

Chapter 9

Making the Repository Count: lessons from successful implementation

Matt Holland and Tim Denning

[Insert word cloud for Chapter 9]

Introduction

We accept that institutional repositories (IR) are a good thing for universities. They solve the problem of knowing what research is being published. They contribute to the free and wider dissemination of knowledge, enhance the visibility of research outputs and speed up its use. Despite all these positive outcomes, implementing a repository remains a challenge. This chapter uses “real world” experience to identify what some of the challenges are and to suggest strategies that might be adopted to overcome them. The chapter focuses on three areas: how the IR fits with the university organisation, how to promote the use of the IR to end users and contributors, and how to secure long term benefits for the broadest range of stakeholders. It does not deal with technical and copyright issues, which are covered in the chapter by Alma Swan, *Institutional repositories – now and next*. Two short case studies are incorporated in the discussion, including a description of the implementation of Bournemouth University Research Online (BURO). Reflections on these three areas form a major element of the text that follows.

How the Institutional repository fits with the university organisation

Making the case for the IR and the library in Research Information Management [RIM]

Research outputs are part of the product of a university, its staff and research centres. The success of the institution is to an extent judged by the volume and quality of research outputs. Academics and research administrators at all levels are actively involved in promoting research as part of the university corporate communications strategy. One consequence of this is that everyone involved needs access to information about research outputs. This includes web designers creating staff profiles and web pages, senior managers preparing reports for committees and boards, academics preparing bids for funding, marketing professionals showcasing research, and research administrators preparing for research evaluation. Communicating the centrality of bibliographic information to the management of the research information process is a key task to ensure the success of the repository.

To illustrate this point it is instructive to look at the experience of the pilot exercise to collect and analyse data for the Research Excellence Framework (REF) the replacement for the Research Assessment Exercise (RAE). 22 universities were chosen to take part in the exercise and to collect data to test the collection methodology and bibliometric measures that may form part of the REF evaluation (HEFCE 2009). Looking specifically at the process of collecting data for submission to the Higher Education Funding Council for England (HEFCE) there is a clear lesson that universities should ‘press forward with ongoing efforts to strengthen their central Research Information Management (RIM)

systems and capture a majority of all research outputs.’ (Technopolis 2009b, p2.). The report goes on to analyse the specific implications for research information management systems, which include:

- Have a publications database that links to other university systems such as HR (staff) and finance (contracts, research income)
- Move towards a system where all research outputs are captured and catalogued. (Technopolis 2009b, p4)

In reporting on the possible impact of the REF on staff, the experience of the 22 participants was that:

In all cases, the library is expected to play a fuller role in the future, with an increased workload associated with maintaining more comprehensive and up to date repositories and bibliographic databases.(Technopolis 2009b p4).

The role of IT departments

The IT department is a key player in the developing use of repository data. Bibliographic data form part of the information that flows through the networks and applications that IT departments maintain and deliver. There is an opportunity to contribute more and better bibliographic data to enhance the overall quality of information available to the university and to enhance bibliographic data by linking with other information in the system. A university may also maintain a number of systems that either harvest or use bibliographic data related to research outputs, for example a closed system that supports research information management or a repository for public use and human resource systems. The experience of the JISC REF pilot studies is that very few universities have all three systems, some have no effective system or are developing one, and few are integrated.

In designing systems to capture and use bibliographic data the ‘input once, use many times’ principle is important. Academic, researchers and their support teams will not support repeated requests to input or provide the same data for different purposes. Good technical solutions that enable data to be shared between systems are an important underpinning. From the Bournemouth case study the problem was resolved by designating the repository as the main data source, raising the profile of the repository with academics and gaining their support. The message that went out to academics was that the repository was the only place they needed to contribute publication information. In practice the integration of systems has some way to go but the objective of one source of data has been clearly signalled to the IT department for future developments.

