Open Access for UK Research

JISC’s contributions

Keywords:
- Open Scholarly Journals
- Creative Commons
- Worldwide Web
- Gold OA
- Free Online
- No Barriers
- Self-Archiving
- Scholarly Communication
- Green OA
- Delayed OA
- Subsidised Journals
- Hybrid OA
- Publishing
- Peer-Review
- Online Access
- Access
About JISC

JISC inspires UK colleges and universities in the innovative use of digital technologies.

JISC invests heavily in research and development, offering over 18 million users access to quality assured resources through our secure network. We provide expert advice, help to save money through national content licence agreements and work with colleges and universities to realise the potential of their existing technologies.

Everything we do has one aim – to maintain the UK’s position as a global leader in education and research.

JISC provides:

■ A world-class network – JANET
■ Access to electronic resources
■ New approaches to learning, teaching and research
■ Guidance on institutional change
■ Advisory and consultancy services
■ Regional support for further education colleges
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JISC has been at the forefront of promoting the open agenda for over a decade and I am delighted to provide the foreword to this anthology of recent studies and work in Open Access.

There are huge benefits to society in making the outputs of publicly funded research publicly available and thus facilitating the free exchange of knowledge. Recent studies suggest that both the impact of research and citation rates are improved where the full text of papers are made openly available.

‘The increased impact of wider access to academic research papers could be worth approximately £170 million per year to the UK economy.’

Open Access also brings financial rewards. The increased impact of wider access to academic research papers could be worth approximately £170 million per year to the UK economy. Work funded by JISC in UK colleges and universities includes cost-benefit analysis and case studies showing how to generate the evidence in support of a transition to open access for research outputs and an investigation into the potential for existing national negotiating arrangements with respect to Open Access publication charges.

The JISC’s commitment to Open Access is stressed in our new strategy for 2010-12 and our work in this area will continue in collaboration with the Research Councils, other relevant sector organisations, the scholarly publishing industry and, of course, the research community itself. The Open Access debate and activities have to take place internationally and we intend to play a full part in this area on behalf of the UK.

Although we believe that publicly funded research should be available to everyone, it is not a straightforward journey and our role is to involve and work with colleges and universities to help them to make the choices that are right for their individual situation. We have always endeavoured to be a responsible organisation by considering the needs of the many and the interests of all the parties on the journey to Open Access.

The long term goal is to achieve a coherent layer of open scholarly and academic resources readily available to all on the internet. Although this will take many years, perhaps decades, the benefits to society through improved knowledge transfer will be incalculable, particularly as research data becomes available along with traditional research outputs such as journal articles and monographs.

I hope you find this publication of interest and that it will stimulate further useful development and growth in the open movement.

Malcolm Read
Executive Secretary, JISC
What is Open Access?

Open Access enhances research communication by making the results of publicly funded research available to all.

Opening up the knowledge base means more researchers can build on it and there is less duplication of effort. Researchers can reach a greater audience and find that their work is more widely read and cited, institutions enjoy an enhanced reputation as their research becomes more visible, funding agencies see a greater return on their investment, and publishers find that the impact of their journals increases.

As a result, publicly funded research has more impact and society as a whole benefits.

It has been vital for UK higher education to be a vocal participant in the Open Access debate to ensure its needs are met, and JISC has worked at the forefront of the debate to support the UK education and research sector. Funding programmes to build and enhance institutional Open Access repositories have helped institutions to implement Open Access. Activity, funded by JISC, is also underway to develop technical solutions to make it far easier for researchers to use repositories more effectively. Through JISC’s work with publishers, new business models for Open Access scholarly communications are being explored that can both take advantage of the new mode of distribution via the web and sustain quality research output. Internationally, JISC is engaging with the wider academic research community and with policy makers to transform attitudes towards Open Access within Europe and beyond.

JISC Open Access Vision

- Open Access is free online access to the outputs of publicly funded research. It is typically focused on peer-reviewed journal articles and conference papers.
- Open Access benefits UK research by increasing its impact and enabling researchers to use any such outputs they might need for their work.
- Open Access benefits the UK economy by enabling innovation, policy and practice better to draw from rigorous academic research.
- JISC strongly supports Open Access and encourages authors to publish in Open Access journals, self-archive their articles in repositories, or both.
- JISC acknowledges that there are reasons why Open Access has not become universal, and that cultural change, policy development, technical infrastructure and sustainable business models are all needed in a transition to Open Access.
- Open Access is part of a broader move toward more ‘open’ approaches in higher and further education where appropriate and viable. JISC supports the development and sharing of Open Educational Resources, is exploring Open Access to monographs, and promotes open data where appropriate, allowing for complex issues (for example, of consent).
Open Access and higher education institutions

The research outputs of a university are significant assets for both the institution and for the individual researcher. But to have the most impact these research outputs need to be visible – if they are not easily accessible then they are less likely to be shared, built upon and cited by others.

