarily ownership of—scholarly materials...”

Academic library directors around the world may take solace in the fact that even the wealthiest institutions are struggling to maintain the commitment to broad, comprehensive physical collections that distinguished them since their inception. That fact is also a warning, however, to those with less financial capacity who might fail to adequately respond to the changing information environment and user needs.

We are shifting away from a world in which the quality of an academic library was measured by the sheer number of volumes, subscriptions, staff, and expenditures it could muster, and toward a world in which the measure of success is much more abstract and impact-focused, making strategic planning both more necessary as well as more difficult than ever.

## Size Doesn't Matter

### *Librarians Struggling to Define Appropriate Performance Metrics*

#### Traditional Metrics Measure Inputs and Size

- Number of volumes held
- Number of current serial titles
- Total expenditures
- Gate count
- Reference requests
- Presentations

#### Evolving Metrics Aligned With Value, but Hard to Quantify

- Impact on student enrollment, retention, and graduation rates
- Impact on student learning
- Contribution to faculty research productivity
- Impact on faculty grant proposals and funding
- Support of faculty teaching

#### A New Proving Ground

“Community college, college, and university librarians no longer can rely on their stakeholders’ belief in their importance. Rather, they must demonstrate their value.”

*Megan Oakleaf*  
“Value of Academic Libraries”

#### Accreditors Can Pull in Both Directions

- Some libraries pressured to answer to new, “value-centric” standards
- Others limited by collection and staff size requirements
- Rapidly changing; depends on agency and individual teams

Source: Megan Oakleaf, “Value of Academic Libraries: A Comprehensive Research Review and Report,” ACRL, 2010; Education Advisory Board interviews and analysis.

As Megan Oakleaf argues in her comprehensive report on the value of academic libraries, libraries can no longer rely merely on the good faith of stakeholders, especially in an era of austerity and accountability. Now, they must actively demonstrate value to students, faculty, and the broader community, and begin to take into consideration their current and potential impact on student learning outcomes, retention, research grants, and pedagogical support. Unfortunately, it is much easier to measure the factors that are losing their importance on campus (the size of physical collections, material circulation, resource expenditures), and much more difficult to quantify the library’s relationship to institutional priorities and goals.

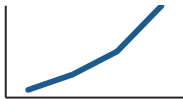
Librarians and administrators gave mixed reports of the role accreditors play in establishing and enforcing standards on academic libraries. The pace of change and ambiguous nature of evolving service metrics in libraries make concrete assessment a challenging proposition, and therefore the extent to which accreditation cycles push libraries toward or pull them away from traditional configurations depends on the particular team and librarians involved.

Prognosticators have been warning of the disruptive capacity of computers, networks, and other digital information technologies for at least three decades, and predictions of the local library's demise can be found as far back as the 1960s. There are a number of reasons to believe that "this time it's different."

## This Time It's Different

*Transformation of the Academic Library Likely to Happen on Your Watch*

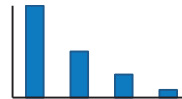
### Four Key Drivers of Change



**Unsustainable  
Costs**



**Viable  
Alternatives**



**Declining  
Usage**



Image courtesy of Santa Clara University.

**New Patron  
Demands**

Four key drivers of change are converging and pushing more academic libraries toward a fundamentally different approach.

Unsustainable costs—especially those associated with bundled subscriptions to journals and electronic databases—are stretching the limits of library budgets at what many think is an unsustainable rate. Viable alternatives to the library have emerged, offering users a seemingly limitless world of information. Declining usage of traditional library assets and services demonstrates a need to rethink both engagement strategies and basic staffing priorities. Finally, new patron demands for cutting-edge technologies, embedded services, and collaborative study space are forcing libraries to take on new roles, all while placing an even heavier financial burden on already strained organizations.

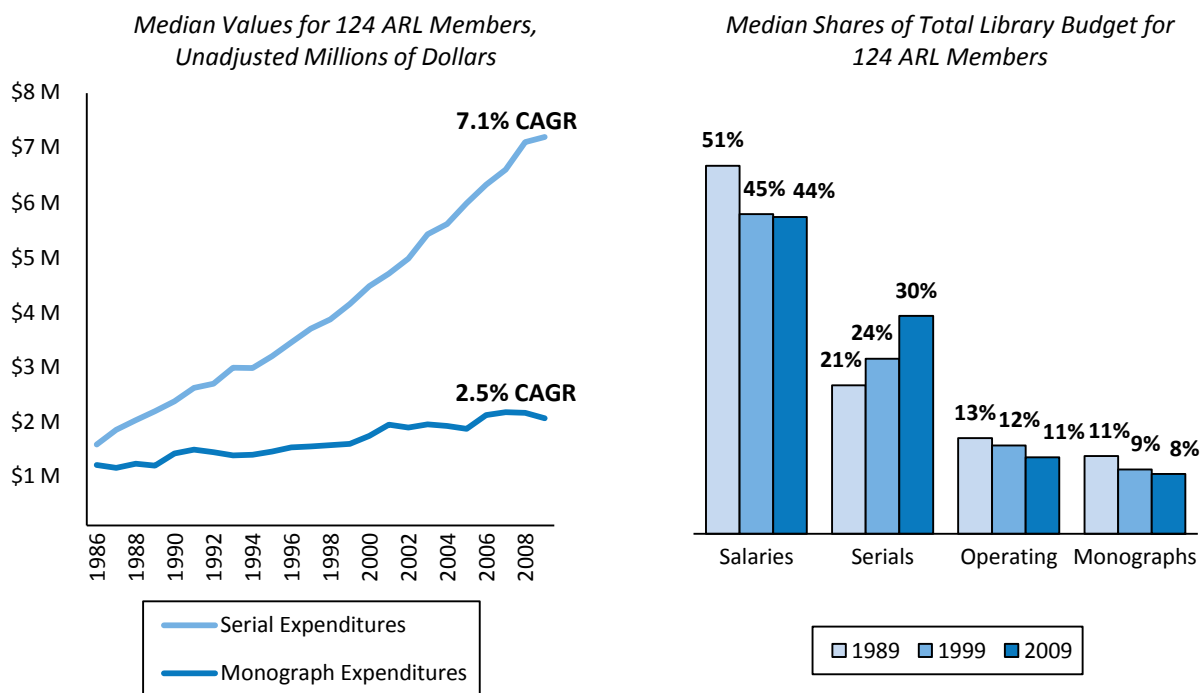
These phenomena suggest that a "wait and see" approach to planning the next five to ten years of strategic change in libraries is no longer viable. The library of the future can and should come to fruition on your watch.

## Unsustainable Costs

Perhaps the most frustrating driver of change for many libraries is the rapidly rising cost of subscriptions and licenses for scholarly resources. Almost without exception, librarians and library administrators contacted for our research felt that a fundamentally different access model would be necessary in the near future in order to avoid significant cancellations.

### Journal Costs Crowding Out Books *Serials Costs Rising Faster Than Library Budgets*

#### Expenditures in ARL Libraries



Source: "ARL Statistics: 2009-2009," Ed. Martha Kyrilladou and Shaneka Morris, Association of Research Libraries, 2011.

Data from the Association of Research Libraries (ARL), a group of the largest 126 academic libraries in North America, shows that while serial expenditures were roughly equivalent to monograph expenditures in the mid-1980s, by 2008 they were almost four times higher. Monograph budgets generally rose in line with inflation, while journal expenditures averaged more than 7 percent growth each year.

Serial expenditures also account for a larger portion of library budgets than ever before. At ARL libraries, nearly every budget category has decreased in share over the last 20 years, while the relative investment in serials has jumped from 21 percent of the library budget in 1989 to 30 percent in 2009.

What began as a productive marriage of convenience between academic libraries and scholarly publishers has now become a venue for increasingly divisive debate. Librarians and publishers offer different explanations for escalating serial expenditures and tend to reach different conclusions about the way forward.

## Are Rising Journal Costs Justified?

*Librarians and Publishers Increasingly at Odds*



### Librarians Bemoan Predatory Pricing

- Prices outpacing inflation
- Bundled deals limit ability to cancel titles
- Risk losing access to back catalog
- Publisher owns copyright
- Costs would be lower in a nonprofit model
- “Our faculty did the research, why should we have to pay so much to access their work?”



**Prescription:**  
*Support open access journals*



### Publishers Point to Explosion in Scholarly Output

- Research output has increased significantly
- Cost per download has actually gone down
- Bundles give institutions wider access at a discount
- Transition to e-journals required massive investment in new infrastructure
- “We are willing to try open access models as long as we can continue to cover our costs.”



**Prescription:**  
*Find new sources of funding*

Source: Education Advisory Board interviews and analysis.

Library staff point to the high rate of inflation associated with subscriptions to scholarly journals and the inflexibility of licensing contracts, which often package hundreds of titles together in so-called “big deals.” Libraries risk losing access to large portions of back-catalog editions if they cancel subscriptions. While the practices of publishers are a true sore point for many, the fundamental business model underpinning scholarly publication is the most common object of frustration; a growing chorus of librarians, faculty, and administrators protest: “Our faculty do the research, write the articles, review others’ work, and serve as editors—why should we have to pay expensive fees to access our own work?” Ultimately, they believe nonprofit, publicly accessible journals are the solution.

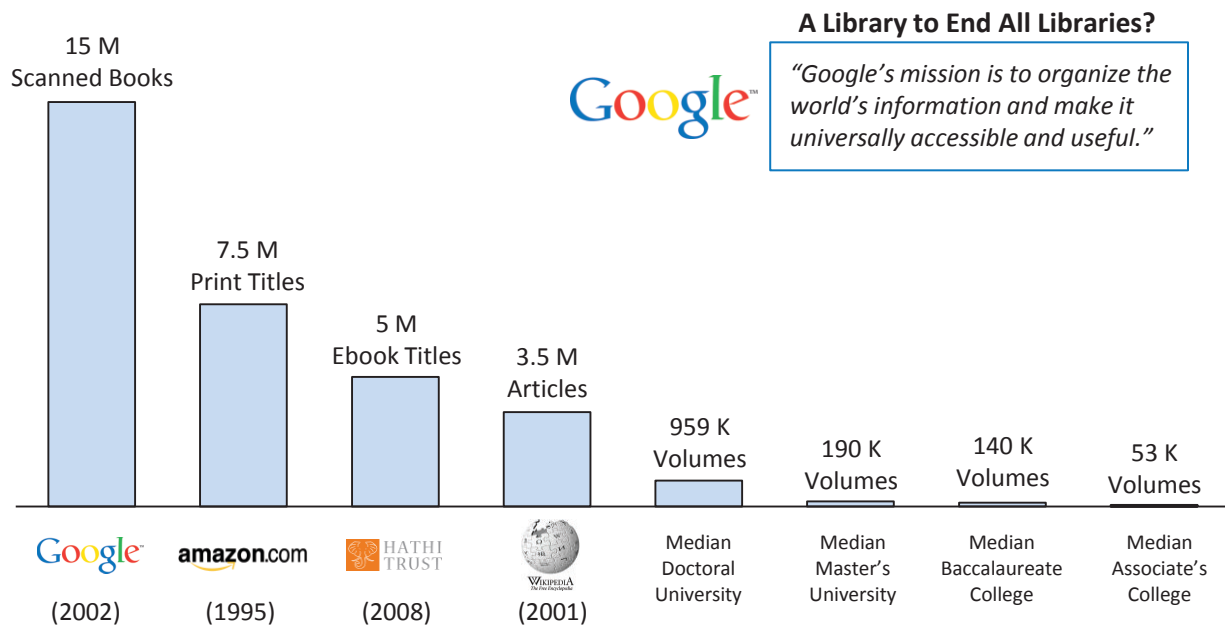
Most publishers counter that complaints about rising prices underestimate the consequences of the extensive proliferation of research output over the last several decades and the costs associated with storing and delivering all of that content electronically. Just like tuition and fees at most colleges and universities, journal costs should not necessarily be expected to grow in line with inflation. And finally, many display a willingness to explore alternative deals and arrangements, so long as their basic financial viability is kept intact. What for many libraries is a “crisis in scholarly publishing” is a “crisis in library funding” for publishers, who believe that expenditures toward scholarly resources are critical in building a modern research enterprise.

## Viable Alternatives

The second driver of change in academic libraries is the emergence of viable alternatives that offer tens of millions of books, journals, videos, and other media to students and faculty without requiring a trip to a local repository.

### Scale Beyond Imagining

*Fastest Growth, Broadest Access Now Outside of Academic Libraries*



Source: "ACRL's 2008 Academic Library Trends & Statistics," Association of College and Research Libraries.

In only the past 10 to 15 years, a number of non- and for-profit organizations have amassed collections that dwarf academic libraries in size and scale. While libraries from community colleges to massive research universities typically house between 50,000 and 1 million volumes, companies like Amazon and Google offer 7.5 and 15 million volumes, respectively.

While the library's unique role in offering access to their collections free of charge distinguishes it from the corporations, inexpensive and instant digital access to books has already quickly displaced the value proposition associated with access to physical print collections, and the availability of free, quality resources outside of the library is expanding rapidly.

Google's ambition "to organize the world's information and make it universally accessible and useful" raises the question: if Google truly succeeds, what is left for libraries to do?



Google's entry into the business of digital collections was both momentous and worrisome for academic libraries. While many are understandably unwilling to cede responsibility for preserving and disseminating digitized books and ebooks to a corporation, Google was able progress much further and faster than public institutions or universities.

## The Thousand-Year Plan

### *Why Academic Libraries Will Never Beat Google*



Estimated time to scan all  
of their 7 M volumes

1,000 years



Actual time for Google to  
scan 7 M volumes

6 years

#### A Devil's Bargain?

"The prospect of mounting a book-digitization project at the scale of Google's never seemed within the capabilities of research libraries until an outside partner with seemingly limitless resources emerged. But this outside partner has often seemed more focused on its commercial interests than on meeting scholarly needs."

Roger Schonfeld  
ITHAKA S+R

Source: "Google Books – History," <http://books.google.com/intl/en/googlebooks/history.html>;  
Roger Schonfeld, "Conclusion," *The Idea of Order*, CLIR (2010).

When Google cofounder Larry Page decided to explore digitizing books, he visited his alma mater, the University of Michigan, and asked how long it would take to scan the entirety of its 7 million volumes. Library staff responded that such an undertaking would likely take 1,000 years; Page thought he could do it in six. Six years later, the Google Books Project had indeed scanned 7 million volumes, and an unofficial goal of scanning every book ever written (some 130 million works by one estimate) has been set.

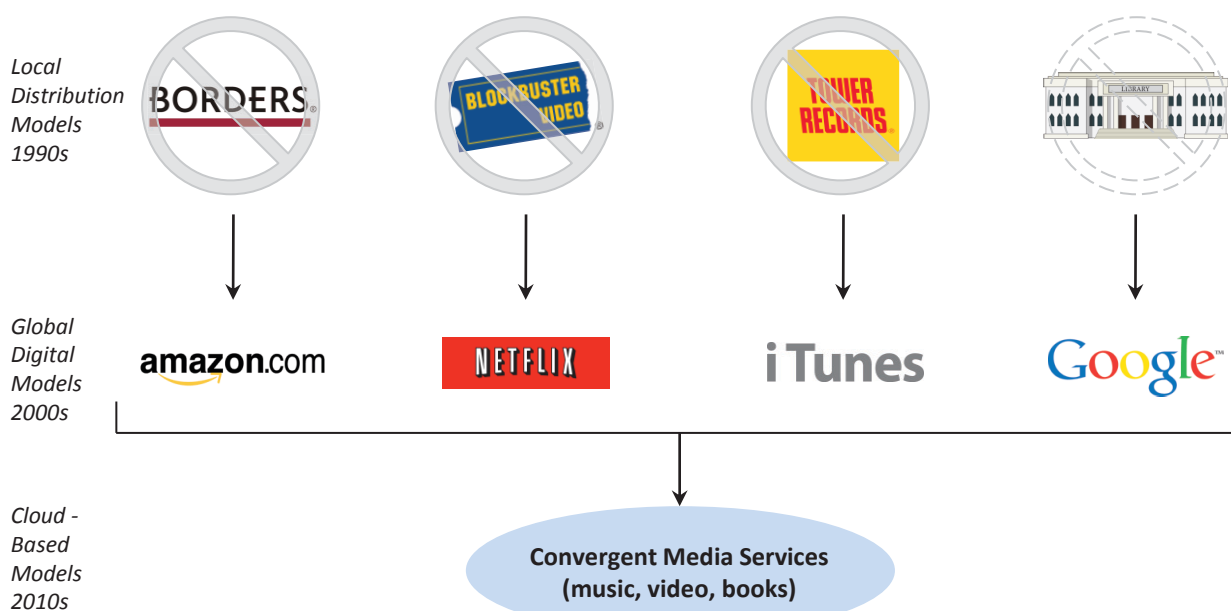
But as Roger Schonfeld of Ithaka S+R notes, Google's success comes at a price; it is, after all, a for-profit corporation with much more on its plate than digital books, and could—as was the case with its newspaper-scanning initiative—give up on any particular venture at any point in time without public accountability measures. Librarians and scholars are concerned, therefore, about the reliability of what has become the world's preeminent information resource.

If the experience of other models built around the physical distribution of content is any guide, libraries in their traditional form appear to be at risk of obsolescence.

## With Us or Without Us

*Many Predict Libraries Will Be the Next Media Outlet to Be Disintermediated*

### Local Physical Distribution Models Displaced by Remote and Fully Digital Approaches



Source: Education Advisory Board interviews and analysis.

In the 1990s and early 2000s, one had to visit a local book, movie, or record store to browse and purchase media. Companies like Borders, Blockbuster Video, and Tower Records thrived until digital models began to displace their limited, local distribution models with virtually limitless online catalogs.

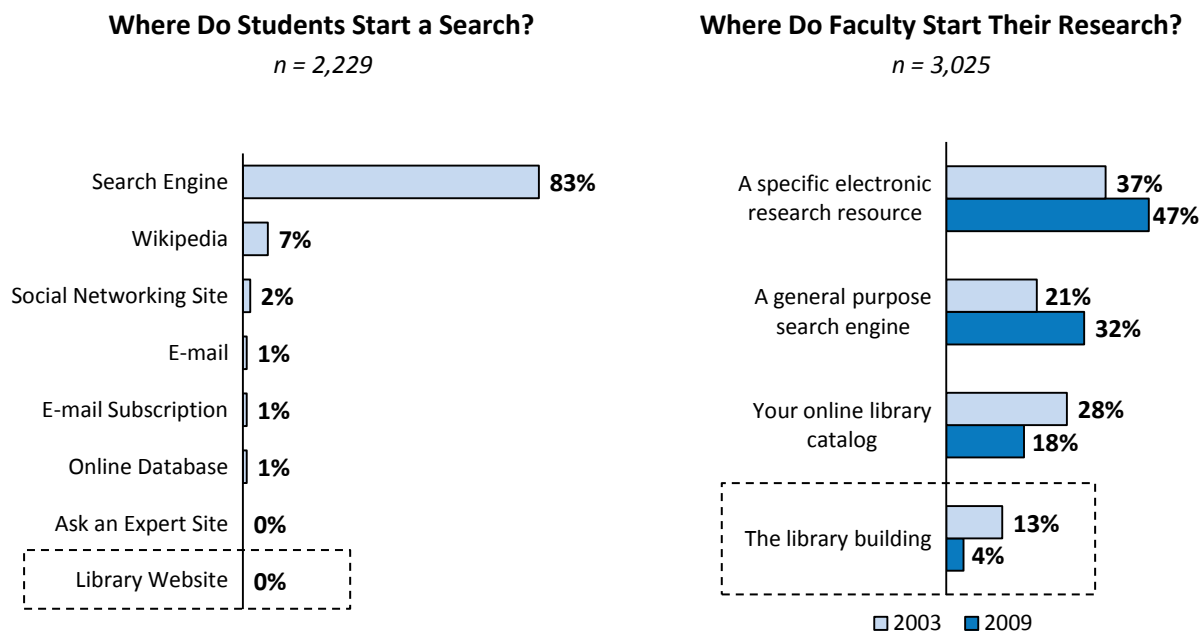
Many of us will miss the experience of roaming the aisles at bookstores, but there is no doubt that the move to ubiquitous digital access has enlivened the “long tail” of diverse media catalogs and surfaced a previously unimaginable amount of content for consumers through sophisticated search and recommendation algorithms. Increasingly, content is stored and accessed via “the cloud,” eliminating the need for companies like Amazon and Netflix to rely on mail-order service and allowing them to tightly integrate the virtual browsing experience with the content itself.

“The new consumer utopia of instantly available digital books,” warns the University of Texas Library’s Dennis Dillon, “is leaving the library behind as a relic of a bygone age when users were not self-sufficient and when the information or book a user wanted was not simply a click away.”

## Declining Usage

Given the meteoric rise of information alternatives, it should come as no surprise that students and faculty are using the library's traditional services less and less.