The role of HR departments

HR departments have a number of points of contact with bibliographic data and possibly require a repository solution or at least research information management. The pilot REF required that institutions identify certain criteria, for example early career researchers, when researchers joined or left the university and where they originated from or departed to. Synchronising these data with publication history raised significant concerns. Looking to the future the benefits of being able to identify, for example, whether research outputs

were produced within a period of employment at a given institution, or to which institution the credit should accrue in research assessment will be important. Technological solutions save the many person hours it might take to do this manually and enable repeated questions to be addressed to the data, if for example universities wanted to run simulations of research assessment internally.

The second issue for HR is the point in time at which bibliographic data are supplied to the repository. The logical point is at appointment of new staff. Challenges remain in supplying data in electronic form that can also be quickly ingested into a repository or research information system. The optimum format would be a complete list in a popular bibliographic format or exported from a personal bibliographic database such as EndNote. The wide experience of academics and researchers of managing their own personal bibliography suggests this will be a challenge for many. A requirement that new appointees bring with them a personal electronic database of publications might at this point in time seem excessive, however, within the United Kingdom higher education sector the time and effort saved by this simple requirement is significant.

The value of the repository for corporate communications

Communicating research outputs to a wider audience can be a key role for the repository. This goes beyond arguments from the perspective of Open Access and the wider and free dissemination of research. The repository can be available to media outlets as well as the higher education community. Press releases and news outputs on websites can include links to research outputs as part of a package. Searches of repositories form part of creating an academic biography. News outlets may trawl repositories looking for interesting research.

The repository itself tells a story, how big it is, how well used it is, how many people access it and where it appears in world or national rankings. Fortune favours the brave in these areas but they make for good internal communications, and with the help of professional communicators, can make good external publicity.

The role of the repository in learning and teaching

The example of Keele University demonstrates a repository that is dedicated to learning materials. It plays a key role in revealing hidden resources to colleagues for reuse and supporting the learning and teaching infrastructure. There is a case study of the IR at Keele University later in this chapter. Self archiving using the repository, including unpublished papers, keynote speeches, conference papers or grey literature makes available to students resources that might otherwise be difficult to find or not be available at all. Repositories can also provide part of the answer to the question, “who is teaching me and what are their research interests?” by grouping research outputs easily by author, research group and faculty. The repository is a resource that can deliver content into virtual learning environments and can make an obvious connection for students between teaching and research.

The role of the repository to research management

The precursor to any research assessment exercise is the strategy universities adopt in

their presentation of data. Part of the benchmarking of researchers and research centres is creating a picture of an institution's research and where possible, modelling likely outcomes in any assessment exercise. This is harder with qualitative assessment but in the new REF process some form of quantitative assessment of research outputs using bibliographic or citation analysis is planned. The challenge here is that there needs to be some reference to external citation databases – ISI Web of Science and Scopus - which will offer universities information from their databases in the form of bibliographic data and citation analysis.

Although the research assessment may drive a process of assessing or measuring research productivity and impact, universities may see value in running metrics, measures of what is happening in terms of research across the data to provide a picture of where we are now, as part of a management information desktop. Examples of simple questions that could be asked could include “Which academics and which departments are most productive?” “Are outputs being published in high impact journals?” “Which journals are publishing our outputs and applying a measure to the quality of outputs?” There are challenges in the sensible use of these data, the use to which data are put, and the limits that apply need to be clearly communicated to users.

Repository managers have to make choices about the direction and content policies of their databases. In making these choices one lesson is clear, that universities need a complete and accurate record of research outputs going forward. Libraries will have a role in providing or supporting this. Repositories may be part or all the answer to this challenge. Making an assessment of who needs these data and how they are harvested points to who IR managers should be talking to and what services they might offer.

How to sell the IR to end users

Starting perhaps at the end of the process, the aim should be to create autonomous end users. Users who will contribute (or cause their research outputs to be added) to the repository, or check the validity of records sourced from other databases and be prepared to review and edit their own records.

Gaining support for repositories at a senior level is essential. As has been discussed earlier in this chapter a repository can answer pressing needs for the university as an organisation. Communicating with faculties and relevant professional services within the university and being able to evidence support from senior managers can move the repository from a ‘nice to have’ to an ‘essential to have’ tool. In presenting the repository to users, being able to say this is seen to be important moves the discussion of why it is needed to “how can we take part”.