Open Access repositories, where researchers can deposit a version of a paper that has been published in an academic journal and make it freely available to everyone, are the easiest way to open up the research knowledge base to all.

Through recent programmes, JISC has funded 70 projects to help institutions to build their first repositories or to improve existing ones. JISC’s Welsh Repository Network project, in partnership with the Higher Education Funding Council for Wales, has put a repository in every higher education institution in Wales, making it the first country in the UK – and one of the few in the world – to achieve that coverage.

The JISC Repositories Roadmap takes the programme to 2012 and sets out some of the exciting routes JISC believes repositories can take, now and in the future, to provide even greater benefits to institutions and researchers. These include:

- Providing services such as profiles and bibliographies for academics to collect and display all their papers in one place
- Collecting statistics about how many times a paper has been downloaded, and from which countries
- Implementing robust preservation policies
- Expanding to include research data and learning resources

JISC has co-funded an authoritative directory of institutional and subject-based repositories, OpenDOAR, to create a bridge between the administrators of those repositories and the service providers that ‘harvest’ them. It includes over 1,500 repository entries from around the globe, with a quality-controlled list of repository features. It is a significant step forward in enabling the global virtual repository network to cooperate in new and innovative ways, and can be used to provide a more focused search by selecting repositories that are of direct interest to the user. It can also be used by researchers to check if their institution has a repository.

In addition, JISC is developing the Open Access Repository Junction to assist Open Access deposit into, and interoperability between, existing repository services. It will be a deposit broker system to help address the problems of repository deposit and interoperability currently faced by researchers who have written a multi-authored journal article from perhaps multiple institutions and grant-funding organisations.

Open Access has clear reputational advantages for institutions. If the research undertaken by its scholars can be found and used more easily, the institution benefits by association. Postgraduate theses have traditionally been difficult to access and the Electronic Theses Online Service (EThOS), run by the British Library and set up to build on the findings from JISC programmes, has opened up postgraduate research by offering a single point of access to the entire range of UK theses for the first time.

‘Repositories make research papers available to the whole world in an easy-to-discover way. Repositories are very good at getting indexed by Google so you don’t need to go to the repository to search for the paper – you just search for the paper in Google and it will appear.’

Andy McGregor, JISC Programme Manager in the Information Environment Team, Innovation Group
In 2001, Nottingham became one of the first UK HEIs to set up its own repository. Stephen Pinfield, chief information officer at the University of Nottingham, explains how and why the university took the institutional repository route.

'We set it up in a very experimental way and one of the first things we did, which was very informative, was to go and talk to a set of researchers in Nottingham that were pretty much the only researchers then using a repository in a way that we thought might be a model for how our institutional repository might work. It was a subject repository – arXiv, the high energy physics repository – and what the discussion enabled us to do was to map out the workflows that the researchers were going through in their use of the repository and say, OK, if this is what is happening in one particular subject community, what does this mean for an institution and how might researchers from other subjects interact with a repository? It helped us to think it through.'

Pinfield soon discovered that real barriers to repository use were not technical – even in 2001 the basic software and protocols were easily available – but cultural and managerial. As a result, he and his team decided to make deposit in the Nottingham repository optional for the university’s scholars and to concentrate their efforts on lobbying at a higher level for national or discipline-wide mandates. 'You cannot get the same coverage institution-by-institution that you can get from having, say, the Wellcome Trust mandating Open Access publication,' says Pinfield. 'There is no single magic bullet for getting researchers to use the repository. You have to get into the consciousness of researchers, who are busy people and focused on their research, and pitch it to them in terms they will connect with and understand. There’s an ongoing advocacy and support requirement. If researchers are getting similar kinds of messages from research funders and other stakeholders then they will start responding to those multiple channels of communication. It’s a matter of carrots – demonstrating the benefits of Open Access – and sticks – mandates – and you have to communicate both through multiple channels.'

Pinfield is convinced that Open Access holds very real benefits for institutions on a number of different levels.

'Universities are at the heart of the research process and the research itself will be improved by improving communication,' he says. 'People have potentially faster access to the results of others, they will be able to get their own research out into the public domain more quickly and more effectively, which will mean that they will be able to be cited more. From an institutional point of view, all institutions have a requirement to get their work out there to improve the process of knowledge transfer and to have an impact on society more generally than just the scholarly community, and Open Access enables the institution to deliver on those kinds of requirements as well. More readers, more citations – this creates reputational benefits and all of that together reflects well on the reputation of the researcher and the institution.'

As well as its early work on Open Access repositories (the so-called ‘green’ route), Nottingham has also done some pioneering work in the area of Open Access journal publication (the ‘gold’ route). 'Nottingham was the first UK institution to set up an institutional fund for Open Access publication charges in 2006. This fund is helping to lower the barriers associated with Open Access to journal articles. We think it’s important that both potential routes to Open Access are supported and that the possible relationships between them explored.'
Open Access benefits researchers across all disciplines by making their work more widely available to other researchers, and making other researchers’ work more easily available to them to read, learn from and build upon. Beyond the UK research community, Open Access also opens up the knowledge base to business, government, practitioner and community interests and to researchers in developing countries who may not be able to afford the high subscription costs of journals.

