Redefining the Academic Library
Managing the Migration to Digital Information Services

McMaster University
March 1, 2013
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.”

“By 2015...

This Time It’s Different
Transformation of the Academic Library Likely to Happen on Your Watch

The Four Horsemen of the Library Apocalypse

Unsustainable Costs
Viable Alternatives
Declining Usage
New Patron Demands
Serials Costs Rising Faster Than Library Budgets

Journal Costs Crowding Out Books

Expenditures in ARL Libraries

Median Values for 124 ARL Members, Unadjusted Millions of Dollars

Median Shares of Total Library Budget for 124 ARL Members

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 non-profit model
- “Our faculty did the research, why should we have to pay so much to access their work?”

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: Support open access journals

Prescription: Find new sources of funding

Source: Education Advisory Board interviews and analysis.
Scale Beyond Imagining

Fastest Growth, Broadest Access Now Outside of Academic Libraries

A Library to End All Libraries?

“Google’s mission is to organize the world’s information and make it universally accessible and useful.”

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

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

Local Physical Distribution Models Displaced by Remote and Fully Digital Approaches

Local Distribution Models 1990s
- BORDERS
- BLOCKBUSTER VIDEO
- TOWER RECORDS

Global Digital Models 2000s
- amazon.com
- NETFLIX
- iTunes
- Google

Cloud Based Models 2010s
- Convergent Media Services (music, video, books)

© 2013 The Advisory Board Company

Source: Education Advisory Board interviews and analysis.
Even Librarians Concede

“The new consumer utopia of instantly available digital books 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.”

Dennis Dillon, Associate Director for Research Services
University of Texas at Austin Libraries
Patrons Switching Faster Than Libraries
Faculty and Students Already Looking Elsewhere for Search Help

Where Do Students Start a Search?

<table>
<thead>
<tr>
<th>Search Engine</th>
<th>83%</th>
</tr>
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<tbody>
<tr>
<td>Wikipedia</td>
<td>7%</td>
</tr>
<tr>
<td>Social Networking Site</td>
<td>2%</td>
</tr>
<tr>
<td>E-mail</td>
<td>1%</td>
</tr>
<tr>
<td>E-mail Subscription</td>
<td>1%</td>
</tr>
<tr>
<td>Online Database</td>
<td>1%</td>
</tr>
<tr>
<td>Ask an Expert Site</td>
<td>0%</td>
</tr>
<tr>
<td>Library Website</td>
<td>0%</td>
</tr>
</tbody>
</table>

Where Do Faculty Start Their Research?

| A specific electronic research resource | 37% |
| A general purpose search engine        | 21% |
| Your online library catalog            | 28% |
| The library building                   | 13% |

The Lonely Reference Librarian
Circulation and Reference Requests Down Across All Institutional Types

Declining Circulation
Average General Collection Circulation

-30%
17,270

-12%
15,766

-34%
35,878

122,850

185,287

Declining Reference Requests
Average Weekly Reference Requests

-13%
298

-21%
184

-51%
375

186

2,031

592

The Library as a Social Learning Space

New Libraries Support a Range of Academic Activities

Taylor Family Digital Library – University of Calgary

Combining Scholarly Resources, Technology, and Community Space

- 6 stories, 24,000 square metres
- High-Density Library (HDL) built off campus to store books, journals
- Features 200 computer stations, video editing suites, touch technology, a gaming area, and an HD video “wall”
- Learning Commons with café
- One electrical outlet per seat
- Total cost: $206 M
Reducing Reliance on the Local Print Collection

**From Ownership to Access**

Current State

- Large collections of physical books in open stacks with low circulation
- Duplicate book holdings at the institutional, system, consortial and regional level
- Books purchased prospectively “just in case” a patron might need them in the future

Preferred End State

- Ebook catalogs larger than previous physical collection
- Physical books preserved (and accessible) through collections shared across consortia and stored offsite
- Ebooks purchased only when patrons use them (patron-driven acquisition)

