

RUBRIC Toolkit: Potential Repository Functions

Introduction

[Wikipedia](#)¹ defines a digital repository as, “a central place where [data](#)² is stored and maintained”. Various types of repositories are listed on the Wikipedia page, with links to their definitions. The focus of the RUBRIC Toolkit is on institutional repositories.

An [Institutional Repository](#)³ (IR) is defined in Wikipedia as, “an online locus for collecting and preserving in digital form the intellectual output of an institution, particularly a research institution”.

The [Digital Preservation Management](#)⁴ tutorial produced by Cornell University states that:

Digital repositories should not be confused with either digital libraries, which collect and provide access to digital information but may not commit to its long-term preservation, or data archives, which do include long-term preservation but limit their collections to statistical datasets .

In Australia, the Research Quality Framework (RQF) (see information below), has been put in place for the evaluation of research and the selective allocation of funding based on that evaluation. This has potential implications for institutional repositories, as one factor of the evaluation exercise is the need to better record and manage research outputs.

Developing a Business Case

Adopting a business case approach ensures those responsible for allocating resources have all the necessary information to allocate scarce resources, both human and financial. Business cases can vary in format, but should include financial projections and an impact/benefit analysis to the organisation.

A business case can be useful to:

- justify why a separate IR is needed for showcasing research output
- explain why other existing "repository" solutions such as a Content Management System may be inadequate
- identify resourcing issues

Why Build an Institutional Repository?

There has been some debate about why an Institutional Repository for showcasing research output is required separately to other existing "repository" solutions such as a Content

Management System. The following points may assist in defining the value of implementing a dedicated repository for managing research output such as publications and associated data sets.

[Houghton and Shehaan](#)⁵ (2006) suggest there is economic impact in enhancing the access to research output and includes useful statistics and impact framework diagrams to back up your business case.

Benefits could be listed as:

- Open Access to research/knowledge
- Controlled Access to research where conditions exist
- [Increasing visibility](#)⁶ of an institution's research profile
- Preservation to ensure that a deposited item remains continuously accessible for as long as necessary
- [Internal management of research outputs](#)⁷
- External reporting on research (see below)
- [Supporting teaching and learning](#)⁸

[Walters](#)⁹ (2006) suggests that there are no hard or fast rules about where the process of developing an IR should begin in an organisation, so it is helpful to review a range of options at the outset of the project:

There is no need to be rigid – adopt an approach that will work on your campus, utilize your existing relationships, and deliver some small projects. These steps will pave the way to engendering a broader understanding of how the library can support modern scholarly communications and help manage digital intellectual output.

Considerations for a separate system include the following:

1. **An IR serves a specific purpose.** A key factor is the exposure of the research output of a university to increase its impact and accessibility.
2. **Internal Interoperability.** An IR will not sit in isolation from other systems in the university. Consider what processes need to be established to manage relationships with other systems such as the Library catalogue and the research database.
3. **External Interoperability.** [OAI-PMH](#)¹⁰ compliant repositories can dramatically increase the exposure of an organisation's research output, because they enable the metadata to be harvested freely by harvesters such as:
 - [OAIster](#)¹¹
 - [Google](#)¹² and [Google Scholar](#)¹³
 - [Yahoo](#)¹⁴
 - the [ARROW Discovery Service](#)¹⁵, [Picture Australia](#)¹⁶ and the [Australasian Digital Theses \(ADT\)](#)¹⁷ service which are all important OAI-based harvesters in Australia
4. **Higher citation rates for authors.** Increased exposure of research leads to greater impact: access is a prerequisite for impact: anything that blocks access blocks impact.

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The unread article is the unused, uncited article. This is also why citation counts – how many papers have cited my paper? – have become such important performance indicators for research uptake and impact [Harnard](#)¹⁸ (2003).

