



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



"A community of Associate University Librarians and Assistant Library Deans challenging the traditional boundaries in libraries"

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."

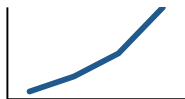
A Space for More Than Just Books

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

This Time It's Different

Transformation of the Academic Library Likely to Happen on Your Watch

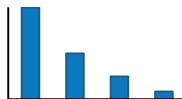
The Four Horsemen of the Library Apocalypse



**Unsustainable
Costs**



**Viable
Alternatives**



**Declining
Usage**



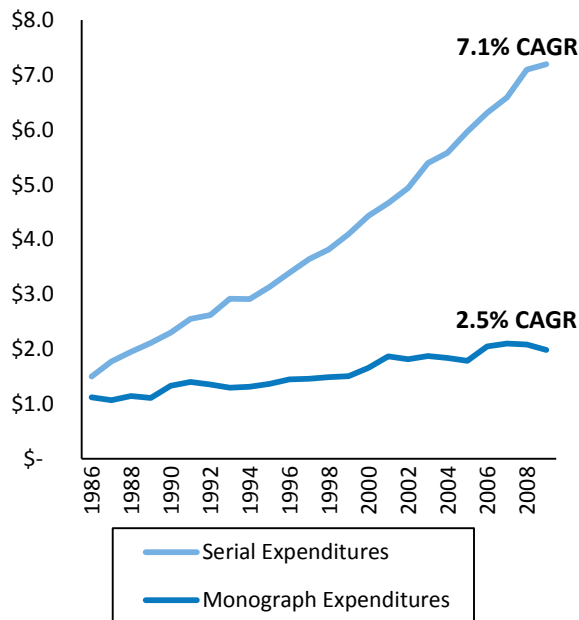
**New Patron
Demands**

Journal Costs Crowding Out Books

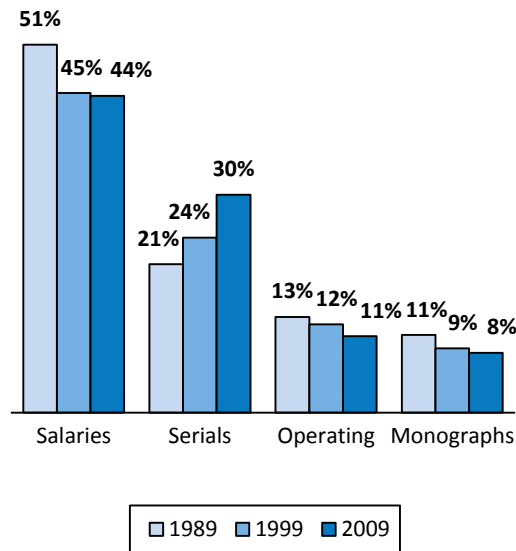
Serials Costs Rising Faster Than Library Budgets

Expenditures in ARL Libraries

*Median Values for 124 ARL Members,
Unadjusted Millions of Dollars*



*Median Shares of Total Library Budget for
124 ARL Members*



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

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?”