**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.
The Ebook Tipping Point

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

**Ebooks Sales on Amazon**

Nov 2007
Kindle eReader launched

July 2010
Ebooks outsell new hardcovers

Apr 2011
Ebooks outsell all print books

**Ebooks as a Percentage of Academic Library Acquisition Budget**

*Survey of 136 Colleges and Universities*

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Currently</th>
<th>In Five Years</th>
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<tbody>
<tr>
<td>0%</td>
<td>10%</td>
<td>2%</td>
</tr>
<tr>
<td>1%-10%</td>
<td>15%</td>
<td>9%</td>
</tr>
<tr>
<td>11%-25%</td>
<td>40%</td>
<td>4%</td>
</tr>
<tr>
<td>26%-50%</td>
<td>15%</td>
<td>4%</td>
</tr>
<tr>
<td>51%-75%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>&gt;75%</td>
<td>1%</td>
<td>4%</td>
</tr>
</tbody>
</table>

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 1/3rd 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

Copyright Law Biggest Obstacle to Widespread Access

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

Original Settlement
November 2008

- Google paid authors, lawyers, and publishers $90 M for rights infringements
- Google continues to digitize books on an “opt-out” basis
- Orphan works included, with $35 M fund for “Book Rights Registry” to compensate claimants

Settlement Rejected
March 2011

- Court ruled that Google holds unfair monopoly over digitized works
- “Opt out” system contradicts purpose of copyright
- Back to the drawing board... and an opening for HathiTrust and others

Source: Education Advisory Board interviews and analysis.


**“Fair Use” in a Digital Age**

*Electronic Formats Forcing a Showdown Over Usage Rights*

### Can I share this content with my students?

**Course Reserves at Georgia State University**

- Four administrators sued by Cambridge and Oxford University Presses and SAGE
- Plaintiffs asking for additional licensing fees for e-reserves, strict word limits on copies
- Supported by Association of American Publishers and Copyright Clearance Center
- GSU found to have violated copyright in only 5 of 99 instances in May 2012—publishers are appealing decision

### Unrest Over Access Copyright Tariffs

- Canada’s Access Copyright announced significant fee increases and rules on usage monitoring for licensed materials
- Could quadruple annual fee payments at colleges and universities
- Ultimately, about 15 institutions said explicitly that they would opt out of Access Copyright

### Authors Guild Sues HathiTrust

- Plaintiffs allege unauthorized digitization, worry about data security and piracy
- HathiTrust promises due diligence in investigating and freeing orphaned works
- Librarians ask: Who benefits from “locked” scholarly literature?
- Court rules in favor of HathiTrust in October 2012
Refining the Purchasing Algorithm

Triggers, Limits, and Mediation Standards

Initial Pilot Settings

- 50,000 ebooks
- < 5 minutes = free
- > 5 minutes = 1-day loan (10-20% of purchase price)
- Purchase on the 3rd loan
- Mediation on loans > $40
- Simultaneous access

- Titles loaded into catalog
- Avoid paying for brief browsing
  - Most users spend only 5 to 15 minutes in a book, and few books are used more than 3 times
  - Books used more than 3 times are more likely to be widely popular
    - Increased to 5 uses after analysis of savings threshold
- Avoid overly expensive purchases
  - Removed limit and mediation; cost savings not worth delay / oversight
- “Non-Linear Lending” allows unlimited simultaneous access to all ebooks

Source: Education Advisory Board interviews and analysis.
Expansive Access at Fractional Cost

Significant Savings Compared to Traditional Acquisition or Inter-Library Loan

- Catalog now expanded to 130,000+
- 50,000 in Catalog
- 6,239 Titles Accessed
- 5,251 Loaned
- 343 Purchased
- Total PDA Expenses: $68,838
- Price of All Books in Catalog: $3,000,000
- Price of All Titles Access: $550,464

