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Redefining the Academic Library: Managing the Migration to Digital Information Services

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http://digitalcommons.mcmaster.ca/lookingforward/1

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"

Taiga

By 2015...

| **Patrons Go Elsewhere for Information**	**No Need for Traditional Librarians**	**A Space for More Than Just Books**
"Our users will meet more than 90% of their information needs from sources that are not directly connected to the library."	"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."	"Most library space will be taken over by functions that have nothing to do with library collections or services."

This Time It's Different

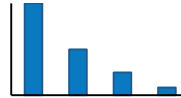*Transformation of the Academic Library Likely to Happen on Your Watch*

The Four Horsemen of the Library Apocalypse
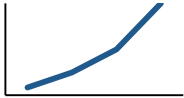
Unsustainable Costs

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

7.1% CAGR

2.5% CAGR

Serial Expenditures

Monograph Expenditures
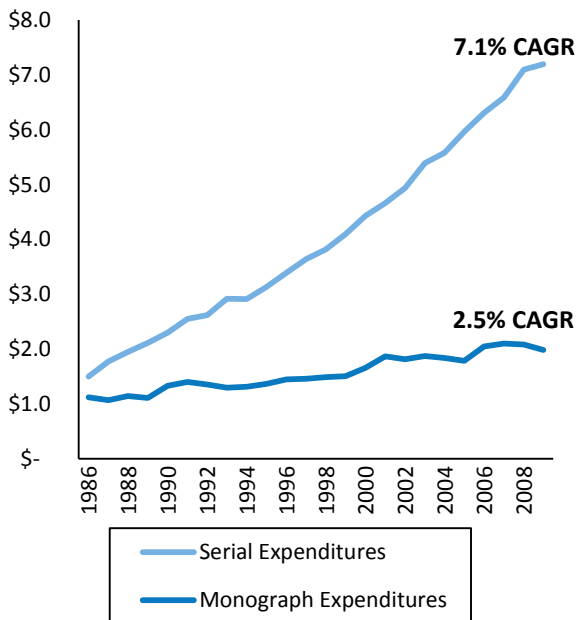
Median Shares of Total Library Budget for 124 ARL Members

Salaries: 51%, 45%, 44%

Serials: 21%, 24%, 30%

Operating: 13%, 12%, 11%

Monographs: 11%, 9%, 8%

☐ 1989 ☐ 1999 ☐ 2009

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
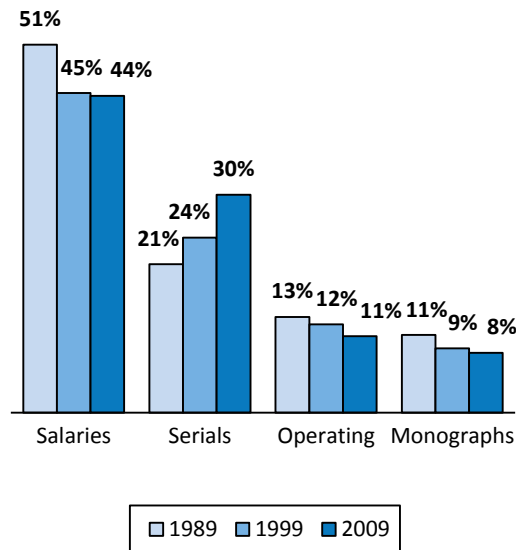
- Costs would be lower in a non-profit model

- "Our faculty did the research, why should we have to pay so much to access their work?"