5. **Statistics demonstrate impact.** Academics can see the reach their work is having nationally and internationally, 'recent studies have begun to show that open access increases impact' ([OpCit Project 2007](#)).
6. **Time saving.** Permanent URLs allow academics to easily share their publication data with peers or list work in CVs. Work is more freely available and this reduces the individual approaches made to academics to distribute their work.
 - The [University of Rochester UR Research](#)¹⁹ provides a good example of automatically generated Researcher pages
 - USQ's [Department of Maths and Computing](#)²⁰ helped to develop a script so that they could list their ePrints without any re-entry of data.
7. **Research Reporting.** In Australia, an IR might provide an easy mechanism for both DEST reporting and the Research Quality Framework.
8. **Metadata** categorizes deposited material greatly assisting with discovery.
9. **Stable software.** There are established and growing communities of users for most mainstream IR software solutions.
10. **Open global systems.** Through a local IR instance, academics are contributing to an open system whereby Australian research can be easily and openly shared with the world.
11. **Showcasing.** An IR creates a single centralized entry point on the university's web pages to showcase the university's research. Individual academics and departments save time and effort in maintaining web pages and ensuring greater compliance with copyright and legal distribution of an academics' published work.

[OCLC Systems and Services](#)²¹ Volume 23 number 2 contains a number of articles about setting up an IR which may be another useful reference in gathering your business case arguments.

[McKay](#)²² covers IR usability from the perspective of end-users and information seekers and suggests some options for future work in the development of the repository space.

National trends in Australia

Open Linking

[Open Linking](#)²³ or [federated searching](#)²⁴ was being debated and investigated nationally in Australia at the time RUBRIC Partners bid for the project grant (May 2005). Most IRs were being implemented by the larger organisations and managed through the libraries of those organisations during the period 2002-2004. The reasoning behind the RUBRIC Project bid was that if smaller institutions were unable to keep pace, Australia would see an ever-

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widening digital divide between those conducting and maintaining scholarly research via repositories and those increasingly unable to participate.

Research Quality Framework and Accessibility Framework

The [Research Quality Framework](#)²⁵ (RQF) is an Australian government initiative that will assess University research for its quality and impact. The exercise will be undertaken in 2008.

Other similar evaluative processes internationally include:

- the [Research Assessment Exercise \(RAE\)](#)²⁶ in the UK
- the [Performance Based Research Fund](#)²⁷ in New Zealand
- a [comparative study](#)²⁸ completed in New Zealand in 2003 provides some cross comparisons

The [DARE](#)²⁹ initiative in the Netherlands provides an example of a national effort to make their entire research output accessible through an Institutional Repository (IR) infrastructure.

The RQF was formally announced on the 14 November 2006 by Federal Education Minister Julie Bishop. She stated that "the development of a framework for evaluating research will ensure public funding is being invested in research which will deliver real benefits to the wider community" [Armitage](#)³⁰ (2006).

[The RQF Explained: Information Management and Repository Needs for the RQF](#)³¹ seminars were held by DEST in February 2007 to keep the Australian repository community informed. An [RQF homepage](#) has also been established to keep stakeholders informed of progress, providing useful links to:

- [Frequently Asked Questions](#)
- [RQF Fact Sheets](#)
- [RQF Developments](#) and
- [RQF Implementation 2007](#)

The [Australian Partnership for Sustainable Repositories](#)³² (APSR) Project has provided some other [useful links to RQF resources](#)³³.

Managing Concerns and Objections

Concerns and objections may be raised during the process of establishing an IR. This is normal as people adjust to new models and methods of communication, consider trust issues and weigh up benefits and impacts for themselves. Researchers and publishers have concerns and you may have to contend with cultural issues in certain disciplines if self-archiving is not already practiced. The following resources will be useful when you encounter concerns.

[Fifteen Common Concerns and Clarifications](#)³⁴ on the [Sherpa](#)³⁵ site: a useful place to start
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locating answers to objections you will encounter.

