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Build it and they will come?: assessing the impact of 'academic-friendly' practices on institutional repository growth at Southern Cross University

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ePublications@SCU is an electronic repository administered by Southern Cross University Library. Its goal is to capture and preserve the intellectual output of Southern Cross University authors and researchers, and to increase visibility and impact through open access to researchers around the world. For further information please contact epubs@scu.edu.au.

Build it and they will come? : Assessing the impact of ‘academic-friendly’ practices on institutional repository growth at Southern Cross University

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Background

Southern Cross University (SCU) is a publicly funded research and teaching university with three campuses located in the mid to northern region of New South Wales at Lismore, Coffs Harbour and Tweed Heads. In 2007 there were 14,793 students (8,831 Full Time Equivalent (FTE) student load) with 269 academic and 470 general FTE staff.

In 2004 the Australian Government announced the establishment of the Research Quality Framework (RQF) to measure the quality of research conducted in universities and publicly funded research agencies, as well as its benefits to the wider community. Assessment panels were created to assess and rank the best four research outputs of eligible researchers at each university. Australian universities were required to develop an RQF-compliant institutional repository to store electronic versions of research outputs by the end of 2007. Access to the outputs was to be made available to RQF Panel Chairs, Panel Members or Advisors for evaluation purposes.

Although SCU had already established an institutional repository in 2006 for the purposes of showcasing the research output of the University, the federal government requirements to provide access to published research for RQF purposes were the impetus for increased activity on the repository project. Government funding to support the development of the repository was received from the Australian Scheme for Higher Education Repositories (ASHER) fund in 2007 as part of the RQF process. It was in this year that ePublications@SCU (<http://epubs.scu.edu.au/>) really became operational. Day to day management of the repository project was assigned to the Southern Cross University Library Resource Services team.

Following a change in federal government in late 2007 the RQF has been replaced by the Excellence in Research for Australia (ERA) initiative. Future changes to the repository will need to be responsive to ERA developments as these details become known. The repository will also need to integrate well with the University’s new Research Management System that is soon to be implemented.

Open Access

The development of the ePublications@SCU repository has been inspired by the ideals of the Open Access (OA) movement. This is a worldwide movement dedicated to the availability of free, immediate and permanent online access for any user to digital full-text scientific and scholarly material. There are two strands to the movement. The first strand is Open Access self-archiving, where authors publish research in a subscription journal but also deposit their own publications in an institutional repository, or a central repository such as PubMed Central. The pre-print arXiv established by Paul Ginsparg of Los Alamos Research Laboratory for the high energy physics community in 1991 was the first to take advantage of the capabilities of the Internet. Stevan Harnad from the University of Southampton proposed a wider open access movement in 1994, in response to the increased costs of subscriptions to scholarly materials. Institutions and organisations developed repositories in which

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research is deposited as either a peer-reviewed post-print or a non-peer-reviewed pre-print.

The second strand is OA publishing where journals are published as open access, making their scholarly and scientific full-text content freely available online. This includes both journals created as open access, such as *D-Lib Magazine*, and those that have moved from a subscription basis to open access, such as the *Medical Journal of Australia*. This is a growing movement and the Directory of Open Access Journals (DOAJ) currently includes 3756 journals with over 222745 articles (24/11/08).

In parallel with the Open Access movement, the Open Archives Initiative (OAI) protocol enables the distribution of repository content. Repositories whose software is OAI compliant can share their content via harvesting by repository search engines such as OAlster (<http://oaister.org>) and ARROW (Australian Research Repositories Online to the World, <http://arrow.edu.au/>) (Harnad et. al, 2004).

Software selection

The selection of repository software at SCU involved reviews of both open source and off-the-shelf products. A number of products of both types are used in universities around the world. Digital Commons, from the Berkeley Electronic Press (bepress) in California, was eventually chosen. This is off-the-shelf software with a proven track record in many universities throughout the world. Australian institutions using the software include Bond University, Edith Cowan University, the University of Wollongong and the Australian Council for Educational Research. Bepress staff worked closely with SCU Library staff to customise and personalise the software to meet SCU needs.