Prescription:
Support open access journals

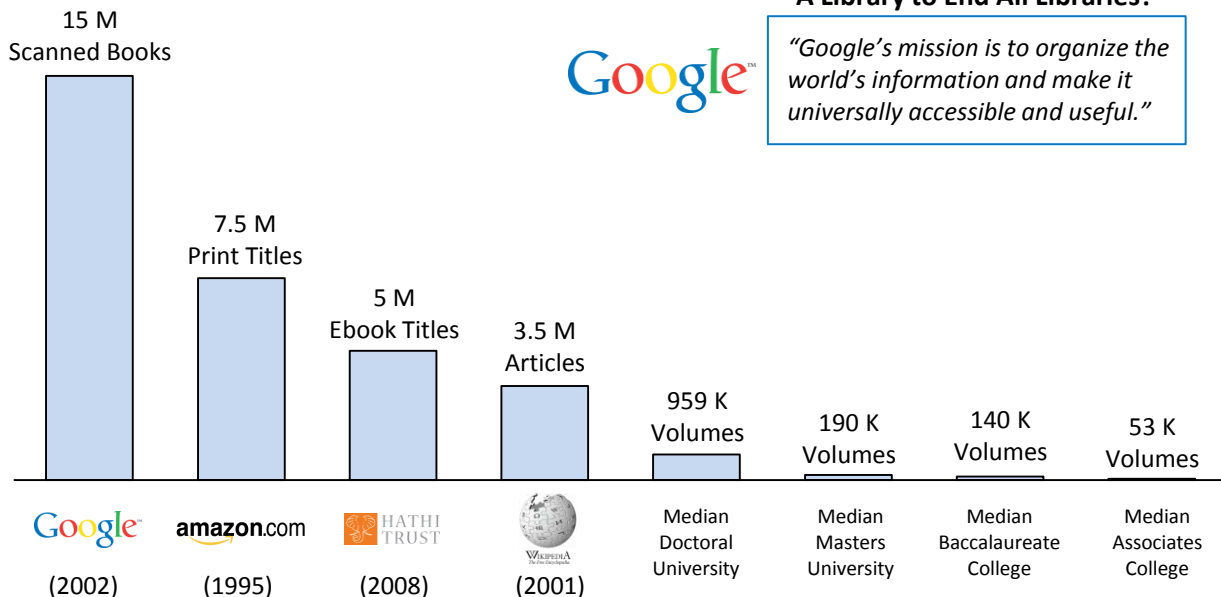## Publishers Point to Explosion in Scholarly Output

- 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

A Library to End All Libraries?

"Google's mission is to organize the world's information and make it universally accessible and useful."

15 M
Scanned Books

7.5 M
Print Titles

5 M
Ebook Titles

3.5 M
Articles

959 K
Volumes

190 K
Volumes

140 K
Volumes

53 K
Volumes

Google
(2002)

amazon.com
(1995)

HATHI TRUST
(2008)

Wikipedia
(2001)

Median
Doctoral
University

Median
Masters
University

Median
Baccalaureate
College

Median
Associates
College

The Thousand Year Plan
Why Academic Libraries Will Never Beat Google

UNIVERSITY OF MICHIGAN

Estimated time to scan all of their 7 M volumes

1,000 years

Google books

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."
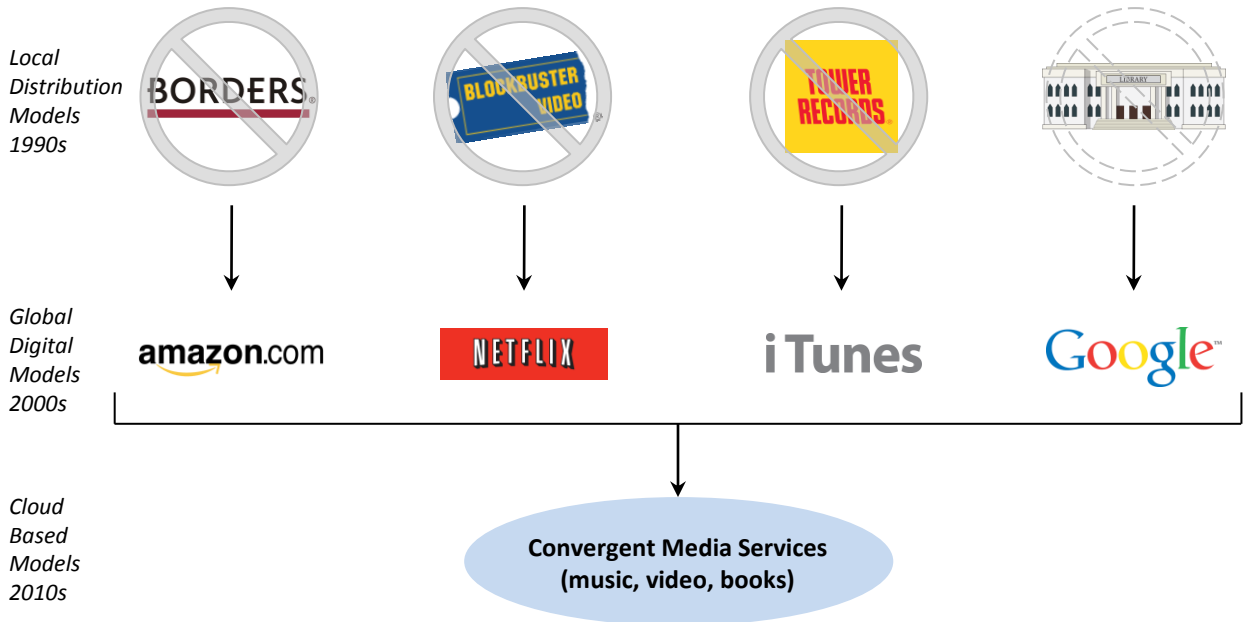
Roger Schonfeld
ITHAKA S+R