Average Loan Cost: $7.98
Average Purchase: $78.56
Average Cost per Use: $6.57

Less than half of first year budget, set at $150 K (25% of monograph budget)

Source: Education Advisory Board interviews and analysis.
Moving Beyond the “Big Deal”
Creating a Broader Range of Options for Scholarly Communication

**Current State**
- Researchers transfer copyright to journal publishers
- Disciplinary societies contract with publishers for journal production
- Publishers sell access to libraries in bundles of journal titles
- Gaps in subscriptions filled by inefficient and expensive inter-library loan programs

**Preferred End State**
- Authors retain certain aspects of copyright and deposit copies of articles in open access repositories
- Subscription model coexists with on-demand services and open access models
- Researchers have outlets for making data accessible, sharing pre-prints, and publishing non-article forms of scholarship

**Barriers to Change**
- Faculty tenure and promotion guidelines favor publication in selective journals (typically produced by a handful of publishers)
- Publishers hesitant to adopt open access models that threaten their financial viability

Source: Education Advisory Board interviews and analysis.
Pressure Mounting to Change the System

Gathering Calls for Lower Prices and Open Access

June 8, 2010
- U of California Stands Up to Nature Group
  - Nature proposed 400% increase in total license costs
  - UC System threatened suspension of 67 subscriptions
  - Eventually agreed to negotiate

March 21, 2011
- Cornell Bans Non-Disclosure Agreements
  - ARL urged members to avoid NDAs in June 2009
  - Publishers increasingly agreeing to drop NDAs
  - Cornell promoted publishers with favorable terms

January 30, 2012
- Elsevier Publishing Boycott Gathers Steam Among Academics
  - 1,900 scientists have signed up, pledging not to publish, referee, or do editorial work for any Elsevier journal
  - Protesting high prices, bundling of journals, and Elsevier’s support for the Research Works Act

## Subsidizing Accessibility
### Four Ways to Unilaterally Encourage Open Access

### Open Access
#### Fee Subsidy
- 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

### Institutional Repository
- 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

### Disciplinary 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?

### 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

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*Source: Education Advisory Board interviews and analysis.*
Digitization Transformed the Music Industry in Less Than a Decade

Opening the Floodgates

Digital Music Purchase Options

<table>
<thead>
<tr>
<th>Ad Supported</th>
<th>Subscription</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PANDORA</strong></td>
<td><strong>Rhapsody</strong></td>
</tr>
<tr>
<td><strong>LIVE365</strong></td>
<td><strong>SiriusXM</strong></td>
</tr>
<tr>
<td><strong>iTunes</strong></td>
<td><strong>Spotify</strong></td>
</tr>
<tr>
<td><strong>amazonMP3</strong></td>
<td><strong>Radiohead</strong></td>
</tr>
<tr>
<td><strong>Pay-per-Song</strong></td>
<td><strong>Free</strong></td>
</tr>
</tbody>
</table>

(1999-2001)

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
- **Adapt or die**: Record companies and music retailers have struggled to adapt
- **Music wants to be free**: Digital Rights Management (DRM) restrictions largely abandoned after 2007

Source: Education Advisory Board interviews and analysis.
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%)

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.
A Long Tail in the Stacks
Most Volumes Rarely Circulate, 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

13% Average annual circulation rate from open stacks
1-2% Average annual circulation rate from high-density storage

The Price of “Just-in-Case” Collections
Attachment to Open Stacks Comes With Significant Costs

The Cost of Keeping a Book

<table>
<thead>
<tr>
<th></th>
<th>Yearly Cost per Volume</th>
<th>Books per Square Foot</th>
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</thead>
<tbody>
<tr>
<td>On-Site Open</td>
<td>$4.26</td>
<td>150</td>
</tr>
<tr>
<td>Shelving</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Off-Site High</td>
<td>$0.86</td>
<td>10</td>
</tr>
<tr>
<td>Density</td>
<td></td>
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</tr>
</tbody>
</table>

