

Research Communications Strategy

1st Report to JISC - March 2010

**Current Issues in Research Communications:
Open Access and the Research Economy**

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Introduction

This document identifies existing and emerging issues related to the development of research communication, particularly open access to research outputs, that are of concern to the research community. It also identifies issues which emerge from consultation as significant strategic areas to be addressed or as blocks to development. This document is based on recent consultations, opinion gathering and discussions within the open access and research communication communities as part of the work of the JISC Research Communication Strategist. Stakeholders included authors, researchers, publishers, research support officers, institutional administrators, repository managers, librarians and IT specialists.

Costs and Savings

While the recession may or may not be over, the squeeze on public funding is likely to be longer lasting, deepen and play a significant factor in any developments in this field, halting new initiatives and with far closer critical analysis of existing budget lines. While those working with or using repositories and open access publishing remain convinced of the vision, there is deep concern that this is not shared by institutional policymakers.

The Houghton report¹ along with previous studies have clearly shown that there is a sectoral economic advantage to open access when taken as a complete system. We now have effective repository coverage of the higher education research base and an increasing level of institutional support for handling the costs of open access publishing. However, to capitalise on the investment so far and to realise the savings identified by Houghton will require further investment in resources; in managing change within institutions and between stakeholders; and in supporting that change through the investment period.

It would be tragic if the gains that have been made over the past few years are lost as a result of economic retrenchment. In any discussions regarding the effect of spending cuts, it has to be made clear that investment in open access offers the potential for long-term cost *savings* -- rather than being seen as an *additional* cost-element in the scholarly communications process.

While these economic benefits are appreciated by those who have already "bought in" to the open access vision, acceptance of this ideal does not yet have sufficient penetration with financial and institutional policymakers within HE. If open access is seen as a luxury, then open access provision -- whether that is resource for an institutional repository or a fund for open access publication charges -- is likely to be a casualty of cost-cutting.

¹ Economic Implications of Alternative Scholarly Publishing Models: Exploring the costs and benefits, Houghton, Rasmussen, Sheehan, Oppenheim, et al, January 2009

JISC has recently released a report² by Key Perspectives Ltd allowing detailed economic analysis and planning to be made for open access provision within an institution. This is to be showcased within a high-profile event on June 15th, at Woburn House, London with an intended audience of financial and institutional policymakers to help address this issue. This will be followed up by five regional events offering a day-long workshop on the economic model and open access adoption. It is intended that this will go some way towards raising awareness of the economic issue and the need for investment with institutional policymakers.

* *Recommendation*

Savings will only come about with sector-wide adoption of open access and a robust and supportive attitude to change in scholarly publication. Given that reports and models are available, consideration should be given by JISC to what else can be done to engage and persuade senior institutional managers.

Open Access as a National Economic Lever

The Royal Society has just released a report³ (9th March) *The Scientific Century: securing our future prosperity* with cross-party consensus given by Lords Waldegrave and Sainsbury on the need to invest in science and research for Britain to maintain its current world-standing. The report highlights announcements from economic competitors of greatly increased funding in science and the knowledge economy: a \$21 billion boost in the USA, €35 billion in France, €12 billion for education and research in Germany, etc. In spite of this report, given the state of the economy these figures are unlikely to be proportionally matched by the UK. How then can we make the best return on the investment that can be made?

Quite apart from calling for additional funds to be made available for research, the report underlines the need for encouraging research commercialisation and knowledge exchange. It discusses university-industry collaboration and ways in which the two can communicate and share information. This is an area in which open access has a clear benefit. It is interesting to note a recent report⁴, again by Key Perspectives Ltd, giving a survey and summary of studies into the citation effect from open access. Although there is no formal meta-analysis, the summary shows a very strong positive effect, especially in medicine, IT and agricultural sciences of between 200-600%.

The Royal Society report notes:

The UK produces more publications and citations per pound spent on research than any other G8 nation. With 1% of the world's population, the UK produces 7.9% of the world's publications, receives 11.8% of citations, and 14.4% of citations with the highest impact.