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**

Local Distribution Models 1990s

Global Digital Models 2000s

Cloud Based Models 2010s

**Convergent Media Services
(music, video, books)**

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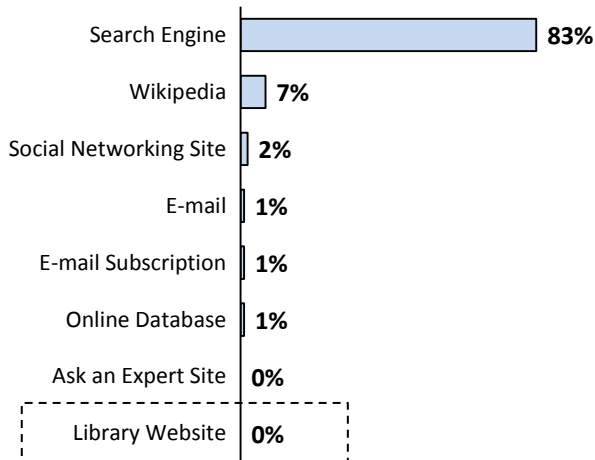
Dennis Dillon, Associate Director for Research Services
University of Texas at Austin Libraries

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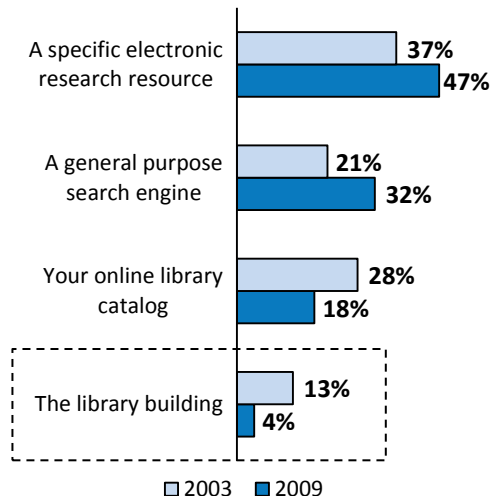*Faculty and Students Already Looking Elsewhere for Search Help*

Where Do Students Start a Search?
n = 2,229

Search Engine	**83%**
Wikipedia	**7%**
Social Networking Site	**2%**
E-mail	**1%**
E-mail Subscription	**1%**
Online Database	**1%**
Ask an Expert Site	**0%**
Library Website	**0%**

Where Do Faculty Start Their Research?
n = 3,025

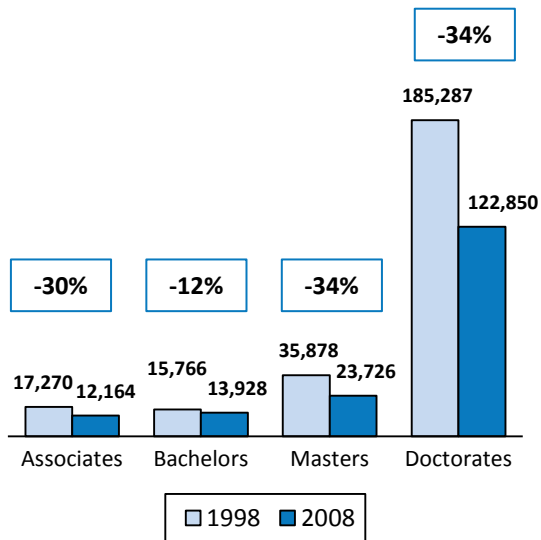|	
A specific electronic research resource	**37%** / **47%**
A general purpose search engine	**21%** / **32%**
Your online library catalog	**28%** / **18%**
The library building	**13%** / **4%**

