Evolving Discovery Solutions: empowering users to find the right resources: Ex Libris Viewpoint

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Ex Libris, a ProQuest Company
November 12, 2016
1. How did we get here?
2. Where are we now?
3. What is the Ex Libris strategy for Discovery?
4. What about the “Back End”?
The reality is user expectations have evolved and library systems have not kept up.
Today’s users

- Self sufficient and do NOT ask librarians for help
- Expect everything to be online and immediately accessible
- Use multiple devices and are increasingly mobile
- Want to share and collaborate
“...real or perceived inefficiencies and roadblocks cause students to deem many library resources too costly to use.”
66% Say defining a topic is most difficult

80% Don't ask librarians for help

82% Go to Wikipedia to obtain background

Presented by Alison Head. ACRL conference, April 11, 2013
• The importance of the role of the library as a gateway for locating information has fallen over time

• The library is increasingly disintermediated from the actual research process

Faculty Survey 2009:
Key Strategic Insights for Libraries, Publishers, and Societies
April 7, 2010
Authors: Roger C. Schonfeld (Manager of Research) & Ross Housewright (Analyst)
So Libraries and Providers Responded

Web Scale Discovery

Enables quick discovery of the most credible resources anywhere the library has them

- Digital or physical
- Books, e-journal articles, databases, etc.
- Catalog, publishers, aggregators, open access, etc.

... And it worked
So Libraries and Providers Responded

Charleston Conference 2013
Increased usage of publisher-hosted journal content

*Discovery or Displacement?: A Large Scale Longitudinal Study of the Effect of Discovery Systems on Online Journal Usage*

Michael Levine-Clark (University of Denver), John McDonald (University of Southern California), Jason Price (SCELC Consortium)

Increase usage of JSTOR content for mutual US Higher Education clients analyzed.

*Plato’s Cave Revisited*
Bruce Heterick (JSTOR)
### Discovery Services Drive Growth

**Investment in gateway indexing is driving e-book discoverability**

<table>
<thead>
<tr>
<th>Referring gateways to ScienceDirect E-books</th>
<th>Referral growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Search engines:</strong> Scopus, Web of Science, PubMed</td>
<td>52%</td>
</tr>
<tr>
<td>Google &amp; Google Scholar</td>
<td>98%</td>
</tr>
<tr>
<td><strong>Other search engines:</strong> Yahoo, Bing; Baidu (China); Yandex (Russia); Naver (South Korea)</td>
<td>170%</td>
</tr>
<tr>
<td><strong>Universal Discovery Solutions:</strong> Ebsco, Summon; Primo; OCLC Worldcat</td>
<td>829%</td>
</tr>
<tr>
<td><strong>Local and discipline specific partnerships:</strong> Harvard ADS (Astrophysics, US), Inspire HEP (High Energy Physics, EU); Saudi digital library (Saudi Arabia); CNKI (China); Credo Reference (US)</td>
<td>Too recent to measure</td>
</tr>
</tbody>
</table>

2011-2013* to Full Text Chapter Q2 2013 vs Q2 2011 (data: Elsevier web analytics)
Delivering Proven Value

Article Searches Fall Semesters

- Fall 2010 (Metalib & Summon)
- Fall 2011 (Summon)
- Fall 2012 (Summon)

Number of Searches

Day of Semester

1  6  11  16  21  26  31  36  41  46  51  56  61  66  71  76  81  86  91  96  101  106  111
US Faculty Survey 2015

http://www.sr.ithaka.org/publications/research-data-management
Increase in Positive Perceptions

“Interest in supporting students and their competencies and learning outcomes shows signs of surging... *increase in the perceived importance of the role of the library in helping undergraduate students develop research, critical analysis, and information literacy skills*”
“After faculty members expressed strongly preferring starting their research with a specific electronic research resource/database... they are now reporting being equally as likely to begin with a general purpose search engine as they are with a specific electronic research resource/database. Furthermore, the online library website/catalog has become increasingly important for conducting research since the previous cycle of the survey.”
More to Do—Understanding user search behaviors

- High frequency of misspellings

- Natural language queries are common

- Users often edit search terms rather than seek new strategies

- 85% of users never go past first page of results

45% of Searches
3 words or less

The Single Search Box is not enough

Data-driven Autocomplete

Reference Content & Related topics

Contextual Recommendations

Image & Content Spotlighting

Data-driven Related Search Suggestion
Linking and access are critical to Discovery

Linking is a top complaint of library end users...