Whatever form the repository takes in any institution, it is important to have a product that can be demonstrated to end users as purposeful and worthwhile. This will be informed by the strategy for the repository. At Bournemouth University (BU) where the repository was the designated source for university research outputs, the aim was to gain a critical mass of records, with some full text, to prove the concept that a single project, BURO, could replace several smaller, localised and less effective bibliographic databases. Considerable investment was made in staff time to harvest or ingest records, edit and

check them, before the repository was rolled out to academics and researchers. Not only was it possible to demonstrate the added value of well designed repository software but in most cases to show staff records for their own work already included in the repository.

Librarians need to be change agents (Holland 2000), drawing on many years of experience in information skills and demonstrating the value of databases or the latest electronic resource in selling the repository to end users. The following will be helpful promotional tools:

a webpage that is dedicated to the IR that can sell to end users, and host training materials, instructions and policies in one location
clearly thought through presentations to give to senior academics and researchers, that can sell the value of the repository
hands-on workshops on how to use the repository
clearly thought through arguments for the value of the repository to end users
embedded links to the repository in the university intranet and extranet
consistent dissemination of information about the repository through the established channels of communication.

Users will value flexibility. Keeping the users' needs central to the task of selling the repository and being prepared to go the extra mile wins champions in academic departments, and develops islands of experience for other staff to draw on. Consider trying:

working with individual staff who show an interest to input their complete bibliography offering to input records on behalf of staff to "manage the gap" between developing expertise within their departments in using the repository and the roll out of the repository
partnering with academic departments and other parts of the organisation to deliver sessions into workshop series, meetings and roadshows
being prepared to give extra 'temporary' access to expert users to help shape their own inputs
being open to feedback and prepared to configure elements of the repository – for example the subject structure - to the needs of departments
creating a forum to communicate with end users, a blog or wiki, that talks directly to users about the challenges and success of the repository and the issues it raises.
Universities may mandate participation in the repository, however, at the centre of the idea of an autonomous user – a willing participant in the project – is the belief that it is a useful exercise for them. Being prepared to sell the benefits to the individual is important and there are good arguments to use depending on the individual circumstances of the organisation. Broadly they are:

that the repository increases the visibility of research;
it can provide an easier and quick measure of research impact: the number of downloads; in certain disciplines a measure of impact can be hard to achieve where journals or forms of publication are not well represented in citation databases
the repository is one route to evidence mandated Open Access publication to research funders
the future trend is for universities to mandate or require recording outputs in some form of central database. There is no reason to delay participation – you will have to engage

at some point

it is a single point to feed information into university systems, and information can be drawn from the repository instead of requests for information made to individual researchers

the repository is a tool to manage publications: exporting to reference management software or directly to documents, reports and research proposals, and a persistent URL to link to publications

repositories provide a robust system for self archiving including different versions of the same document

repositories provide access to groups who might not otherwise have access, for example prospective students and those studying in developing countries.

Securing long term benefits

As organisations that produce research, universities have perhaps surprisingly not been traditionally effective at recording research outputs from their own staff and researchers. This is the lesson from the Research Excellence Framework pilot (although there are gradations of success with some very effective systems in place). While there are many users and uses for these data, the 'collect once use many times' principle means that the repository will either be the core of any system or a consumer of outputs from another publication system or Current Research Information System (CRIS).

The potential for the repository is to move from a 'nice to have' tool managed by the library to the centre of the research information management infrastructure. Clearly the growing importance of bibliographic data of this type places the library in a key position to contribute to this strategically important area of activity. Securing long term benefits requires an understanding of how this information flows within any institution and a willingness to engage with potential users. The different experience of Bournemouth and Keele demonstrates a capacity for the repository to evolve through the many contacts made within the organisation. Although this chapter has not covered technical aspects of the repository, the necessary engagement with external data providers cannot be ignored. Collaboration with external organisations such as HEFCE and commercial organisations who may, for example, offer consultancy services on the back of these data to the university cannot be ignored.

Case Study One: Bournemouth University Research Online (BURO).

With thanks to Emma Crowley, Institutional Repository Manager at Bournemouth University.