□ 2003 ■ 2009

The Lonely Reference Librarian

Circulation and Reference Requests Down Across All Institutional Types

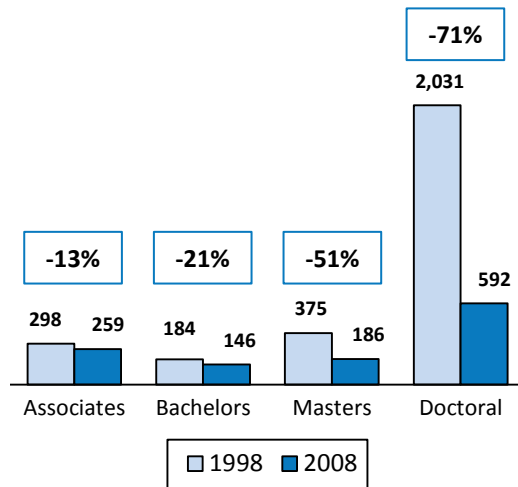**Declining Circulation**

Average General Collection Circulation

Declining Reference Requests

Average Weekly Reference Requests

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

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
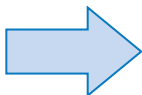
- Total cost: $206 M

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

Source: Education Advisory Board interviews and analysis.

The Ebook Tipping Point

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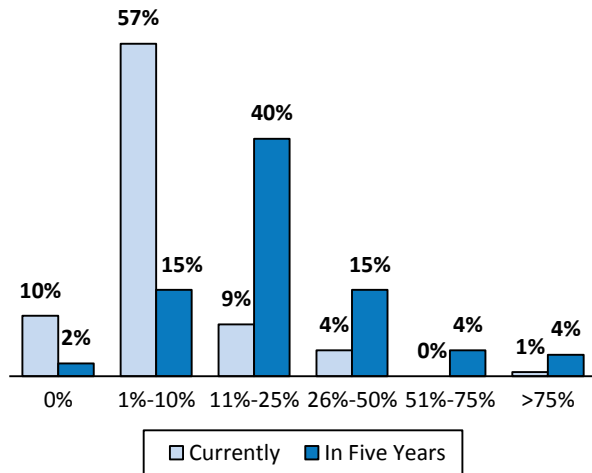
Ebooks Sales on Amazon

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

Category	Currently	In Five Years
0%	10%	2%
1%-10%	57%	15%
11%-25%	9%	40%
26%-50%	4%	15%
51%-75%	0%	4%
>75%	1%	4%

□ Currently ■ In Five Years

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

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

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
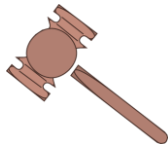
Settlement Rejected
March 2011

- 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?

Can we scan and share orphaned works?

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*
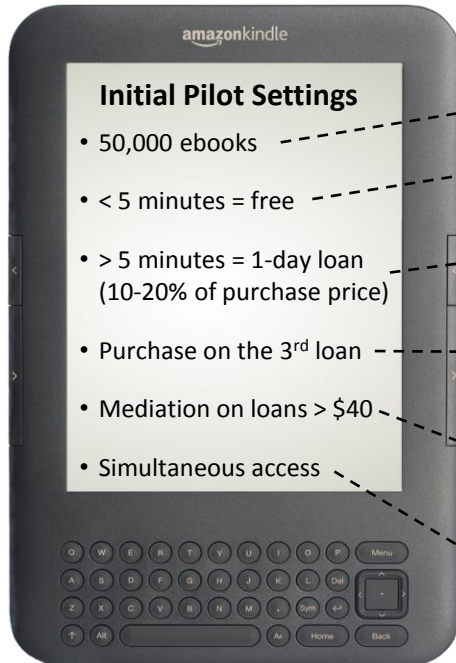
Authors Guild Sues HathiTrust