The decision to select a fully hosted off-the-shelf product was made for many of the same reasons that have led other small institutions to opt for similar packages (Sutherland & Hopkins, 2006). They include the lack of staff time and technical expertise required to support open source software. Purchasing an off-the-shelf product also means that after the initial configuration and installation, the uploading of papers can commence almost immediately. In addition to this, training and ongoing support is generally provided by the vendor under the terms of the contract agreement.

ePublications@SCU was established to provide open access to scholarly publications from SCU researchers. Where available and within copyright restrictions, pre-print and post-print versions of research publications and links to full-text copies are added to the repository. The repository software also automatically creates an OpenURL link to published articles which are available via any of the Library's database subscriptions. This provides further access to full-text material for those within the SCU network. Where it is not possible to provide access to the full text of papers, a metadata-only (plus abstract) record is created. The aim is to centralise into one location the SCU research that has been spread across departmental and individual websites, or only available through subscription journals and databases. The repository also aims to increase accessibility to SCU research, thereby leading to greater visibility and impact. Finally, the repository provides valuable usage

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statistics of full-text downloads for each paper as well as cumulative totals, and it also provides referral source information from external sites worldwide.

Strategies for engaging researchers

Difficulties in attracting content and populating institutional repositories (IRs) have been documented in recent literature (Kennan & Wilson, 2006; Davis & Connolly, 2007; Kingsley, 2008; Maness, Miaskiewicz & Sumner, 2008). Different strategies are used to encourage participation. Some institutions encourage researchers to self-archive, some have mandated the deposit of research into repositories or linked it to promotion, while others have engaged library, administrative staff or student assistants to undertake the time consuming work of copyright and citation checking for deposit (Devakos, 2006; ROARMAP, 2008).

At Southern Cross University the repository project was managed and staffed by members of the Library’s Resource Services team. Initially these staff members were also working on other Resource Services tasks which included acquisitions, cataloguing and eReserve. Eventually a small team was established that was dedicated to the repository project. Members of this team were responsible for liaising with academic staff on the three SCU campuses, and following discussion with researchers, building their Personal Researcher Pages.

We decided to take a Do It For You (DIFY) approach as a means of engaging researchers to contribute to the repository, in addition to uploading the selected RQF publications. To date we have not actively promoted any form of self-archiving by academics and researchers. A number of other factors led to the decision to focus on DIFY. The inaccuracy of citation information, lack of appropriate publication copies, and lack of copyright awareness that publishers’ PDF copies cannot usually be added to the repository were all important issues. Academics have generally been very enthusiastic about the DIFY model. To reduce any perceived barriers to participation, the ePublications@SCU team took the responsibility for obtaining correct citations, checking publisher copyright restrictions and uploading pre-prints, post-prints or free open access published copies accordingly. The Sherpa/Romeo database (<http://www.sherpa.ac.uk/romeo/>) of publisher copyright policies and self-archiving from the University of Nottingham, and the OAKlist database from Queensland University of Technology (<http://www.oaklist.qut.edu.au/>), have been invaluable tools in determining the copyright status of publications.

The Digital Commons repository software integrates with another bepress software product called Selected Works. This product enables institutions to create a scholarly publications page to showcase the work of individual researchers. These pages include photos, curriculum vitae, information about a researcher’s career and research interests as well as publication details and papers. The researcher’s work can be organised according to criteria such as document type or subject headings. Entries and copies of publications deposited in the repository are harvested to these Selected Works pages. As a strategy to populate the repository, the ePublications@SCU team decided to build Selected Works pages for researchers to showcase their scholarly profiles. We renamed the pages Personal Researcher Pages (PRPs) and created a link to a ‘gallery’ of PRPs from the ePublications@SCU home page. Academics were generally more enthusiastic about creating a page that showcased their own work and research interests than they were about submitting

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content to the repository that showcased the work of the University as a whole, or of their School or Department.

We targeted prolific and high-profile researchers initially, identifying their publications from departmental websites, publications lists and from the RQF process. Other strategies included attending School meetings, obtaining support from the Heads of Schools, encouraging staff already included to spread the word, and informal meetings with researchers.

With a solid base of PRPs to display and demonstrate, launches of ePublications@SCU were held on all three campuses by the University Librarian, the Vice Chancellor and prominent researchers. Brochures explaining the repository’s aims and benefits were printed and distributed to all academic staff (<http://digitalcommons.bepress.com/collateral/1/>).

ePublications@SCU staff contact academics individually via email or phone and follow up with in-person meetings. We also work with subject liaison librarians who already have established relationships with many researchers and can arrange introductions or contact information.

We developed a checklist for meeting with academics and developing PRPs that was aimed at obtaining publications lists and copies of papers. We also developed a second brochure that outlined the benefits to academics of using PRPs and placing content in the repository. These benefits included maximising their research impact, the potential uses of the repository in collaboration and teaching, the availability of statistical reports on paper downloads and online visits, the ease of redistribution and copyright management by the Library, and the fact that a PRP would require less effort by the academic than the maintenance of a personal website. Most academics have been enthusiastic about the concept, but many did not have up-to-date publications lists or did not find the time to update them.