Milestones

2007 The IR was handed over to the library from the corporate centre. A publicly available version was released in a "soft launch" in May; during the year legacy databases were ingested and checked. The Metrics Tool was commissioned and implemented. Data quality checks and editing were begun.

2008 The migration to v3.04 of EPrints[1] began, with a focus on one School to achieve a complete record of publications. The RAE data were uploaded in March and the Metrics Tool rolled out at the same time. The following month BURO was promoted and made

available to all Schools. Towards the end of the year data for the HEFCE REF pilot were uploaded manually and reviewed.

2009 April 2009 saw the introduction of 'Browse Author' functionality and REF focussed advocacy sessions began with the Library and the Centre for Research and Enterprise collaborating. The 'Self Edit' tool was introduced in the following month, along with new functionality suggested by feedback from academics. From June the advocacy role was subsumed into the Subject Librarians' role, taking the form of workshops and one-to-one sessions with academic and research staff. In December PhD e-theses from BU were added to the database.

2010 A new IR editorial team was created and subsumed into core library activities, along with a mock REF and the creation of a new Publications Policy.

What next? Possible integration with CRIS.

Background

Bournemouth University Library took over management and development of the institutional repository, known as Bournemouth University Research Online (BURO), from the corporate centre in January 2007. EPrints manage and host the repository on behalf of Bournemouth University.

At that time Bournemouth University was in the process of launching a new corporate strategy, one part of which was a focus on enhancing research capacity. The strategy raised a number of practical questions. What research is already published by university researchers and staff? How is information about new publications collated? How is that information presented to internal and external audiences to promote research activity? The implementation of BURO was intended to resolve these questions. As well as the new strategy there were three concurrent strands of activity that were important to the development of BURO: a more co-ordinated approach to research information management, preparation for the 2008 RAE and participation in the pilot for the REF.

Implementation

The first task was to integrate legacy databases from four university schools. The contents of these databases were imported into the BURO 'review area' by EPrints and checked by professionally qualified librarians at Bournemouth before being deposited into the 'live' BURO archive.

The aim was for BURO to achieve a critical mass of records to make it useful and attractive to staff and researchers and to reflect the research output of the University to 2007. Bibliographic records were imported without full text, although links were included to external sources using the Digital Object Identifier (DOI). The inclusion criteria, based on guidelines approved at Board level, were interpreted broadly, keeping in mind the need to know what has been published. It became apparent that the volume of data had to be contained. A 'cut off point' of 2001 was established, based on the time frame for the 2008 RAE. Research outputs published prior to 2001 were not excluded, although records would not be input centrally by the library. EPrints encouraged the University to

think about other forms of publication, to reflect the international standing of Bournemouth Media School and their multimedia outputs, and create input forms for images, exhibitions, multimedia and moving image.

Development

The University Librarian and the BURO Project Manager gave a series of presentations to School Research Committees, explaining the purpose of BURO, demonstrating the software and encouraging participation. Full support for BURO at the highest level of the University gave added impetus to this initiative.

The 2008 RAE was a key influence on BURO. BURO was not used to collect data for the RAE 2008 as an existing process was already in place. However, discussions over the contribution of BURO with the team responsible for the RAE were very productive, in part because of the shared experience of the challenges in collecting bibliographic data. The RAE dataset was imported into BURO and it was agreed at that stage to use BURO as the core for future research assessment data collection activities. Bournemouth University became part of the JISC REF pilot of 22 institutions to test the new REF process and as a consequence BURO was chosen as one of five case studies looking specifically at data collection issues (Bolton 2009).

Throughout this period a concerted effort was made to input centrally as many records as could be feasibly identified from research active staff. This period of mediated deposit involved appeals to staff to submit CVs via e-mail, culling personal web pages for publication lists. The message to staff at that point was if you send it we will input it.

Preparing for participation in the REF pilot meant that the BURO Team were asked to focus specifically on one School. During the first three months of 2008, working closely with School administrators, BURO was used to capture the entire output of the School. This was broadly successful. The School were very committed to BURO; they understood the benefits and were able to communicate that message to staff.

