

Jill Russell and Tracy Kent (2010), Paved with gold: an institutional case study on supporting Open Access publishing, *Serials: The Journal for the Serials Community*, 23(2), pp 97 - 102

URL: <http://uksg.metapress.com/openurl.asp?genre=article&id=doi:10.1629/2397>

DOI: 10.1629/2397

Version : Post print (authors' final draft), based on a paper presented by Jill Russell at the 33rd UKSG Conference, Edinburgh, April 2010

Date : July 2010

Abstract

The debate over scholarly communications and the future of publishing continues to simmer. Open Access is seen to be a Good Thing in principle, but how does it work, how much does it cost and who pays for it? A pilot study in supporting "gold" and "green" Open Access at the University of Birmingham is examining the costs to the institution and the requirements of the funders, researchers, research administrators and the library. Information from the pilot will be used to recommend a practical way forward that meets the needs of different research disciplines and cultures, in the context of the University's research strategy.

Paved with gold: an institutional case study on supporting Open Access publishing

Based on a paper presented by Jill Russell at the 33rd UKSG Conference, Edinburgh, April 2010

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Abstract

The debate over scholarly communications and the future of publishing continues to simmer. Open Access is seen to be a Good Thing in principle, but how does it work, how much does it cost and who pays for it? A pilot study in supporting "gold" and "green" Open Access at the University of Birmingham is examining the costs to the institution and the requirements of the funders, researchers, research administrators and the library. Information from the pilot will be used to recommend a practical way forward that meets the needs of different research disciplines and cultures, in the context of the University's research strategy.

Introduction

The traditional world of academic journal publishing is being challenged from several directions¹. The Open Access (OA) movement is one of those challenges, and one that often generates passionate arguments amongst librarians, researchers and publishers. However, I would like to step away from that debate, and focus on the practical progress we are making with opening access to research papers at a typical red brick university.

Meeting the needs of researchers

Academic researchers need and want to publish in order to be recognised for the work that they do, and to build up collaborations and a career profile. Their employers in university senior management support any method for showcasing the quality of the University's research. Everyone wants their work to be credited and highly cited, and to impress potential research funders. This is traditionally done by publishing papers in peer-reviewed journals.

The reasons why researchers, their employers and their funders want to make their work openly accessible have been set out by many advocates^{2,3}. There are many political and ethical arguments that publicly-funded research is a public good. We have adopted a non-campaigning approach, trying to avoid emotion or overstatement, and concentrating on the key argument in favour of OA, which is that the more people who can find and read a piece of work, the more chance there is of its being cited. In some subject disciplines, established OA archives such as *(UK) PubMed Central*⁴ and *Arxiv*⁵ are gaining pre-eminence. In addition, many funders now have an OA mandate (ie a policy that requires that publications or other results arising from funded research must be made openly accessible).

Our university senior management, through the Research and Knowledge Transfer Committee, are very willing to encourage authors of research papers to publish in OA outlets. They are not yet ready to push (as some universities have done) for a mandate to compel them to do that, but they do want to help researchers choose OA where appropriate.

Routes to Open Access

Before going on, I will clarify the shorthand in common use, referring to the green and gold routes to open access⁶. Green means that the author publishes in a conventional subscription-access journal and then places a copy of their paper, or a final draft of it, into either a subject OA repository or an institutional repository (IR). Gold means that a fee is paid to the journal publisher (typically around £1,500) to release that paper on the journal's own website.

Why are we paving the path with gold at Birmingham when we have an institutional repository? In fact we are promoting both green and gold OA, but the take up of the green route is slow. This is typical of the sector, where IRs are generally underused.

There are also many misunderstandings about open access^{7,8}. For example, because libraries and publishers have worked hard to provide seamless access, there's a mistaken belief that all online journals are OA. Some researchers think that OA only applies to informal, non-peer-reviewed material such as working papers, or they are uneasy about using an author's final version and don't know which version to cite.

We are finding that for many authors, gold OA publishing fits their established routines and workflows more readily than green self-archiving. Although green has the advantage that no author-side fees are payable, the most common practical difficulty with this route is getting authors into the habit of keeping a final draft of the paper, suitable for the IR. Some researchers also say that an embargo period on green archiving (often imposed by publishers, where the article may not be released on OA for several months or even a year or two after publication) delays the availability and impact of their work, so they believe it is worth paying a fee for the article to be released immediately.

A small number of research groups work on hugely expensive projects, where a few thousand pounds in OA fees to open up the results of the project seems a reasonable expense. In some disciplines, journal publishers have for years required page charges and extra fees for illustrations etc, so authors are already accustomed to paying publication fees. To many others, the OA fees represent an impossibly large sum of money to find. Thus, there are very different cultures within the University.