- 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

GRAND VALLEY STATE UNIVERSITY

E·B·L Ebook Library

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*
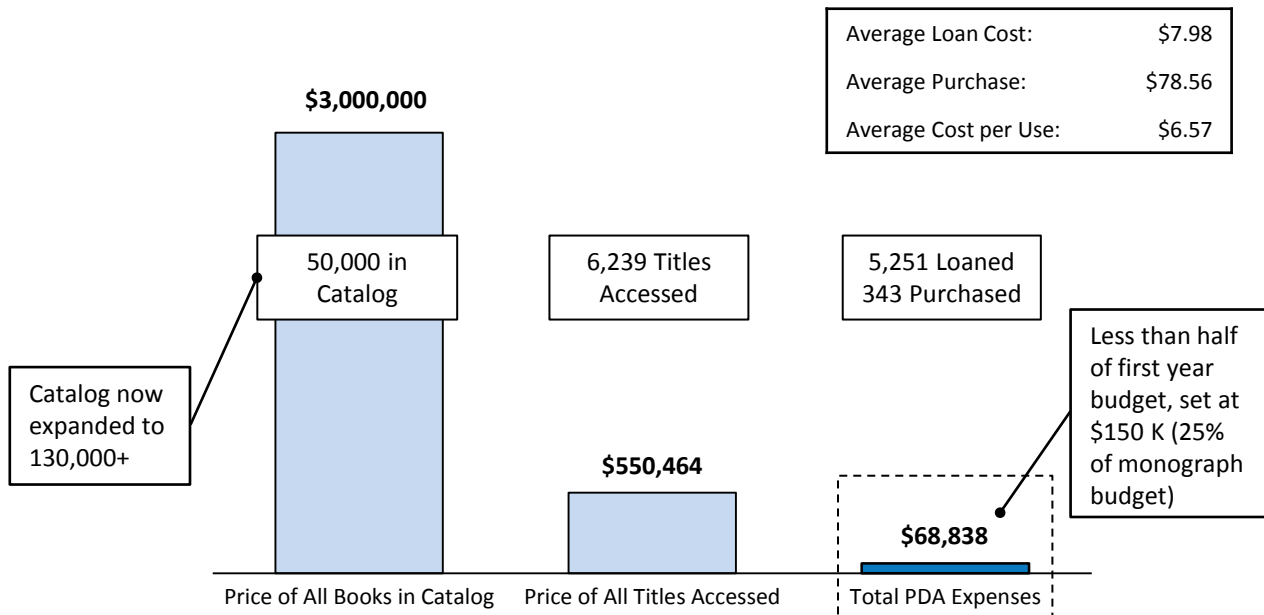
- Avoid overly expensive purchases
  - *Removed limit and mediation; cost savings not worth delay / oversight*

- "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**

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

$3,000,000

50,000 in Catalog

Catalog now expanded to 130,000+

6,239 Titles Accessed

5,251 Loaned
343 Purchased

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

$550,464

$68,838

Price of All Books in Catalog   Price of All Titles Accessed   Total PDA Expenses

Moving Beyond the "Big Deal"

Creating a Broader Range of Options for Scholarly Communication

Current State

JAMA

Journals

Preferred End 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
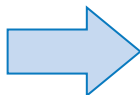
- Authors retain certain aspects of copyright and deposit copies of articles in open access repositories

- 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	*March 21, 2011*	*January 30, 2012*
U of California Stands Up to Nature Group	**Cornell Bans Non-Disclosure Agreements**	**Elsevier Publishing Boycott Gathers Steam Among Academics**

- Nature proposed 400% increase in total license costs

- UC System threatened suspension of 67 subscriptions

- Eventually agreed to negotiate

- ARL urged members to avoid NDAs in June 2009

- Publishers increasingly agreeing to drop NDAs

- Cornell promoted publishers with favorable terms

- 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

UF | UNIVERSITY of FLORIDA

- 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 | THE UNIVERSITY OF KANSAS

- 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

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?

arXiv.org   **Open Folklore**

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

UF | UNIVERSITY of FLORIDA

Opening the Floodgates

Digitization Transformed the Music Industry in Less Than a Decade

Digital Music Purchase Options

Quadrant diagram with axes: Ad Supported / Subscription (top) and Pay-per-Song / Free (bottom).