“Bad links equal less users”

Steven Bell. “Resolving the Link Resolver Problem”


• Users want immediate access to full text

• Users expect the same reliability of links that Google provides

• Failed (dead-end) links have real consequences, they:
  • Frustrate users and lead to dissatisfaction with the library
  • Negatively impact usage of library resources

• Linking provides a bridge from Google to Library resources
Increasing Number of Data Sources

ILS, URM
Alma, Aleph, Voyager, Millennium, Symphony, Unicorn, Talis, ...

Online Databases
Subscription and open access databases, newspapers articles, ...

Digital Repositories
Rosetta, DSpace, CONTENTdm, Fedora Commons, ...

Library Resources
Course Reserves, LibGuides, Websites, ...

Research Materials
Datasets, outputs, raw data, faculty pages, ...

Supplementary Entities
Researchers, Librarians, ...

Administration Tools & Normalization Rules
“The library is well situated to manage activities such as outreach, data deposit, metadata creation, and preservation; some university libraries are directed to do so, while other proactively offer their services.”
Ex Libris, a ProQuest Company

ProQuest and Ex Libris joined forces to deliver exceptional value to customers

- Leading Cloud-based SaaS Solutions
- Comprehensive Content Offerings
- Extensive Knowledgebase
- Openness & Collaboration
- Deep Academic & Library Expertise
- Broad Network of Partners
We are committed to:

- **Maintain choice**: support and enhance our existing software solutions
- **No disruption**: deliver on our commitments, including maintaining our longstanding commitment to openness and collaboration with other organizations in the industry
- **Enhance solutions**: make existing solutions even better
- **New solutions**: develop innovative new solutions that integrate with our customers’ and partners’ workflows more deeply than ever
- **More content available**: offer more content choices to more libraries and users around the world
- **Enhance Service and Support**: meet the needs of customers in their regions, in their languages, and in their time zones
Bridging the Gap

Patrons

Enhance User Engagement

Library

Maximize Library Contribution to Research Teaching & Learning

Demonstrate Value of Library Services
Leverage innovative cross-product capabilities

• Shared and enriched content
• Enhanced services—for example:
  • Primo → Summon: Personalization, article recommendations (bX)
  • Summon → Primo: Topic search, database recommender
• Summon integrated with Alma

Introduce new & enhanced capabilities

• Data-driven services for exploration
• Controlled vocabulary

Share and optimize common processes

• Status page
• Customer knowledge center
• Developer Network
• Idea exchange
Discovery Product Strategy

- Broad & Rich Content
- User Experience
- Library Empowerment
- Discovery in Context
Discovery Product Strategy: Broad & Rich Content Offering

• High-quality content index
• Content enrichment
• Content analytics
• Content neutrality

Leveraging key assets & technologies

- Deep content coverage
- Authoritative resource metadata
- Ulrichsweb & Controlled vocabulary
- Big data analytics
Moving to a Shared Content and Data Model

- Shared electronic collections
- Unified content ingestion process
- Loading of existing content and data enrichment to Primo Central / Summon Index

Separate Indexes with normalized content and a single ingest process

No change to the method of managing local collections in Primo and Summon

- >90 Content types
- >4,000 Databases
- >2.7 B records
Ingest records harvested and enriched by Summon

• More data sources
• Metadata librarians team
• Enriched data
  • Ulrich’s
    • Peer reviewed indicator
  • Serial type
• Granular resource types (e.g. journal article vs. magazine article vs. trade publication article).
Immediate Benefits

Streamlined process for adding new content

Increased velocity for getting new and backlog content indexed

Provides opportunities to further enrich metadata and correct issues with metadata
Unbiased Discovery: Proven Content Neutrality