### Patrons Switching Faster Than Libraries *Faculty and Students Already Looking Elsewhere for Search Help*



Source: "Faculty Study 2009: Key Strategic Insights for Libraries, Publishers, and Societies," Ithaka S+R; "Perceptions of Libraries, 2010," OCLC.

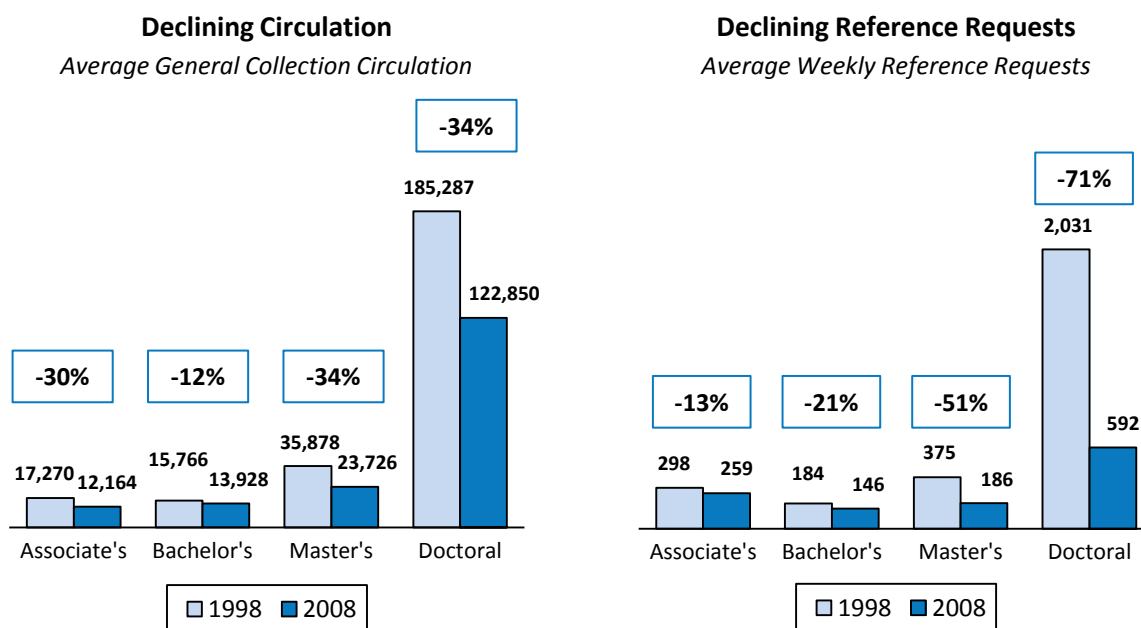
A 2010 OCLC study of undergraduate students reported that the vast majority begin searches for information with a search engine, with some others starting with Wikipedia or even social networking sites like Facebook. Astoundingly, none of the survey's respondents reported starting a search at a library website. The same study found that students overwhelmingly associate libraries with "books" rather than information, expertise, or service; many simply do not view the library as a primary resource in a digital age.

Studies show similar trends among faculty. Though 13 percent reported beginning research at the library in 2003, that percentage dropped to only 4 percent by 2009, suggesting that by the date of this report's publication, almost no faculty see the library building as their home base for research. Still, almost half of faculty respondents reported starting with a particular electronic research resource in 2009—typically paid for by the library, but perhaps not seen by patrons as necessarily linked to it.

Not only are students and faculty starting their searches outside the library, they are also using its traditional assets—books and librarians—less than ever.

## The Lonely Reference Librarian

*Circulation and Reference Requests Down Across All Institutional Types*



Source: "ACRL's 2008 Academic Library Trends & Statistics," Association of College and Research Libraries.

Data from the Association of College and Research Libraries (ACRL) shows double-digit declines over the last decade in both circulation and reference requests across all institutional types, from research universities to community colleges.

Though they may not consult librarians for help, today's students are not necessarily more adept at research than those in the past or even adequately served by external information resources on the web. Many argue that it is actually more difficult than ever to conduct thorough research and locate reliable sources, given the immense amount of available (and potentially faulty) information online. Information literacy experts suggest that a disconnect has emerged between students with a false sense of confidence in their research ability and librarians with unrealistic expectations of students' interest in and capacity for conducting lengthy, detailed literature reviews. Ultimately, librarians can no longer expect students to come to them when in need—gaps in information and research literacy must be met with new engagement strategies.

## New Patron Demands

Though their conventional resources and services may no longer be in high demand, libraries are now faced with new student needs that will require substantial reconfiguration and reorganization. The advent of the “learning commons” over the last decade or so has provided users with new learning environments and a streamlined academic support experience.

### The Library as a Social Learning Space *New Libraries Support a Range of Academic Activities*



#### Lemieux Library & McGoldrick Learning Commons, Seattle University



Source: Seattle University.

The learning commons approach is now so popular that it may soon be universal. To take just one example, Seattle University’s new McGoldrick Learning Commons houses very few books or journals, opting instead for abundant study space, computer terminals, multimedia labs, and even a café.

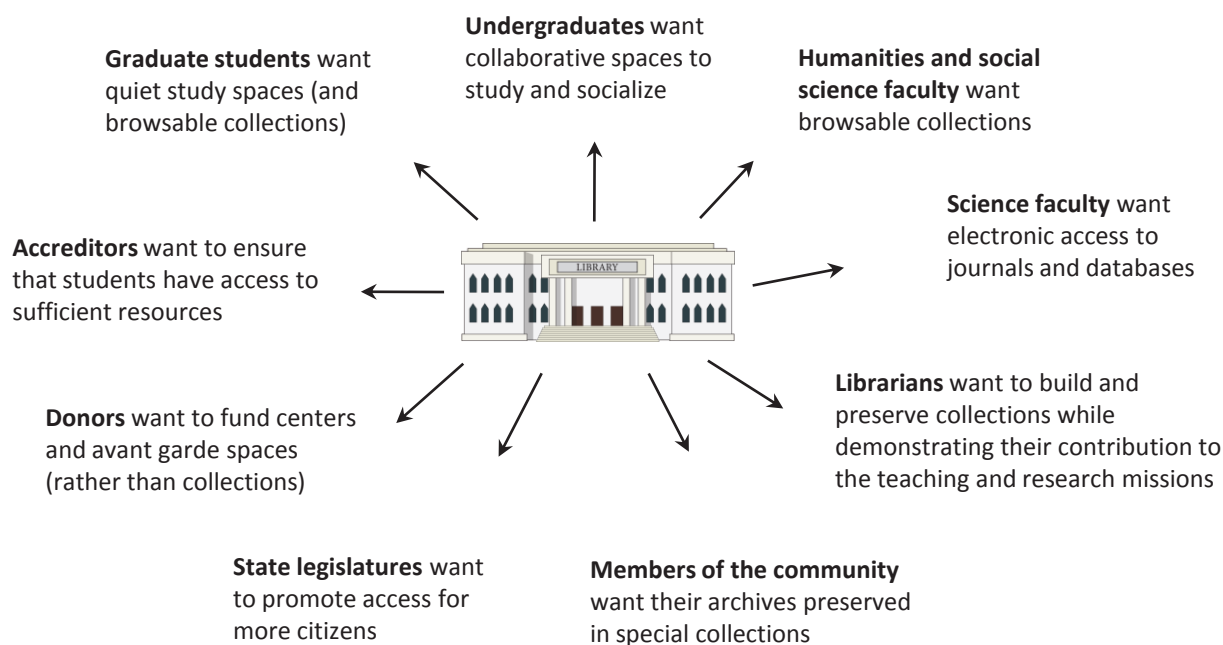
The ultimate vision behind this new environment was the creation of a “one-stop shop” for academic and student support. Units outside the library’s organizational structure such as the math lab, writing center, and tutoring services were brought together under one roof, expanding the building’s conceptual reach and relevance. What was formerly an isolated, parochial organization (associated only with books) is now a vibrant, inclusive unit essential to student success on campus.

New patron demands pose exciting opportunities for revitalization in the library but require a hard-to-achieve combination of capital, stakeholder support, and organizational flexibility.

New demands on academic libraries are not always clear or consistent across constituencies, and those tasked with establishing the library's strategic development are therefore pulled in multiple, even competing, directions.

## Pulled in Competing Directions

*Impossible to Satisfy Increasing and Conflicting Demands on the Library*



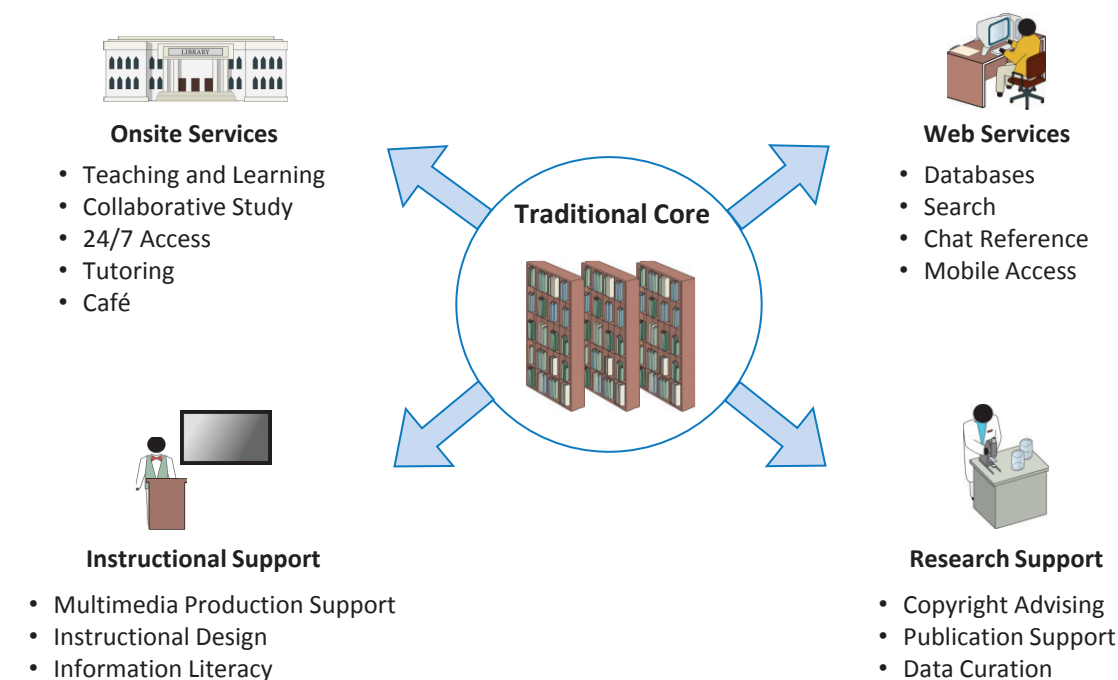
Source: Education Advisory Board interviews and analysis.

The ideal suite of library and information services varies for each group of stakeholders on campus; undergraduates value comfortable study space and access to technology, faculty prioritize access to scholarly literature, members of the community may want increased investment in special collections, donors want their names on cutting-edge new facilities, and librarians often focus on building and maintaining the core collection. Any path forward (particularly given limited resources) is likely to offend one or more constituencies. For this reason, the challenges faced by the library cannot be solved within the library, but instead require that top administrators, faculty, and students all work together to reach a consensus about how the library can best support the academic mission.

Academic libraries hoping to reinvent themselves in light of the changing environment face a set of difficult choices about potential areas for investment, each requiring budgetary and personnel trade-offs.

## Opportunity and Uncertainty Ahead

*Should Libraries Do All of These Things?*



Source: Education Advisory Board interviews and analysis.

From instructional support and web-based services to research advising and pedagogical expertise, librarians envision a broad spectrum of possible paths as the library adapts to 21st century needs.

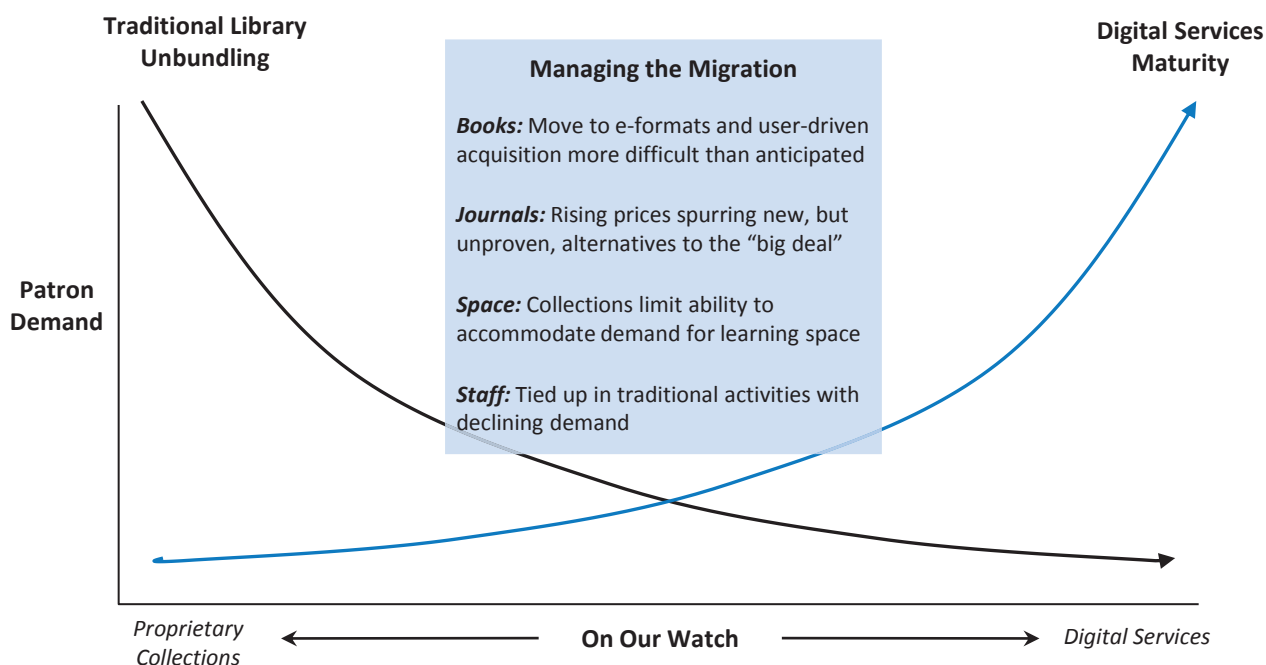
Two obstacles arise, however, in these efforts: first, no library has the resources to maintain every investment in its traditional activities while expanding its operations into all of these new areas. Institutions must decide what to scale back or even eliminate in the library, often for the first time, before being able to transfer adequate resources to new activities. Second, it is by no means clear that libraries and librarians are best positioned to take on each of these roles. Students may need multimedia experts on hand and faculty might benefit tremendously from copyright advice, but many wonder whether some of these needs can be more appropriately met by specialized staff outside the library.

The word “library” has become something of an obstacle in this debate, as it both ties the building and its staff too tightly to a specific, traditional role and prevents external stakeholders from acknowledging the degree to which progressive libraries have already evolved into much broader, complex organizations.

The fundamental challenge for the academic library is that it is straddling two eras. Declining demand for the services most libraries were built to provide is paired with increased demand for next-generation digital resources that most libraries are not yet fully equipped to deliver.

## Straddling Two Eras

*Traditional Library Unsustainable, but Digital Services Still Unready for Prime Time*



Source: Education Advisory Board interviews and analysis.

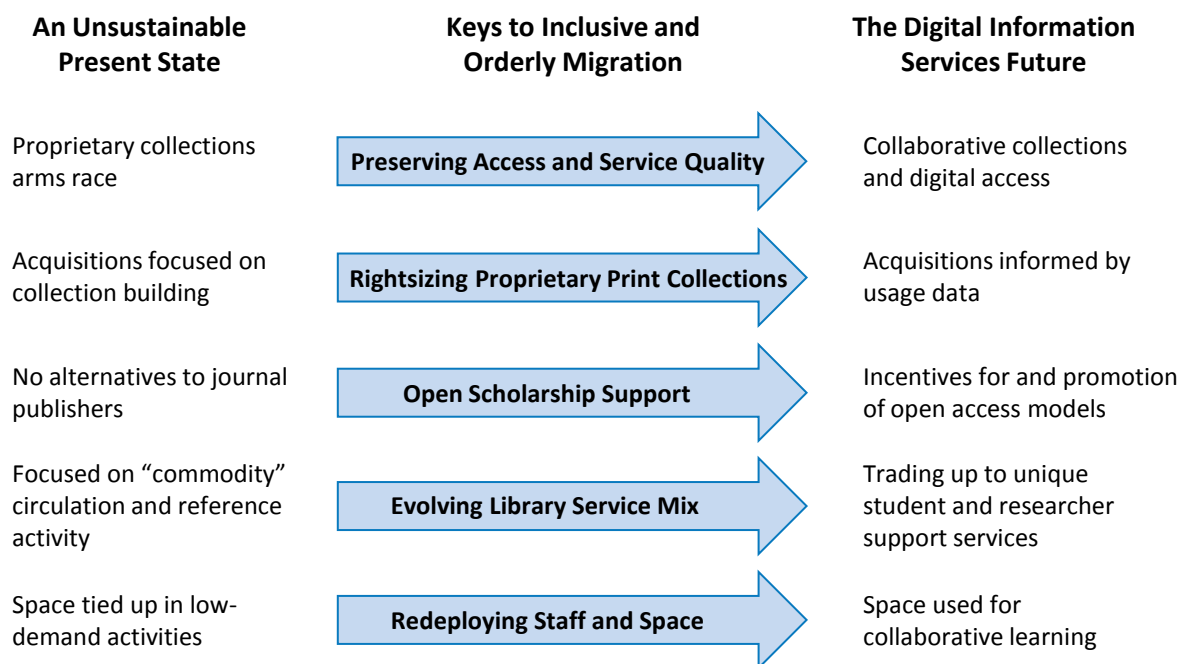
No matter how compelling the case for transformation may be, significant obstacles lie in the way of a quick and easy migration across the spectrum of library assets. The move to digital book formats and radically different access and acquisition models has been slower than many anticipated, and resistance by both publishers and purchasers has made large investments in ebooks infeasible. Rising journal prices are catalyzing increased interest in alternative publishing venues and more flexible licensing arrangements, but many are skeptical of the capacity of libraries to alter the research and publishing behavior of faculty. Large print collections make sweeping library renovations expensive, politically sensitive, and labor-intensive. And finally, many library staff spend most of their time managing the library’s aging, less relevant resources and may not have the specific skills and expertise needed to adapt to a radically different set of user needs. New opportunities will require a reformulation of the library’s conventional structure.



Provosts have a central and critical role to play in guiding the library toward the broader, more flexible end state that most experts envision for information services in the future. Without strategic engagement from the chief academic officer, no library will be able to bring together the vision, political will, funding, and buy-in from both faculty and students required to navigate such a daunting transition.

## Critical Roles for Provosts in Transforming the Library

### *Defining and Removing On-Campus Barriers to a Preferred End-State*



Source: Education Advisory Board interviews and analysis.

Our research suggests that in the next five to ten years, successful academic libraries will have moved aggressively in the directions outlined above: they will bow out of the “collections arms race” and emphasize access to, rather than individual ownership of, resources; acquisition strategy will be carefully calibrated to patron needs based on detailed usage data; they will incentivize and incubate low-cost and open-access venues for scholarly research; staff will shift their focus from collection management and reference to embedded support services within courses and faculty research teams; and library space will be opened up to accommodate patrons, rather than physical volumes.

As Charles Henry, President of the Council on Library and Information Resources (CLIR) told us, “Administrators can no longer afford to be disengaged with their libraries, which are becoming more and more marginalized as the pace of technological change accelerates. Any provost who wants to just wait and see is missing the opportunity of a lifetime.”

It is often helpful to ask what one might build if given the chance to start from scratch, without the limitations inherent in managing large organizations with lengthy institutional memories and well-established cultural norms. A new research university in the University of California system, UC Merced, had the chance to do just that.

## Starting from Scratch

### *Building an Academic Library Based on Future Needs Rather Than Past Precedent*



#### **Minimal Physical Collection**

- 93 K print books
- 632 K digital books
- 56 K digitized journals

#### **Outsourced Technical Services**

- Receives shelf-ready books from vendors that are already cataloged and labeled
- Sends gift books to OCLC for cataloging

#### **Large Collaborative Collection**

- Rapid access to more than 36 M books held in UC libraries
- California Digital Library handles licensing of e-resources

#### **Virtual Reference**

- No reference desk
- Outsourced reference service through phone, e-mail, chat, and workshops

#### **Patron-Driven Acquisition**

- Most purchases selected by patrons
- No subject librarians on staff

#### **Automated Circulation**

- Self-checkout
- RFID tags on all books

Source: "The Story of the Library," UC Merced, <http://ucmercedlibrary.info/about-the-library/the-story-of-the-library>

UC Merced was able to jump directly into the lean, flexible end state described on the previous page. The library has only 93,000 print volumes but over 630,000 ebooks; with access to the millions of volumes held at other UC institutions, UC Merced is able to avoid much of the cost of housing physical volumes. Books are purchased primarily through "patron-driven acquisition" (described in detail in the next chapter), and there are no subject specialists or catalogers on staff—processing is done by third parties. Reference services are fully outsourced to virtual providers, and students can use a special scanner to check out books themselves. Finally, the library has placed radio frequency identification (RFID) tags on all their books, so their location can be tracked at all times.