Prescription:
Support open access journals



Publishers Point to Explosion in Scholarly Output

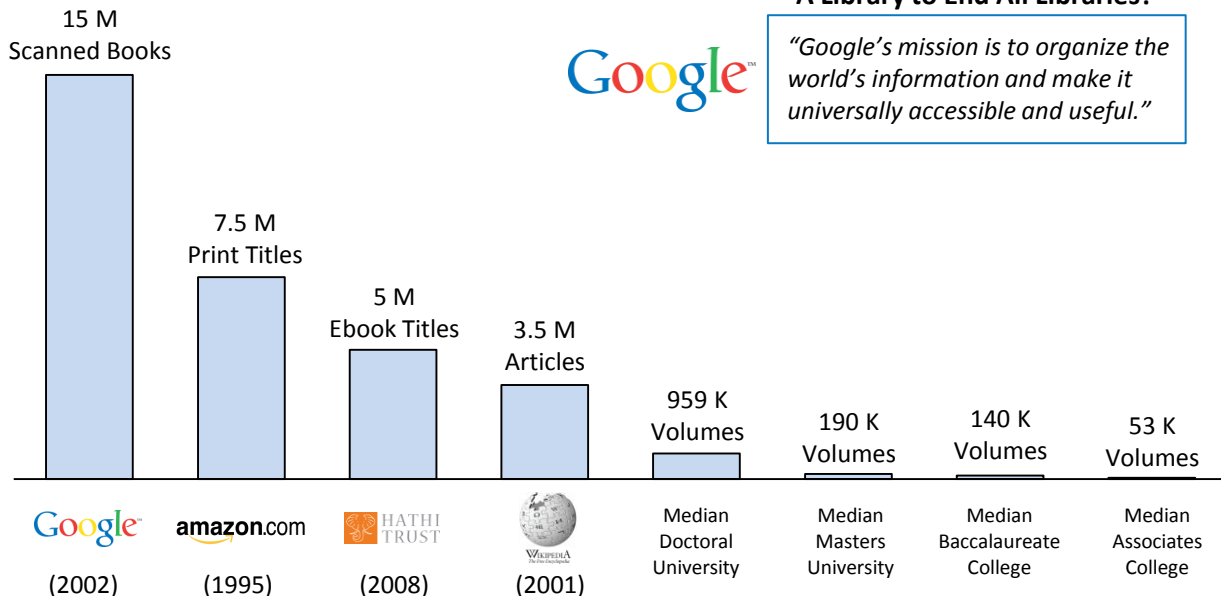
- Research output has increased significantly
- Cost per download has actually gone down
- Bundles give institutions wider access at a discount
- Transition to e-journals required massive investment in new infrastructure
- “We are willing to try open access models as long as we can continue to cover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



Prescription:
Find new sources of funding

Scale Beyond Imagining

Fastest Growth, Broadest Access Now Outside of Academic Libraries



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?

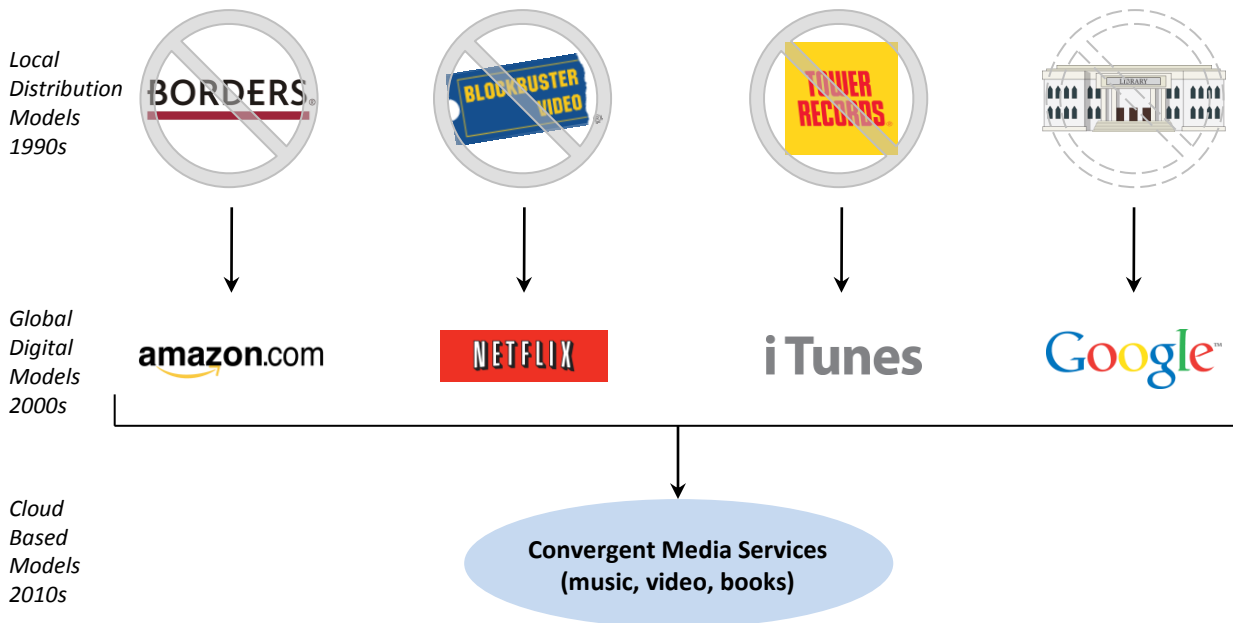
“The prospect of mounting a book-digitization project at the scale of Google’s never seemed within the capabilities of research libraries until an outside partner with seemingly limitless resources emerged. But this outside partner has often seemed more focused on its commercial interests than on meeting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

*Roger Schonfeld
ITHAKA S+R*

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**





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.”

