Designing RDM services
Nanyang Technological University
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Digital Curation Centre

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Some lessons from the IE programme

- Some institutions still have fragile RDM programmes
  - Reliant on one or two individuals
  - No institutional memory

- In some places services are beginning to be embedded but aren’t joined up.
The size of institutions has an impact

- Large, hierarchical institutions
  - Move slowly
  - Require a lot of advocacy
  - Have more resource
  - Economies of scale

- Smaller institutions
  - More agile
  - Simpler communication
  - More focussed vision
  - Less resource
UK policy has had an impact
What RDM services might be needed?

How to Develop Research Data Management Services - a guide for HEIs
Sarah Jones, Graham Pryor and Angus Whyte
Establish a working group

- Good mix of representatives from operational units
- Senior management leadership

http://www.executive-coaching-services.co.uk/executive-coaching/leaders.jpg
Where to start?

Policy sets service scope and can unlock funds

▶ Important elements
  » Clearly stated coverage and requirements
  » Well defined roles and responsibilities
  » Research data definition

▶ Institutional policy should reflect the external context
External context and drivers

“External context and drivers

OECD: Better policies for better lives

Data are a public good and should be openly available.

FAIR data principles:
- Findable
- Accessible
- Interoperable
- Reusable

OECD

Open Research Data pilot

G8 Science Ministers Statement

G8 Lough Erne 2013

Panton Principles

Principles for Open Data in Science

“For science to effectively function, and for society to reap the full benefits from scientific endeavours, it is crucial that science data be made open.”

FORCE11

The Future of Research Communications and e-Scholarship

European Commission
Data policy trends

▷ Proliferation of policies
  » Make the landscape easier for researchers to navigate
  » More harmonisation needed
  » Clarifications needed when requirements conflict

▷ Growth in open data policies
  » Should push open science agenda but not at expense of RDM

▷ Research data policies often ‘aspirational’ and high-level
  » Need for more group guidelines and practical procedures
  » More researcher input when developing services & infrastructure
Early UK research data policies

“Statement of commitment”
→ Infrastructure → policy

“10 commandments”
mutual promises
aspirational

Baseline of RCUK Code
+ procedures & support

legal tone / language
a section in uni DM policy
useful guide as appendix

Based on Edin.
with a few additions
## UK policy examples

<table>
<thead>
<tr>
<th>HE Institution in chronological order</th>
<th>Date</th>
<th>Definitions</th>
<th>Support</th>
<th>DMP</th>
<th>Scope</th>
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<td>University of Birmingham</td>
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Laurence Horton did an analysis of the 31 policies listed in 2014

- 74% specify a requirement for data to be open where possible
- 74% of unis require a DMP and a further 19% point to funder requirements. Only 2 don’t mention DMPs at all.
- 55% specify a length of time for which data should be retained / preserved
- 45% give a full definition of research data
- Only 23% contain a statement on institutional ownership of research data
- Again, only 23% (7 out of 31) mention RDM costs

Three examples

- University of Melbourne policy on research data and records

- Purdue research repository digital preservation policy
  » [https://purr.purdue.edu/legal/digitalpreservation](https://purr.purdue.edu/legal/digitalpreservation)

- University of Leeds RDM policy
  » [https://library.leeds.ac.uk/research-data-policies](https://library.leeds.ac.uk/research-data-policies)
Guides on policy development

Guidance to help institutions get started:

- Five steps to developing a research data policy
  - [www.dcc.ac.uk/resources/policy-and-legal/five-steps-developing-research-data-policy](http://www.dcc.ac.uk/resources/policy-and-legal/five-steps-developing-research-data-policy)

- LEARN project guidelines for developing an RDM policy
  - [http://blogs.ucl.ac.uk/learn-project/files/2016/01/red_LEARN_Elements_of_the_Content_of_a_RDM_Policy.pdf](http://blogs.ucl.ac.uk/learn-project/files/2016/01/red_LEARN_Elements_of_the_Content_of_a_RDM_Policy.pdf)

- ANDS Data Management Policy outline
A policy is just the beginning...
Making the case for RDM

▷ What will persuade people to invest?
  » compliance, potential research benefit, being innovator / leader

▷ What level of detail is needed?