BURO did experience some problems with data quality, specifically in staff profiles, which were created on BURO for each staff member, containing information about schools and research centres. During the implementation of BURO the university introduced a new Research Centre structure which had to be retrospectively added to staff profiles, as were minor changes to the University organisation. The costs of addressing these changes were signalled to the University Executive who allocated funds to pay for staff time to edit BURO. When BURO was officially rolled out to all staff and schools in April 2008 it contained a critical mass of 3000-plus records.

In response to feedback from the School, two small but important technological enhancements were instigated. Firstly, a Self-editing Tool was introduced within each item to allow academics who had not initially deposited an item to create and amend (or add full text to) a copy of the original. Secondly, an 'Author Browse' page enabled researchers to more easily locate their publications; to compare themselves with colleagues; and to re-use the persistent web-link for their outputs in their email signatures, as a further means of promoting personal research excellence.

Advocacy

BURO has been an essential part of a wider change agenda aimed at embedding research into the core activities of Bournemouth University (Crowley et al. 2009). Academics are now largely autonomous users of BURO, depositing items in the repository as part of their personal research processes. Crucial to this change agenda and to BURO's success has been carefully coordinated advocacy and prompt response to user feedback, which encourages academic engagement. The Library collaborates closely with Staff Development and the Centre for Research and Enterprise, providing guidance, briefing sessions and hands-on workshops, many targeted towards preparation for the REF and the potential citation benefits of BURO. The Subject Librarians are the main contacts for training; providing one-to-one guidance and copyright reassurance in each School, and new staff are introduced to BURO at induction. We intend to implement an institutional publications policy, which will mandate inclusion of all academic outputs in BURO, but it is winning the hearts and minds of researchers that is crucial, and judging by the speed at which it is growing this has largely been achieved.

Metrics Tool

Early on in the development of BURO its potential to provide information about current research activity was realised by the University Executive, who raised the possibility of producing a number of metrics based on publication outputs. These included the journals in which staff published listed by number of publications and by impact factor, lists of publications by organisational unit and author. These have been used in various reports required by University boards and committees. A Metrics Tool was commissioned by the University from EPrints, who devised a series of reports using a specification, which could be run against BURO.

Overall the Metrics Tool has had a positive effect on the development of BURO. It provided a significant focus on data quality, integrated BURO into the University information management structure and provided a driver to move BURO forward and direct effort and resources to where they were most effective.

Public Relations benefits

BURO is a public relations success, with accomplishments regularly incorporated in the Vice Chancellor's newsletters. Internally it provides useful information to managers and has raised the confidence of senior managers within the University. The focus on achieving a critical mass made BURO the natural source for information on research, and access to BURO was integrated into the University web presence using the tag *Our Research*. Researchers' publications in BURO will soon also be directly linked to staff web profile pages. BURO is included in a number of Open Access repository search tools, such as OAlster[2], and the Intute[3] Repository search, which together with its access via prominent search engines such as Google, will further heighten retrieval of the content. Academics feel empowered by the number of 'hits' BURO receives. At the time of writing BURO has grown to in excess of 10,000 records, meaning that it is among the largest in the UK. It has attracted positive publicity inside and outside the University

for this achievement, making it into the top 200 of the World Ranking Web of Institutional Repositories.

Future Challenges

The foremost ongoing BURO advocacy issue is to improve digital preservation by increasing the number of Open Access deposits. Looking ahead, possible future enhancements include the integration of citation data from ISI Web of Science or Scopus, development of the BURO Metrics Tool to improve internal and external reporting, and the insertion of a REF plugin. At present, similarly to other UK institutions, we are also investigating CRIS products such as Symplectic Elements and Avedas' CONVERIS. Adoption will require considerable technical planning to enable a multitude of existing institutional systems, including BURO, to interface effectively. Most importantly workflows need to be agreed to ensure that the positivity accrued through BURO advocacy is maintained.

|Case Study 2 Keele University Content Repository
|Material for this case study draws on a report prepared for the UK Higher
|Education Academy (HEA) as part of a Pathfinder Project[4] completed in
|2008.

In the beginning...