The University of Birmingham pilot study

Motivated by the messages coming from the funders and policy bodies, senior management wanted to ensure that we had a process in place for supporting OA. The Library, being the central service administering journal subscriptions, was receiving regular enquiries about OA memberships and article fees, but did not have a budget to cover them. As mentioned above, self-archiving in our IR did not meet every researcher's needs or preferences. Another problem that we encounter frequently is that by the time papers have been published, the project is finished and the grant has been wound up, so there is no longer a financial link between the project and the publication. Everyone was concerned about the possible costs, so we agreed to track OA publishing activity, expenditure, reactions and impacts. A new central fund (separate from the Library budget but equivalent to nearly 5% of

our Library allocation for serials subscriptions) was set up for one financial year, to pay eligible fees. Alongside this, we were anxious to find out about spending on OA via research grant budgets held in other parts of the University.

It would be impossible to do this quickly across the whole University, so we set up a pilot study. We began by looking at where our research funding is coming from. Amongst our top sources of income were the Medical Research Council (MRC)⁹ who state in quite strong terms how output from their projects should be made openly accessible, and the Engineering and Physical Sciences Research Council (EPSRC)¹⁰ who encourage OA but are less specific. Of all of our funders, the Wellcome Trust¹¹ has for many years been a strong advocate of OA and provided additional financial support for this. We already had a system in place to help Wellcome-funded researchers pay article processing fees. So, we included them, and rolled out the Wellcome model to the whole pilot. We briefly considered including a humanities or social sciences subject, but felt we needed to show how the process could work where OA is already partially established, before bringing about a change of culture in a new area.

Data already available to the project

We are working closely with our Research and Commercial Services department (the team that helps researchers to bid for grants and sponsorship) who hold data about project funding and grantholders.

We are also lucky to have a comprehensive record of publishing activity across the University, in a system originally set up for research monitoring and the Research Assessment Exercise. It holds metadata for nearly all of the research publications produced at the University since 2001. This was interrogated for a report of the journals where our authors have been publishing most frequently in recent years, so we were able to check their rights policies and options for green and/or gold OA.

Practicalities

- Using details of projects that are funded by the three organisations included in the pilot, we emailed the researchers with information about the project and discussed it with the relevant Directors of Research and Knowledge Transfer and Research Committees.
- Web pages have been set up informing researchers of their publishing options, and authors writing up papers are encouraged to contact the project manager in the Library at any time during the submission of their papers.
- When an author enquires about publishing in a particular journal, we advise them of the options available for that journal/publisher and whether it meets the funder's requirements for open access, eg if the embargo period is appropriate.
- To check whether an author is eligible to call on the central fund to pay the article processing fees, we simply check that the funder and the University are acknowledged in the article. Most funders have prescribed wording for this.
- Applicants for new grants are advised to include a realistic figure for covering an appropriate OA method (however, there is a tension between ensuring that costs are predicted, and not bidding too high for a research project).
- Throughout all of our discussions we are careful to stress that researchers are free to choose to publish in any high-quality high-impact peer-reviewed journals.

The project is not forcing authors to publish in journals that they would not otherwise choose.

- Working with our Finance department, we now have systems in place for paying and monitoring costs, and reporting back to the funders.

Above all, the project brings a good opportunity to discuss OA with researchers and senior managers. We are building up an interesting record of activity and costs for analysis and, later, to assess the impact of OA publishing.

Supporting green OA

In parallel, we also want to encourage use of the IR as a route to open access and also to be an archive of all of the University's research work. To make it easier and more attractive to use, we are repurposing our existing collection of publications metadata, which was previously held in a closed system, but will soon be exposed to the web via our ePrints software. This will enable researchers easily to populate their web pages with a record of their work and to link to the full text wherever it is available. We see this as a stepping stone to help researchers in all disciplines to become familiar with and adopt self-archiving. The metadata will be held separately from our main IR, because we do not want to dilute our policy of full-text in the IR. (The collection of metadata is not eligible for eg OpenDOAR¹², but the metadata will still be compliant with OAI-PMH¹³ and exposed to search engines.)

The process is partly automated, with metadata harvested from several sources and matched against internal systems. For some OA publishers, we can make a full circle, eg we pay for an article to be published in *PLoS*, who forward the article and metadata to *PubMed* and *PubMed Central*. We use the PMCID or DOI in our system to harvest the metadata back, and in turn link to the published full text and also to a copy in our own IR.