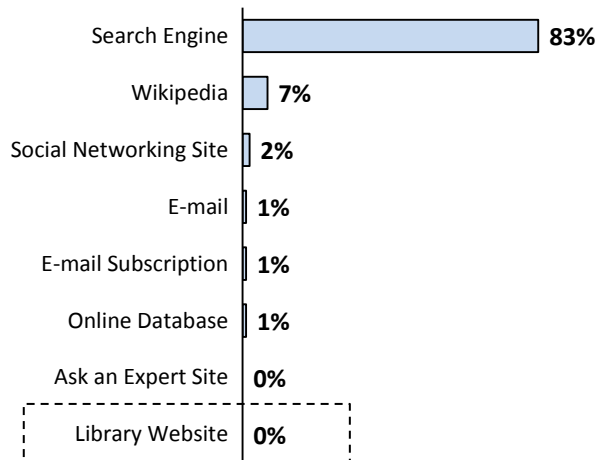
*Dennis Dillon, Associate Director for Research Services
University of Texas at Austin Libraries*

Patrons Switching Faster Than Libraries

Faculty and Students Already Looking Elsewhere for Search Help

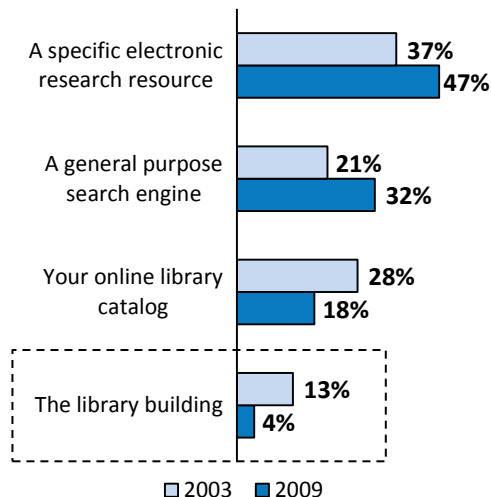
Where Do Students Start a Search?

n = 2,229



Where Do Faculty Start Their Research?

n = 3,025



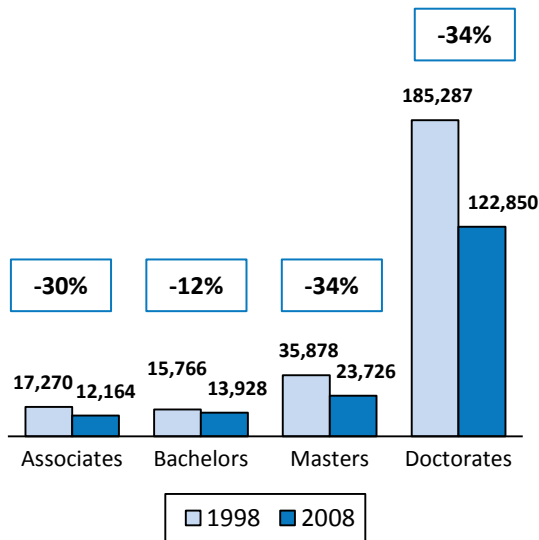
Source: "Faculty Study 2009: Key Strategic Insights for Libraries, Publishers, and Societies," Ithaka S+R; "Perceptions of Libraries, 2010," OCLC.

The Lonely Reference Librarian

Circulation and Reference Requests Down Across All Institutional Types

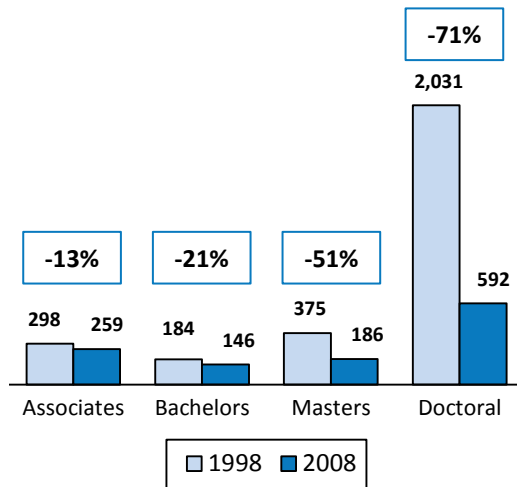
Declining Circulation

Average General Collection Circulation



Declining Reference Requests

Average Weekly Reference Requests



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

From Ownership to Access

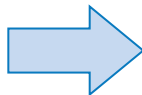
Reducing Reliance on the Local Print Collection