Of course, no existing library can afford (either politically or financially) to implement all these changes in such a short time period. Still, UC Merced symbolizes a fundamentally different future for libraries at all levels, and provides proof that such a future is indeed viable even at research institutions.



## I. Leveraging Digital Collections

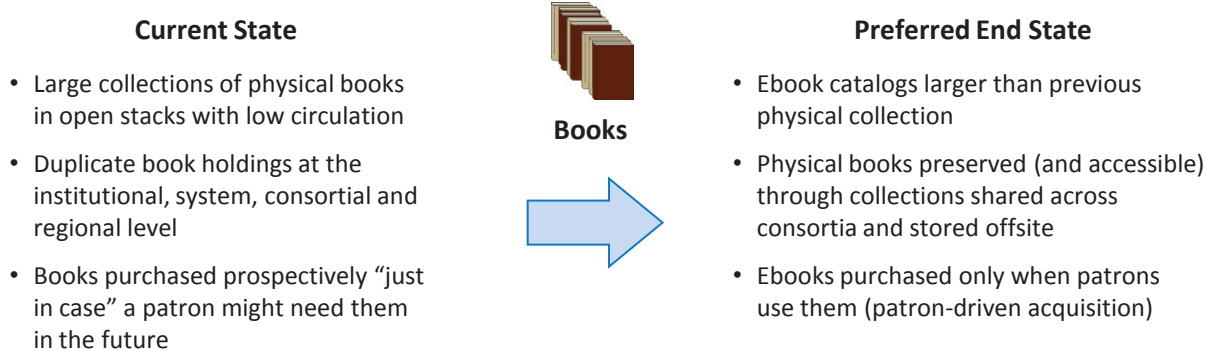
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- ☞ The Promise and Perils of Ebooks
- ☞ Patron-Driven Acquisition
- ☞ Print-on-Demand

As print books continue to give way to electronic alternatives, academic libraries will increasingly shift from *ownership* of physical volumes to licensed *access* to digital resources. Copyright and usage restrictions make a complete transition infeasible, but libraries stand to gain significant efficiencies in both space and acquisition costs as digital delivery business models mature.

## From Ownership to Access

### *Reducing Reliance on the Local Print Collection*



#### Barriers to Change

- Copyright prevents access to orphan works and scanned material
- Ebook versions of academic monographs not yet universally available
- Ebook procurement more complicated than traditional purchasing
- Current DRM restrictions limit how patrons can use ebooks

Source: Education Advisory Board interviews and analysis.

Most academic libraries maintain large collections of print volumes, many of which never circulate but are nevertheless duplicated at the local, system, consortial, and regional level. New digital formats and patron-driven acquisition models will enable libraries to move away from prospective collection-building in favor of “on-demand” service aimed at giving patrons what they want at the moment they need it.

A number of barriers stand in the way of widespread ebook adoption, however. Most importantly, large-scale efforts at providing access to millions of scanned books are currently limited by copyright protections, and complicated usage restrictions and vendor arrangements can make ebook procurement cost- and time-prohibitive.

## The Promise and Perils of Ebooks

While print books still dominate the market, their digital alternatives are quickly becoming mainstream as information consumers adopt text-friendly tablets and e-readers in greater numbers.

### The Ebook Tipping Point

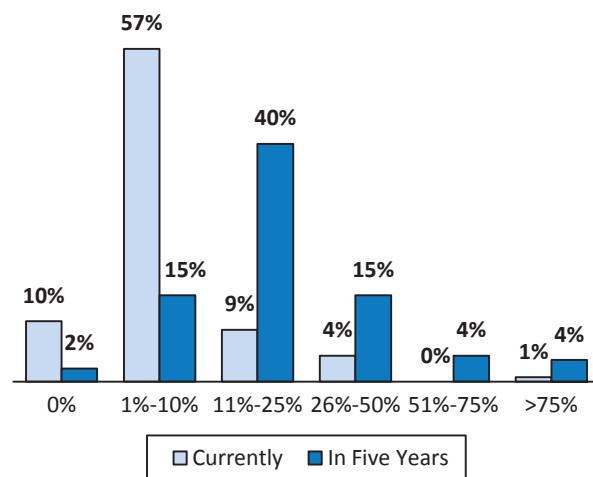
*With Commercial Take Off, Can Academic Ebooks Be Far Behind?*

Ebooks Sales on Amazon



Ebooks as a Percentage of Academic Library Acquisition Budget

Survey of 136 Colleges and Universities



Source: Claire Cain Miller and Julie Bosman, "E-Books Outsell Print Books at Amazon," *New York Times*, May 19, 2011; "2009 Librarian eBook Survey," HighWire Press, 2010.

Amazon launched its ground-breaking Kindle e-reader in November 2007, and within four years, ebooks were outselling both hardcover and paperback books on Amazon.com. While Amazon's sales figures are skewed given their emphasis on e-formats and short-form "Kindle Singles" in addition to conventional monographs, the growing popularity of digital reading is impossible to ignore.

A 2009 survey of academic library directors found that while most only spent 1 to 10 percent of their monograph budget on ebooks at the time, two-fifths anticipated spending up to 25 percent on ebooks within five years, signaling broad willingness to push further in this direction.

While Google's book digitization initiative has dominated the press, a collaborative venture among college and university libraries called HathiTrust is likely to have an equal, if not greater, impact on academic libraries.

## The Promise of the Cloud

### *Leveraging Ebooks and Shared Repositories to Reduce Local Holdings*



#### **HathiTrust Offers Collaborative Digital Library for the Academy**

- Began in 2008 to establish a collaborative repository for digitized collections
- Now involves 52 partner libraries
- Includes both in-copyright and public domain materials digitized by Google and others
- Bibliographic and full-text search are available for all volumes
- Public domain volumes are freely accessible to the public and can be downloaded with authentication by affiliated users

#### **Scaled, Digital Collections Will Free Up Significant Local Resources**

- Nearly one-third of content purchased by US research libraries has already been digitized and preserved in HathiTrust
- More than 60% of retrospective print collections held in ARL libraries will be duplicated in HathiTrust by June 2014
- Potential median space savings at ARL libraries of more than 45,000 assignable square feet (ASF)
- Possible annual cost avoidance between \$500,000 and \$2 M per ARL library

Source: Constance Malpas, "Cloud-sourcing Research Collections: Managing Print in the Mass-digitized Library Environment," OCLC, 2011.

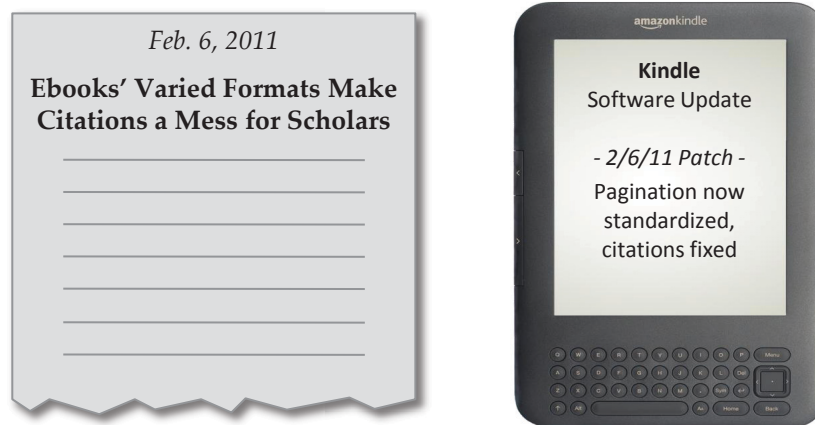
HathiTrust is a nonprofit consortium of over 50 academic libraries that have all contributed digital versions of books to a single electronic archive, which now includes over 9.5 million full-text-searchable volumes. Many of the libraries that participated in the Google Books project have provided digital copies to HathiTrust, along with scans from Microsoft, the Internet Archive, and in-house library initiatives.

OCLC's Constance Malpas recently studied HathiTrust's collection in depth and found that (assuming a workable licensing model for accessing in-copyright works is established) its archive already duplicates a significant portion of even the largest research libraries, and could therefore allow considerable space and storage cost savings for those who elect to withdraw volumes held electronically in HathiTrust.

The promise of ebooks for academic libraries is offset by a number of obstacles. A common concern is that digital texts will never serve as adequate replacements for the experience of reading in print.

## A Matter of Time

*Resistance to Ebooks Persists, but Likely to Fade as Technology Improves*



Source: Tushar Rae, "E-Books' Varied Formats Make Citations a Mess for Scholars," *The Chronicle of Higher Education*, Feb 6, 2011; Education Advisory Board interviews and analysis.

A recent article in *The Chronicle of Higher Education* illustrates why technology is unlikely to be the limiting factor with regard to the viability of ebooks for scholarly use. The article, entitled "Ebooks' Varied Formats Make Citations a Mess for Scholars," suggested that the mismatch between page numbers in electronic and physical texts would indefinitely keep scholars from transitioning to ebooks.








But after the article's publication online, the very first reader comment indicated that the problem had been fixed, at least on Amazon's Kindle platform. The quickening pace of technological change is removing difficulties before most consumers are even aware of them, while at the same time making the library's strategic decisions more challenging than ever. It is impossible to predict what e-reading will look like in ten years, but it is likely that most, if not all, purely technical challenges will be overcome.

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Restrictions associated with digital rights management (DRM) in ebooks pose a greater dilemma to libraries, as they oversee the transition from the lending of physical volumes to the licensing of digital content. Ironically, ebooks are in many ways more difficult to utilize and share than print books.

## Ebooks Are Easy, Right?

### *Usage Restrictions from a Major Ebook Publisher*

-  Cannot download file more than 6 times
-  Cannot move file to a different computer
-  Cannot lend, sell, or give ebook to others
-  Cannot copy the ebook
-  Cannot copy or paste entire pages at a time
-  Cannot copy or paste diagrams, figures, or artwork
-  Cannot annotate text

Source: Education Advisory Board interviews and analysis.

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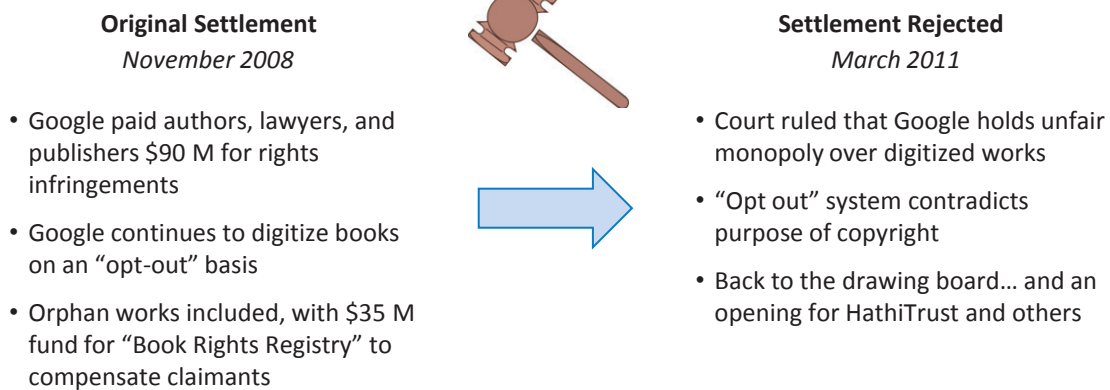
Ebooks from one major scholarly publisher come with the above seven rules, making the management of thousands of individual ebook files a complex task for librarians. Some publishers have even placed loan limits on libraries, requiring them to repurchase ebooks loaned a certain number of times per year. Just as the advent of MP3 files in music led to conflict between publishers, who wanted to protect their prior “one physical copy per customer” business model, and listeners, who expected the ability to move, copy, and share files as they wished, ebooks are now undergoing a maturation process that will involve ongoing adaptation by all parties involved.



The largest obstacle preventing a widespread transition to ebooks is the complex and uncertain copyright status of the large digital collections held by Google, HathiTrust, and others.

## Copyright Law Biggest Obstacle to Widespread Access

### Google Books Legal Setback Temporarily Derails Prospects for Massive Digital Text Distribution



Source: Education Advisory Board interviews and analysis.

When the Google Books Project was faced with an initial challenge from publishers and authors in 2008, the parties reached a settlement in which Google would pay out an award for rights infringements but continue to scan books and set aside a \$35 million fund to reimburse any copyright holder with a legitimate complaint. The settlement was rejected by Judge Denny Chin in the US Court of Appeals on the grounds that it granted Google an unfair monopoly over the scanned material and contradicted the spirit of copyright protection by requiring copyright holders to opt out, rather than allowing them to opt in.

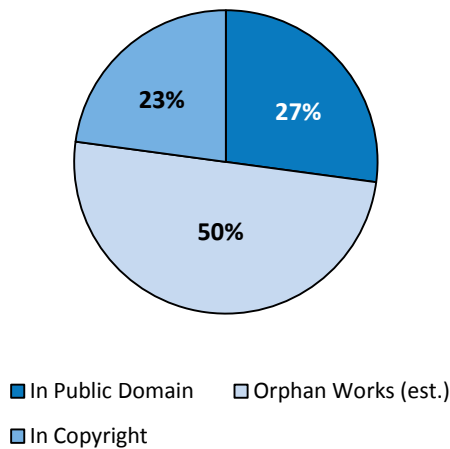
At the time of this report’s publication, Google and others are continuing to work out a revised settlement that would allow a legitimate licensing model to take shape with adequate compensation available for authors and publishers. Meanwhile, an opportunity has emerged for public and academic libraries to take advantage of their unique role to play a larger part in the future of digital archives.

“Orphan works”—those materials that are in-copyright but for which the owner cannot be found—may account for more than half of HathiTrust’s collection, effectively “locking up” a large proportion of digitized text until their legal status is resolved.

## Locked Up

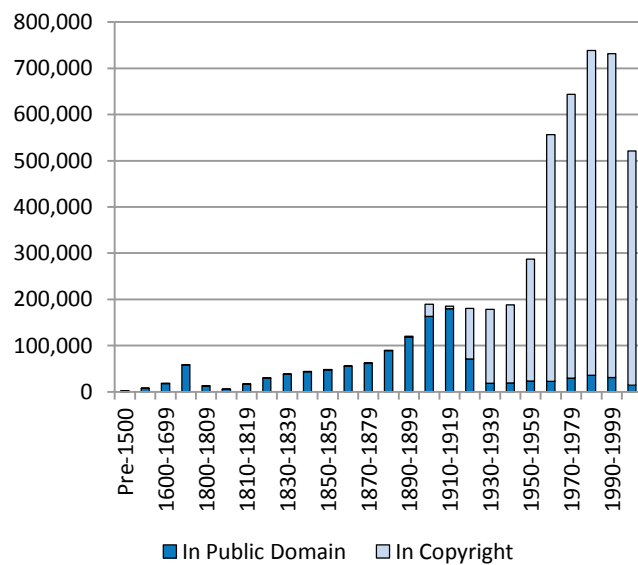
*Vast Majority of Content Inaccessible Due to Copyright Restrictions*

**Copyright Status of Volumes Held by HathiTrust**



**Orphan Work:** In copyright, out of print, and copyright holder unknown

**Status of Volumes Held by HathiTrust by Year of Publication**



Source: John P. Wilkin, “Bibliographic Indeterminacy and the Scale of Problems and Opportunities of ‘Rights’ in Digital Collection Building,” *Ruminations*, Feb 2011; [http://www.hathitrust.org/statistics\\_visualizations](http://www.hathitrust.org/statistics_visualizations) (statistics as of June 2, 2011).

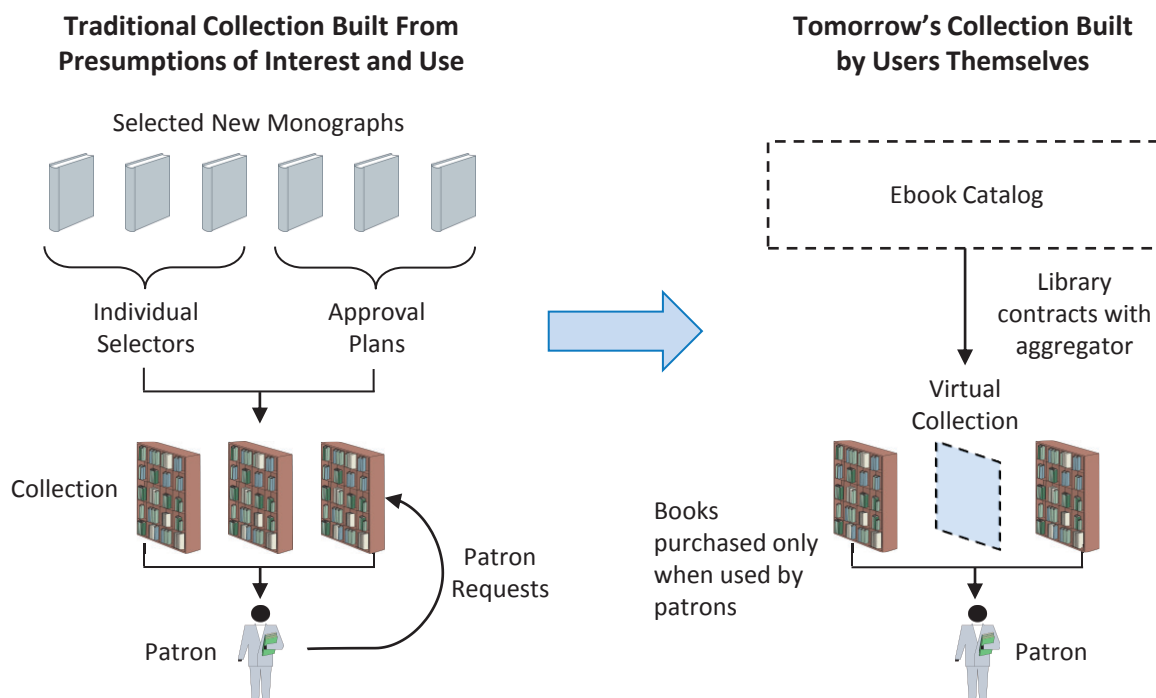
While HathiTrust allows full access to material in the public domain, most 20th century works remain inaccessible to the public. Full copyright protection remains in effect for anything created after 1923, the cutoff date established by the 1998 Copyright Term Extension Act, even for orphan works whose copyright was never registered or renewed.

Several academic libraries, led by the University of Michigan, have proposed to transfer orphan works into the public domain after performing what they deem to be a reasonable search for a copyright holder. In lieu of a desirable legislative solution, some are calling for a rigorous utilization and defense of fair use doctrine, arguing that existing regulations serve only to stymie the use of items that would otherwise go unseen, neither being shared indiscriminately nor providing revenue for the author or creator. A recent lawsuit spearheaded by the Authors Guild has drawn these efforts into question, however, as some believe the unauthorized digitization and dissemination even of orphan works to be unjustifiable violations of copyright.

## Patron-Driven Acquisition

A new framework for purchasing ebooks has emerged over the last several years, offering an alternative to traditional acquisition practices. Rather than guessing at what patrons might want in the future (acquiring books “just in case”), patron-driven acquisition, or PDA, allows libraries to deliver and pay for materials only when they are actually used by students or faculty (acquiring them “just in time”).

### From “Just-in-Case” to “Just-in-Time” Patron-Driven Acquisition Offers an Alternative to Guesswork



Source: Education Advisory Board interviews and analysis.