Building closer links between existing systems and the IR will help to overcome some of the practical hurdles to self-archiving. By analysing data about the journals in which authors have been publishing, we can target priority material suitable for deposit in our IR.

Uptake of gold OA

We have taken out institutional memberships with the open access publishers that are most frequently used by our authors. Those memberships not only secure us a discount for each paper published, but they let researchers see that the University is supporting them to do this. Researchers are also choosing to publish in hybrid journals (traditional journals with OA options at article level).

It is still early in the project, but interestingly, the uptake reflects the weight the funders put behind OA. Wellcome-funded researchers have published the most articles through the central fund, followed by MRC then EPSRC. We also know from the publishers that where authors do have grants available, they are paying OA fees from those live research grants, and we will analyse this activity together with expenditure on our central fund.

We expect uptake to increase rapidly as the research projects themselves come to an end. At Birmingham, researchers publish about 3,500 peer-reviewed articles a

year. Even if it were possible or desirable to make them all openly accessible through the gold route, we would not be able to afford this, and the central budgets available for the pilot study could cover OA fees for approx 2-3% of these articles. This is another reason, under the current publishing regime, to make the green route as attractive as possible.

What we are beginning to find out

- How much of our publishing activity is related to funded research
- Preferred journals - these reflect today's publishing industry as a whole, but there is growing interest in hybrid and OA titles with good impact factors
- The vast majority of papers are published in journals with some form of OA: gold, green or both
- The true cost of OA fees - this was previously underestimated and researchers have to decide whether gold OA represents value for money
- Interest in OA publishing from authors who are not funded
- Internal financial and admin systems that we need to have in place
- Researchers appear to be motivated by funders' requirements more than by the intrinsic benefits of OA
- Researchers suspect that few funders are actually following up on OA mandates
- Authors aren't interested in a journal's business model - they choose a journal for their paper based only on its reputation
- Once the paper has been accepted, researchers move onto the next piece of work, so they appreciate administrative support such as following up payments
- Researchers are not interested in copyright and the rights of the author, employer, funder or publisher
- It isn't always clear what the OA fee buys, so we need to check that it does buy the rights we expect, and that articles are released on time
- Journals will stand or fall by their reputation for rigour and peer-review - any suspicion that gold OA is diluting this will make journals less attractive to researchers
- For relevant disciplines, having a citation in *PubMed* is essential - though there is confusion between having an article openly available in *PubMed Central* and just having the citation in *PubMed*

Impact of research

It is going to take a while to see a measurable impact for articles published this year, but other people have carried out research on this topic¹⁴. It needs an expert in bibliometrics and statistics to analyse correlations and factors for cause and effect. Nevertheless, we can start to look at the reputation of the journals that researchers are choosing, and at the impact of papers published in the past.

Impact on academic publishing

One of the reasons for supporting gold OA is the promise that it will begin to make an impact on the subscription costs of hybrid journals. Open access fees are going up steadily, but subscriptions do not yet seem to be coming down so rapidly. Publishers say this is because of the low uptake of gold OA, but we will be watching whether this changes over the coming months and years.

Economic modelling by Houghton and others^{15,16} indicates that if there was a wholesale flip over to OA, with article processing fees set to cover the costs of peer-review and publishing, there would be a net benefit to research and development and higher education overall. These findings have generated controversy, but at the time of writing, no alternative model has yet been proposed. We tried this model at Birmingham, taking into account subscription charges and other costs of managing library collections, and found potential for savings, provided that the article processing fees remain reasonable.

The key question for our researchers is: what price do you put on a reputation?

Conclusion

Open access publishing can bring many advantages in visibility and impact. However, it is not yet fully understood by academic researchers and authors, and green OA has not yet reached its full potential. By approaching OA from the needs of researchers and funders, and by giving authors the option to choose the gold route if they wish, we have an opportunity to enter into dialogue with them and to monitor the extent of OA publishing activity.

The business model of publishing is under scrutiny, and we are just one university that contributes and purchases information. UKSG is a unique forum for librarians, publishers and agents to meet together, and I hope our practical experience at Birmingham will help to inform the ongoing debate¹⁷. Publishers provide a valuable service in arranging editorial standards and peer-review, but this needs to be at a fair price. At present there are concerns about the spiralling costs of the gold route.

The priority for our pilot is to ensure that our researchers are aware of the appropriate publishing options available not only to support the OA mandates from their funding councils, but also to make their work widely available. It is not the intention to promote fee-based open access publishing, but to make it possible for authors to choose this option where they believe it is best for their work. Equally important is simply to raise awareness of the approaches to open access and the green and gold routes available.

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