- Separate platforms for content and discovery
- Merging and grouping of records to prevent bias towards specific providers
- Delivery method according to library-defined linking priority

A Guide to Evaluating Content Neutrality in Discovery Systems

• Exploratory discovery
• Seamless patron services
• Exposure of relevant data from multiple sources
• Mobility

Leveraging key assets & technologies

- Data-driven services
- Integrated user workflows
- User interface
- Linked Data
Exploration through Data-driven Services

Data-Driven Services:
Leveraging data from multiple sources to create an enhanced discovery experience, providing users with:

- Powerful exploration paths
- Contextual guidance
- Automated recommendations
Exploration through Data-based Services

Citation Trail

Resource Recommender

LibGuide Recommender

Topic Exploration

Article Recommendations (bX)

**Psychology and Human Friendship**

724 Results

1. ARTICLE / multiple sources exist. see all
   The Alliance Hypothesis for Human Friendship (Alliance Hypothesis)
   DeScioli, Peter; Kurthsen, Robert; Pinker, Steven (Editor)
   Full text available $3$

2. ARTICLE
   Friendship and natural selection
   Christakis, Nicholas; Fowler, James
   Full text available $3$

3. ARTICLE
   The Evolutionary Origins of Friendship
   Sayfarth, Robert; Chewey, Dorothy
   Full text available $3$

**Database Recommendations**

- *Web of Science* - Web of Science (a.k.a. Web of Knowledge): Provides citations covering over 10,000 high-impact journals in the sciences, social sciences, and arts and humanities, as well as international proceedings coverage for over 120,000 conferences.

- ERIC (inPQ) - The ERIC (Educational Resources Information Center) database is sponsored by the U.S. Department of Education to provide extensive access to education literature to augment American education by increasing and facilitating the use of educational research and information to improve practice in learning, teaching, educational decision-making, and research.

- **Article 1**: The Quarterly journal of experimental psychology: A. Human experimental psychology by [Journal Title]
  - Journal: Psychological Bulletin, Volume 1981, Number 8, Pages 469-487

- **Article 2**: The Quarterly journal of experimental psychology: B. Comparative and experimental neurophysiology by [Journal Title]
  - Journal: Psychological Bulletin, Volume 1981, Number 8, Pages 469-487

**Suggested Librarian**

Emily Bergman
Send Email

**Related Topics**

- Personality psychology
- Raymond Cattell
- Carl Rogers

**Recommended Research Guides**

- Subject Guides: Psychology Resources by Lynn Kyah
- Psychology by Emily Bergman

**bX Users Interested in this article also expressed an interest in the following:**

3. COLEZI, JENNIFER. *Friendship as a Health Factor_. Science 323.5913 (2009) 454-457

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Citation Trail – New Exploration Paths

**Items cited by**

_Cocoa and Chocolate in Human Health and Disease_

Katz, DL; Doughty, K; Ali, A

This result list contains items that are cited by this article. Note that this is not necessarily a complete list of citations.

**Items citing**

_Cocoa and Chocolate in Human Health and Disease_

Katz, DL; Doughty, K; Ali, A

This result list contains items that are citing this article. Note that this is not necessarily a complete list.
Resource Recommender – Discovery as a Gateway

Exploration

Search

Library collections and beyond

Linked data

Resource Recommender

Databases

Library Resources

People

Institutional Resources
Delivering Better Results

Coming Next

- Increase the result mix for ambiguous topic searches (1 – 3 words)
  - Provide a mix of overview and specialized research material
  - Blended search (“mixed results”)

- Increase glanceability and linking for Primo Central preferred records in a group
  - Enrich preferred record with fields from records in the same group

- Continue “match/merge” for Summon
New User Interface
Clean, Intuitive Look & Feel
”I like it shows all the details of the book on one page”
Seamless Services: My Library Card

“Everything is just there, you don’t have to hunt for it”
Index Enhanced Direct Links (IEDL)
370+ providers covering 4,000 databases

OpenURL-based Linkers
300+ resources covering 5,200 databases

- Always the most reliable link
- One-click access to content
- Sources prioritized by library
- Options to try alternate sources to improve success
- Custom links lead to library help and other services
Enhance patron discovery, connecting between the new Primo UI and external LD sources.