Guidelines for Library staff in promoting the repository to researchers were to make the process as straightforward as possible. We highlighted benefits such as maximising their research impact by the indexing of ePublications@SCU resources in Google and major repository collections such as OAlster and ARROW. We stressed the use of non-technical language when talking to researchers, such as ‘web address’ instead of ‘URL’, ‘permanent links’ rather than ‘persistent URLs’, ‘indexed’ by Google, Google Scholar and other search services instead of ‘harvesting’.

ePublications@SCU staff use a number of measures to maintain ongoing interest in the repository. We send researchers emails reporting progress when a PRP is completed and in the PRP gallery, and suggesting they add the URL of their PRP to email signatures and to the University staff directory. Congratulatory emails are sent to researchers whose work shows high download counts, and once or twice a year a group email is sent to all researchers with a PRP to solicit new publication details and papers.

Impacts and outcomes

We feel that the academic-friendly approach has been successful, with the number of PRPs and papers steadily increasing since the inception of the repository. The

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repository currently contains approximately 730 papers and there have been over 32,300 full-text downloads to date. We currently have 70 Personal Researcher Pages in our PRP Gallery with a steady stream of interest from academics. These PRPs contain more than 1220 citations. Over 400 of these citations provide access to full-text papers via either a PDF document or a link to another open access site. This is seen as a significant achievement given the size of our institution and the corresponding limitations that have existed, especially in regards to the initial lack of project-dedicated staff and the limited amount of time able to be devoted to the project.

The growth for ePublications has been steady throughout 2008, with some slowing in mid-2008 because of a change in workflow requiring some retrospective work. The Registry of Open Access Repositories (ROAR) maintained by the University of Southampton records daily deposits to the ePublications@SCU repository in the last year as 44 days of 1-9, and 14 days of 10-99. In the graph below, the red line shows the cumulative total of all entries including those that are metadata-only.

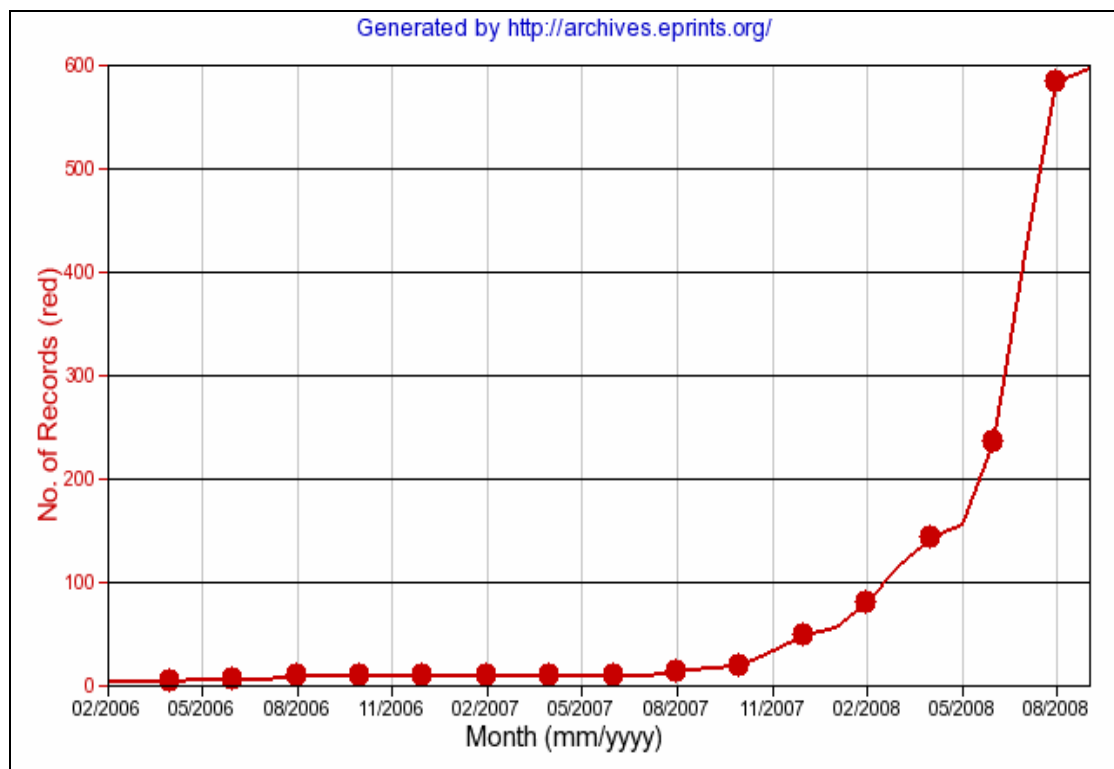


Figure 1: Growth of ePublications@SCU repository. Registry of Open Access Repositories (ROAR) <http://roar.eprints.org/index.php>