These are impressive figures, but interestingly it might be possible to raise these further with open access, with benefits for knowledge transfer. Download figures for open access materials have always been impressive, but questions

² Modelling Scholarly Communication Options: Costs and Benefits for Universities, Key Perspectives Ltd, February 2010

³ available at: <http://royalsociety.org/the-scientific-century/>

⁴ The Open Access Citation Advantage: Studies in Results to Date, Swan, March 2010

have been asked as to whether those download figures are meaningful and represent real use. Workers in the field⁵ have long posited a correlation between downloads and citations, arguing that downloads imply use which will lead to citation rise. With evidence of citation rise, this implies that download figures do indeed reflect true wider readership and use of the material. Quite apart from any REF assessments of impact by citation analysis, open access has a strong role to play in building the knowledge economy through communication and sharing knowledge between universities and industry.

The Royal Society report notes:

Science thrives on openness – the free exchange of ideas, knowledge and data. Changes to the way that information is shared are already accelerating developments in certain disciplines and creating new approaches to research. This openness can create a tension with the need to capture and exploit intellectual property. But it also presents an opportunity for scientific collaboration and innovation. (p39)

and

The argument that publicly-funded research should be publicly accessible is hard to resist. Open access has significant advantages for those within and outside the scientific community. (p.40)

Therefore, quite apart from any benefits on impact as measured by the REF, and potential economic benefits in the cost of dissemination, open access should be more widely recognized as having the potential to provide greater impact in knowledge transfer and consequent economic benefits for the UK as a whole.

* *Recommendation*

JISC to represent open access as a national economic lever to government. The Houghton report addressed this to an extent: how can these benefits be more clearly analysed and publicly promoted? How best can this message be put across to appropriate policymakers in institutions, funders and government?

The REF

The REF continues to be a significant concern for most stakeholders within the research community. As with any activity which is linked to research income (particularly in the current climate) conversations, developments and decisions within institutions on any aspect of research management or process link back to the effect, real or imagined, on the REF. The point has been made by authors, heads of department, research support officers and others that while the REF process and requirements are not clear then many decisions simply will not be made in case they imply a diversion of resources from REF requirements or will involve building an information management structure that will be inappropriate for REF purposes. Further to this, once the REF is clear, then any activities in the area of research management will have to show relevance or contribution to REF processes until the conclusion of the exercise. This focus can repurpose open access initiatives.

⁵ Harnad, Brody et al using work at:
<http://users.ecs.soton.ac.uk/harnad/Hypermail/Amsci/4338.html>

For example, while a number of institutions are developing a repository to deal with publication management for REF, the drivers for this can run counter to the needs of open access. The workflows and structures being built for an institutional repository for REF might even damage the development of the repository as an open access facility for the future.⁶

Within the eventual REF process, HEFCE have the power to greatly accelerate the adoption and development of both open access and other integrated research information management systems. Given the possible sectoral economic advantages, the support of open access dissemination by RCUK and other significant funders, and the potential advantages of encouraging a more integrated research management environment, it would be beneficial to raise these issues once more with HEFCE to help the REF create a better research environment for the future as well as assess the results of the past.

* *Recommendation*

Consideration by all stakeholders should be given to what influence can be bought to bear with HEFCE regarding open access and the REF. Given the institutional investment in the repository infrastructure, how best can this investment be represented to HEFCE as being affected by and of use to the REF?

Open Access Publication Costs

There continues to be strong interest from institutional stakeholders in the provision of centralised institutional open access publication funds and the means by which these can be resourced and made available. Interest has been expressed from libraries, or aligned with the repository, or from the research support office. There is also interest from researchers themselves in how to access the funds, driven by an awareness of their funding or institutional mandate requirements, or through an interest in open access dissemination.

There also continues to be confusion as to the funding available from RCUK and other funding agencies for open access publication. In some cases this is available through a direct grant from the funder, in some cases this is made available as part of the FEC of the research grant. In some cases this has to be applied for as a separate sum - in others it is included within the grant. Some researchers, particularly in the arts and humanities where research can be carried out without a grant as part of the salaried position, have no formal route for accessing open access publication costs.