▷ Who is the right person to sign off?

▷ Provide options to give panel more choice to approve

www.dcc.ac.uk/resources/briefing-papers/making-case-rdm
Constructing the case

- Identify the risks of doing nothing
- Identify the benefits of providing support
  - To the institution
  - To the researchers
  - See Beagrie, N. and Pink, C.
  - http://opus.bath.ac.uk/32509/1/RDM_Benefits_vFinal.pdf

**Definition of Service**

“A means of delivering value to customers by facilitating outcomes customers want to achieve, but without the ownership of specific costs and risks.”

From ITIL service management approach
http://itsmtransition.com/2014/01/what-is-itil-service/
Quantify potential revenue loss

- Performing a high-level financial analysis of research funding will identify the amount of funding which carries RDM conditions
- As more funders publish requirements this exercise can help to prioritise areas for service development
Identify the needs of researchers

- What policy and legislation must they comply with?
- What problems are they struggling with that the service can help with
  - Can survey responses quantify this need?
    - Via lightweight surveys
  - Do you need more detailed information?
    - From DAF-style surveys
- How can the value of research be enhanced?
  - in ways researchers perhaps haven’t thought of!
Common survey findings

- Sharing driven by benefits not policies (e.g. reuse potential, citation, public good etc)

- Informal, peer-to-peer sharing methods most common - email, dropbox, transfer on USB etc

- Lots of data held on hard drives and cloud services rather than managed university filestores

- Lack of clarity on data ownership or processes when staff leave

- There is a demand for and intention to use uni services, but low uptake in many cases so far
Gauging staffing levels needed

- This can be very hard to judge
- Support is often distributed
- Examples from peers can help:
  - [http://www.dcc.ac.uk/survey2015](http://www.dcc.ac.uk/survey2015)
  - The most research intensive institutions had 3.0FTEs assigned to RDM
- Addressing individual service elements can be a useful approach
Assess institutional context

- Number of active researchers
- Aspirations and strategic objectives

Channels and communication

▷ Technical considerations
  » What systems need to integrate
  » How can choice of system promote engagement and information flow

▷ Cultural considerations
  » Who needs to communicate
  » What structures/workflows need to be in place
How to deliver and sustain services?

DIY or outsource?

▷ Prevailing institutional culture
▷ Access to developers / technical expertise
▷ Possibility for brokered deals, procurement support, regional collaborations...
▷ Choice that keeps options open e.g. OS + delivery options

Cost models

▷ Part of core institutional provision (overheads)
▷ Direct costs for research facilities / services
▷ Charges on research grants e.g. deposit fees
▷ Grant funding for certain services

https://unlockingresearch.blog.lib.cam.ac.uk/?p=631
Building your approach
Breaking down the service

- RDM policy and strategy
- Business plans and sustainability
- Data management planning
- Active data management
- Appraisal and risk assessment
- Preservation
- Discovery
- Access and publishing

Supporting services:
- Training
- Advisory services
## Capability levels – our approach

<table>
<thead>
<tr>
<th>Level 0</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="No action" /></td>
<td><img src="image" alt="Compliance/Baseline service" /></td>
<td><img src="image" alt="Institutionally tailored" /></td>
<td><img src="image" alt="Sector leading" /></td>
</tr>
</tbody>
</table>

- **Level 0**: No action
- **Level 1**: Compliance/Baseline service
- **Level 2**: Institutionally tailored
- **Level 3**: Sector leading
**Online training**

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<th>Level Two</th>
<th>Level Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rebadged online courses are provided and linked to from RDM pages.</td>
<td>Rebadged online courses are supplemented with some in-house, locally produced materials.</td>
<td>A significant proportion of locally produced online courses are available. These are reused by others in the sector.</td>
</tr>
</tbody>
</table>
Who has what in place?

- **Policy and strategy**: 87%
- **Business planning**: 13%
- **Data Mgmt Planning**: 50%
- **Data cataloguing**: 38%
- **Managing active data**: 40%
- **Data preservation**: 18%
- **Governing access & reuse**: 22%
- **Skills training & consultancy**: 63%

% indicating ‘rolling out’ or ‘embedding’ * referred to ‘access & storage systems’ in survey
Thank-you, any questions?

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