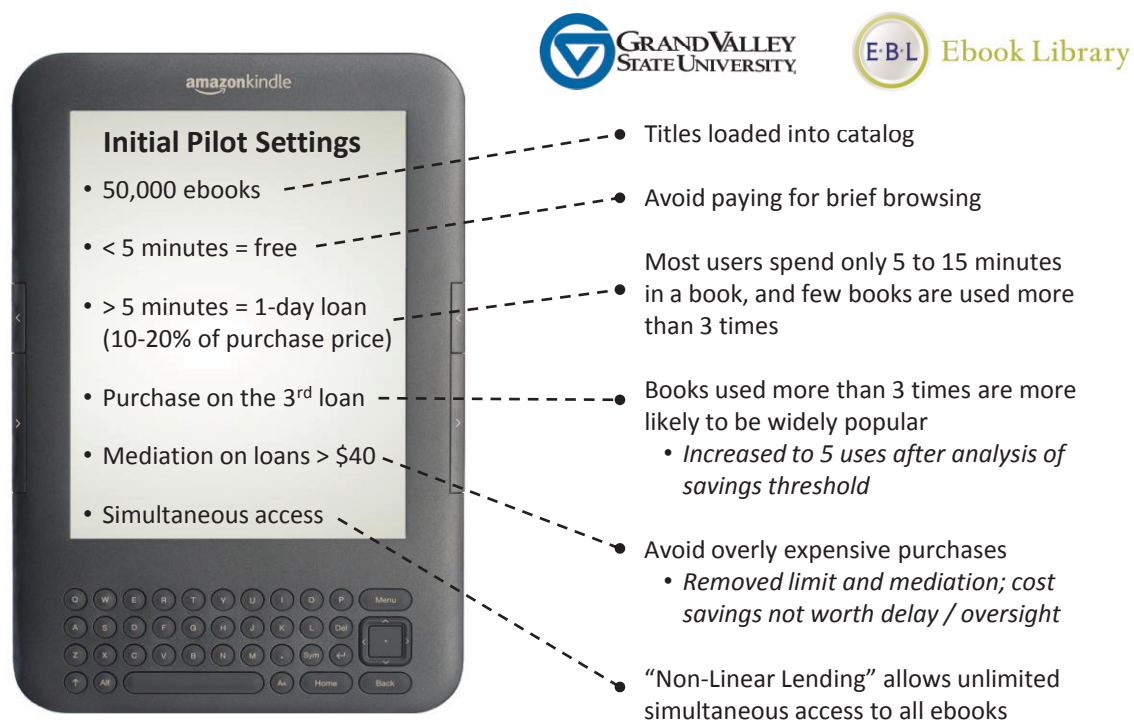
Academic libraries typically acquire monographs through a mix of approval plans—established rules that automate purchases in predetermined disciplines or from particular publishers—and individual selections by specialized librarians. Each year’s new books will filter through these intermediaries and some subset of the available universe of material will end up in the library’s collection. If books are not selected in this process but show significant demand through patron requests, they may be added to the collection as well.

In a PDA program, libraries typically contract with an ebook vendor, who then places an agreed-upon portion of its listings in the library’s own catalog. Users see these ebooks along with the library’s own holdings, even though the library has yet to purchase them. The library pays the vendor only when patrons use an ebook, usually in the form of small rental fees for limited use or full purchases for extensive use.

Grand Valley State University, in partnership with Ebook Library (EBL), recently launched a PDA pilot which provides an excellent case study of the mechanics, benefits, and challenges associated with these models.

## Refining the Purchasing Algorithm

### *Triggers, Limits, and Mediation Standards*



Source: Education Advisory Board interviews and analysis.

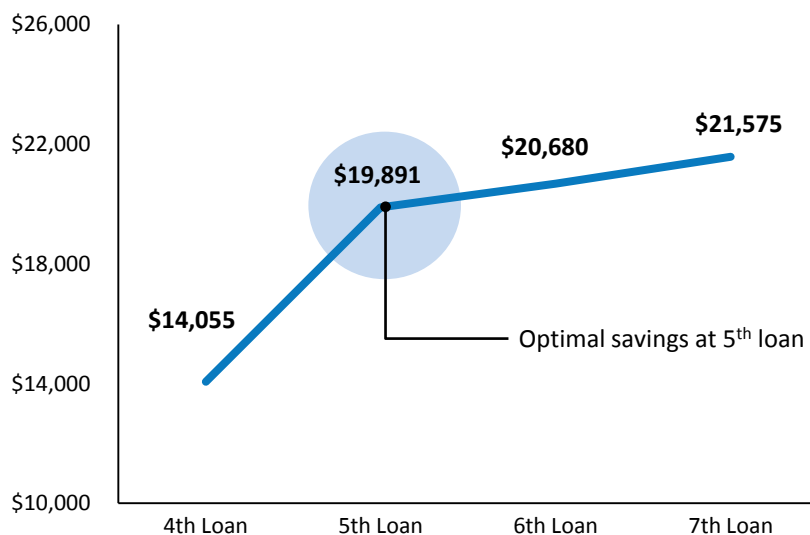
Under the terms of this pilot, approximately 50,000 EBL ebooks were loaded into the library’s catalog. The first five minutes spent in a book incurs no charge, but any access longer than five minutes triggers a one-day loan, typically at 10 to 20 percent of the book’s full price. The third loan of an ebook triggers a purchase, after which the library owns the ebook and may loan it to patrons for any period they wish. Multiple users can access any item simultaneously, though each user counts separately toward the total “time in book” (which requires a new purchase of the book after a certain limit is reached).

Initially, the library required librarian mediation on loans greater than \$40 (implying a purchase price of up to \$400), but after finding very few such instances and far undershooting the allocated budget, the requirement was removed. In the end, the added protection against expensive items was not worth the potential delay and intervention in delivering them. Finally, it should be noted that the particular settings and options available in PDA programs vary from vendor to vendor and are constantly under revision as publishers, aggregators, and client libraries analyze the results of pilots like this one.

The variety of automated triggers and variables involved with PDA allow the library to utilize user data to fine-tune the terms of its agreement with vendors to most effectively balance cost savings with convenience.

## Usage-Based Triggers and Loan Adjustments

Potential Auto-Purchase Savings Over Existing Plan



- Vendor limits purchased ebooks to 320 “use days” per year
- Library determines loan duration of purchased ebooks
- Most books fall short of maximum usage limits, so GVSU increased loan duration from one week to two weeks; may even push to three or four weeks

Source: Doug Way, “The Implementation of a Patron-Driven Acquisitions Program at an Academic Library,” *MLA Academic Libraries*, May 5, 2011.

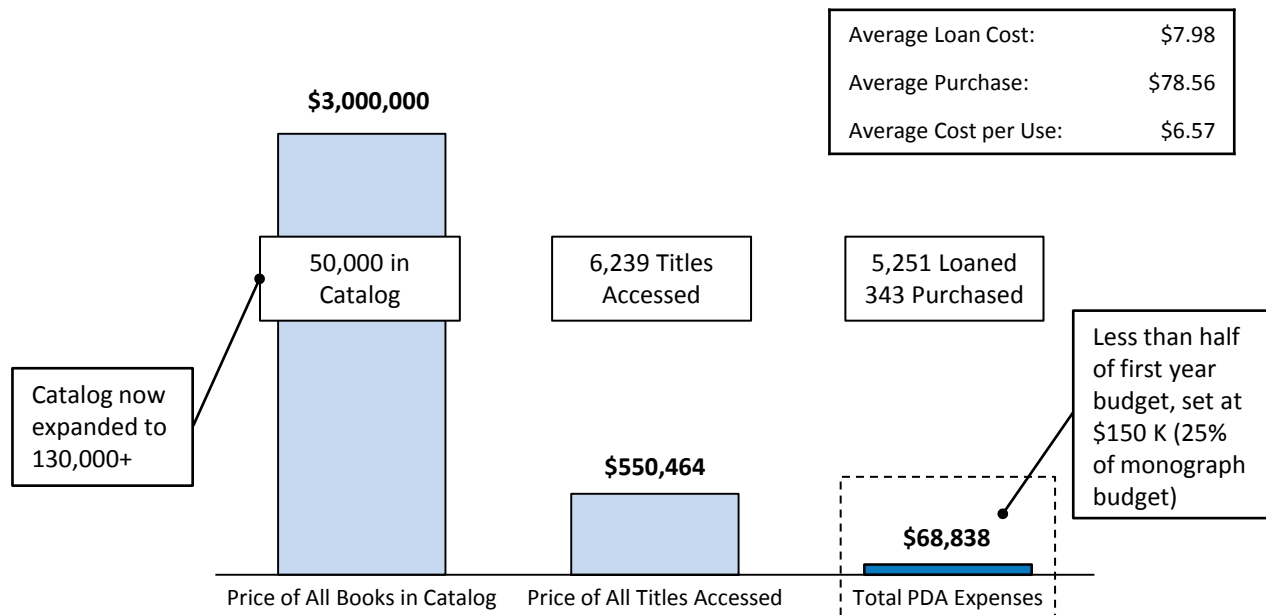
Grand Valley State University’s library studied its first year of ebook spending and discovered that at the same level of usage, it could have saved around \$20,000 by moving the automatic purchase trigger from three to five loans. While the savings would increase marginally if the trigger were pushed further, their library staff concluded that the fifth loan offered a noticeable reduction in cost without too cumbersome a delay in ownership.

EBL limited partner libraries to 320 days of usage per year on purchased ebooks, allowing libraries to set their own lending terms but requiring them to begin the rental and purchasing cycle anew if a book is used more than that predetermined allotment of time. As very few books approached that limit in their first year of use, librarians at Grand Valley State are continuing to increase loan periods on owned ebooks to allow users maximal convenience without incurring additional costs.

PDA offers the opportunity to provide a much larger collection of books to patrons at a small fraction of what it would cost a library to put every item on its shelves. It also corrects the library's fundamentally inefficient delivery model in which librarians guess at what patrons will need, rather than allowing the patron to guide the provision and acquisition process.

## Expansive Access at Fractional Cost

### Significant Savings Compared to Traditional Acquisition or Inter-Library Loan



Source: Education Advisory Board interviews and analysis.

Had Grand Valley State University purchased all 50,000 ebooks available through EBL's service, it would have cost the library \$3 million. Even just purchasing the titles actually accessed by users would have cost over \$550,000. But as a result of the rental and purchase triggers agreed upon in the first year of their pilot program, the library paid \$68,838—less than half of its allotted ebook budget—on a mix of 343 purchases and 5,251 loans. Most of the available ebooks are never accessed, and most that are accessed are used for less than five minutes or fewer than three times; PDA essentially leverages these patterns to avoid extensive costs for mere browsing.

At an average loan cost of just under \$8 (these are ebooks used more than five minutes), PDA offered Grand Valley State a demonstrable savings over typical inter-library loan costs, which range from \$20 to \$35 per book.

Most of the librarians and library directors implementing PDA are not aiming principally to save money; rather, they cite the efficiency gained in moving away from the low utilization of a librarian-mediated collection strategy toward an approach that guarantees return on investment in the form of demonstrated demand.

Several serious concerns remain about a system that essentially transfers responsibility over the library's collection and acquisition budget to students and faculty unaware of the consequences of their choices. After several years of development and refinement, however, libraries and ebook vendors have enabled careful controls over the structure of PDA programs that allay many of these fears.

## Are Skeptics Right to Worry?

### *Lessons Learned from PDA Early Adopters*

<p>Concern:</p> <div style="background-color: #e6f2ff; padding: 10px; text-align: center;"> <p><b>“We’ll spend too much, too quickly”</b> (<i>The \$1,000 book problem</i>)</p> </div>	<p>Concern:</p> <div style="background-color: #e6f2ff; padding: 10px; text-align: center;"> <p><b>“We’ll buy lots of titles we don’t really want”</b> (<i>The Banana Book Problem</i>)</p> </div>	<p>Concern:</p> <div style="background-color: #e6f2ff; padding: 10px; text-align: center;"> <p><b>“We’ll have a shallow, narrow collection”</b> (<i>The Barnes &amp; Noble Problem</i>)</p> </div>
<p>Assessment:</p> <p><b>Library retains control over purchasing strategy</b></p> <ul style="list-style-type: none"> <li>• Budget caps</li> <li>• Catalog listings (filtered by year, publisher, discipline, duplicates)</li> <li>• Rent/buy triggers</li> <li>• Usage definitions</li> <li>• Price limits</li> <li>• Librarian approvals/mediation</li> </ul>	<p>Assessment:</p> <p><b>Rent/buy triggers prevent overzealous acquisition</b></p> <p><b>End-users better judges of needs and value</b></p> <ul style="list-style-type: none"> <li>• “Unused books are bad books”</li> <li>• Each PDA purchase has demonstrated demand</li> <li>• User-built collection well rounded and diverse, but unpredictable</li> </ul>	<p>Assessment:</p> <p><b>Virtual ebook catalogs actually expand and revitalize the collection</b></p> <ul style="list-style-type: none"> <li>• Discoverability no longer guided by physical ownership, proximity, or placement</li> <li>• Catalog no longer subject to one-time selector decisions</li> <li>• University press ebook sales rescuing the “backlist” <ul style="list-style-type: none"> <li>• 90% at UNC-Chapel Hill Press</li> <li>• 87% at U of Kentucky Press</li> <li>• 70% at Johns Hopkins Press</li> </ul> </li> </ul>

Source: “The E-Reader Effect,” *Inside Higher Ed*, June 1, 2011; Education Advisory Board interviews and analysis.

Vendors are increasingly allowing libraries to carefully monitor and revise the mechanics of their service, enabling those concerned about overspending to implement budget caps, rent/buy triggers, mediation requirements, and automatic price limits to avoid excessive costs. Libraries can also filter certain titles or entire subjects out of the catalog to prohibit the purchase of already-owned or low-priority material.

An oft-cited cautionary tale involving a class assignment on the banana trade and the resulting overabundance of “banana books” in the library illustrates a second concern about the quality of a user-driven collection. While the aforementioned tools can prevent overzealous usage by students, supporters of PDA add that in principle, the quality of a collection should originate from its relevance to patrons, not the opinions of library staff.

Finally, those worried that PDA may cause less popular but potentially relevant work to fall by the wayside may find that virtual ebook catalogs often revitalize lesser-known material. A growing number of university presses, for example, are finding that the vast majority of their ebook sales are “backlist” titles.

## Print-on-Demand

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The advent of viable print-on-demand machines and services has begun to garner interest from the academic library community, but without significant catalog expansion and a clear cost-benefit payoff for patrons, these tools will continue to be more luxury than necessity for the near future.

### What If I Need a Physical Copy?

*An Uncertain Future for Print-on-Demand*

#### Espresso Book Machine®

by On Demand Books

##### Tremendous Potential

- Could eliminate shipping, warehousing, returns, and pulping of books
- Could allow simultaneous global availability of new and backlist titles
- Could lower prices and increase royalties



##### Limited in Practice

- Catalog limited by publisher agreements, copyright
- Poor metadata in existing catalog makes discovery difficult
- Expensive at approx. \$100,000

#### What We Would Have to Believe:

- Price of technology and available titles will decrease
- Publishers significantly expand catalog of printable works
- User demand for print books will remain high enough to justify purchase

Source: Education Advisory Board interviews and analysis.

The potential of quality printing and binding that is both local and rapid is clearly enticing to libraries. If libraries could quickly print those volumes that users could not access or did not want in electronic form, they could provide a critical service without incurring the costs associated with perpetual storage and prospective acquisition.

Unfortunately, very few items are typically available for printing with these machines, which are more commonly used for self-publishing or conference programs. It remains to be seen whether publishers will allow a greater proportion of their catalogs to be accessed and reproduced in this fashion, and whether user demand for print alternatives to existing digital copies will remain high enough to justify investment in print-on-demand capability.





## II. Rethinking the Scholarly Publishing Model

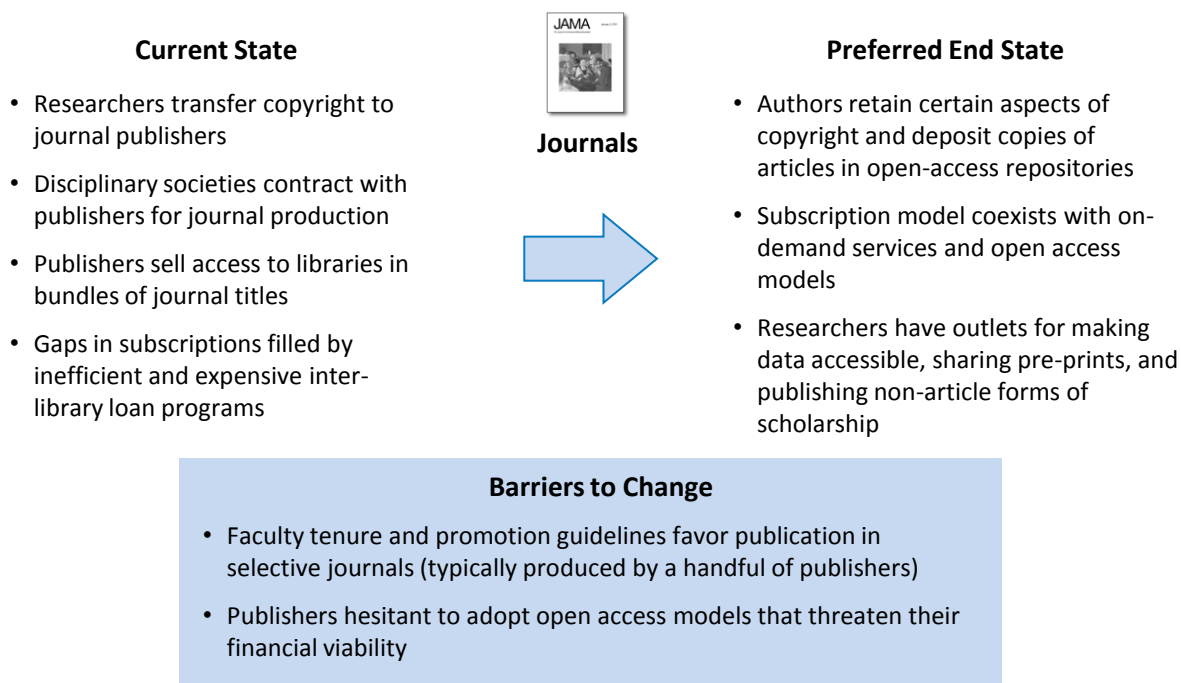
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- ☞ Centralized Licensing Structure
- ☞ On-Demand Article Access
- ☞ Open-Access Publishing

Increasing financial strain among academic libraries, combined with a growing frustration with the power of publishers over the distribution of peer-reviewed research, is likely to catalyze a more open and diverse scholarly communication landscape in the coming years.

## Moving Beyond the “Big Deal”

### *Creating a Broader Range of Options for Scholarly Communication*



Source: Education Advisory Board interviews and analysis.

The peer-reviewed journal article remains the gold standard for scholarship, critical to professional reputation as well as tenure and promotion. Most academic journals are published by a handful of commercial publishers who typically are given copyright by faculty authors, allowing them to sell restricted access to academic institutions in the form of bulk subscription packages commonly referred to as “big deals.”

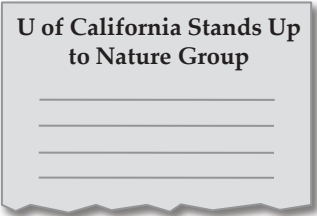
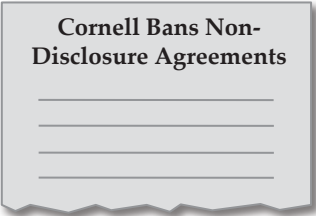
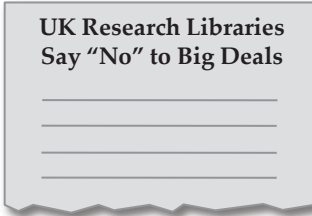
Many believe that a mix of budget cutbacks, copyright advising initiatives, and open alternatives to proprietary journals will lead to a broader range of options for authors, libraries, and consumers alike. Researchers are beginning to retain the rights to share their work in repositories and on personal websites, and a growing number of open access publications operate through subsidies rather than subscription fees.

However, faculty are focused on a journal’s prestige rather than its costs, and therefore have little incentive to seek alternative venues. And publishers are understandably hesitant to support movements that propose to fundamentally disrupt their business model.

Dissatisfaction with publishers' pricing practices has risen to the extent that major libraries and library consortia have begun to publicly threaten major subscription cancellations.

## Pressure Mounting to Change the System

### Gathering Calls for Lower Prices and Open Access

<i>June 8, 2010</i>	<i>March 21, 2011</i>	<i>July 22, 2011</i>
 <p><b>U of California Stands Up to Nature Group</b></p>	 <p><b>Cornell Bans Non-Disclosure Agreements</b></p>	 <p><b>UK Research Libraries Say "No" to Big Deals</b></p>
<ul style="list-style-type: none"> <li>• Nature proposed 400% increase in total license costs</li> <li>• UC System threatened suspension of 67 subscriptions</li> <li>• Eventually agreed to negotiate</li> </ul>	<ul style="list-style-type: none"> <li>• ARL urged members to avoid NDAs in June 2009</li> <li>• Publishers increasingly agreeing to drop NDAs</li> <li>• Cornell promoted publishers with favorable terms</li> </ul>	<ul style="list-style-type: none"> <li>• Research Libraries UK refused to renew deals with Elsevier or Wiley without significant reductions in cost</li> <li>• Collective licenses negotiated by Joint Information Systems Committee (JISC)</li> </ul>

Sources: Jennifer Howard, "U. of California Tries Just Saying No to Rising Journal Costs," *The Chronicle of Higher Education*, June 8, 2010; Jennifer Howard, "Cornell U. Library Takes a Stand With Journal Vendors: Prices Will Be Made Public," *The Chronicle of Higher Education*, March 21, 2011; Jennifer Howard, "British Research Libraries Say No to 'Big Deal' Serials Packages," *The Chronicle of Higher Education*, July 22, 2011.

That even the largest and most prestigious of research universities are considering cuts to all journals published by the Nature Group or Elsevier suggests that a true tipping point has been reached with respect to the cost of access to peer-reviewed scholarship.