Work by the RCS has included presentations on this issue to research support offices, library support staff, funders, and open access staff. Discussions have shown there is a continuing need for a close liaison between all of these stakeholders and specifically the development of models for information flow on research grants, dates, personnel, funding agencies, finance departments, etc in order to provide a coherent and integrated workflow for researchers. Use of this model then needs to be advocated to each stakeholder group in order to

⁶ i.e. - workflows separate from academic research requirements, metadata structures geared to reporting rather than discovery, emphasis on metadata rather than fulltext records, dark archive structures for reporting rather than discovery, etc

establish a seamless workflow within each institution and between each institution and each funder.

As a general point of open access advocacy, when addressed face-to-face the overwhelming majority of researchers are strongly in favour of both the concept and practice of open access. What holds back further take-up and use of open access facilities is simply the additional work, information gathering, and thought that is required by academics in order to engage with both repositories and open access publication. What is missing for accessing open access publication costs and for repository use is a seamless workflow which can be presented to academics as a service and which fits with current academic practice.

As an alternative to a centralised open access publication fund, the RCS has been involved with investigations into the idea of a "publication period" added to the end of a standard research grant from RCUK. Since publication normally occurs sometime after the end of the research grant period, it can be very difficult for the academic to identify related money to pay publication costs. Even if these costs are included within fEC, once the grant period is over and financial year-ends have been passed, it is normally a matter of the academic making a case to claim back an amount of money from the centre, rather than being able to identify an earmarked and reserved sum.

Therefore, the idea of a publication period would be to add a period on to the end of the grant for it to remain active. During this time a specified percentage of the research grant -- possibly 2% -- would be available to spend specifically on open access publication costs. This would have the benefit of clarifying the workflow whereby a researcher can claim such publication costs, along with various spin-off benefits for use of underspends etc

Discussions with NERC finance department seem to suggest that there is no particular administrative barrier to introducing this as part of the grant⁷. Discussions with researchers suggest that this would be well received as a straightforward way of paying for open access publication.

* *Recommendations*

For discussions to continue between RCUK, other funding agencies and institutions regarding the creation of a clear model for open access publication cost-flows.

For discussions to continue and models to be produced to examine the idea of a publication period as an extension to a research grant.

Publishers and Open Access Options for Publication

As open access has developed and clarification has been sought from publishers as to permissions, there has been little evidence of any coming together of open access practitioners and traditional publishers. This continues to be a significant and recurrent issue within institutions, both for repository managers and for

⁷ by report, a similar system may already apply in Norway. If true this would provide a useful model, investigations are continuing

those academics who are interested in open access but who do not wish to antagonise or disturb their publishers.

Over the past two years there has been a general sense of positions being taken and entrenched in the relationship between publisher and repository. We now have a repository network in the UK which is being developed as a system in itself and integrated with other institutional information management systems. Publishers now broadly accept that repositories are a factor in the system. While many traditional publishers are still reluctant to clarify their copyright contracts or assist authors in using repositories, many of the same publishers now seem to accept that they have to deal with open access and its implications. Unfortunately, where change has been made, it is generally in the direction of withdrawing free archiving permissions and the substitution of a paid-for open access option for publication.

Those publishers providing open access to articles for an additional payment have found a commercial benefit in dealing with open access. Discussions with research funders and publishers show that there is still a mismatch between the intention of research funders that additional payments should be a transition model (to help publishers to move to an open access basis for publication) and the ready acceptance by publishers of these income streams as an additional profit. With the significant and honourable exception of the Oxford University Press, there have been few signs that publishers are planning for the reduction of subscription costs in line with increased open access option revenue.

Publishers say, with some justification, that it can be difficult to balance a true pro-rata reduction in subscriptions to open access income: however, there is an existing and growing expectation on behalf of subscribers that change now has to be seen.

In a press release in October 2009⁸, Sir Mark Walport, Director of the Wellcome Trust commented:

"We would like to see a commitment from publishers to show the uptake of their open access option and to adjust their subscription rates to reflect increases in income from open access fees," says Sir Mark. "Some publishers, for example Oxford University Press, have already done this and we would like to see all publishers behave the same way."