Expose end users to related information based on URIs stored with the metadata.
Linked Data in Discovery: Example of Enhanced Patron Services

Retrieve data from VIAF to display information about selected co-authors and other author works.

Retrieve data from LC to display information about related subject terms.
Linked Data Flow: Alma and Primo

Alma
- Calculate URI’s to LD services
- Publish enriched metadata

Primo
- Load enriched URI metadata
- Retrieve relevant external data
- Embed external data in the user interface

External Services
- VIAF
- Library Of Congress
- GND
- Others
Data from other sources

Pablo Picasso  Collapse

Brief Biography

**Description from Getty Linked Open Data:** Long-lived and very influential Spanish artist, active in France. He dominated 20th-century European art. With Georges Braque, he is credited with inventing Cubism. (Sources: LCNAF Library of Congress Name Authority File [n.d.]; Grove Dictionary of Art online (1999-2002))

http://vocab.getty.edu/ulan/500009666

**Abstract from DBPedia:** Pablo Ruiz y Picasso, also known as Pablo Picasso (/pəˈkæsəʊ, -ˈkæsəʊ/; Spanish: [ˈpaβlo piˈkaso]; 25 October 1881 – 8 April 1973), was a Spanish painter, sculptor, printmaker, ceramicist, stage designer, poet and playwright who spent most of his adult life in France. As one of the greatest and most influential artists of the 20th century, he is known for co-founding the Fauvist movement, co-creating Cubism with Georges Braque, and being one of the primary leaders of the Surrealist movement.
Leveraging key assets & technologies

• Analytics-driven optimization
• Exposure of special collections
• Flexible, easy-to-use customization
• Workflow efficiency

Library Empowerment

Integrated workflows with Alma/ILS
Digital Collections
Customization framework
Analytics infrastructure
Analytics Driven Design
To and from utopia in the new **Cuban art**
by Weiss, Rachel
2011

**Image Spotlighting**

**Image results for "cuban art"**

**Newspaper Article Spotlighting**

**News results for "cuban art"**

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Digital Collections View

A collection of works of art by two famous painters - Pablo Picasso and Vincent van Gogh. This collection also includes books on art in general.

Picasso Collection - books and reproductions
Pablo Ruiz y Picasso, also kn...

Van Gogh Pictures and Books
Collection of books on Van G...
Librarians embedded in research workflow

Library Controlled Recommendations

The Visual Studies Librarian recommends
Based on your search, the Visual Studies Librarian recommends these visual studies resources (click More)

Read more

Database Recommendations

Oxford Art Online - Ability to access and search the vast content of Grove Art Online and other Oxford art reference resources in one location
ARTbibliographies Modern - ARTbibliographies Modern (ADB) provides full abstracts of journal articles, books, essays, exhibition catalogs, PhD dissertations, and exhibition reviews on all forms of modern and contemporary art.

Recommended Librarians & Research Guides

Suggested Librarian
Shari Salisbury
mailto:shari.salisbury@utsa.edu
(210) 458-4763

Related Topics
Political movement
Quebec sovereignty movement
Peace movement

Recommended Research Guides
Home - Civil Rights in Texas - Research Guides at University of Texas at San Antonio
by Shari Salisbury, Nikki Lynn Thomas

Home - Civil Rights Movement in the U. S. - Research Guides at University of Texas at San Antonio
by Shari Salisbury

Integrated Reference Chat
Full-featured and Flexible API

Integrates into the discovery experience librarians want
Discovery Product Strategy: Discovery in Context

- Discovery through multiple entry points
- Personalized user experience
- Expansion of discovery to research and teaching and learning domains

Leveraging key assets & technologies

Integrated workflows with research tools

Integrated workflows with institutional reading list solutions
Support Teaching and Learning