Three general models for accessing academic journals have emerged as potential alternatives to the traditional “big deal,” each offering more affordable and efficient access. None, however, is likely to replace the current model in the short term.

## Reducing Scholarly Publishing Costs

### *Three Possible Paths Forward*

#### Centralized Licensing Structure

*The Walmart Model*

**Walmart**

#### On-Demand Article Access

*The iTunes Model*

**iTunes**

#### Open-Access Publishing

*The Linux Model*



Source: Education Advisory Board interviews and analysis.

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What we call the “Walmart model” involves colleges and universities partnering with others to license access to journals and other information products via a central authority, leveraging enormous size and a streamlined sales process to negotiate significant discounts.

The “iTunes model” supplements or in some cases even replaces large subscription packages by allowing institutions to pay instead for one article at a time, as they are needed and used by patrons. Patron-driven acquisition for scholarly articles is an attractive premise but still relatively undeveloped.

The “Linux model” is the most radical, in that it entails an open, nonprofit structure that relies on subsidy and volunteerism rather than subscription fees.

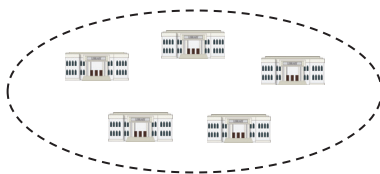
Each of these approaches is likely to play a important role in the shifting scholarly publishing economy, coexisting in a more complex, but ultimately more effective system.

## Centralized Licensing Structure

A large proportion of licensing deals are negotiated at the consortial, rather than institutional level. However, most consortia fail to achieve significant savings due to informal organization and relatively little central authority. The most effective library consortia invest heavily in a coordinated decision-making structure, saving vendors and publishers considerable sales and marketing costs and attaining deep discounts as a result.

### Beyond the Buying Club

*Centralized Purchasing Authority Essential for Driving Licensing Savings*



#### Shortcomings of Typical Consortia

- Loose affiliation of autonomous institutions
- Costs distributed across members based on size or usage
- Any member can opt out at any time
- Time spent on coordination often exceeds money saved
- Little savings for publisher due to loose coordination, relatively low level of aggregation

#### Attributes of Ideal Centralized Organization

- Highly centralized organization of institutions in a single state system
- Centralized funding from state
- Central decision-making authority
- Large utilization gives purchaser leverage in negotiations
- Publishers save time and money reducing coordination costs

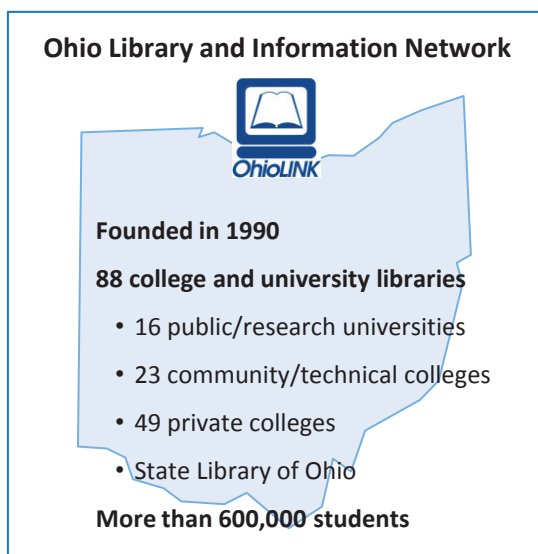
Source: Education Advisory Board interviews and analysis.

Loosely affiliated consortia often spend more time and resources on coordination than they save in contract negotiations. Reliant on member fees rather than central subsidy, most consortia fail to build the requisite buy-in to establish an effective licensing office or a comprehensive suite of services.

Highly centralized organizations like OhioLINK or the California Digital Library (which licenses access to journals and databases on behalf of the University of California system) receive state sponsorship and feature both dedicated staff and the leverage created by hundreds of thousands of student and faculty users.

OhioLINK, with nearly 90 members including public universities, private colleges, community colleges, and the State Library of Ohio, is able to attain impressive savings on their behalf.

## OhioLINK at a Glance



### More Effective Than Most

- Able to license \$20,000 service to all members for only \$90,000 total
- Limits resource inflation (7-10% per year on average) to 2-3% annually
- Ohio Digital Bookshelf pilot creating low-cost textbooks and Open Educational Resources
- Digital Resource Commons serves as statewide scholarly repository
- Licenses ebooks for unlimited, simultaneous statewide access

Source: Education Advisory Board interviews and analysis.

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In addition to the value added through centralized licensing, OhioLINK provides a variety of services to member libraries, including low-cost digital textbooks, a digital repository, and a new ebook pilot as well. Interestingly, OhioLINK members have even been able to negotiate unlimited simultaneous access to ebooks purchased centrally.

## On-Demand Article Access

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Two interesting developments allowing individual article purchases signal growing interest in applying the principle behind patron-driven acquisition to scholarly journals. While per-article services cannot yet replace the library's entire subscription investment, they are beginning to offer a more rational and cost-effective method of acquiring unsubscribed material for patrons who need it.

### Emerging Pay-Per-View Models

*User-Driven Article Access Offers an Alternative to the "Big Deal"*



#### "Get It Now" Service

*An Alternative to Inter-Library Loan*

- Can be directly user-driven or librarian-mediated
- Full PDF e-mailed to user within 5 minutes
- Avg. cost per article: \$24
- Articles shareable if institution adopts CCC Annual Copyright License



#### DeepDyve

*Article Rentals for Knowledge Professionals*

- Aggregates articles from partner publishers
- Users can browse and preview abstract for free
- 24-hour article rentals starting at \$0.99; Cannot print or download
- Tiered monthly plans available, allowing longer access

***For this model to supplant subscriptions, publishers would have to...***

- Accept lower profits ("big deal" dismantled)
- Migrate to usage micro-charges or direct-to-user sales model

Source: Education Advisory Board interviews and analysis.

The "Get It Now" service jointly developed by the Copyright Clearance Center (CCC) and the California State University system allows libraries to obtain digital copies of individual articles within five minutes of a request. Traditional delivery of scanned articles via inter-library loan can take weeks—often arriving too late to be of use—and many are both of poor quality (scanned at the donor library) and accompanied by expensive royalty fees.

DeepDyve markets itself to "knowledge professionals"—those who require access to scholarly literature but are not affiliated with an academic institution, such as many in the pharmaceutical or biotech industries. The new company offers inexpensive, but brief, access (with no printing or copying) to journal articles along with more generous monthly subscription plans.

It remains to be seen whether services such as these will revolutionize the scholarly publishing market in the way that digital music distribution platforms like iTunes affected access to music. Many question whether the demand for research is strong enough—as it was for music—to force publishers to change their ways.

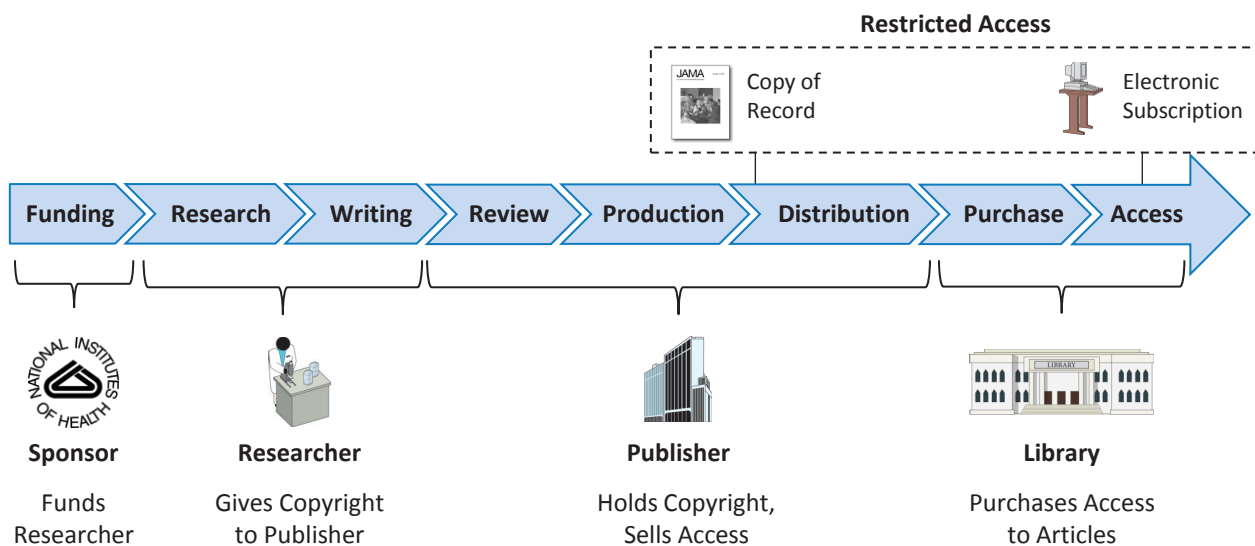
## Open-Access Publishing

Administrators and librarians have been increasingly vocal in their criticism of the current publication process, suggesting that it is built on a fundamentally irrational model of exchange.

### A Broken Model?

*Large Publishers Control Critical Steps in the Scholarly Communication Process*

#### Traditional Scholarly Publishing Value Chain



Source: Education Advisory Board interviews and analysis.

Critics of the traditional production and distribution process argue that it resembles a “gift economy.” Educational institutions and research funders pay faculty to conduct research, review the work of others, and serve on the editorial boards of journals. Then faculty sign the rights for this work over to publishers, and academic libraries must pay to access the results of that work.

Some librarians and advocacy groups suggest that the peer review and publication enterprise could be run not-for-profit and made mostly open to the public for a lower aggregate cost than is currently incurred through subscription fees to commercial publishers.

Publishers call this proposal naive, citing the vast infrastructure required to manage the organization, production, and dissemination of scholarly research. If this process could be effectively administered by universities and libraries at a fraction of the price, they say, a radical shift toward that model would have already occurred.

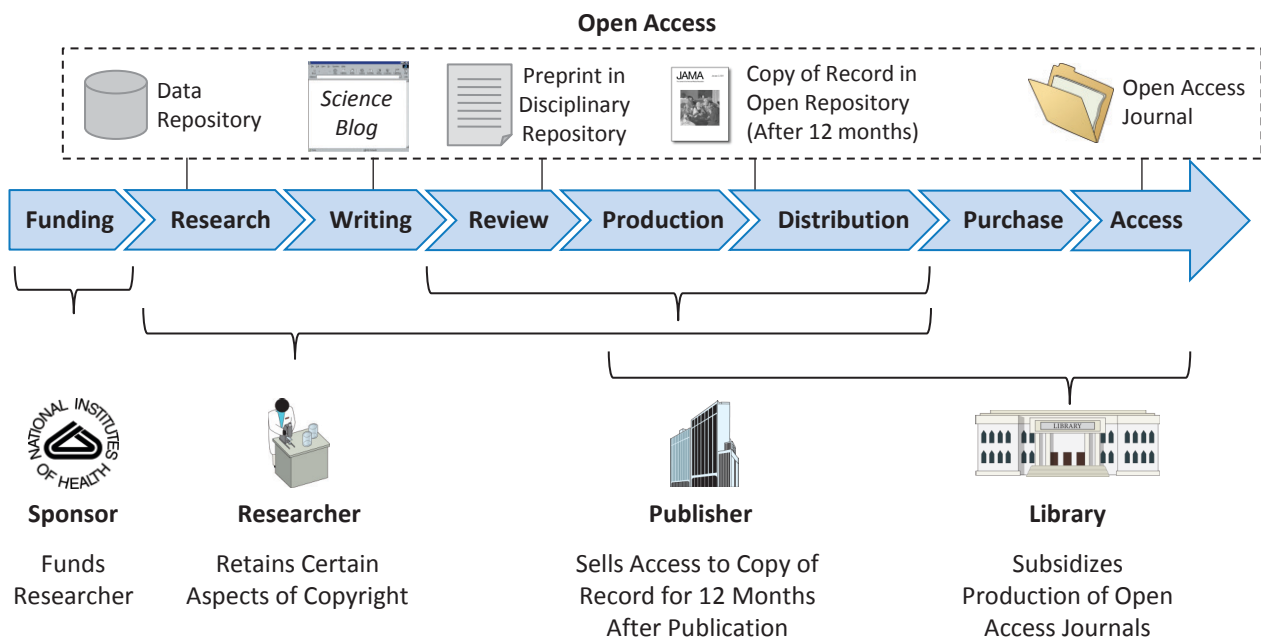


Nevertheless, the traditional scholarly communication chain is beginning to unbundle as more opportunities for both interaction and access surface throughout the research process.

## Breaking Open the Scholarly Communication Model

### *Emerging Alternatives to Commercial Publishers*

#### New Scholarly Publishing Value Chain



Source: Education Advisory Board interviews and analysis.

In this new scholarly communication economy, an author might store their data for others to examine, share findings on a personal blog, post a preprint of an article in an open-access disciplinary portal, and place a final copy of that article in an institutional repository. Publishers could sell access to the most up-to-date research for a given quarantine period of 6 to 12 months, after which the research becomes public.

The library, in such a future, expands its reach into much of the publishers' historical terrain, helping to support the production and dissemination of research in new ways. Researchers, aided by the capacity of the internet to drastically lower barriers to entry, would be able to manage, market, and distribute the fruits of their labor like never before.

The digital revolution radically transformed the music industry in less than a decade, disrupting tried-and-true business models and expanding access for consumers. While the analogy to scholarly communication is limited by differences in incentives and demand, the experience of artists and record labels during this transition is instructive for libraries seeking to understand the implications of digitization for scholarship.

## Opening the Floodgates

### *Digitization Transformed the Music Industry in Less Than a Decade*

#### Digital Music Purchase Options

Ad Supported	Subscription
 	 
 	  
Pay-per-Song	Free

#### Lessons from the Music Industry

- **Long tail thrives:** Consumers have broader access and more purchase options
- **Every musician a producer:** Musicians have more options for distributing their work
- **More music, less revenue:** Total revenues from sales of CDs, vinyl, cassettes and digital downloads in the U.S. peaked at \$14.6 B in 1999, may fall as low as \$9.2 B by 2013
- **Adapt or die:** Record companies and music retailers have struggled to adapt
- **Music wants to be free:** Digital rights management restrictions largely abandoned after 2007

Source: Tim Arango, "Digital Sales Surpass CDs at Atlantic," *The New York Times*, Nov. 25, 2008; Education Advisory Board interviews and analysis.

Before the late 1990s, consumers had to visit a retail outlet to purchase music. With the advent of digital distribution platforms such as iTunes and Napster, it became possible to browse and acquire almost any song ever recorded, direct from a computer or mobile device. A variety of business models emerged, from ad-supported services like Pandora to an abundance of pay-per-song virtual stores.

These developments surfaced the "long tail" of content—making it easy to find obscure material, and allowing artists to reach a broad audience without relying on the massive resources and distribution networks of record companies. But digital formats and an open market coping with illegal "pirating" also meant less revenue from sales, requiring major labels and artists to seek other revenue streams.

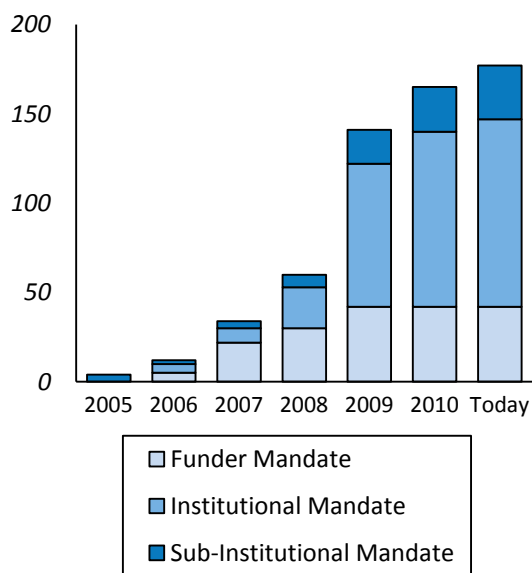
Finally, despite the initial concerns of industry leaders, restrictive digital rights management policies were mostly abandoned by 2008, signaling the possibility of coexistence between a thriving commercial market and the practice of sharing content.

In response to growing unrest with their reliance on proprietary publishers, a number of funders, institutions, and even individual academic departments have issued “open access mandates” over the last five to six years.

## An Institutional Statement

### *Open Access Mandates on the Rise*

**The Growth of Open Access Policies**



**“The Open Access Citation Advantage”**

*Studies and Results to Date*

Alma Swan, 2010

Studies finding a positive citation advantage:  <b>27</b>	Studies finding no advantage or disadvantage:  <b>4</b>
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**% Advantage by Field**

Agriculture . . . . .	200-600%
Medicine . . . . .	300-450%
Physics/Astronomy . . . . .	170-580%
Communication . . . . .	200%
Computer Science . . . . .	157%
Mathematics . . . . .	35-91%
Political Science . . . . .	86%
Electrical Engineering . . . . .	51%
Philosophy . . . . .	45%
Biology . . . . .	(-5)-36%

Source: “Registry of Open Access Repository and Material Archiving Policies” <http://roarmap.eprints.org/>; Alma Swan, “The Open Access Citation Advantage: Studies and Results to Date,” *Technical Report, School of Electronics & Computer Science, University of Southampton, 2010.*

The National Institutes of Health, for example, instituted its “Public Access Policy” in mid-2008, requiring researchers to post a copy of their journal manuscripts in the open PubMed Central database within a year of publication. Colleges and universities are following suit in greater numbers, issuing campus-wide policies that commit faculty to making their work publicly available.

Some evidence exists in support of an “open access citation advantage” as well, which may help gather otherwise indifferent faculty to the cause; one meta-study published by Alma Swan suggested that in many fields, publishing in an open-access journal significantly increases the chances of its being cited by others.

The University of Kansas was one of the first American institutions to issue such a policy, along with Harvard, the Massachusetts Institute of Technology, and a number of other research institutions.

May 2009

**KU** THE UNIVERSITY OF  
**KANSAS**

**Open Access Policy for KU Scholarship:**

**A Commitment to Dissemination**  
“The faculty of the University of Kansas is committed to sharing the intellectual fruits of its research and scholarship as widely as possible and lowering barriers to its access.”

**Articles Stored in Institutional Repository**  
“Each faculty member grants to KU permission to make scholarly peer-reviewed journal articles to which he or she made substantial intellectual contributions publicly available in the KU open access institutional repository, and to exercise copyright in those articles.”

**Discretionary Waivers**  
“At his or her discretion, faculty may waive the license granted to KU regarding an individual article by written/electronic notification to the Provost’s Designate.”

*Approved By:*  
Faculty Senate, Provost, Chancellor

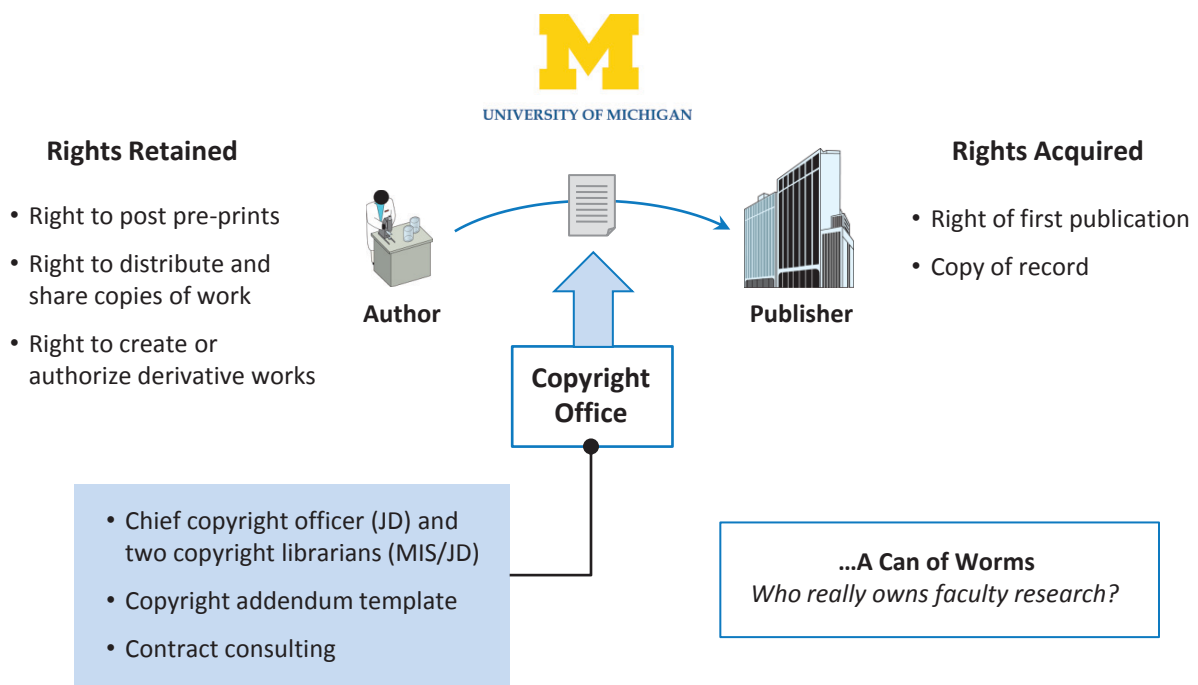
Source: “Open Access Policy For University of Kansas”  
<https://documents.ku.edu/policies/governance/OpenAccess.htm>

This policy, developed in partnership between the faculty senate, library, and administration, emphasizes the institution’s commitment to “sharing the intellectual fruits” of its labor with the broader community, and grants permission to the institution to make faculty’s work publicly available in the KU institutional repository.