The fact that this view is now being openly stated - by those that are providing the funding - puts further pressure on the pace of change. This is likely to be intensified in the examination of budgets in the light of spending cuts. How long are funders expected to underwrite the double charge on publication? If the amount of money available to these charges is reduced, then how will these publishers react? If there are truly no plans to reduce subscriptions in line with this additional income, then will such options be withdrawn?

This would be easier to do if it could be justifiably claimed by publishers that there was little interest from authors in providing open access. It may be therefore that the best way to ensure that open access options -- and thereby

⁸ available at:

<http://www.wellcome.ac.uk/News/Media-office/Press-releases/2009/WTX057058.htm>

open access use -- become embedded is still to encourage the use of open access options, even at the expense of paying this additional charge in the meantime. For financially pressed administrators looking at an open access fund in an institution, this might not be the most obvious strategy for long-term savings and there is no general awareness of this approach as a transition model.

* *Recommendation*

RCUK and other funding agencies should help make institutional administrators aware of the context in which open access publication charges are being made and their willingness and intention for this to take place. In spite of the "double-charge" aspect this is in line with the larger strategic aim of encouraging open access publication models to take hold.

Learned Society Publishers

There are some signs that smaller, more agile and learned society-based publishers are actively considering how they can best work in a future open access world. Recent discussions between some of these publishers and open access community representatives⁹ have shown that there is still a surprising degree of misunderstanding by publishers of the role and intention of the repository movement. In spite of all advocacy and information to the contrary, it was found that at least some publishers still believe that repositories are being deliberately driven forward as "copyright-busters". For the publishers at this meeting at least, reassurance on this point produced creative proposals for sharing metadata, information on publishing times, embargo periods, cross-linking, provision of PDFs for complete dark archives for REF, preservation purposes and internal processes etc.

This may well be because the base of these publishers is in learned societies and they see such information sharing as a service for their members. As a membership of academics, learned societies might be expected to reflect the commonly expressed academic support for open access. As publishers, learned society attitudes are more suspicious, if not hostile: how can the two sides of societies be brought together?

There still seemed to be misunderstandings in the publishing community: closer engagement of advocacy with learned societies and with their individual publishing operations is needed. Direct advocacy to academics is notoriously time-consuming: in what ways can advocacy engage with the membership of learned societies as much as the learned society publishers?

* *Recommendations*

JISC, projects and individuals should continue to engage with and inform publishers of what is trying to be achieved in changing research communication and wherever possible find ways to work with publishers where this does not compromise the pace or direction of change.

⁹ Discussions and a subsequent meeting between five publishers, two repository managers and the RCS in November 2009

RCUK and other funders should provide clear statements of their intentions and wishes for the development of research communication.

Research Data

The institutional handling of research data has been identified by different institutional stakeholders as a developing issue. Institutional administrators are beginning to see data produced by researchers as intellectual assets for the University which should be retained, preserved and exploited. It is fair to say that some researchers see these as personal intellectual assets, for future personal exploitation. Funding agencies can quite reasonably see these as needing to be available for wider exploitation by other researchers and other institutions.

Repository content is beginning to expand to include research data and links between this data and the relevant research publications. Such data collections bring with them their own particular challenges in preservation, and for some large datasets, challenges in basic storage. Currently, repository and institutional administrators are aware that this is a developing issue but are uncertain as to its scope, options or strategic importance.

** Recommendation*

Clear guidance from RCUK and other funders as to expectations on data archiving on the part of institutions within grant conditions; expectations as to the release or reuse of the data within a specific time and any requirements for preservation.

Institutions to develop data archiving policies, including guidance on storage, preservation, access and reuse.