This case study provides an overview of developments at Keele University over a four-year period that starts in 2005 when the student population was growing rapidly and work had begun on a new 'University Strategic Plan'. This made explicit for the first time a commitment to:

Support e-learning to assist flexible styles of teaching and on and off-campus learning
Enhance the student learning environment by further development of e-learning opportunities

This new plan provided the impetus for a successful bid in 2006 to take part in Phase 1 of the HEA Benchmarking Project, a process which, we believed, would provide a clear picture of the current state of play regarding e-learning at Keele and provide the basis for further work. Much had already been achieved at this stage with the recent appointments of e-Learning Fellows for each faculty, a staff development officer with specific responsibility for e-learning support, additional technical support in Information Services and an extended remit for the existing staff development team.

As part of the project a new, loosely grouped, team was formed which crossed some of the vertical organizational structure in the university and brought together academic and support staff, members of the IT services team, librarians and the newly appointed 'evangelists' in the form of e-Learning Fellows. The team, known informally as the Elf Group, became the focal point for moving forward the concerns uncovered by the Benchmarking process to a second project to develop a content repository as an important part of the university infrastructure for supporting teaching and learning. The result was a successful bid to the HEA Pathfinder Programme.

Our formally agreed Pathfinder Project deliverables included:

A well understood and specified mechanism for using a repository for storing digital 'content' independent of a specific delivery tool e.g. virtual learning environment (VLE) or 'Learning' Server

Clear, documented work-flow frameworks for creating, sharing, tagging and using digital content in all its forms. These will be made available for use both within and beyond Keele

Procedures for generating data regarding the use of digital assets relevant to strategic and operational planning, and the creation of the datasets required by external agencies such as the Copyright Licensing Agency (CLA)

One or more Staff Development Modules created using materials held on the repository as exemplars of 'good practice' which can be shared across university faculties and between institutions

An exemplar collection of resources, including documents and a variety of digitized multimedia assets with metadata tags, made available in the repository for staff use in a range of teaching, learning and research activities

We had started by considered a range of national initiatives associated with the development and use of digital content and in particular the use of shared repository systems such as Jorum[5]. The JISC website and wider searches across the internet revealed an almost bewildering collection of material offering advice on all aspects of repository design, development, roll out and support. It also provoked a good deal of anxiety amongst team members unfamiliar with the mysteries of metadata, workflows and XML but this wore off as we realised that much of this could be scaled down to match our particular needs.

What did the project achieve?

Whilst the Keele Pathfinder Project developed directly from the earlier Benchmarking work and drew on the expertise of the established Benchmarking team there were two further essential elements needed before work could start in earnest.

The first of these was relatively easily achieved. After evaluating a number of repository packages we identified the Intralibrary product from Intrallect[6] as the best fit with our intended approach and found them willing partners in an exploration of the use of their repository system as a basis for managing materials scanned under the CLA licence. This would also be an opportunity to consider the best way to exploit their recently developed Powerlink which provided convenient and controlled access to resources in the repository from a VLE of the type already in place at Keele.

The second element was the appointment of a member of staff who could contribute time and expertise to the project. This would be someone with an established knowledge of CLA licence arrangements and librarianship qualifications that would enable them to take the lead in developing strategies for metadata tagging objects held in a content repository. Here the project was further enhanced by the availability of a librarian already in post with extensive IT and metadata skills and by the opportunity to use Pathfinder funding to bring into post a digitisation and copyright officer, bringing forward an appointment already planned for the following year.

Installing and commissioning the repository software, integrating this with our VLE and

enrolling staff users proved generally unproblematic, and it soon became clear that the tough challenges were not essentially technical but conceptual. From the outset the repository proved a reliable and stable environment for storing and managing the use of materials scanned under the CLA licence. The links with the VLE were easy to implement and the reporting features incorporated in the repository software evolved in line with our needs as new versions emerged.