We found that attitudes to the repository process differed between the science-based Schools and the humanities and social sciences Schools, demonstrating the ‘disciplinary divide’ reported by others (Houghton et al in Kennan & Wilson, 2006; Kingsley, 2008). Academics in the sciences with high levels of publication and reputation were ‘early adopters’ and information technology researchers were supportive and open to self-archiving. The greatest number of contributions to the repository is currently from the sciences – the School of Environmental Science &

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Management and the Centre for Plant Conservation Genetics, a research centre of the University. An existing user of another institutional repository created her own PRP, linking papers to the first repository. Some researchers with well-established academic reputations in the social sciences and psychology were reluctant to upload pre-prints or post-prints because they were not the final copy, may have errors, and data could be misinterpreted or misused. In these cases we provided metadata-only (plus abstract) records with links to online journal versions. Published articles can also be accessed via an OpenURL link if the journal is available via one of the Library’s online database subscriptions.

Researchers have been enthusiastic about their completed PRPs, and have positive responses to the reports generated by the repository software. The comments below indicate the value of the repository to researchers:

I've added the web address linking my personal researcher page to my email address signature and I think that is also contributing to people's awareness of these papers. I should start adding my personal researcher page URL to all my presentation slides so that people who hear me all over at guest lectures and conferences (and naturally my own students) can then look up what else I have written!

Content

Published materials identified during the University’s preparation for RQF, as well as publications from the University’s HERDC (Higher Education Research Data Collection) process, were the initial focus for building repository content. This initially included books, book chapters, journal articles, and conference publications. We also decided to incorporate a range of other content types in the repository in order to encourage more contributions. The repository now also includes unpublished papers and reports, theses, presentations, patents, editorials, interviews and reviews. This position is supported generally worldwide as shown by statistics from OpenDOAR, the Directory of Open Access Repositories (OpenDOAR, 2008):

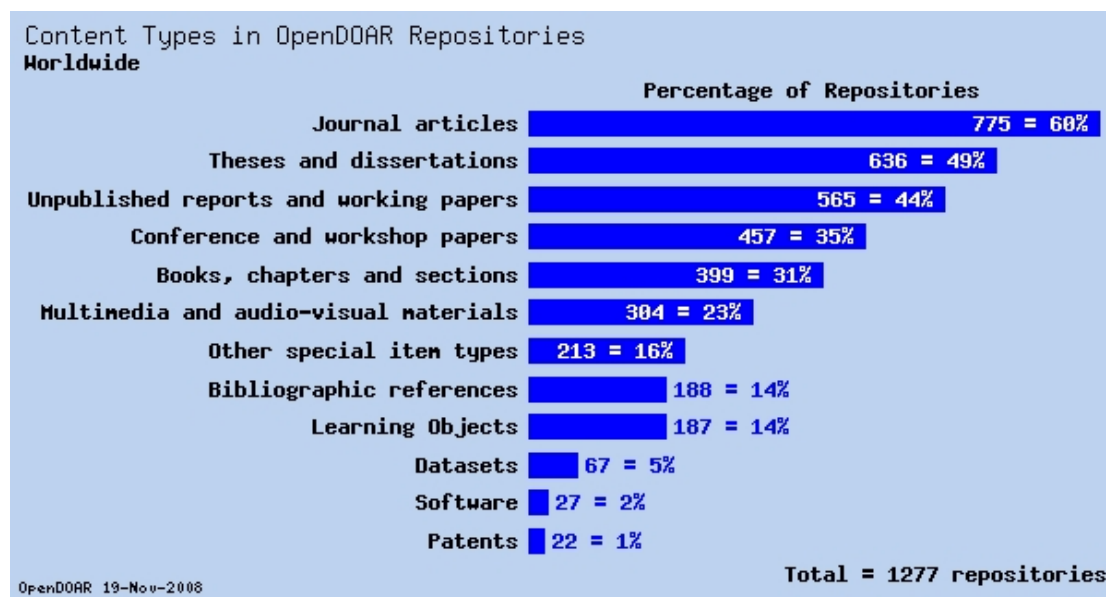


Figure 2: Content types in OpenDOAR repositories. Source Directory of Open Access Repositories at 19 November 2008