Education and information literacy tools:
• E.g. Resource lists

More focus on outcomes, such as student success:
• Demonstrate correlation between students use of library resources & services and learning outcomes
Summon Discovery in Context

Altmetrics Integration

1. Related actions of probiotics and antibiotics on gut microbiota and weight modification
   - Author: Apostolakis, Emmanouil, Vicky; Perakakis, Costas
   - Altmetrics:
     - Picked up by 2 news outlets
     - Blogged by 2
     - On 1 Facebook page
     - Referenced in 1 Wikipedia page
     - 116 readers on Mendeley

2. New Infectious Disease Research Data at University of the Mediterranean
   - Author: Health and Medicine Week, 10/2014
   - Altmetrics:
     - Picked up by 2 news outlets
     - Blogged by 2
     - Tweeted by 0
     - On 1 Facebook page
     - Referenced in 1 Wikipedia page
     - 116 readers on Mendeley
Discovery as a Gateway

Integration with teaching and learning tools

Primo- Leganto integration
- Instructors can search in Primo via the Leganto interface
- Export to Leganto Primo eShelf content

Integration with research tools

Summon + Primo–RefWorks integration
- Search in Primo via the RefWorks interface
- Use RefWorks as central eShelf
Open Source Discovery – Collaborative program

• New collaboration to allow easier integration of Ex Libris solutions with OS discovery layers.
  • A number of libraries are already using OS layers to access information from Primo, Summon and Alma.
  • The goal: make such interoperability easier and more complete.

• Integration with Alma, Primo/Summon
  • Also interested in Hydra, IIIF viewers, etc.

• Partnering with U Penn and UW Madison

• Built on existing and new Interfaces
  • Eg New Summon API to create facets by database and provider

• Planned workshop during DLF meeting (Milwaukee, Nov ‘16)
EX LIBRIS INTEGRATED OFFERING:
The Backend Matters, too
Library Services Platform Goals

- Optimizing Staff Workflows
- Improved User Experience

Equality symbol between the two circles.
Integrated Offering

- Expose many library resources through Discovery
- Expose library specific holdings and availability
- Expose library investment
- Expose library expertise
Today’s Environment
Multiple systems, duplicate data, and duplicate workflows

- Integrated Library System
- Link Resolver
- Knowledgebase & Record Services
- E-Resource Management System
- Digital Repository(s)

Next-Gen Environment
Single system, unified data, and unified workflows

Ex Libris Alma
Print, Electronic & Digital Resource Management
Unified Management

- Unified Data
- Unified Workflows
- Unified Management

Alma

- Fulfillment
- Metadata Management
- Acquisitions
- Analytics
We’re Committed to Open Platform

130+ RESTful APIs
Over 1.2 million API calls per day
30% of total transactions
Transparency & Openness

Ex Libris IdeaExchange
134 ideas submitted in the Alma forum, 13 already accepted by Alma PMs
http://ideas.exlibrisgroup.com/

Ex Libris Knowledge Center
Product documentation and roadmap available to everyone on the web
http://knowledge.exlibrisgroup.com
Extendable Platform: Developers Platform

- Developers Platform
  - Cloud Integration Templates
    - Web Services
    - Publishing Services
    - Adapters & Interfaces
    - Export & Import Services
  - Apps & Extensions
  - Alma Extensible Architecture
  - Alma Developers Network
- Resource Sharing
- Discovery & Delivery
- Course Management
- Custom Apps
- Material Vendors
- Student Info Systems
- Financial Systems
Unified Resource Management

Automated, Exception-based Workflows

Rapid Innovation (Monthly Releases)

Actionable Analytics at the core

Maximum Flexibility

Continuous Development

Rapid Innovation
Our strength is our community

>80 new customers since sept. 2015

>900 employees worldwide

>760 alma institutions worldwide

AN ACTIVE, INTERCONNECTED CUSTOMER COMMUNITY

>3,200 libraries using Primo & Summon worldwide

100s of ideas submitted on the Ex Libris idea exchange forums

>40 national libraries

>30 M alma api calls per month