Managing Research Data and Data Management Planning

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Overview

Help you think about practical issues to do with creating, working with and securing data

Show how ‘data management’ benefits you

During a research project and after

A key part of systematic reviews and research skills
Management of Data
Supporting Research Outputs

There is a formal policy; Researchers are responsible for:

- Developing and documenting clear data management procedures
- Planning for the ongoing custodianship of their data
- Ensuring that legal, ethical, and funding body requirements are met

The University is responsible for:

- Providing access to the services, facilities, and support needed to allow researchers to comply with the policy

http://researchdata.ox.ac.uk/home/introduction-to-rdm/university-of-oxford-policy/
Policy coverage

In practice what does it mean?

‘Management’ - Protecting ourselves as projects develop or things go wrong;

Laptop lost or stolen

Hard drive crash

Funding terminated

Team members disperse

Memory fails

Reputational damage

Forgotten passwords

Inherited projects – no metadata
Management Policy

Research data and records should be:
  a. Accurate, complete and reliable;
  b. Identifiable, retrievable, and available when needed;
  c. Secure and kept in an appropriate manner

Attempt to cope with;
https://sites.google.com/a/sheffield.ac.uk/rdm_links/training/disasters
Impact on You

Responsibility is yours as data creators to be aware of policy

Combine with wider research skills development

Respond to funder/publisher expectations in the future

Make use of the support framework at Oxford

Be aware of bigger research picture
What Are Your Concerns?
Some Principles of Data Management

How can RDM help with these concerns?

Data Management Planning and the research lifecycle

All stages of research
- Before
- During
- After

Data and Metadata

Usable and *citable* for you now (secure storage)

*and* in future (accessible – preservation)
Working with Data?

Typical examples?
  Born digital
  Or digitised
  Used and unused
Digital Media

Digital – a key factor in rdm

Strengths of digital
  ◦ Perfect copies
  ◦ Easy to share
  ◦ Convenient

But there are weaknesses *to be managed*
Digital Media

Weaknesses of digital
- Too easy to share
- Medium dependent
- Corrupted - Immediate loss
- Inflexible – difficult to repurpose
- Too many copies
- Hardware and software dependent
- Long term use issues - Digital obsolescence and fragility
- Ethical and licensing issues

Curate it
- Collaborate on data management
Management takes Shape

Day to day protocols on collection and use

Disaster planning
  ◦ Multiple storage and backups
  ◦ Data security

Appropriate workflow?

Documentation – Metadata
  ◦ Natural offshoot of literature search/ research diary?

Formalisation of procedures ensures **preservation**

Preservation as basis of sharing
Getting Support for RDM

Important distinctions in managing your data *and* how others view it

Dynamic or static?

See where and *when* support fits in

During or after the project?
- HFS (during but *not* after)
- RDO on other options
- External archival services
Support Frameworks

You are not left to figure this all out yourself!

At Oxford:
- The Library and its Subject Consultants
- Departmental level support
- Research Skills training
- Research Data Oxford webpage
- Research Data Oxford email
- ORA / ORA-Data
Support Frameworks 2

Ethical and legal issues
- Creating data – live participants
- Curec
- Collecting data – Licensing

Research Ethics
- Access Restrictions
- Participation/Confidentiality agreements
- Ethics Committees and Informed Consent

All influence current and future use
Support Frameworks 3

Outside Oxford:
- Digital Curation Centre
- UK Data Archive/Service
- Edinburgh – MANTRA Course
- Publications (Rice & Southall 2016, Angus Whyte 2014)
- websites

- Focus on Data Management Planning
Ask Yourself

If you want to revisit your data ten years from now

Intellectually possible?
  ◦ Is there metadata to help? (How do the pieces fit?)

Technically feasible?
  ◦ Can the files be found and opened

Ethically/ Legally possible

What am I expected to do?

What do I think appropriate

Produces a DMP
RDM Planning

Data Management Plans and Planning

Growing popular with funders and publishers

What is it?
- About applying rdm principles
- Formalising previously informal stages
- See chapter 7 (Rice & Southall 2016)
  ‘Research Data Oxford’ pages
DMP – an outline

Describes the research data being created or collected

Key responsibilities

How the data will be organised

Disaster recovery

Documentation during the collection and analysis phase

Tools

Plan v. Planning - a considered approach
Other Elements

Policy on data storage and security

What facilities and equipment will be required

How stakeholder requirements being addressed

How / If the data will be preserved

How / If the data will be shared

ORA-Data Pre-deposit checklist

DMPOnline tool
Benefits to You

Make more efficient use of data

Protect against common problems of ‘fragile’ digital data

Keep you in control of your data

Now and in the future

Increase citations/ impact of research
Closing

RDM supports practical issues to do with creating and working with data

New interest in metadata

New drive for accessibility and sharing that can’t be ignored

Keeps frameworks relevant to researcher needs

Final observation or questions?