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The content types in ePublications@SCU, shown in the graph below, are similar to content in repositories worldwide:

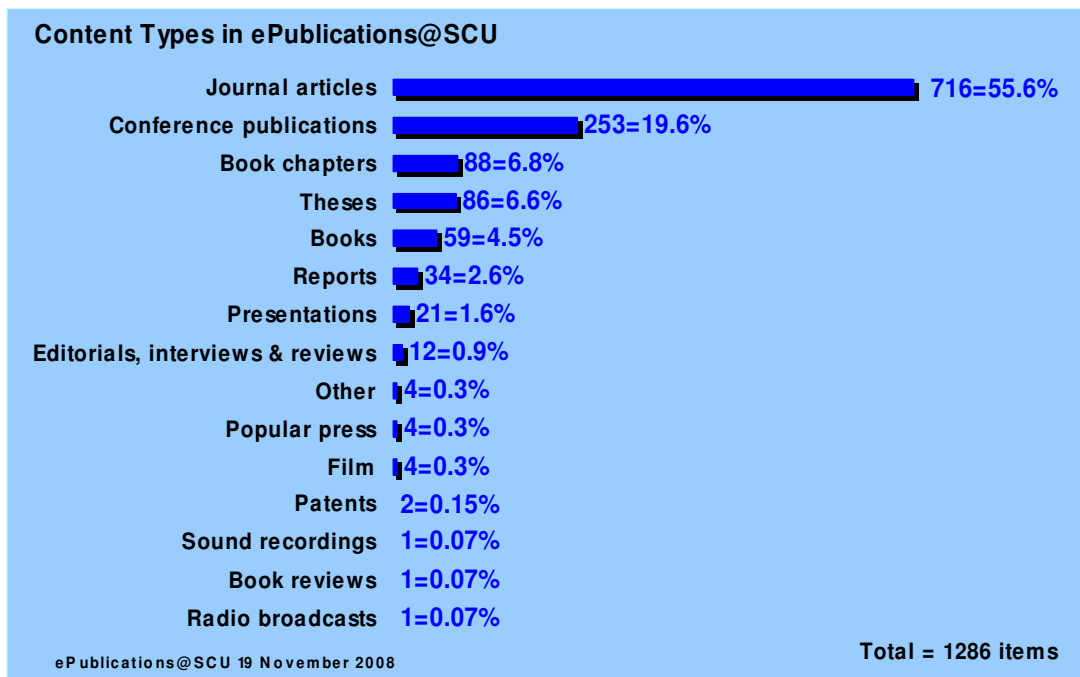


Figure 3: Content types in ePublications@SCU at 19 November 2008

Southern Cross University contributes theses and dissertations to the Australasian Digital Theses database (ADT). In 2008 the University made the submission of electronic versions of all Masters by Research and PhD theses mandatory. We established ePublications@SCU as the primary deposit and storage repository for theses and use OAI methods to harvest them for ADT. This has simplified SCU's contribution to ADT and gives greater visibility to the University's theses.

Plans for future content of the repository include the hosting of an open access online journal that is currently published in print at Southern Cross University. It is also anticipated that the University will make the submission of research publications to the repository mandatory for authors in the near future, and this will result in a further increase in repository growth. Although only a few Australian institutional repositories to date have implemented a mandatory submission policy (Kingsley & Kennan, 2008) this move will align us with a growing international trend.

Conclusion

The ‘academic friendly’ approach taken at SCU has had a very positive impact on the development and growth of the ePublications@SCU repository. Academics have been particularly enthusiastic about the Do It For You model and in the Library's ability to quickly create Personal Researcher Pages to showcase the work of individual researchers. Our approach has been to remove as many barriers to participation as possible by reducing any perceived complexities of the system and making the whole process as straightforward as possible for researchers. The progress of the repository has also been very dependent upon having the right Library staff involved. Having staff who could be dedicated to the project rather than

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having to juggle repository work with other competing work responsibilities was essential, as was having staff with the necessary eye for detail that repository work requires. The implementation of the ePublications@SCU repository and the integrated Selected Works software for the creation of Personal Researcher Pages has been regarded as a great success. Through promotion, publicity and the hard work of the team, the institutional repository has now established itself as a valuable Library service and is highly regarded by the SCU research community.

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