- Ad Supported: PANDORA®, LIVE 365
- Subscription: Rhapsody, SiriusXM Satellite Radio
- Pay-per-Song: iTunes, amazonMP3
- Free: RADIOHEAD, Spotify, napster (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
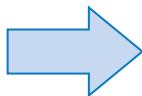
The Most Valuable Space on Campus
Converting Library Space to Meet Patron Needs

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.

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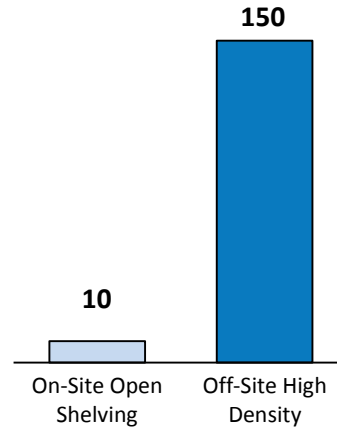
The Price of "Just-in-Case" Collections
Attachment to Open Stacks Comes With Significant Costs

The Cost of Keeping a Book

Yearly Cost per Volume

$**4.26** — On-Site Open Shelving

$**0.86** — Off-Site High Density

Books per Square Foot

10 — On-Site Open Shelving

150 — Off-Site High Density

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
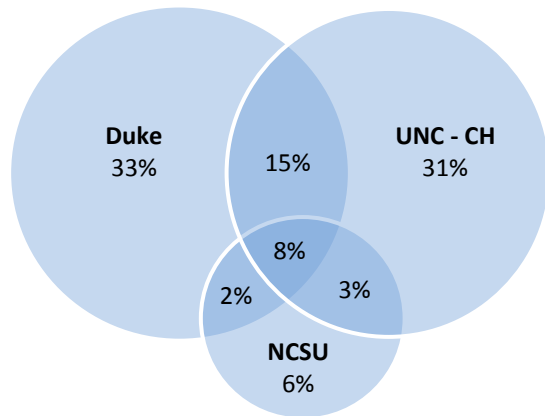- 18th Century microforms

NC STATE UNIVERSITY

- Patents and trademarks
- Architecture
- Agriculture
- Textiles

71% of Titles Held Uniquely
TRLN Overlap Study, 2006

TRLN
TRIANGLE RESEARCH LIBRARIES NETWORK

- **Duke** 33%
- **UNC - CH** 31%
- 15%
- 8%
- 2%
- 3%
- **NCSU** 6%

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
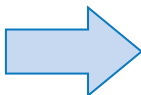
Food and drink

Coming Out from Behind the Desk

Library Staff Engaging Directly with Student and Faculty Needs

Current State

Staffing

Preferred End State

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

- Declining utilization of circulation and reference services

- 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
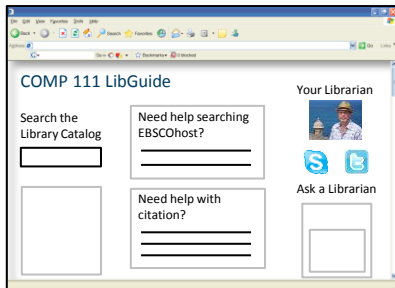
Bucks County Community College
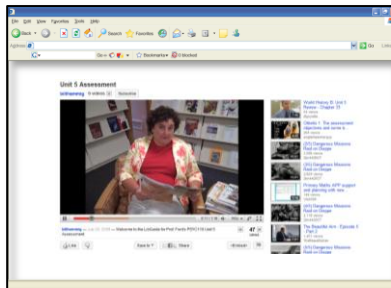
Librarians participate in online chat and discussions

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	Clinical Faculty and Students Struggle to Process Expansive Research Output	"Informationists" Embedded in Departments Meet Student and Faculty Research Needs

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

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

- 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

UCMERCED

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

An Unsustainable Present State	Keys to Inclusive and Orderly Migration	The Digital Information Services Future
Proprietary collections arms race	**Preserving Access and Service Quality**	Collaborative collections and digital access
Acquisitions focused on collection building	**Rightsizing Proprietary Print Collections**	Acquisitions informed by usage data
No alternatives to journal publishers	**Open Scholarship Support**	Incentives for and promotion of open access models
Focused on "commodity" circulation and reference activity	**Evolving Library Service Mix**	Trading up to unique student and researcher support services
Space tied up in low-demand activities	**Redeploying Staff and Space**	Space used for collaborative learning