Research outputs: You want me to do what?!?

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The Agenda

1. The challenge(s) -- 30 minutes
   a. The overall environment
   b. Stories and Perspectives of Researchers/Librarians/VPR/Provost

2. Is there a solution? -- 20 minutes
   a. A vendor perspective

3. Q & A – 10 minutes
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.

Total Federal & Non-Federal Research Funding FY16: $437.9m

FY16 SPONSORED RESEARCH

BY SPONSOR TYPE
Federal: 55%
Industry: 17%
Nonprofit: 10%
State: 9%
Other: 9%

BY FEDERAL AGENCY
HHS (including NIH): 74%
Education: 9%
NSF: 6%
Defense: 4%
Other: 7%
The Overall Environment

Research Data Management Systems

Research Administration Systems

Institutional Repositories

Current Research Information Systems

Red box = library didn’t stand it up, but we work with & may end up maintaining it.

CyberCommons

Locally Developed

Red box = library didn’t stand it up, but we work with & may end up maintaining it.

CONTENTdm®

DSpace

Fedora™

Islandora

bepress™

omeka

The UNIVERSITY of OKLAHOMA LIBRARIES
libraries.ou.edu

The UNIVERSITY of IOWA LIBRARIES
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
Perspectives:
What does the VPR’s Office want?

• 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.
Perspectives:
What do Provosts want?

Advise decision-making
Is there a solution to all this?!?

Esploro
by
ExLibris
The bridge to knowledge
So, what are we hearing

The Goal

A growing need and an urgency to collect, curate and disseminate data about research outputs and activities at an institutional level, to improve and promote: Visibility, Impact and Compliance

(* ) Although there are significant regional variations (mandates, regulations, national assessments, technology adoption, organizational cultures, etc.) - we are hearing similar stories and experiences in many universities, globally
Basically

Institutional Research Records

Do a few useful things

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

This is ‘our’ research stuff!
Challenges

- How to get the data
- What data to get
- How to manage & improve it
- Do useful things with it
- Add Value ("why should I do it?")

Curation
Management
Dissemination
YES

@scale
Sustainable
**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
Getting the Data – a changed paradigm

More streamlined Author Archive/Deposit, Interwoven into their work

- 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
Research Objects Flows Today

- Institutional Repository
  - Research Data
  - Direct Deposit
    - Sometimes
      - Publications
        - Data & Processes
          - Disciplinary/Specialized Repositories
            - Published Content
              - External
Creating a Comprehensive View of Research Objects

- Early triggers from research project for data planning
- Allow reporting back to funders

- Metadata and ID enrichment
- Links b/w publications and data
- Controlled vocabularies
- Library mediated, when required (WF based)
- Feeds of enriched data back to source (where possible)
- Adding flags & triggers for OA, sensitive data etc.
Flexible Data Model is Needed

Simple asset – metadata and files
Related assets (e.g. publication and related data)
Flexible Data Model

Simple asset – metadata and files
Related assets (e.g. publication and related data)
Aggregated research object
Supports Linked Data standard
Creating a Unified System of Records for all Research Objects

Moving beyond the traditional institutional repository:
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
Workflow-based
Integrated analytics
Quality metadata
Mediate & unmediated
Broad dissemination
The Framework: Research Services Platform

Dissemination
- Researcher
- VPR
- Discovery

APIs & tools for community collaboration

Researcher Profiles

Analytics & Reports

Research Objects Management
- Publications
- Creative Work
- Research Data
- Processes

Metadata curation and enrichment

Researcher Deposit

Automatic Capture

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Paving the way to greater impact of academic research by driving visibility, efficiency, and compliance of research activities, leveraging library expertise and technology
Building **Esploro**

Study and research – conversation with more than 30 universities (NA, EU, UK, ANZ)

**Development partnership** with five universities:

- Lancaster University
- Sheffield University
- University of Oklahoma
- University of Miami
- University of Iowa

Development is underway
WIP/Open Issues

Researcher engagement:
- What value researchers gain of this system?
- How can we entice engagement/usage?

Data model flexibility

Metrics

Consortia

Cross Institutional
Q & A

Thank you!

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