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Libraries and research data: The need for a new approach

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Libraries and Research Data; The need for a new approach

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Building a New Research Services Platform

Development partnership with five universities:

Lancaster University

The University of Iowa

University of Miami

The University of Oklahoma

The University of Sheffield

Five Partners Join Ex Libris in Developing New Research Services Platform

Leading universities in the United States and the United Kingdom collaborate with Ex Libris to maximize visibility, efficiency, and compliance of research activities

Jerusalem, Israel—February 08, 2018. Ex Libris®, a ProQuest company, is pleased to announce the establishment of a development partnership with Lancaster University, the University of Iowa, the University of Miami, the University of Oklahoma, and the University of Sheffield. The partners will collaborate on the development of a new end-to-end research services platform, Ex Libris Esploro. This development program will give the partners a significant
Growing Opportunities for Libraries to Support Research Needs and Institutional Goals

Began with Study and research – conversations with more than 40 universities (NA, EU, UK, ANZ)

Scoping with development partners since July ‘17

“Research Information Management intersects with many aspects of traditional library services in discovery, acquisition, dissemination and analysis of scholarly activities, and does so through the nexus with institutional data systems, faculty workflows, and institutional partners.”

Research Information Management: Defining RIM and the Library’s Role. 2017 OCLC Research
Paving the way to greater impact of academic research by driving visibility, efficiency, and compliance of research activities, leveraging library expertise and technology
The Agenda

- The challenge(s): today’s research landscape
- Perspectives of research stakeholders
- Is there a solution? – A vendor perspective
- Development partnership next steps: Concerns and Opportunities
- Closing Remarks
- Q&A
The University of Iowa is Iowa’s largest comprehensive research university, with a balanced commitment to the arts, sciences, and humanities. It’s home to one of the nation’s largest academic medical centers and the pioneering Iowa Writers’ Workshop.

FY16 TOTAL RESEARCH FUNDING: $437.9m (FEDERAL & NON-FEDERAL)
The Overall Environment

CyberCommons
Locally Developed
VIVO
::Digital Measures

Research Data Management Systems
Research Administration Systems
Current Research Information Systems
Institutional Repositories

Department/Colleges/HPC storage solutions

Red box = library didn’t stand it up, but we work with & may end up maintaining it.
Perspectives:
What do researchers want?

- How can I do my work:
  - Faster
  - More efficiently
  - W/O extra work!!
- One place to deposit
- More visibility/citations for their research
- One place to manage external profile & publication lists
- Monitor research data requests (for reuse & verification)
Perspectives:
What do researchers want?

• Not be required to fill in a long list of metadata fields
• Help convince Provost that research data reuse should count towards tenure & promotion
• Produce data management plan summaries from long versions
Perspectives:
What do librarians want?

- Fewer systems/silos/stacks
  - Each has different workflows, interface
- Aggregating/Indexing/Searching the silos is challenging
- A way to support researchers at scale (not 1-on-1)
- Standards on what an object should be/contain
  - New ones get invented all the time, but none get retired!
- Better metadata on research objects
- Faster ways to generate research object metadata
- More comprehensive capture of all of the institutional research objects generated
Managing grant compliance, specifically:
- Research data management plan compliance (when we find out exactly what that is!)
- Publication compliance with OA funder mandates

Metrics on research data usage

New processes to interweave into existing processes. **No new overhead or silos!**

Greater access, dissemination & reuse of research data, research outcomes and even faculty that generate all of this
Perspectives: What do Provosts want?

1. Student Success
2. Faculty Impact
3. Community Impact
4. Brand Equity

1. Students getting value.
2. Less complicated solutions.
3. Quality
4. A holistic picture
5. Complete and accurate data.
Advise decision-making

Perspectives: What do Provosts want?
Is there a solution to all this?!?

A New Approach
The Research Solutions Landscape: Current Status

- Diverse on premise point solutions
- Lacking structured workflows across solutions
- Limited visibility of the research process and achievements
- Relying on researcher deposits
- Often processes don’t fit with researchers habits
- Duplicated, cumbersome or incomplete efforts to capture and promote research outputs
Better Data is Key

Curated, and enriched data is key to improve research visibility, compliance, and efficiency, and drive greater impact of research outputs.

Wide range of Research Objects (Outputs and Activities)

**PUBLICATIONS**
- Final versions, preprints, ETDs, etc.

**CREATIVE WORK**
- Audiovisuals, media installations, drawings, compositions, etc.

**RESEARCH DATA**
- Datasets, raw data, computations, tables, spreadsheets, etc.

**PROCESSES**
- Code, Software, ELNs, etc.

Systematic and sustainable data management

- Automated curation
- Metadata enrichment
- Discoverability & accessibility (public/restricted)
- Linking research objects and metadata
- Digital preservation
Creating the Next-Generation Research Repository

A Unified System of Records for all Research Objects that moves beyond the traditional institutional repository and eliminates silos:
Capturing a comprehensive record of research objects in a unified, metadata rich, cloud-based repository

Research Objects Management

- Rule-based workflows
- Access rights management
- Storage
- Publications
- Creative works
- Research Data
- Processes, Activities

Unified & comprehensive
Quality metadata
Workflow-based
Mediate & unmediated
Integrated analytics
Broad dissemination
In other words...