Almost all such policies, however, allow faculty to opt out; no institution is likely to dictate where its faculty can and cannot publish or penalize them for a particular journal’s dissemination policies. Despite this caveat, open-access policies like this one reverse the default position of the institution from the assumption that it will be necessary to purchase access to its faculty’s research to the assumption that it will be freely available and made public, thus establishing the normative and practical groundwork for a radically different economy of scholarship.

In an effort to support the transition to a more open approach to scholarship, some libraries are investing in copyright advising services for faculty. The University of Michigan has three dedicated staff members tasked with promoting awareness of intellectual property issues surrounding scholarship on campus and helping faculty authors negotiate greater independence when submitting articles to publishers.

## Point-of-Decision Copyright Advising University of Michigan



Source: Education Advisory Board interviews and analysis.

The Scholarly Publishing and Academic Resources Coalition (SPARC) has created an addendum template for use in academic publishing agreements, allowing librarians and faculty to utilize premade and proven resources in these efforts. Copyright specialists suggest that publishers have already begun to incorporate the provisions included in these addenda—the right to reproduce and redistribute the article for noncommercial purposes, for example—in their default contracts.

Administrations may be somewhat hesitant to move aggressively on faculty copyright, however, as debates surrounding the ownership of faculty intellectual property (online course content, patents, etc.) are often complex and difficult to resolve.

Institutions interested in supporting open access are pursuing a variety of strategies, most involving the subsidy of alternative publishing venues, to expand access to faculty research.

## Subsidizing Accessibility

### Four Ways to Unilaterally Encourage Open Access



- Modeled on *Compact for Open-Access Publishing Equity* (COPE)
- Any UF faculty, post-doc, student, or staff can apply
- Up to \$3,000 in fee support
- Must be published in open-access journal

#### Open Access Fee Subsidy



- KU “ScholarWorks” hosts faculty e-prints and data
- Available freely worldwide, Google-friendly (stable URL)
- Allows tracking of output, access, readership
- Can negotiate with publishers for faculty backfiles

#### Institutional Repository

- ArXiv hosted by Cornell library, home to hard science e-prints
- OpenFolklore hosted by Indiana U. library, home to free folklore journals
- A model platform for future scholarly communication?

#### Disciplinary Repository

#### Open Textbook Pilot

- 2009 Florida legislation spurred open textbook taskforce
- Introductory calculus textbook commissioned by provost
- Free to download, \$35 for print
- Study suggested faculty worried about quality, recognition



Source: Education Advisory Board interviews and analysis.

As the prevalence of these nonprofit publishing initiatives and open educational resources increases, publishers are beginning to explore new markets and products as well, in recognition of the fact that library subscriptions are unlikely to be a reliable, sole source of income over the next several decades. Just as record companies adapted to the arrival of digital distribution services by diverting resources to marketing and promotion, academic publishers are investing further in citation analysis, analytics, and database products that provide value beyond simple access to peer-reviewed articles.



### III. Repurposing Library Space

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- ☞ Data-Driven Deselection
- ☞ Collaborative Collection Management
- ☞ Building the 21st Century Library

As the utility of large print collections declines, library directors are faced with both rising calls for accountability and increasing pressures to reassign underutilized (and often centrally located) library space. This environment has made the library building a setting for contentious debate and even radical renovation as book stacks gradually give way to new student-focused accommodations.

## The Most Valuable Space on Campus

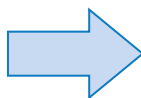
### *Converting Library Space to Meet Patron Needs*

#### Current State

- Most library space taken up by physical books and journals in open stacks
- Typically 50% of volumes have never circulated (some institutions as many as 80%)



Space



#### Preferred End State

- Ebooks and e-journals provide instant access to needed resources
- Physical volumes are removed when possible to free up space for collaborative learning and other activities
- Other academic support services (e.g., teaching and learning centers) move into the library space

#### Barriers to Change

- Ebooks and discovery tools not yet an acceptable substitute for browsing open stacks
- Vocal groups of faculty strongly oppose reducing onsite physical collection
- Deselecting books and journals can be expensive and time-consuming
- Often expensive to renovate libraries to accommodate new uses

Source: Education Advisory Board interviews and analysis.

The growing availability of content in electronic formats will eventually allow libraries to reduce a substantial portion of their “just-in-case” local holdings and focus facilities on other activities with higher demand.

Today, however, it is not yet possible to replace an academic collection with ebooks. Even if it were possible to do so, large-scale collection relocations are expensive, lengthy, and labor-intensive processes that can also be politically difficult. The library retains tremendous symbolic power on campus and many patrons perceive the removal of books from shelves as a retreat from the academic mission.



Advocates for withdrawing underutilized print materials (a process alternatively referred to as “deaccession,” “deselection,” or more colloquially, “weeding”) point to studies showing alarmingly low usage of large print collections.

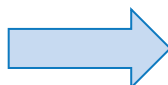
## A Long Tail in the Stacks

*Most Volumes Circulate Rarely, If Ever*

### A long-known problem

**University of Pittsburgh**  
*“Use of Library Materials”*  
 1979

- 40% of collection never circulated
- If a book did not circulate during first 6 years, chances of it ever circulating were 1 in 50



### Now even worse

**Cornell University**  
*“Task Force on Print Collection Usage”*  
 2010

- 55% of books purchased since 1990 have never circulated
- 65% of books purchased in 2001 had not circulated by the end of 2009



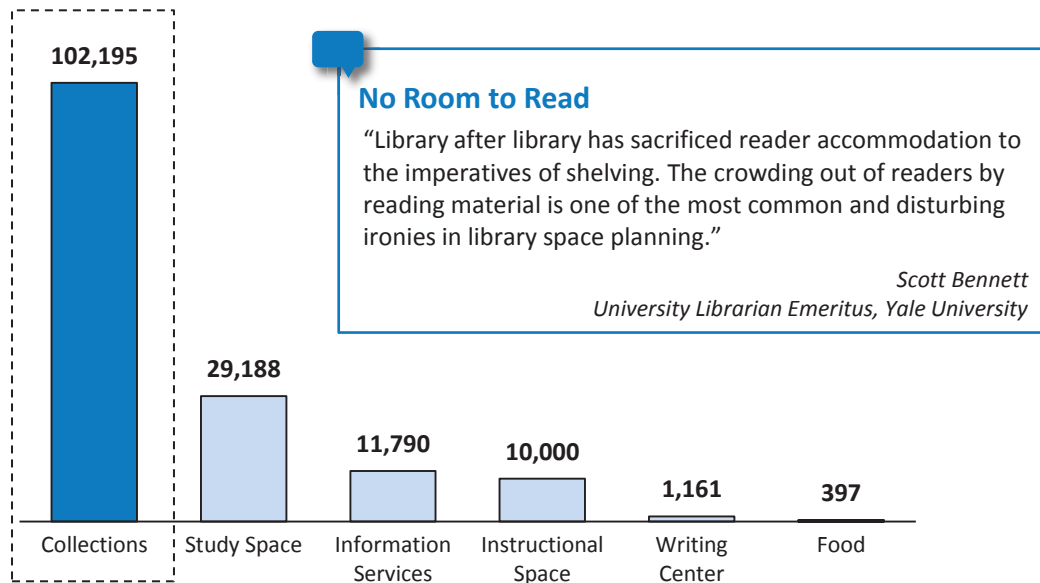
Source: Allen Kent et al., “Use of Library Materials: The University of Pittsburgh Study,” Marcel Dekker, 1979; “Report of the Collection Development Executive Committee Task Force on Print Collection Usage,” Cornell University Library, 2010; Paul Courant, “On the Cost of Keeping a Book,” *The Idea of Order*, CLIR, 2010; Lizanne Payne, “Library Storage Facilities and the Future of Print Collections in North America,” OCLC, 2007.

At many institutions, less than half of the library’s collection has ever circulated, and data suggests that if an item has not circulated in its first few years on the shelf, the likelihood of its circulating falls dramatically. Further, national studies on print storage indicate that only 13 percent of volumes stored in open stacks typically circulate in a given year, and that percentage falls near 1 percent for lower-use volumes in high-density storage.

Despite their low utilization, most academic libraries still devote the vast majority of their space to print collections.

## Majority of Library Space Devoted to Print Collection

*Typical Space Allocation at a Midsize University Library*  
(in square feet)



Source: Scott Bennett, “Libraries Designed For Learning,” CLIR, 2003.

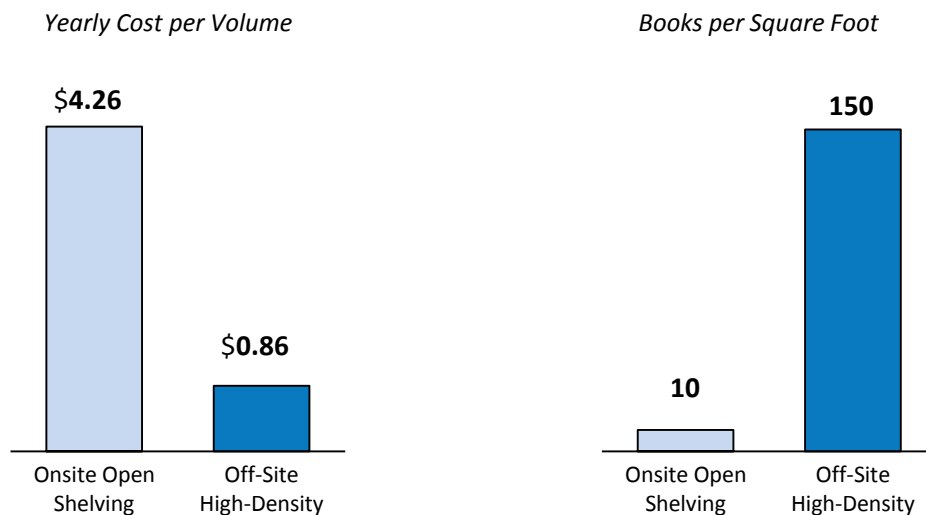
Space allocation data from a midsize public university illustrates a typical distribution in which collections dwarf all other uses of space combined. Students, faculty, administrators, and even librarians themselves are now beginning to reexamine the fundamental purpose of library space, questioning the extent to which the warehousing of books is the best use of such valuable, central real estate.

Because the use of library space for print storage has long been taken for granted, there has traditionally been little investigation into the financial implications of large physical collections. A recent study by Paul Courant and Matthew Nielsen analyzed the true costs of print storage—unsurprisingly, costs and space needs are significantly higher in onsite, open shelving than in off-site, high-density facilities.

## The Price of “Just-in-Case” Collections

### *Attachment to Open Stacks Comes With Significant Costs*

#### The Cost of Keeping a Book



Source: Courant, Paul and Matthew Nielsen, “On the Cost of Keeping a Book”, *The Idea of Order: Transforming Research Collections for 21<sup>st</sup> Century Scholarship*. CLIR Pub#147. June 2010; Education Advisory Board interviews and analysis.

While the figures vary depending on a number of factors, Courant and Nielsen suggest that a book can be stored in an off-site, high-density facility at a fifth of the cost and 15 times the density of onsite, open shelving.

Of course, removing and relocating print collections rarely results in the kind of savings that can help make up a budget shortfall—space costs are largely fixed—but it does free up space for new uses. Library staff should use the information from studies such as these as a starting point in broader discussions around space utilization, acknowledging the high costs associated with keeping books onsite and exploring opportunities to pursue more cost-effective arrangements.

Despite the cost- and utilization-driven case for moving print materials off site, some faculty view local print collections as critical scholarly assets and therefore oppose any effort to reduce their size or availability.

## From My Cold, Dead Hands

### *Many Faculty Oppose Relocating or Downsizing Collections*

#### The Argument for Open Stacks

- Puts titles in context
- Serendipitous discovery
- Circulation is irrelevant
- The “book aesthetic”

#### A Laboratory for the Humanities

“You would never ask a scientist to get rid of his or her laboratory, but that’s exactly what’s being done to us.”

*Annabeth Headrick  
Art History Professor, University of Denver*

#### Cautionary Tales

##### The Chronicle of Higher Education

**In Face of Professors’ Fury,  
Syracuse Library Will Keep  
Books on Shelves**



“Angry e-mail messages made the rounds. A letter of protest circulated by the English department got 101 faculty signatures...Most of the religion department also signed a protest letter.”

Source: Jennifer Howard, “In Face of Professors’ ‘Fury,’ Syracuse U. Library Will Keep Books on Shelves,” *The Chronicle of Higher Education*, Nov 12, 2009; “No Room for Books,” *Inside Higher Ed*, April 27, 2011; Education Advisory Board interviews and analysis.

Particularly for faculty in the humanities and social sciences—for whom monographs play a larger role in research and scholarship—the removal of library holdings may be interpreted as akin to the removal of a scientist’s laboratory. The library’s open stacks, they argue, offer a context when browsing that is irreplaceable by virtual catalogs, allowing for serendipitous discovery of related material. Low circulation numbers might fail to sway proponents of shelf-browsing, whose discovery process is only disrupted when books are checked out.

Several attempts by universities to relocate print collections have resulted in public protest and, in some cases, a complete reversal of policy. The removal of books from shelves can be seen by the community as a sign of academic decline and administrative divestment from the institution’s core mission.

Libraries typically begin withdrawals with print copies of journals, as almost all have become available in electronic format and patrons have become quite used to accessing scholarly articles online.

## Not-So-Low-Hanging Fruit

*Despite Limited Use, Many Libraries Hesitant to Offload Print Journals*

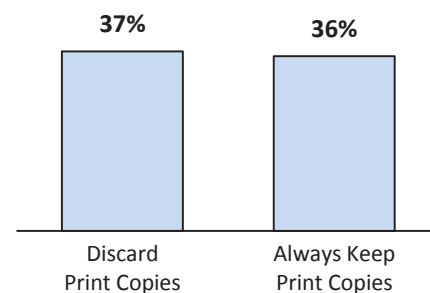
### Print Journals Unused Even a Decade Ago

“There was very little demand at experimental sites for recall of the print journals from storage, and removal of these journal issues from the library shelves generated very little comment from library users.”

*University of California Libraries  
Journal Use Study, 2001*

### Faculty Still Ambivalent About Removing Print

*Faculty Reporting Strong Preferences  
About Print Journal Storage*



Source: Brian E.C. Schottlaender, et al., “Collection Management Strategies in a Digital Environment,” University of California Libraries, Jan 2004; Roger C. Schonfeld and Ross Housewright, “Faculty Survey 2009,” Ithaka S+R, April 2010.

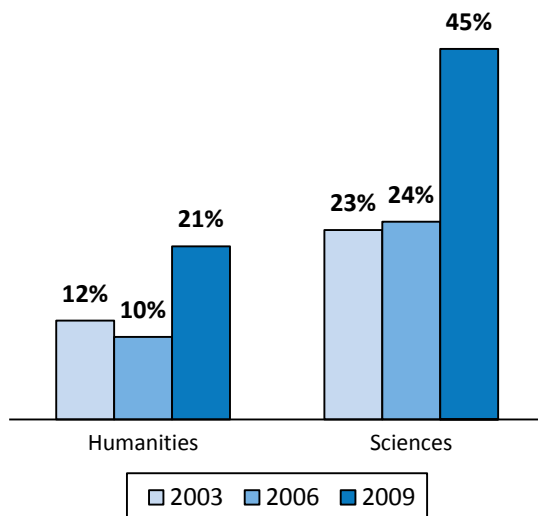
A study conducted across the University of California libraries over a decade ago showed that when given electronic alternatives, patrons almost never notice the removal of print journals from the library premises. Still, recent surveys of faculty indicate that just as many insist on keeping print journals indefinitely as support their removal, given easily available electronic access.

While faculty in some fields still oppose the removal of hard-copy journals, support is growing rapidly, particularly among library directors.

## Differences by Discipline

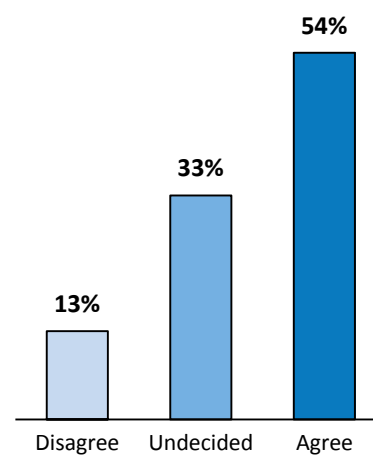
### Faculty Openness to Discarding Print Journals Varies by Discipline

*“Assuming that electronic collections are proven to work well and are readily accessible, I would be happy to see hard-copy collections discarded and replaced entirely by electronic collections.”*



### Majority of Library Directors Anticipate Discarding Print Journals

*“Within the next five years, the use of online or digitized journals will be so prevalent among faculty and students that it will not be necessary to maintain library collections of hard-copy journals.”*



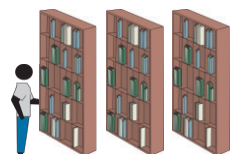
Source: Roger C. Schonfeld and Ross Housewright, “Faculty Survey 2009,” Ithaka S+R, April 2010; Matthew P. Long and Roger C. Schonfeld, “Ithaka S+R Library Survey 2010,” Ithaka S+R, 2010.

Faculty support for removing hard-copy journals varies by discipline, with faculty in the sciences twice as amenable as those in the humanities. Openness to journal withdrawals is increasing rapidly across the board, however, doubling from 2006 to 2009. A majority of academic library directors think that print journals will be unnecessary within five years, and only 13 percent disagree with that proposition.

Librarians often question the extent to which serendipitous discovery is facilitated by open library stacks. The local collection is far from comprehensive and becomes less so every day, as library budgets and space struggle to keep up with the exponential growth of information resources.

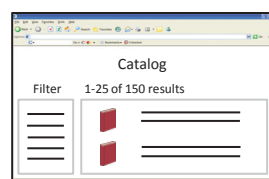
## Serendipitous Discovery in a Digital Age

### *Librarians Question Arguments for the Irreplaceable Role of Open Stacks*



#### Limitations of Browsing Physical Collections

- Size of collection limited by funding, space, librarian selection
- Books in circulation or storage not on shelves for browsing
- Physical arrangement does not always group related books together



#### Virtual Discovery Increasingly Offers Distinct Advantages

- Catalog potentially limitless
- Faceted browsing
- Full-text searching
- Define / translate instantly
- Reviews, related works, tags, and annotations provide context

Source: Education Advisory Board interviews and analysis.

The stacks are inherently limited by a library's financial and physical means, as well as the acquisition decisions of library staff. Books and other materials may be checked out, misplaced, or in use. And while classification systems help create thematic groupings, they are by no means perfect.

Virtual catalogs—those of both academic libraries and large vendors like Amazon and Google Books—increasingly offer a much broader and intuitive alternative to physical browsing, allowing users to use filters, full-text searches, user recommendations, and related item algorithms to find what they need. While many patrons' attachment to print will no doubt remain strong for the near future, the functionality of new digital browsing tools has already made discovery faster, easier, and more accurate.

## Data-Driven Deselection

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A variety of software resources for libraries interested in relocating or withdrawing portions of their print collections offer a more objective, efficient, and thorough alternative to manual deaccession processes.