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



Books



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

The Ebook Tipping Point

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

Ebooks Sales on Amazon

amazon.com

July 2010

Ebooks outsell
new hardcovers

Nov 2007

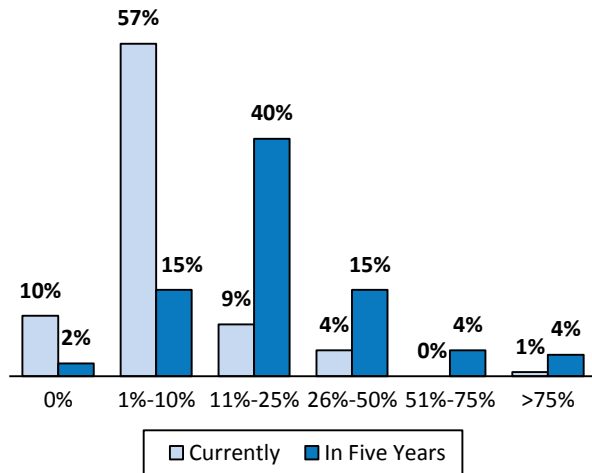
Kindle eReader
launched

April 2011

Ebooks outsell
all print books

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.

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 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

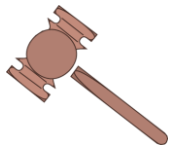
Copyright Law Biggest Obstacle to Widespread Access

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

“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*

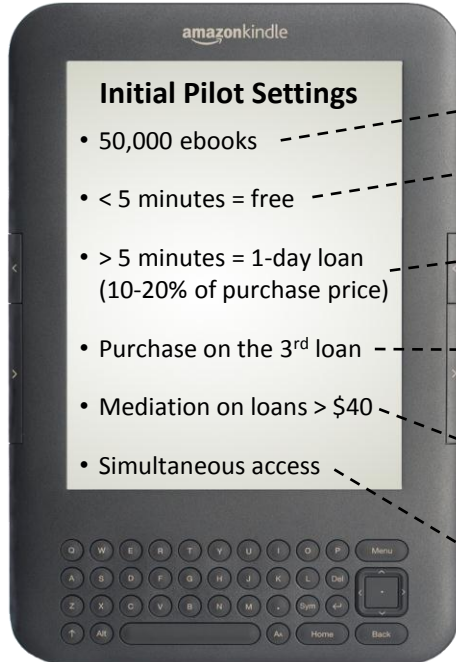
Can we scan and share orphaned works?