Research Funder Mandates

The RCUK and other funders took a significant step in requiring open access dissemination of funded materials as a condition of their research grants. However, compliance rates remain low: the Wellcome Trust has carried out specific research and finds that compliance runs at under 40% for its authors: lower rates are suspected across RCUK policies. This has been identified as a significant concern from their particular perspectives by research funders, repository managers, and research support offices within institutions. If compliance continues at the current level, then research funders would be justified in asking why they should keep on with policies which are ignored by authors, unsupported by institutions and cause friction with publishers.

These policies represent the best chance for open access advocates to get the message across to authors that open access is seen as a key part in the whole research funding cycle. It is essential that these mandates are more widely and more clearly promoted to researchers. However, a more fundamental point is that there needs to be a seamless workflow for authors to comply with these policies.

This relates to the issues for open access publication charges mentioned elsewhere in this document, but also to the effective exchange of information

between funders, repositories, research support offices and open access publication fund administrators. The RCS has been involved in advocacy and discussions between stakeholders in trying to develop model(s) for this information and workflow. This needs to provide timely information to front-line institutional staff on research grants, timings and researchers to enable staff to give support and assistance to researchers in complying with these policies. This model needs to allow research support offices to check compliance by authors with timely and authoritative information of policy requirements, grant information, publication/deposition (which may take place some years after the research grant ends). This model needs to allow research funders to be able to check on compliance, gather reports on outputs from its grants and check embargoes/release dates etc. The model needs to establish shared standards for information exchange between stakeholders and the relationship between distributed information sources.

Work by the RCS with research funders, repository managers and university administrators has shown that the required information to input into the model is available -- but not available to the required stakeholders in the right format or at the right time. This work relates to the current *Research Outcomes Project* being carried out by RCUK, following from the *Outputs & Outcomes Collection* project, in using standardised cross-council information on research grants, projects and outputs.¹⁰

Such models for compliance checking imply significant action between stakeholders and the engagement of authors with the resulting workflow. However, without such action compliance levels - and therefore levels of engagement with open access by researchers - are unlikely to rise.

Another issue in this area is the relationship between subject-based repositories and institutional repositories. While some mandates require open access deposition, this is often within specific subject-based or fund-based repositories. Use of such repositories external to the University presents a number of difficulties for researchers: copyright restrictions often apply to third-party external repositories (but not to institutional repositories); timely telephone, e-mail or face-to-face support in the use of an external repository is often unavailable; similarly it is difficult to supply personal reminders from external services.

With the existing institutional repository network comes a cadre of staff based within institutions who are available to give just this kind of support to authors for depositing material into institutional repositories. There is a well rehearsed argument for using institutional repositories as supported submission gateways for subject-based repositories. Even without this, institutional repository staff would be willing to help authors deposit into central services if they were cast by funders as part of the support system. Frustration has been reported from institutional repository staff that they are not seen in this way with funders' mandates, information and advice bypassing the institution. Using such staff as deposition support is part of the compliance model referred to above.

¹⁰ further links to research management include the adoption of CRIS systems and the development of CERIF metadata.

* *Recommendations*

That compliance checking be seen as a significant area for action by all stakeholders and support be given wherever possible to actions or developments which will raise compliance.

RCUK and other funders to see repository managers as a valuable support resource for their researchers.

Services for Institutional Repositories

Repository managers consistently report the need for better services for institutional repositories: to use the material that repositories make available, and services for repository management.

While text-and the data-mining are seen as exciting possibilities for repository use of the future, ordinary searching for articles is still seen as a problem. Repositories are still better known by authors as being storage mechanisms rather than information providers. While open access material from repositories is highly ranked within Google search, use of repositories remains to be embedded in other searches used by academics (library catalogues, specialist bibliographic services etc) or new services provided which are compelling enough for academics to adopt. Even though it provides only a basic service, the acquisition of OAIster last year by OCLC was seen with great concern by many repository managers as a reduction in global repository search facilities. Without open access materials consistently and seamlessly showing up in academics' normal search strategies there is less chance of starting the virtuous circle of finding material encouraging depositing material.