### Leveraging Data to Prioritize Print Holdings

#### *Three New Tools*

#### Print Collections Decision Support Tool

- JSTOR journals
- Checks local journal holdings against Ithaka's "What to Withdraw" preservation guidelines
- Free software



#### Gift & Deselection Manager

- Monographs and journals
- Combines local catalog data with external holdings lists
- Collection analysis and withdrawal candidate reports
- Free, open-source software
- Gift processing



#### Sustainable Collection Services

- Monographs
- Combines local catalog data with external holdings lists
- Collection analysis and withdrawal candidate reports
- Workflow design consulting
- Education and training



- Mitigates concerns about quality, access, and preservation

- Larger batches of titles faster and less labor-intensive than ad hoc title-by-title approach

- Objective criteria reduce charges of disciplinary bias

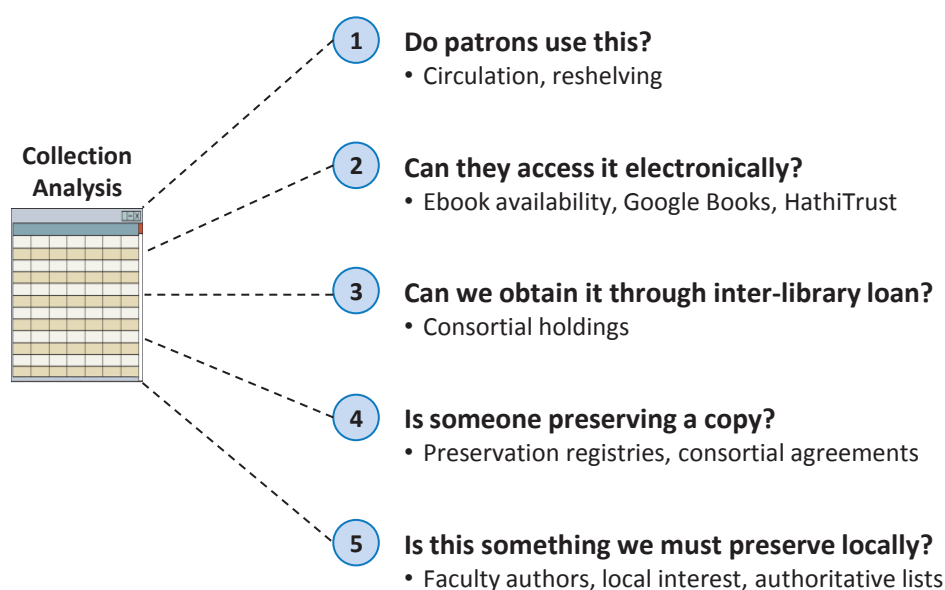
Source: Education Advisory Board interviews and analysis.

Libraries traditionally struggle to acquire and synthesize the data needed to make informed deselection decisions, particularly on a large "batch" scale. These tools help library staff make storage decisions based on more than mere circulation data by comparing an individual library's holdings of either journal titles or monographs against lists made available by other libraries, consortia, preservation registries, and databases of electronic alternatives.



R2 Consulting’s “Sustainable Collection Services,” for example, analyzes print collections along five basic criteria: usage, electronic access, inter-library loan access, preservation, and local interest.

## Key Criteria and Considerations in Withdrawal Assessment



Source: R2 Consulting, LLC; Education Advisory Board interviews and analysis.

Each library will have different permutations and variations of these criteria, depending on its size, institutional mission, user expectations, and responsibilities relating to consortial membership and accreditation. Criteria need not be given equal weight, and some may function as gateway requirements (preventing any volumes that are circulated more than once per year from consideration for withdrawal, for example).

At the end of an engagement, Sustainable Collection Services produces a comprehensive spreadsheet that sorts and ranks holdings based on a predetermined set of metrics.

## An Objective Threshold Met

### *Dashboard Allows Automated, Data-Driven Deselection*

Sustainable Collection Services <b>SCS</b>	Title Count	Percentage of Records
All Titles	200,000	100%
<b>Withdrawal Candidates</b> <ul style="list-style-type: none"> <li>• Circulation ≤ 1</li> <li>• &gt; 20 US holdings</li> <li>• ≥ 1 holding in consortium</li> <li>• Not included in core titles</li> <li>• Publication date &lt; 2000</li> </ul>	30,000	15%
<b>Preservation List</b> <ul style="list-style-type: none"> <li>• &lt; 10 US WorldCat holdings</li> <li>• No copies in state</li> <li>• No HathiTrust match</li> <li>• Publication year &lt; 2000</li> </ul>	150	0.08%

Source: R2 Consulting, LLC; Education Advisory Board interviews and analysis.

In this hypothetical case, volumes that were published before 2000, circulated either never or only once, have more than 20 US holdings, at least one holding in a partner consortium, and are not considered “core” by accreditors or authoritative title lists become withdrawal candidates.

Those published before 2000 with fewer than ten holdings in the US, no statewide holdings, and no digital copy in HathiTrust become preservation candidates. These volumes are considered “endangered” and warrant additional concern with respect to storage and access.

This system does not dictate collection management decisions; rather, it provides libraries with objective thresholds for guiding storage strategies on a collection-wide level, helping mitigate concerns about arbitrary oversight, collection quality, and access.

## Collaborative Collection Management

In order to make more effective use of their limited financial and physical resources, many academic libraries are partnering with others to share responsibilities for storage and preservation. De-duplication at the institutional level has given way to de-duplication among larger and larger groups of libraries interested in minimizing overinvestment in rarely used materials.

### Sharing the Burden of Print Storage *Economies of Scale in Multi-Institutional Repositories*



#### The Research Collections and Preservation Consortium (ReCAP)

- Print storage facility shared by Princeton, Columbia, and New York Public Library
- Holds up to 10 M volumes
- Stores books, journals, and other items
- Preserves, loans, and provides electronic document delivery



#### The Western Regional Storage Trust (WEST)

- Distributed print repository program for journal backfiles
- 20 libraries and library consortia, led by UC System
- Currently in planning phase
- Grant from Mellon Foundation

#### Ensuring All Titles Are Preserved Somewhere

##### Center for Research Libraries – *Print Archives Preservation Registry*

- Global database of all print serial holdings and preservation programs
- Available in early 2012
- Current database describes 25 storage initiatives throughout North America
- Working with California Digital Library

Source: Education Advisory Board interviews and analysis.

Though most storage cooperatives typically begin with hard-copy journals (the “low-hanging fruit” referenced earlier), some, such as the ReCAP facility shared by Princeton, Columbia University, and the New York Public Library, are taking on millions of books and other materials as well, maintaining one “last copy” so that partner institutions can address basic access and preservation concerns.

In addition, the Center for Research Libraries is working to develop an authoritative preservation registry that could eventually serve as a global database of all print journal holdings and preservation agreements. Particularly for large research libraries with many rare holdings, reliable data on storage commitments is a necessary prerequisite for deaccession.

Academic libraries aiming to rationalize print collections can expand collaborative storage ventures into acquisition strategy as well. The Triangle Research Libraries Network has done just this, successfully limiting duplication among the three libraries by assigning separate subject-area responsibilities to each individual library.

## Collecting in Concert

### *Avoiding “Re-Duplication” Through Coordinated Specialization*

#### Institutions Specialize Collections in Unique Subjects



- Southern Literature
- Religious studies
- Dance
- 16<sup>th</sup> and 17<sup>th</sup> Century microforms



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

- North Carolina history
- Language and linguistics
- Folklore
- 18th Century microforms

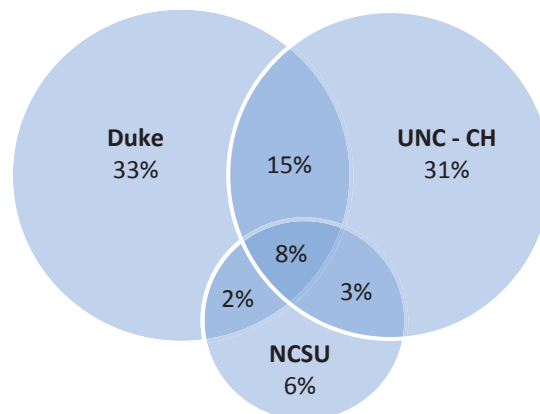
#### NC STATE UNIVERSITY

- Patents and trademarks
- Architecture
- Agriculture
- Textiles

#### 71% of Titles Held Uniquely *TRLN Overlap Study, 2006*

**TRLN** ▲

TRIANGLE RESEARCH LIBRARIES NETWORK



Source: “TRLN Overlap Study,” June 2006.

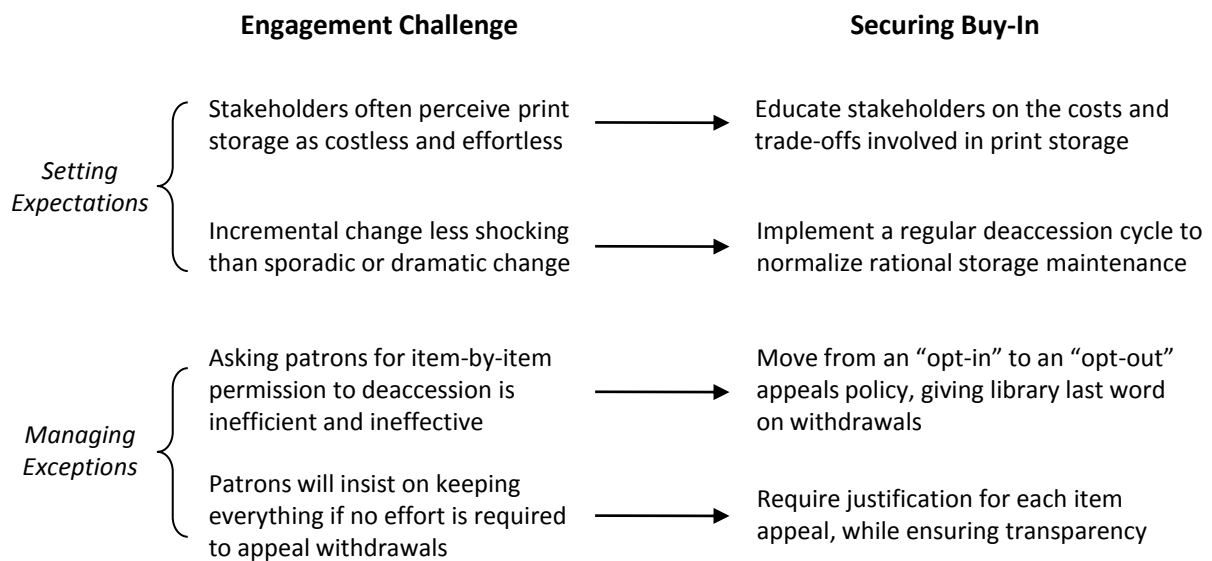
Building on the strengths and interests of faculty, the libraries at Duke University, the University of North Carolina at Chapel Hill, and North Carolina State University have agreed to take on separate, unique commitments to a set of academic disciplines. As a result, more than 71 percent of the titles held among the libraries are held by only one of them, and only 8 percent are held by all three.

To be sure, much of this “uniqueness” can be attributed to the size and specialization of the very large research libraries involved; less research-intensive institutions will have much more natural overlap and far less investment in niche scholarly fields. In principle, however, even the smallest academic library has something to gain from thinking of its potential collection as part of a greater whole, in concert with nearby academic institutions, public libraries, and virtual holdings that may be either licensed or accessed for free.

Faculty resistance to changes in collection management can be largely overcome through deliberate planning, clear communication, and assertiveness on the part of the library.

## Overcoming Faculty Resistance

### *The Wisdom of Book-by-Book Opt-Outs in Deaccession*



Source: Education Advisory Board interviews and analysis.

Few patrons possess a clear understanding of the costs associated with library collections, perceiving the campus library as limitless in resources and underestimating the time and effort involved in making books and journals available. Library leadership must convey the trade-offs inherent in the use of space for print collections and make deaccession “audits” a regular part of their collection management process, which will increasingly involve as much removal as it does addition.

Further, many universities make the mistake of putting these decisions in the hands of patrons, rather than library staff who better understand the value and limitations of local holdings. Allowing faculty to appeal the inclusion of individual items on withdrawal lists, rather than asking them to approve or even nominate candidates for removal, greatly increases the likelihood of noticeable reductions.

## Building the 21st Century Library

Bucking the general trend toward a declining emphasis on physical volumes, the University of Chicago recently completed a major new library addition that will provide access to more volumes under a single roof than any other academic library.

### A Cathedral for Books

*University of Chicago Asserts the Continuing Importance of Print*



#### The Joe and Rika Mansueto Library

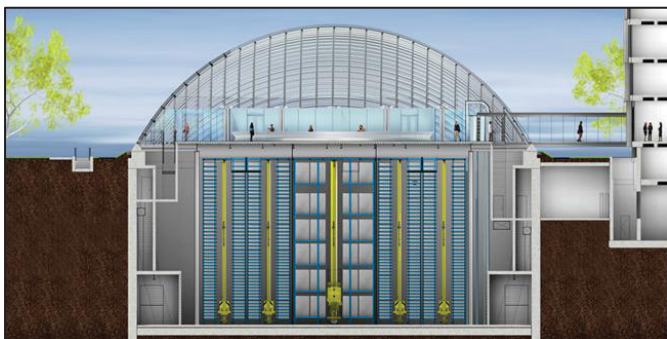


Image credit: Helmut Jahn

- Opened May 16, 2011
- Construction cost \$81 M
- Space for 3.5 M volumes in Automated Storage and Retrieval System (ASRS)
- Now houses more volumes (8 M) under a single roof than any other university library

#### Building a Beacon for Scholars

“...[F]or all the talk about digitization, our flow of printed material into the library hasn’t diminished at all ... What if there were a dramatic move away from digitization? Our aim here was to be absolutely the top-notch university library.”

*Richard Saller, Provost  
University of Chicago*

Source: “The Joy of Stacks,” *Inside Higher Ed*, June 9, 2005.

The University of Chicago constructed an \$81 million automatic storage and retrieval system underneath a new domed learning space for students. The new system provides patrons with access to more than 3.5 million volumes, typically in less than 10 minutes. University leadership see the new facility as a commitment to scholarship (particularly in the humanities and the social sciences) at a time when many other institutions are cutting back.

For most colleges and universities, however, such an investment is not only beyond their limited resources but arguably aligns poorly with the needs of students and faculty. Providing onsite access to millions of volumes, most of which will never circulate, in a custom-designed space that will be impossible to repurpose if demand for physical books declines in the future is probably a risky investment for most. Moreover, the automated system still makes the traditional browsing experience impossible.

The majority of colleges and universities are renovating the library environment around the concept of the “learning commons,” sacrificing shelving for comfort, collaboration, and connectivity.

## Repurposing the Warehouse

### *Top Trends in Next-Generation Library Space Planning*



Fewer physical resources



Wireless connectivity  
and outlet access



Comfort and collaboration



Integration of academic  
support services



Flexibility and modularity



Food and drink

Source: Education Advisory Board interviews and analysis.

To better accommodate the modern needs of users, libraries are tailoring their design and facility strategy to their students’ increasingly social approach to studying, as they opt for large, public tables and couches even when doing private work. Information itself is accessed digitally, either at computer terminals or on mobile devices, and the environment supports not its storage, but its use.

The modern learning commons is flexible, allowing users greater control over its ultimate utilization and configuration, and provides a variety of multimedia tools for students and faculty exploring alternative modes of scholarship. Food and drink restrictions are typically relaxed, creating a comfortable, café-like environment. Finally, related academic support units from advising and centers for teaching and learning to math labs and writing centers are located within the library, presenting students with a “one-stop shop” for almost any academic need. What was once a warehouse for books becomes a vibrant hub of activity, repositioning the library building as the intellectual center of campus.







## IV. Redeploying Library Staff

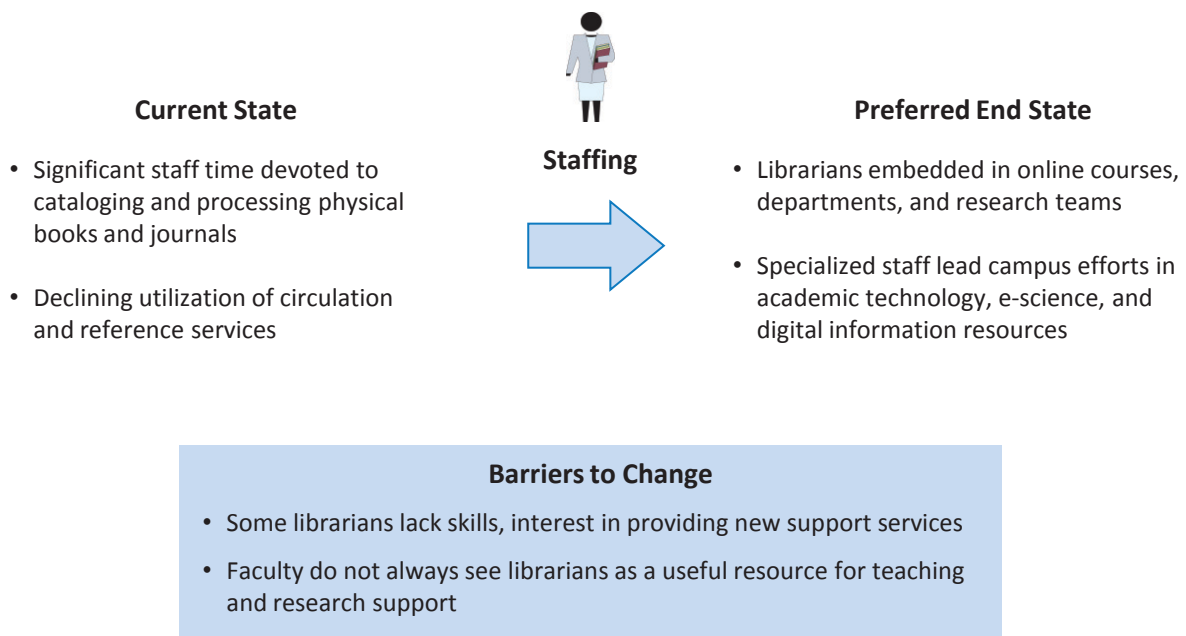
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- ☞ Externalizing Low-Impact Activity
- ☞ Roles in Teaching and Learning
- ☞ Roles in Research and Scholarship

Academic libraries must now reexamine their staffing strategy and organizational structure in light of the rising pressures, disruptive competitors, and new demands that have emerged over the last decade. The most promising roles for library staff are bound together by a commitment to moving beyond traditional library spaces and thematic boundaries and into more active support of the academic mission.

## Coming Out from Behind the Desk

### *Library Staff Engaging Directly with Student and Faculty Needs*



Source: Education Advisory Board interviews and analysis.

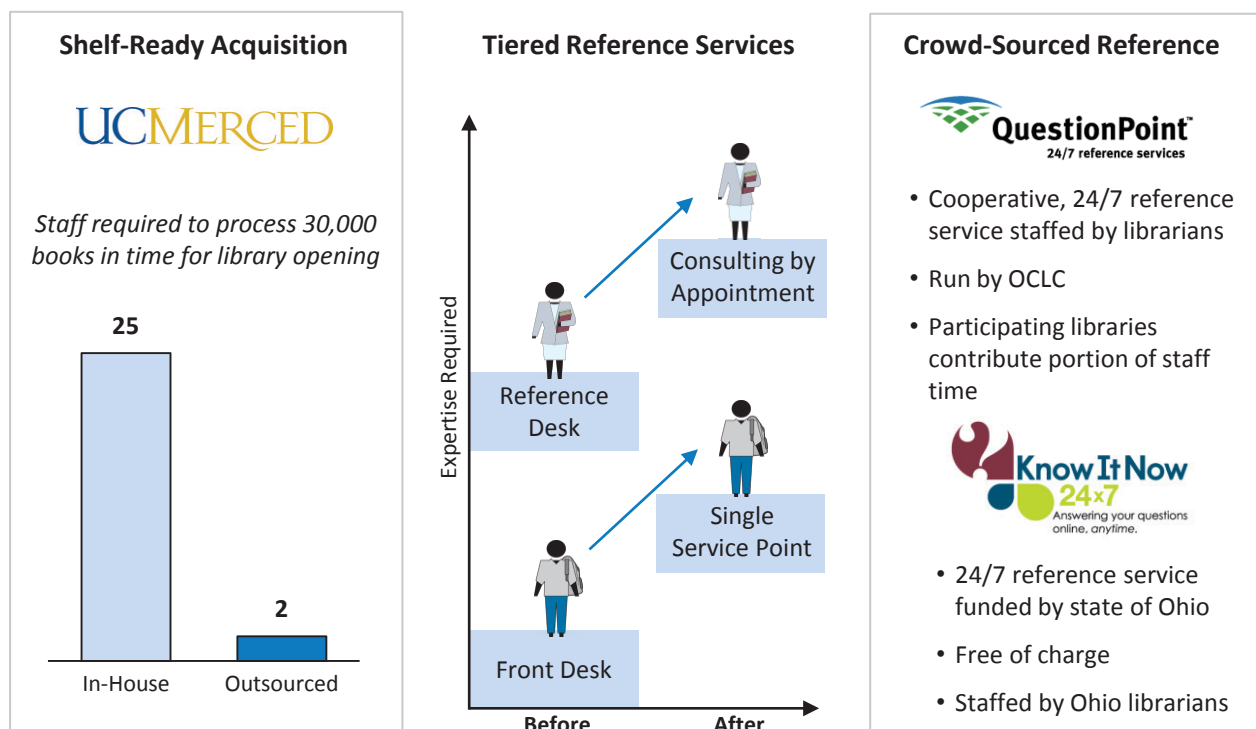
Today, most libraries still devote the majority of staff time to the management of physical books and journals, even as their budgets are focused more and more on digital resources.

Progressive institutions have found ways to reconnect library staff with students and faculty by “embedding” services in departments, research teams, classrooms, web portals, and online courses. Staff with specialized skills in multimedia, digital curation, web design, or particular academic disciplines help to upgrade and expand the library’s role on campus.

## Externalizing Low-Impact Activity

By simplifying, crowd-sourcing, or even outsourcing technical and reference services, libraries can significantly reduce professional staff time spent on lower-value activities, allowing personnel to better utilize their expertise and more directly support teaching and research.