The [FAQ on "I-worry-about..." 34 prima facie concerns](#)³⁶ : useful for finding answers when challenging topics arise in your community. This is the list of issues covered:

- Copyright
- Peer review
 - Certification
 - Evaluation
 - Tenure/Promotion
 - Censorship
- Sitting Pretty
 - Navigation (info-glut)
 - Priorities
- Preservation
 - Authentication
 - Corruption
 - Version control
 - Mark-up
 - Classification
 - Graphics
 - Readability
 - Serendipity
 - Libraries'/Librarians' future
 - IRs: OA or DL?
- Learned Societies' future
- Publishers' future
 - Downsizing
 - Paying the piper
 - Capitalism
 - Napster
 - Waiting for Gold
- University conspiracy
 - Rechanneling toll-savings
 - Affordability
- Priority

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- Secrecy
- Plagiarism

RUBRIC Partner IR Reasons and Functions

while early implementers of institutional repositories have chosen different paths to begin populating their repositories and to build campus community acceptance, support, and participation, a mature and fully realised institutional repository will contain the intellectual works of faculty and students - both research and teaching materials - and also documentation of the activities of the institution itself in the form of records of events and performance and of the ongoing intellectual life of the institution. It will also house experimental and observational data captured by members of the institution that support their scholarly activities. [Lynch](#)³⁷ (2003)

The University of Southern Queensland (USQ)

[USQ](#)³⁸ began developing [ePrints@USQ](#)³⁹ in 2004 to resolve a pressing need to house born digital 4th Year Engineering Projects in a format where they could be well managed and accessible. The decision to invest in an IR was taken with the view that this system could be extended and developed to also contain academic and research ePrints in line with the Open Access movement.

[4th Year Engineering Projects](#)⁴⁰ were the focus of the initial data entry phase. Project benefits were listed as:

- a distinct faculty area to work with
- clear initial goals (project data entry)
- clearly defined outcomes
- a defined timeframe
- a business plan and strategy for expansion.

Soon after the launch, a library staff member learned that an academic in the USA was using it to demonstrate the requirements of similar projects to his Engineering students at a university in Texas.

Macquarie University

The planned project results are:

1. A working digital repository, which will provide access to the research and intellectual output of Macquarie University. This will include:
 - research outputs created by Macquarie University researchers.

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- original digital Macquarie resources.
 - digitized library and university resources
 - later phases will include long-term preservation and migration plans
2. Infrastructure to support the requirements of Department of Education, Science and Training (DEST) reporting for the RQF.
 3. Infrastructure and support for the archiving, publishing and dissemination of university research and output.

Flinders University

The [Flinders Academic Commons](#)⁴¹ IR was in production prior to the start of the RUBRIC Project.

Murdoch University

Reflections by the Project Manager at Murdoch University gives some insight into their experience in establishing an Institutional Repository.

The University of New England

Reasons for implementing an IR at the University of New England include:

- improved strategic use of research assets
- overcoming limited distribution of research assets
- taking advantage of trends in academic publishing
- utilising the internet as a research tool

References and Further Reading

Refer to the Further Reading section at the end of the Toolkit for bibliographic details of works referenced in this section.

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- 1 <http://en.wikipedia.org/wiki/Repository>
- 2 <http://en.wikipedia.org/wiki/Data>
- 3 http://en.wikipedia.org/wiki/Institutional_repository
- 4 <http://www.library.cornell.edu/iris/tutorial/dpm/>
- 5 <http://www.cfses.com/documents/wp23.pdf>
- 6 http://jekyll.comm.sissa.it/articoli/art07_01_eng.htm
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- 30 <http://www.theaustralian.news.com.au/story/0,20867,20758602-12332,00.html>
- 31 <http://www.apsr.edu.au/rqf/presentations.html>
- 32 <http://www.apsr.edu.au/index.html>
- 33 http://www.apsr.edu.au/rqf/helpful_links.htm
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- 36 <http://eprints.ecs.soton.ac.uk/10635/01/index.html>
- 37 <http://www.arl.org/resources/pubs/br/br226/>
- 38 <http://www.usq.edu.au/>
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- 40 http://eprints.usq.edu.au/perl/search/advanced?_fulltext_=&_fulltext__merge=ALL&title=&title_merge=ALL&creators=&creators_merge=ALL&abstract=&abstract_merge=ALL&keywords=&keywords_merge=ALL&subjects_merge=ANY&type=usqproj&grad_level=ugrad&de

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41 <http://dspace.flinders.edu.au:8080/dspace/>

42 <http://creativecommons.org/licenses/by-sa/2.5/au/>

43 <http://creativecommons.org/licenses/by-sa/2.5/au/>

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