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



• 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

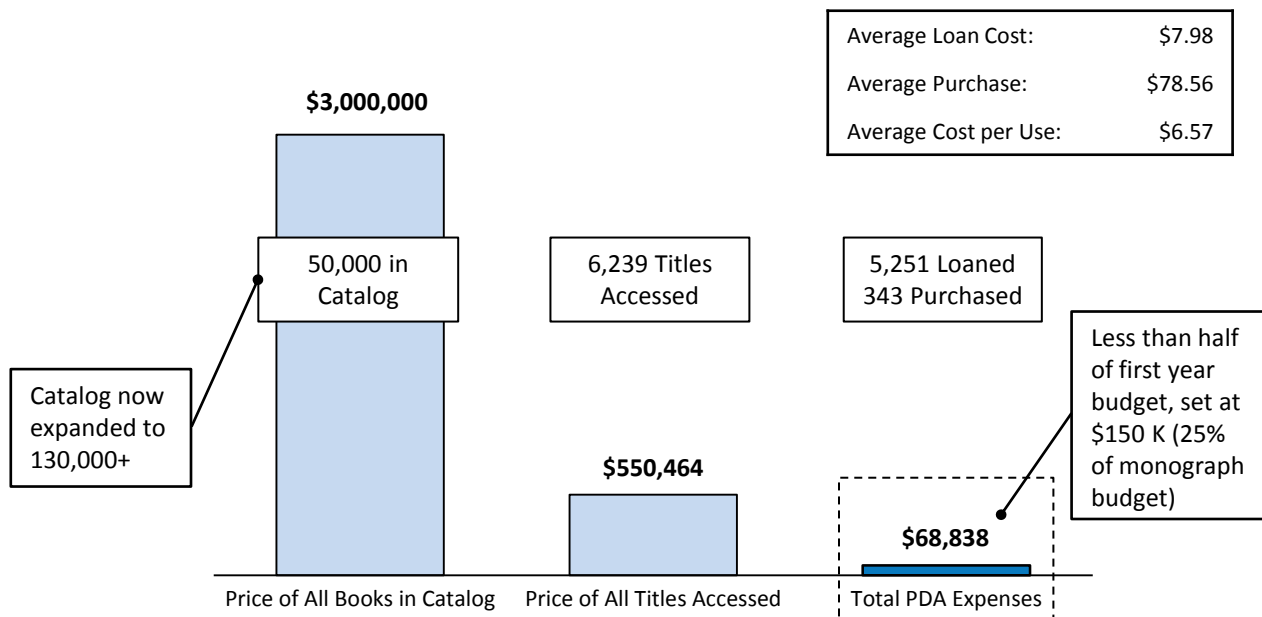
• Avoid overly expensive purchases

- Removed limit and mediation; cost savings not worth delay / oversight

• “Non-Linear Lending” allows unlimited simultaneous access to all ebooks

Expansive Access at Fractional Cost

Significant Savings Compared to Traditional Acquisition or Inter-Library Loan



Moving Beyond the “Big Deal”

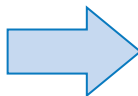
Creating a Broader Range of Options for Scholarly Communication

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



Journals



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

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

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; Josh Fischman, "Elsevier Publishing Boycott Gathers Steam Among Academics," The Chronicle of Higher Education, January 30, 2012.

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

arXiv.org

Open Folklore



Opening the Floodgates

Digitization Transformed the Music Industry in Less Than a Decade

Digital Music Purchase Options

Ad Supported	Subscription
 	 
 	   (1999-2001)
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
- **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

The Most Valuable Space on Campus

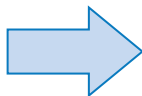
Converting Library Space to Meet Patron Needs

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

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

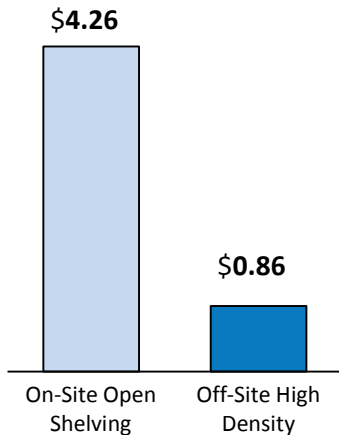
Source: Allen Kent et al., "Use of Library Materials: The University of Pittsburgh Study," Marcel Dekker, 1979; "Report of the Collection Development Executive Committee Task Force on Print Collection Usage," Cornell University Library, 2010; Paul Courant, "On the Cost of Keeping a Book," *The Idea of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

The Price of “Just-in-Case” Collections

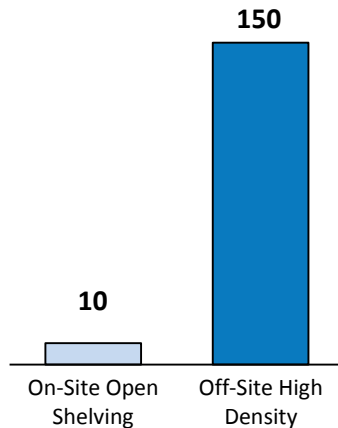
Attachment to Open Stacks Comes With Significant Costs

The Cost of Keeping a Book

Yearly Cost per Volume



Books per Square Foot



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

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
- Opened August 2012
- Current database describes 25 storage initiatives throughout North America
- Working with California Digital Library