### Smarter Allocation of Staff Time



Source: Education Advisory Board interviews and analysis.

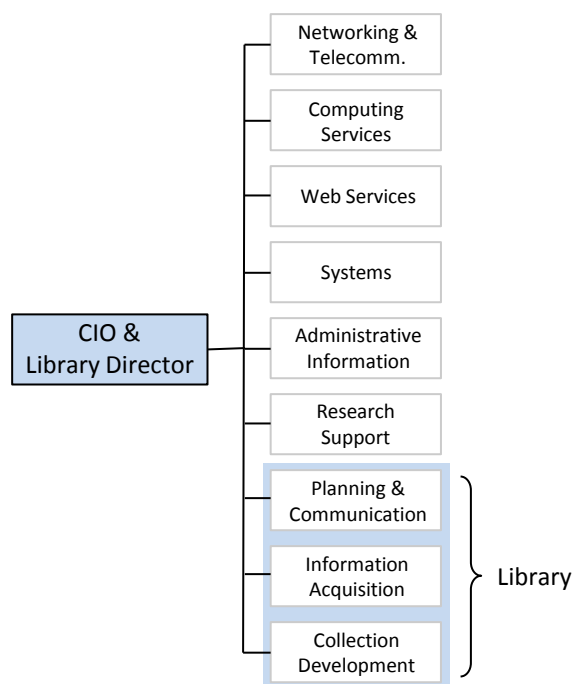
The University of California, Merced needed over 30,000 volumes cataloged and processed for shelving for their new library's opening; by outsourcing those processes through "shelf-ready acquisition," two staff members were able to do what otherwise would have taken 25 or more. Another research library found that it was paying staff an average of \$35 per record to catalog new books, while it only cost \$3-5 per record to pay another organization to describe the book for them.

In order to rightsize reference services given reduced demand, libraries are increasingly adopting a model pioneered by Brandeis University in which students or paraprofessionals at the front desk are trained to answer basic research and reference queries, and the reference desk is eliminated in favor of scheduled consultations with librarians for students with needs that require specialized expertise.

Finally, crowd-sourced reference services provided by library organizations and consortia achieve economies of scale, spreading responsibilities across multiple institutions to minimize time spent by individual members on basic or frequently asked questions.

Merged information technology and library units, most common at small baccalaureate colleges, may offer significant efficiency gains given an appropriate leader, structure, and culture on campus.

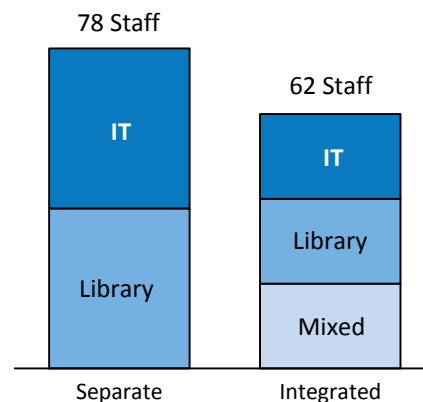
## Integrating Information Technology *Inside a Merged Library / IT Unit at a Liberal Arts College*



### Combining Services

- Typically an efficiency and cost-savings measure
- Allows greater flexibility in staffing
- Works best when IT reports to provost or president

### A Leaner Organization



Source: Education Advisory Board interviews and analysis.

The late 1980s and early 1990s witnessed a notable trend toward merged IT/library organizations, many of which demerged later under organizational strain. Where combined structures have enjoyed success, they have focused on mission rather than technology and installed leadership capable of adequately serving both the academic and technical interests throughout the institution. As one provost put it, where the IT unit's focus leans toward the "I," rather than simply the "T," there is a greater chance for congruence between library and technical services. Similarly, successful merged units typically fall under the academic, rather than finance or systems administrations on campus, allowing the library to maintain its close connection to the institution's teaching, learning, and research missions.

At one liberal arts college, such a merger enabled the organization to provide a high level of service with a smaller and more flexible organization, replacing some dedicated library or technical staff with professionals skilled in both areas.

Consortia can play a role in reducing the hardware and software costs of individual libraries while expanding access for all. Many statewide library organizations offer various levels of shared services and a growing number are exploring a common, centrally run library management system as well.

## Consolidating Systems Across Institutions



### Florida Center for Library Automation

- 11 public universities, 300,000+ students
- Funded by state system allocation
- Director reports to University of Florida provost
- \$3.2 M fund for e-resources
- 50 staff



### College Center for Library Automation

- 28 public colleges, 1 M+ students
- Funded through state community college program budget
- CCLA director reports to Florida Community College System chancellor
- \$3.8 M fund for e-resources
- 81 staff

#### Centralization Brings Significant Savings

- Library Management System (LMS) acquired at 1/3<sup>rd</sup> the cost of individual institution licensing
- OCLC telecommunication costs half of individual institution licensing
- Over 100 central servers, 311 TB disk space, and 1,820 TB tape capacity

Source: Education Advisory Board interviews and analysis.

The State University System of Florida and the Florida Community College System each maintain central library automation centers with their own dedicated resources and staff. By consolidating governance and licensing, these organizations are able to acquire software services and provide shared hardware for a significantly lower cost. Contacts predict that over the next five to ten years, library management systems will be largely cloud- or software-as-service-based, and a viable set of nonprofit, open-source options will emerge as well.

While there are organizational growing pains and a loss of autonomy associated with centrally provisioned systems, many suggest that the benefits of partnership with respect to widely used resources outweigh the costs.

## Roles in Teaching and Learning

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Information literacy instruction is one of the largest areas of opportunity for libraries working to match their unique knowledge base with patron needs. Even today's "digital native" students demonstrate a limited understanding of research methods and source reliability, but most information literacy instruction fails to adequately address their common weaknesses and practices.

### Information Literacy in the Age of Google

#### Tailoring Library Instruction to the "Instant Gratification" Generation

##### If You Can't Beat It, Make It Better



##### Learning Firsthand

"Everyone in academe teaches. And the course provides an amazing moment, when you work with advanced undergraduates or grad students on writing assignments. What if we make working on Wikipedia part of those assignments?"

*Mahzarin Banaji  
Psychology Professor  
Harvard University*

##### A Look Inside Google Search



##### Behind the Curtain

"Given their popularity with students, knowing more about how search engines work is vital to understanding information access in a digital age. Unfortunately, most students do not understand how Google and other search engines rank results."

*Paul Barron  
Library Director  
George C. Marshall Foundation*

Source: Paul Barron, "How Google Works: Are Search Engines Really Dumb and Why Should Educators Care?" *Internet@Schools*, Jan 1, 2011; John Fischman, "Academics, In New Move, Begin to Work With Wikipedia," *The Chronicle of Higher Education*, May 28, 2011.

Rather than focusing curricula on complicated research databases and library web tools, some library faculty have decided to tailor instruction instead to what students actually use—free, easy-to-manage portals like Wikipedia and Google's suite of search services. Recognizing that these services will constitute students' primary mode of discovery well after they graduate, a more practical approach to information literacy helps them become better searchers, lifting the veil that often prevents users from appropriately distinguishing quality information from mere opinion.

Wikipedia recently held its first academic conference in an effort to persuade more faculty to use their own expertise and course assignments to improve Wikipedia content, effectively crowd-sourcing the responsible curation of incomplete articles and educating students on the mechanics of peer review in an open, digital age.

Entrepreneurial librarians at Bucks County Community College moved beyond attempts to attract students to their offices and began to establish a strong presence in online course portals.

## Going Where the Students Are

### *Embedded eBrarians Integrated into Online Courses*

*Bucks County Community College*

Librarians participate in online chat and discussions

The screenshot shows a web browser window displaying the 'My Online Campus' page for 'COMP 111 (Fall Semester 2010)'. The page has a blue header with the Bucks County Community College logo and the text 'My Online Campus'. Below the header, there is a navigation menu on the left with the following items: Announcements, Assessments, Assignments, Calendar, Chat, Discussions, Learning Modules, Mail, Roster, Search, and Web Links. The main content area is titled 'English Composition II – Dr. Updike' and contains several buttons: 'Start Here', 'Course Work', 'Resources', 'Library Research Guide', and 'Survey'. Below the 'Library Research Guide' button, there is a text block that reads: 'This guide has everything you need to start your research for course assignments and the final essay.' A line from the text 'Librarians participate in online chat and discussions' points to the 'Chat' and 'Discussions' items in the navigation menu.

Source: Education Advisory Board interviews and analysis.

Many of the courses offered at BCCC now include “Embedded eBrarians,” librarians included in class roster lists, forum discussions, and chat sessions. Resources relevant to each course and assignment are prominently featured online, bringing much-needed research guidance to students who might never visit a physical reference desk for help. By embedding these tools in the workflow of busy, digital-native students, the library and its staff have reestablished their critical role in connecting patrons with quality information, while saving instructional faculty time and effort.

At BCCC, librarians' engagement with students is not limited to the course management system. Dedicated "LibGuides"—comprehensive resource centers customized to individual syllabi—are created and hosted online, and video tutorials familiarizing users with sources and assignment requirements are posted to YouTube and iTunes U. For users accustomed to ubiquitous mobile access, these activities are critical to building a connection with the library.

## Leveraging High-Traffic Web Venues for Course Support



Source: Education Advisory Board interviews and analysis.



Most academic libraries offer basic multimedia resources to patrons, but some have seized unique opportunities to leverage technical expertise with students and faculty interested in but unable to fully utilize cutting-edge technology in their assignments.

## Multimedia Support at the Point of Need

### *Digital Storytelling at Mercy College*



#### Faculty

*How do I encourage technology fluency and evaluate learning outcomes?*



#### Students

*How do I design and create a multimedia presentation for class?*

#### Digital Storytelling Project Marries Analysis, Technology, and Critical Reflection

- Students use images, music, and narration to compose story
- Acquire basic multimedia skills
- Final project presented in freshman seminar course



#### Librarian, Instructional Designer, and Tech Manager Provide Expertise

- Library Learning Commons houses requisite technology
- Team consults students on project creation
- Online LibGuide resources:
  - Free software and tutorials
  - Royalty-free images and sound
  - Storyboarding guides
  - Project templates

Source: Education Advisory Board interviews and analysis.

A staff librarian and amateur filmmaker at Mercy College has assembled a digital storytelling module that helps faculty assess learning outcomes for nontraditional assignments and encourage media literacy among students who may need a broader communicative skill set in the modern workplace.

This librarian, with help from an instructional designer and technology manager, provides a pre-built web portal for students where they can access royalty-free sound and images, templates, software, and tutorials. The equipment itself is housed in the learning commons, further catalyzing the kind of engagement and interaction in the library that these spaces are designed to deliver.

Each institution will have its own curricular needs and skills among staff. This example is intended to illustrate thematically the capacity for creative paths toward meeting student and faculty needs in ways that the library is perfectly positioned to deliver.

Mobile devices are assuming a larger role in the way we obtain and use information with each passing year. Libraries that ignore this critical mode of engagement with their users are missing a tremendous opportunity to improve and expand access.

## There's an App for That

### *Mobile Information Services at Students' Fingertips*

### NC STATE UNIVERSITY

#### As the world becomes increasingly digital and mobile...

- Students expect perpetual and instant access to resources
- The line between physical and virtual interaction becomes blurred
- Adoption costs come down, expanding user base
- Social networks make collaborative learning the norm
- Networks enable new possibilities for "augmented reality"



#### NCSU Libraries Mobile brings library to devices

- Search the catalog
- Locate available computers in library
- Locate available work space
  - *GroupFinder*
  - Study room reservations
- Real-time chat with librarians
- Hours and locations of library branches
- Check the coffee shop line using live webcam

Source: Image courtesy of North Carolina State University; Education Advisory Board interviews and analysis.

North Carolina State University's libraries have built a robust mobile application for students and faculty, allowing them to stay connected at all times, in all places. This app links to a number of internal resource and facility systems, featuring not only a searchable and browseable catalog but also an open computer finder, a group study room finder, a chat reference interface, and even a webcam feed overlooking the coffee shop.

In an increasingly mobile world, apps like this will become a central, indispensable part of an institution's portfolio. To compete with Google, Amazon, Apple, and others for students' attention is to outgrow the limitations of brick-and-mortar delivery and embed the information they need in the media they use every day.

## Roles in Research and Scholarship

Research libraries will need to be similarly engaged with graduate students, research teams, and faculty if they intend to regain the relevance and value they enjoyed in the prime of print. Medical librarians at Johns Hopkins University have taken this lesson to heart, leaving the library for the lab.

### Where the Action Is

*Embedded Subject Specialists Bring Research Help on Demand*



#### Traditional Librarians Underutilized and Based in Central Library



- Few students or faculty visit building for research needs
- Librarians increasingly disconnected with patrons
- Vast majority of medical research stored and accessed virtually

#### Clinical Faculty and Students Struggle to Process Expansive Research Output



- Lengthy research reviews made more difficult by rapidly expanding scholarly output
- Need for instant electronic access and expert guidance

#### “Informationists” Embedded in Departments Meet Student and Faculty Research Needs



- 10 library specialists in program
- Sit in on departmental meetings and answer questions
- Conduct systematic literature reviews for grant proposals and articles

Source: Jennifer Howard, “Tomorrow’s Academic Libraries: Maybe Even Some Books,” *The Chronicle of Higher Education*, May 8, 2011.

Faced with a now familiar dilemma, subject specialists within the Johns Hopkins University library staff had observed continuously declining demand for their services as scientific and medical research migrated online and it became possible to conduct extensive literature reviews remotely. New generations of clinical students and faculty, however, have often struggled to keep pace with a rapidly expanding and highly specialized body of literature.

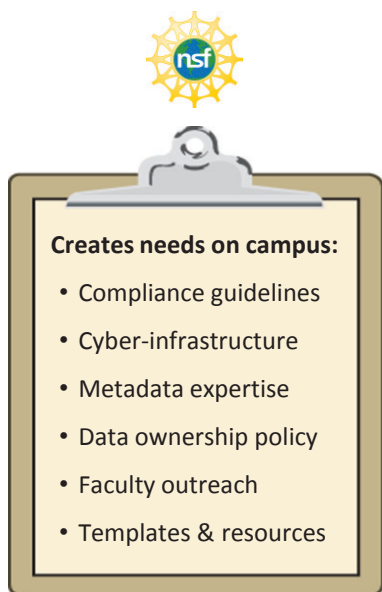
Enter “informationists”—JHU library’s innovative staff of medical information specialists who work actively in the medical school itself. Informationists consult with students, researchers, and faculty on the latest resources in their field and even conduct literature reviews on their behalf, delivering valuable expertise to teams requiring fast, point-of-need data.

The growing complexity surrounding compliance with funding agencies affords academic research libraries another opportunity for engagement with faculty. New data management rules will require grant recipients to more proactively and carefully plan for the storage, organization, description, and dissemination of their data, and several libraries are moving quickly to take a central role in supporting their institution's response.

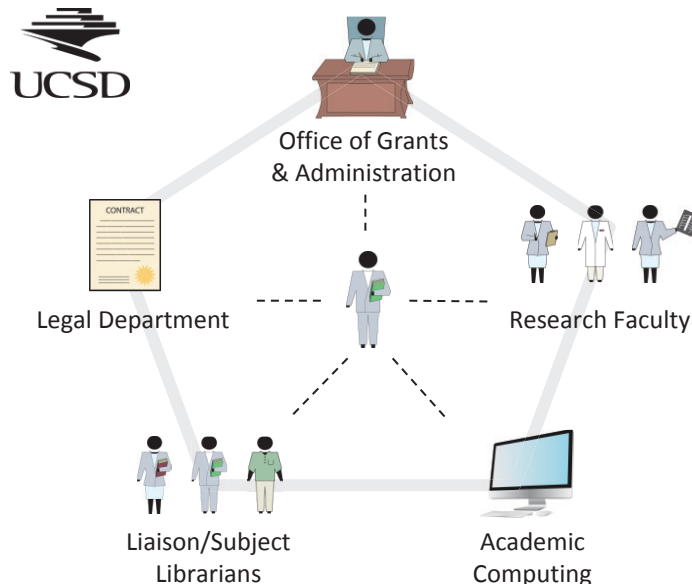
## Meeting the Data Management Challenge

*Librarians Help to Connect Stakeholders on Campus*

### National Science Foundation Data Management Plan Requirement



### Librarian Leverages Unique Campus Relationships to Coordinate Compliance



Source: Education Advisory Board interviews and analysis.

The National Science Foundation recently added a data management component to its grant application process, requiring investigators to outline plans to ensure that data is safely stored and accessible to others.

To support faculty in meeting these requirements, library staff at the University of California, San Diego are in the process of building and coordinating data curation services. Uniquely positioned at the nexus of stakeholders involved in research, including the grants and legal offices, academic computing, library subject specialists, and faculty themselves, data curation librarians will guide compliance by providing templates, storage and format advice, and metadata expertise.

The future of academic libraries will likely involve a more diverse organization, tailored to the evolving needs of users, other departments, and the surrounding community. At McMaster University, many of these needs are now met by non-librarians—often post-doctoral scholars with special skills uniquely matched to current opportunities.

## Meeting Library Needs With Shared Specialists

*Post-Docs Split Time Between Library and Departments*



- PhD in Geography & Earth Sciences

- PhD in Psychology

- PhD in Film Studies

- Teaches arts & sciences climate change course

- Teaching a course in psychology department

- Teaching a course in history department

*Value to Departments*

- **Managing the Maps/Data/GIS department in library**

- **Developing library instruction program and grad student services**

- **Helping develop and market the library's Holocaust collections**

*Value to Library*

**Compensation:** Library pays salary; departments reimburse library for courses taught

Source: Education Advisory Board interviews and analysis.

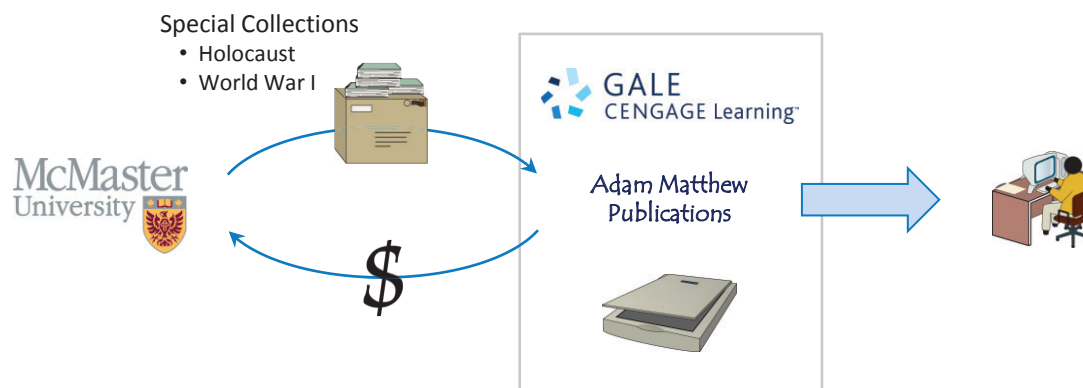
Post-doctoral scholars hired by the McMaster library spend part of their time helping develop library collections, improve the website, or manage new research centers, and part of their time taking on teaching duties for academic departments. Both units receive specialized staff that they would not be able to afford individually, and the scholars help connect the library, both tactically and culturally, to academic activities that were previously carried out with little or no interaction with library staff.

Most libraries continue to focus their hiring on graduates of library science programs, but almost all acknowledge that what is asked of today's librarian is radically different from years past. In this uncertain and fast-changing era, new librarians are increasingly being selected for their entrepreneurial spirit, technical expertise, flexibility, and capacity for effective communication.

Special collections pose both tremendous promise and difficult challenges for the libraries that house them. Now that the size of one's collection of commercially available books and journals no longer builds distinction among peers, these unique holdings offer a new hope for differentiation. They are often expensive to maintain, however, and many are underutilized.

## Getting the Most Out of Special Collections

### *Vendor Partnerships in Digitization, Preservation, and Marketing*



- Publishers digitize, describe, market, and host 25,000-30,000 items for each project
- McMaster retains ownership, gets free digital access and copies of scans
- Portion of revenue from publishers returns to McMaster
- Non-compete agreement allows publishers a negotiated period of exclusivity, after which the collections become public

Source: Education Advisory Board interviews and analysis.

Through partnerships with academic publishers, McMaster University arrived at an effective approach to making better use of their distinctive library assets. Gale-Cengage Learning and Adam Matthew Publications have agreed to digitize, describe, market, and disseminate McMaster's notable World War I and Holocaust collections, giving the institution copies of the material, free access for its students and faculty, and a portion of the revenue collected from access licenses sold to users during a quarantine period.

McMaster, through these partnerships, is leveraging the resources of major publishers to promote and provide access to its collections to an extent unimaginable otherwise. Digital dissemination provides a new life to special collections, eliminating the need for interested scholars to travel to campus and dramatically expanding their reach, true to the library's ultimate mission of making information available and accessible to as broad an audience as possible.



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