Digital visibility is king but what colour is our Open Access future?

by Blog Admin   June 27, 2012

Open access publishing is growing increasingly important so the Peer Project has built an observatory to investigate potential effects of a major switch to open access models. Julia Wallace finds that the scholarly web is a complex environment where author self-deposit rates are likely to be low and usage scenarios for green open access are more complex than generally acknowledged.

Supported by the EC eContent*plus* programme, the PEER project (Publishing and the Ecology of European Research) built an observatory to investigate the potential effects of the large-scale, systematic depositing of authors' final peer-reviewed manuscripts, so called Green Open Access. Over 18,000 manuscripts were made available in participating repositories, matching with the versions of records on the publisher platforms. Earlier this week, the final reports from the PEER Project were made publicly available.

The experience of building the infrastructure for the project was instructive in highlighting technical challenges and resulted in the creation of the PEER Depot, a central processing hub and 'dark archive' to help resolve many issue including:

- The non-uniformity of publisher outputs at acceptance stage and the varying requirements of repositories (file formats / metadata schemas/ metadata elements)
- The filtering of content for EU authors and research articles
- The lack of accurate embargo management mechanisms at repositories (embargoes were managed at the PEER Depot)

The challenges of author authentication of non-local authors by repositories also led to the creation of a centralised author deposit system linked to the PEER Depot. Despite explicit invitations to deposit, author self-deposit rates were very low within PEER (<2% response), so the project relied on obtaining the critical mass of accepted manuscripts needed via participating publishers.

Running in parallel with the creation of the infrastructure, three separate research studies were commissioned:

- *Behavioural Research:* Investigation of authors' attitudes towards Green OA and user behaviour, undertaken by Loughborough University, Department of Information Science and LISU.
- *Economics Research:* Case studies of cost drivers and costs structures at publishers and repositories, undertaken by Bocconi University, Centre for Arts, Science and Culture,
- *Usage Research:* Examination of logfiles at publishers and repositories for usage trends, based on a critical mass of Green OA content , undertaken by CIBER Research Ltd.

Among the findings reported by the Behavioural research team was that 'academic researchers do not desire fundamental changes in the way research is currently disseminated and published.'
Researchers who associated Open Access with 'self-archiving' were in the minority (although this varies by discipline) and while the team found that authors tended to be favourable to Open Access, they do not want the pivotal role of the published journal article to be compromised. Readers have concerns about the authority of article content and citability when the version they have accessed is not the published final version. Overall, repositories are perceived by researchers as complementary to, rather than replacing, current forums for disseminating and publishing research.

Through a series of case studies, the Economics team explored costs drivers for publishers and repositories.
Cost ranges for peer review (which has no economies of scale); production activities and platform maintenance costs were obtained for publishers. They also found that repositories may have large sunk

costs that are not accounted. They also anticipate that publishers (subscription and Open Access) and repositories will increasingly be affected by *'sustainability and competition for resources and reputation'*.

The Usage Research within PEER also provided a number of interesting observations, but since the PEER Observatory was at an early stage when the usage logfiles were obtained, the results are likely to be atypical of many longer established green repositories:

- During the period 1 March – 31 Aug 2011 measured usage at PEER repositories was 11.5 per cent of publisher use (but varies between publishers in the range 2 per cent to 24 per cent).

- A Randomised Controlled Trial indicates that making preprints visible in PEER repositories is associated with more traffic to the publisher sites at the aggregate level, but this varies by publisher and subject. Overall, PEER is associated with a significant, if relatively modest, increase in publisher downloads, in the confidence range 7.5 per cent to 15.5 per cent.

- The likely mechanism is that PEER offers high quality metadata, allows a wider range of search engine robots to index its content than the typical publisher, and thus helps to raise the digital visibility of scholarly content. There are variations as we zoom in on the detail and the jury is still out in medicine, the social sciences and humanities, and for smaller publishers, for reasons we do not understand yet.

- Publisher downloads are growing at a faster rate than PEER repository downloads and unless there is a step change, PEER's share of the market is likely to decline gradually over time.

What this (usage) research tells us is that the scholarly web is a complex environment, one in which digital visibility is king. Researchers make little use of the search facilities on repository or publisher sites, relying heavily instead on third-party gateways and general search engines.

The PEER Executive Partners provided End of Project Statements, in which they reviewed their position on Green Open access, their experiences of PEER and described what the future may look like for Green Open access. They also highlighted a number of Points of Agreement including:

- Building a large-scale infrastructure is organizationally and technically challenging
- Building a clearing-house with automated workflows is helpful
- Author self-archiving is unlikely to generate a critical mass of Green OA content.
- Stage II (accepted manuscript) archiving requires manual oversight and intervention
- Scholars prefer the Version of Record (indicated by the behavioural research as well as usage log analysis)
- Usage scenarios for Green Open Access are more complex than generally acknowledged
- The acceptance and utility of open access publishing has increased rapidly

The last point here carries a key message in that Open Access publishing (Gold OA) is increasingly important for publishers, repositories and the research community. Any discussion of future Green OA scenarios therefore must take account of this development.

The project relied heavily on the collaboration of representatives from key stakeholder communities: publishers, repositories / libraries, funders and researchers, with each of these groups represented at the executive level within the project:

- International Association of Science, Technical and Medical Publishers (STM)
- European Science Foundation (ESF)
- Göttingen State and University Library (SUB)
- Max Planck Digital Library (MPDL)
- Inria (Institut National de Recherche en Informatique et en Automatique)

All reports from the project, including End of Project Statements from the Executive Partners are available at www.peerproject.eu/reports, with presentations made during the PEER End of Project Conference in Brussels on 29 May 2012 also available here.

Note: This article gives the views of the author, and not the position of the Impact of Social Sciences blog, nor of the London School of Economics.

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