We’ll be able to do a few useful things

- Discoverability & Re-Usability: Showcase research
- Reports & Dashboards: “what is going on”
- Analytics & Metrics: Trends, Impact, Assessment reports
- Services: Publishing (OA), Preservation
## Esploro Main Goals

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<th>Goal</th>
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| Create the next-gen Research Repository: A *Unified System of Records* for all research objects | **Capture and gather research objects & related data**  
- Direct deposit of outputs and data  
- Automated capture from external repositories and central content indexes  
- Automated capture of funder & project data  
**Tailored to compliance workflows**  
**Tools and workflows to maintain and enhance quality of data and metadata**  
**Exposé outputs & data through relevant dissemination channels, including discovery & institutional portals**  
**Demonstrate value and optimize research administration through analytics & reports**  
**Maintain researcher profiles up-to-date**                                                                 |
Ex Libris Esploro: A **unified** Research Services Platform

- Widening the scope of data to all research objects with automated capture *and* researcher deposits
- Unifying management, tracking, and analysis of data for greater visibility and better compliance
- Increasing research process efficiency with tailored, sustainable, and automated workflows
- Seamlessly fitting processes to researchers’ day-to-day work
- Reducing TCO by consolidating systems into a full cloud-based solution
Getting the Data – a changed paradigm

More streamlined Author Archive/Deposit, Interwoven into their workflow

• Simple, embedded and integrated
• Automated Metadata (when possible) and notifications
• Review/Edit vs. Fill-in forms

More comprehensive automatic captures from external sources

• Published content (e.g. Indexed by Library discovery)
• Disciplinary and Specialized Repositories
• National Repositories
Creating a Comprehensive View of Research Objects

- Metadata enhancement and enrichment each step of the way
  - Add controlled vocabularies, identifiers, etc.
- Workflow-based with triggers and alerts
  - Library and/or Researcher can mediate when required
- Link publications to data (and funding sources)
- Match to copyright policies and OA licensing information
  - Sync with Sherpa/Romeo, etc.
- Triggers for early and ongoing researcher data planning
- Feed information back to external sources

Esploro
Institutional System of Research Objects

Flexible data model

Direct Deposit

Publications & Data

Captures both publications and data from discovery indexes, discipline specific repositories, and other sources.

Automated Capture

Esploro
Institutional System of Research Objects
Built on the Alma Platform, Leverages the Power of the Community

Alma-as-a-Platform

A platform for academic solutions, leveraging cloud-native & community concepts for efficiency and collaboration

- End-to-end workflows
- Institutional & cross institutional analytics
- Collaborative networks
Alma as a Platform advantages

- Familiar back-end and workflows for librarians
- Highly customizable views based on roles, responsibilities and preferences
- Dashboard views into Esploro data and tasks
- Robust analytics
Open APIs for Esploro

Use the power of open APIs to connect your library to the academic ecosystem to improve user experience, enhance efficiencies, and provide greater value to the academic institution. This live dashboard presents how the Ex Libris community uses Ex Libris APIs in real time.

Ability to easily integrate with other 3rd party and home grown applications

Example integrations:
- HR systems
- Research Administration tools
- IRs
- Faculty Activity reporting workflows
- Analytics platforms
Next Steps In Development Partnership?
Concerns and Opportunities
Project Status and Timeline

Development is well underway

Key Milestones:
• Data model nearly complete
• Will begin demoing in test environments for dev partners in coming months
• Late summer: provide a sandbox for dev partners with the beginnings of their data

Open Issues:
• Rethinking researcher engagement
• Defining metrics and reports
• Consortia and cross institutional
Success Indicators (UI), 1 of 3

1. Repository of Institutional Research Records at least as good as what we currently have in IR

2. ETD repository and integration with ProQuest ETD workflow

3. Dataset repository (deposited data & metadata-only)

4. Automated routines to find candidate publications and iteratively enhance metadata
5. Migration of all full-text deposits in current IR

6. Faculty web profiles for publications

7. Integration with DigitalMeasures

8. Integration with ORCID
9. Integrated display of impact metrics

10. Ability to manage repository through familiar tools (i.e., Alma)

11. Seamless linking from repository to library catalog (book publications) and e-resources (journal publications)

12. Exit strategy for deprecating bepress within 12 months after go-live
Esploro: Next steps in development partnerships (OU)

Information Exposure
- Researcher View
- Librarian View
- Research Discovery Portal

Profiles
- Discoverability & Re-Usability
- Analytics & Metrics
- Reports

System of Research Objects
- Publications
- Research data
- Processes

Rule-based workflows
- Access, sharing, roles, rights
- Storage

Metadata curation and enrichment

Direct Deposit
- Automatic Capture

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Concerns

1. Putting all your scholarly output into a system owned by one company.
2. Algorithms / Code & Transparency / Openness?
3. Reuse existing components where they exist, i.e. ORCID, GitHub, etc.
Closing Comments

1. Public Universities & the need to better support campus research.
2. Too many silos - must consolidate - we’re wasting too much.
3. Enterprise solutions - sometimes they are the right solutions.
Q & A

Thank you!

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