The close collaboration between academics and IT, support and library staff resulted in huge improvements to the interface between the VLE and the repository. However this apparent progress on the technical front concealed, to some extent, the much more intractable hearts and minds issues. Enticing hard-pressed academic staff to place resources normally 'hidden' inside their online teaching modules into a potentially more open repository where they could make them available to others is not without its own challenges. The actual 'process' must be easy, certainly as easy as putting material directly into the VLE, but more importantly, access to the resources by others has to be organised so that staff retain a degree of authority over who might see and use their material. This is, of course, notwithstanding any assertion of Intellectual Property Rights (IPR) which the institution might make. Our work confirmed that workflows can be minimised for those materials that will not require extensive metadata because of their limited applicability, whilst additional tagging can be added post publication as and when required for resources with wider usefulness.

This work has continued into recent times with opportunities to explore more intuitive ways of searching the repository for material and then providing links to selected items in the VLE. Most recently we have started to develop easier ways for staff to deposit material directly from their desktop using a simple drag and drop process coupled with the use of workflow templates to add defined metadata automatically, and to put content into specified collections.

However, much remains to be done. The creation of a content repository draws attention to issues associated with IPR including copyright, ownership and the moral rights of authors. Resources can require much closer scrutiny to ensure that there has been no infringement of the copyright of others during their creation. A move towards a more open approach to educational resources may need to go hand in hand with some form of quality assurance as teaching and learning materials are disseminated more widely. The protection of a Creative Commons Licence, perhaps with requirements for attribution and control over derivatives, could be automatically asserted when materials are downloaded.

Conclusion

This chapter and the two case studies identify specific and practical lessons. There are broader lessons to be learned that underpin successful projects.

Link projects with the delivery of broader strategic and policy objectives. Demonstrating that projects can deliver practical outcomes that serve the wider organisation enhances the impact of projects and gains support at a senior level.

Collaboration across the organisation breaks down barriers and ensures that projects

consider the real challenges for users and the needs that they would like the project to address.

Demonstrating working or pilot versions is the most effective way to convince potential users and contributors of a project's value. Look at what we have done, not look at what we say we will do.

Making projects efficient for end users is important, which means working hard to reduce the burden in time and effort of participating.

People, not technology, are important in projects that aim to harvest and deliver content. This means investing time and effort in communicating, persuading and listening to potential users.

References

Bolton, S., 2009. *The ICT Implications arising from the research excellence framework bibliometrics pilot*. JISCinfonet. Available from: <http://ie-repository.jisc.ac.uk/338/> (accessed 13 March 2010).

Crowley, E. J. Northam, J. Petford, N. and Johnstone, P., 2009. *BURO: a bespoke repository for the UK Research Excellence Framework and beyond*. In: ARMS 2009 - 11th annual conference of the Australasian Research Management Society, 16-18 September 2009, Christchurch Convention Centre, Christchurch, New Zealand. Available from: <http://eprints.bournemouth.ac.uk/11216/> (accessed 20 May 2010).

HEFCE, 2009. *Report on the pilot exercise to develop bibliometric indicators for the Research Excellence Framework*. Issues Paper 2009/39. Available from: http://www.hefce.ac.uk/pubs/hefce/2009/09_39/ (accessed 13 March 2010).

Holland, M., 2000. The Change Agent. In: Reid, B. J. and Foster, W., eds. *Achieving cultural change in networked libraries*. Aldershot: Gower, 105-107.

Technopolis, 2009a. *Identification and dissemination of lessons learned by institutions participating in the Research Excellence Framework (REF) bibliometrics pilot. Results of the Round One Consultation – May 2009*. Available from: http://www.hefce.ac.uk/Pubs/RDreports/2009/rd09_09/. (accessed 13 March 2010).

Technopolis, 2009b. *Identification and dissemination of lessons learned by institutions participating in the Research Excellence Framework (REF) bibliometrics pilot. Results of the Round Two Consultation - September 2009*. Available from: http://www.hefce.ac.uk/pubs/rdreports/2009/rd18_09/ (accessed 13 March 2010).

[1] <http://www.eprints.org/>

[2] <http://www.oclc.org/oaister/>

[3] <http://www.intute.ac.uk/>

[4] <http://www.heacademy.ac.uk/assets/York/documents/ourwork/learningandtech/completed/pathfinder/>

Journey_Reports/Keele.pdf

[5] <http://www.jorum.ac.uk/>

[6] <http://www.intrallet.com/>