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



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

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

NC STATE UNIVERSITY

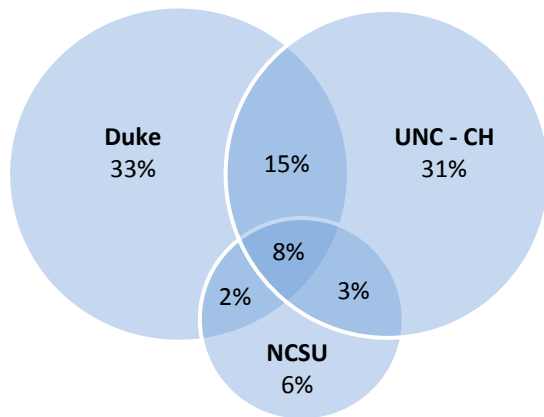
- Patents and trademarks
- Architecture
- Agriculture
- Textiles

71% of Titles Held Uniquely

TRLN Overlap Study, 2006

TRLN ▲

TRIANGLE RESEARCH LIBRARIES NETWORK



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

Coming Out from Behind the Desk

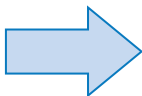
Library Staff Engaging Directly with Student and Faculty Needs



Current State

- Significant staff time devoted to cataloging and processing physical books and journals
- Declining utilization of circulation and reference services

Staffing



Preferred End State

- 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

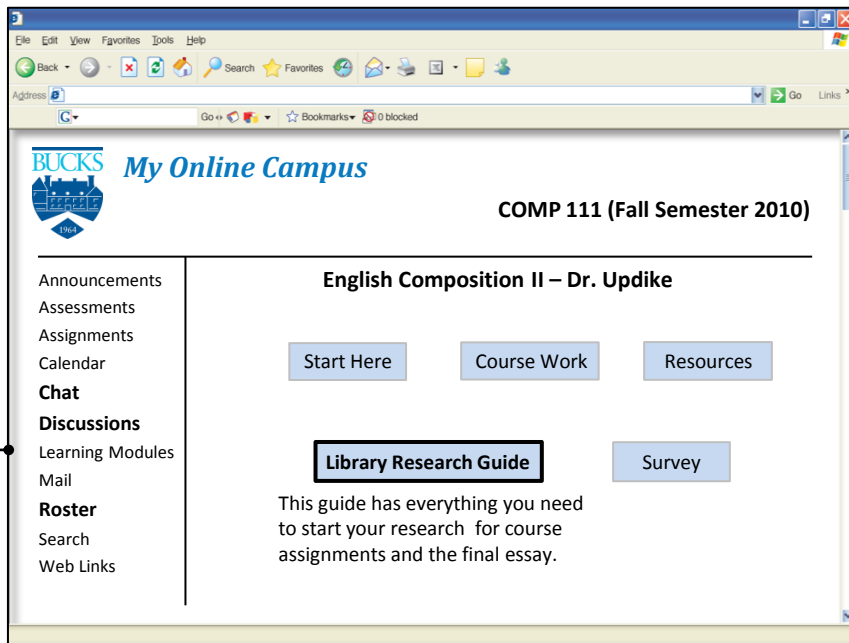
- Some librarians lack skills, interest in providing new support services
- Faculty do not always see librarians as a useful resource for teaching and research support

Going Where the Students Are

Embedded eBrarians Integrated into Online Courses

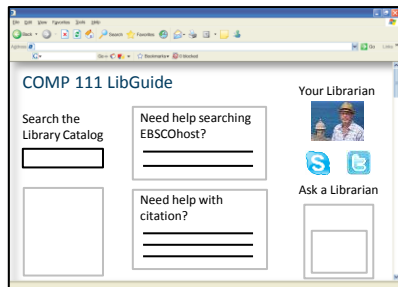
Bucks County Community College

Librarians
participate in
online chat and
discussions

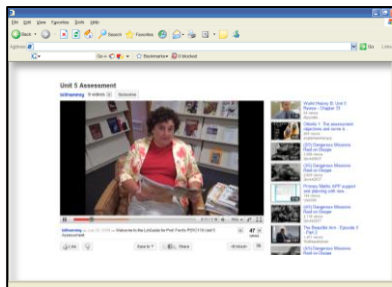


Leveraging High-Traffic Web Venues for Course Support

LibGuides



Video Tutorials



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

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

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

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

Virtual Reference

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

Patron-Driven Acquisition

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

Automated Circulation

- Self-checkout
- RFID tags on all books

A Path Toward the Future

Defining and Overcoming Barriers to a Preferred End State