In terms of services for repository management, then preservation of digital materials is a particular concern. Valuable work has been done by many JISC projects and others to raise the profile of digital preservation as a particular concern and for repository managers to address preservation requirements. However, since each repository is likely to be addressing very similar needs, there is still a general feeling that rather than repeating investigation and action programmes at each site, it would be far better to simply pay a central service to provide "preservation services" for everyone. Whether or not this is a practical possibility is still open to question.

* *Recommendations*

JISC and customer group support to be given for search of repositories to be more closely integrated into commercial library systems and other search facilities; the support of any global open access search services which offer robust and compelling services for authors.

JISC support to be given for the growth of centralised digital preservation services for repositories.

Social Networking and Researchers

Outside the repository network, there exist a number of ways for authors to share materials across the internet. In the past year, there has been a significant growth in "social networking" based sites for researchers. Possibly

the most significant of these is *Mendeley*¹¹ although there are others, allowing academics to share fulltext materials, publication lists, provide download stat.s, chat rooms, blogs, wikis and similar Web2.0 facilities. The rapid increase in growth in the use of these sites is very impressive¹² and can contrast with the slow take-up of repository facilities. There is widespread suspicion among repository managers and some authors that such facilities may undercut open access repositories, and possibly in time even open access publication.

Part of the reason for their growth is the apparent ease with which fulltext materials can be made available, without any formal metadata entry requirements and little if any check on copyright. A number of these services rely on general summary guidance that users should own copyright. This puts the onus onto authors to understand the legal situation. The general experience of repository managers is that authors assume that they have the right to do what they want with their own articles. While repository managers often find themselves in the position of stopping authors mounting material because of copyright concerns, such social networking sites have no formal service restraint.

The key point from this is that by restricting, embargoing or prohibiting archiving in the controlled environment of an institutional repository, publishers will not stop academics mounting and sharing information on the internet; they will simply push academics elsewhere, to other services which may not be so delicate in respecting copyright. Relying on academics' attitudes to copyright to control what is mounted is likely to produce a very different environment and allow a far more rapid and widespread take-up making material openly accessible -- legally or otherwise. If such services continue to grow, then the sheer number of infringements might be difficult for publishers to deal with. Will publishers adopt new processes to monitor copyright compliance by their authors, with regular personal cease-and-desist notices? What effect will this have on author-publisher relationships?

In the long run what is needed is a sustainable system of research communication that takes advantage of the best aspects of ITC development, accommodates institutions', funders', authors', and researchers' wishes and needs; and allows innovation and change in the future. Publishers and other service providers have their business in providing support for this environment. The challenge for stakeholders is in providing a smooth road to this future, without any hiatus in accessibility, workflow or research methodology.

* *Recommendation*

The use and growth of such social networking sites is outside the immediate control and influence of institutional, governmental and funder stakeholders. In trying to construct a sustainable, robust and legal system for sharing research outputs, we have to take notice of such social-networking sites, learn from them where we can, and very probably work with them in the future.

¹¹ <http://www.mendeley.com>

¹² Mendeley claims "16,283,886 documents" (March 2010), although an unknown proportion is actually fulltext

ACTA

One developing item to note for continued attention is the Anti-Counterfeiting Trade Agreement (ACTA) currently under international negotiation. This is an initiative of the USA, the European commission, Switzerland and Japan, now joined by Australia, Canada, and a raft of other countries. Although this is putatively about measures to combat counterfeiting, development during negotiation as a result of lobbying by powerful media interests seem to be developing the agreement into harsh new international restrictions on intellectual property reuse and copyright - especially through the internet. Shockingly, for regulations with such wide reaching implications, negotiations by representatives are being carried out in secret. Therefore, it is difficult to know exactly what is being discussed or what effect this might have on intellectual property expressed in research outputs or on any restrictions and liabilities it may introduce. Leaks of drafts, comments and extensions have been seized upon by internet commentators¹³, but the actual results remain to be revealed. It is possible that the agreement will have (unintended?) effects across a range of current practices and strengthen, introduce or remove conditions affecting copyright, open access, sharing information and distributor-liability.

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¹³ for example, the well-known commentator Michael Geist, Professor of Law at the University of Ottawa - <http://www.michaelgeist.ca/content/view/4510/125/>