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

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**Ensuring All Titles Are Preserved Somewhere**

Center for Research Libraries – *Print Archives Preservation Registry*

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

Source: Education Advisory Board interviews and analysis.
Collecting in Concert
Avoiding “Re-Duplication” Through Coordinated Specialization

Institutions Specialize Collections in Unique Subjects

- Southern Literature
- Religious studies
- Dance
- 16th and 17th Century microforms

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

71% of Titles Held Uniquely
TRLN Overlap Study, 2006

Duke
- 33%

UNC - CH
- 31%

NCSU
- 6%

Repurposing the Warehouse

*Top Trends in Next-Generation Library Space Planning*

- Fewer physical resources
- Comfort and collaboration
- Flexibility and modularity
- Wireless connectivity and outlet access
- Integration of academic support services
- Food and drink

Source: Education Advisory Board interviews and analysis.
Coming Out from Behind the Desk

Library Staff Engaging Directly with Student and Faculty Needs

Current State

• Significant staff time devoted to cataloging and processing physical books and journals

• Declining utilization of circulation and reference services

Preferred End State

Staffing

• Librarians embedded in online courses, departments, and research teams

• Specialized staff lead campus efforts in academic technology, e-science, and digital information resources

Barriers to Change

• Some librarians lack skills, interest in providing new support services

• Faculty do not always see librarians as a useful resource for teaching and research support

Source: Education Advisory Board interviews and analysis.
Going Where the Students Are
*Embedded eBrarians Integrated into Online Courses*

*Bucks County Community College*

Librarians participate in online chat and discussions

My Online Campus

**COMP 111 (Fall Semester 2010)**

*English Composition II – Dr. Updike*

- Start Here
- Course Work
- Resources

**Library Research Guide**

This guide has everything you need to start your research for course assignments and the final essay.

Source: Education Advisory Board interviews and analysis.
Leveraging High-Traffic Web Venues for Course Support

LibGuides

COMP 111 LibGuide
Search the Library Catalog
Need help searching EBSCOhost?
Ask a Librarian
Need help with citation?

Video Tutorials

You Tube

iTunes U

Source: Education Advisory Board interviews and analysis.
Where the Action Is
*Embedded Subject Specialists Bring Research Help On Demand*

Traditional Librarians
Underutilized and Based in
Central Library

Clinical Faculty and Students
Struggle to Process
Expansive Research Output

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

“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

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

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

Large Collaborative Collection
- Rapid access to 36 M physical books and 1.7 M digitized books held in UC libraries
- CDL handles licensing e-resources

Patron-Driven Acquisition
- Most purchases selected by patrons
- No subject librarians on staff

Outsourced Technical Services
- Use YBP Library Services
- Receive shelf-ready books that are already cataloged and labeled
- Sends gift book to OCLC for cataloging

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

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
# A Path Toward the Future

*Defining and Overcoming Barriers to a Preferred End State*

## An Unsustainable Present State

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Proprietary collections arms race</td>
<td></td>
</tr>
<tr>
<td>Acquisitions focused on collection building</td>
<td></td>
</tr>
<tr>
<td>No alternatives to journal publishers</td>
<td></td>
</tr>
<tr>
<td>Focused on “commodity” circulation and reference activity</td>
<td></td>
</tr>
<tr>
<td>Space tied up in low-demand activities</td>
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</tbody>
</table>

## Keys to Inclusive and Orderly Migration

1. **Preserving Access and Service Quality**
2. **Rightsizing Proprietary Print Collections**
3. **Open Scholarship Support**
4. **Evolving Library Service Mix**
5. **Redeploying Staff and Space**

## The Digital Information Services Future

1. Collaborative collections and digital access
2. Acquisitions informed by usage data
3. Incentives for and promotion of open access models
4. Trading up to unique student and researcher support services
5. Space used for collaborative learning

Source: Education Advisory Board interviews and analysis.