Open Access addresses some of the key concerns of researchers about the scholarly communications process, which were identified in a JISC-commissioned report in 2008.1

Among these concerns were:

■ Availability does not equal accessibility: researchers’ top concern about scholarly communication is that they cannot access all the content they wish to access
■ Researchers do not always know how to seek out a freely available copy of an article that they want and which they have discovered behind a toll barrier
■ Discovering research datasets can be a difficult and time-consuming process
■ Researchers remain rather confused about intellectual property rights and copyright issues are causing problems for scholarship

However, take-up of Open Access routes has been slow among researchers, and particularly so in non-science disciplines. The move from a closed to an open system represents a huge cultural shift and studies have shown that many researchers are poorly informed about Open Access. Awareness is growing but there remain a number of misconceptions. Researchers are eager to maximise their own impact and reputation but do not understand what means and opportunities are available to them. Other obstacles include worries about the issue of payment charges to publish in Open Access journals, concerns about both financial and time costs, and uncertainty about publishers’ policies on Open Access.

JISC has been working to understand the barriers to Open Access in the research community and to raise awareness of the benefits Open Access can bring. Studies such as Key Concerns within the Scholarly Communications process help to identify the issues that need to be addressed, and technology offers practical tools to make the process easier.

Having prototyped a number of tools that make it easier for researchers to deposit their papers into repositories, JISC is now funding the best of these to be piloted at a few universities, with a view to having these tools widely available from 2010. The aim is to lower the barriers and increase the benefits for researchers in using repositories for their research outputs.

Examples of these tools include All About MEPrints, which gives every user of a repository their own profile page with download statistics and news about commentary and ratings, while writeslikeus links formal and informal repository metadata to help academics discover others with shared topics and interests.

The JISC-funded Sherpa RoMEO service helps to clarify the complex situation around publishers’ policies. Through simple colour-coding, the site shows, at a glance, the policies of over 700 publishers on self-archiving, including those that comply with the grant conditions of major research funders and those that allow the use of their PDFs in institutional repositories.

Funders are also striving to make it easier for researchers to make their grant-funded research outputs Open Access, by developing tools to streamline the process, and by simplifying the payment process to publishers.

‘JISC’s priorities for the future are going to be to look more at understanding and motivating the individual researcher to engage with the Open Access debate. We want them not just to engage with it intellectually or emotionally but to actually participate. We want to make it as easy as possible for the researcher to do this, we want to motivate them to do this, we want to engage them with the debate. That is a principal requirement in the future.’

Malcolm Read, Executive Secretary, JISC

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1 Key concerns within the scholarly communications process. JISC Scholarly Communications Key Perspectives report prepared by Alma Swan, March 2008. www.jisc.ac.uk/whatwedo/topics/opentechnologies/openaccess/reports/keyconcerns
Case study: Open Access and the researcher: a classicist’s perspective – Professor Malcolm Heath, Department of Classics, University of Leeds

Scholars are producers and consumers of research. We need to read what others have written; we want others to read what we have written. Access is doubly crucial. So it should be good news that technology has radically reduced the intrinsic costs of distribution and access. Unfortunately, we still live with an inherited system, which recovers costs by limiting access. It seems crazy: universities pay academics to produce research; the academics give it away to publishers, who make it more expensive; then the universities have to buy it back. And the system is breaking down: escalating costs have already inflicted damage on researchers’ access to content, and are unsustainable. Global economic crisis is likely to transform the gradual, tolerable erosion of research libraries into acute, painful damage.

Does Open Access offer a way forward? Open Access publishing has made some progress in Classics, largely through small-scale initiatives. The recent conversion of a major established journal, Greek, Roman and Byzantine Studies, to Open Access may signal the start of more radical change. But that change will take time. Publication charges are unlikely to be viable in a subject that still conducts most research without research grants.

So in Classics, as in the Arts and Humanities generally, postprint archiving provides a more immediately practicable route. It is already technologically feasible; it does not depend on the development of new business models, a radical reform of research funding, or the availability of additional resources to meet transitional costs; and it achieves the fundamental goal of ensuring that research content is accessible to researchers without impediment. It is not a perfect solution: publishers add value to the content in ways that postprints may not capture. But the one thing researchers cannot do without is content; so added value is self-defeating if it makes content inaccessible. An imperfect solution is still a solution; and postprint archiving is a solution that we can implement now.

Some issues that commonly arise in discussions of Open Access will not disturb Classicists. We recall that happily for us ancient authors did not defer their commitment to the novel technology of the book until libraries had been established to ensure the long-term preservation of written content; libraries were invented because there were books that people wanted to preserve. In the same way, solutions to the problems of preserving electronic resources will be a consequence, and should not be a condition, of migration to digital formats. As for the potential proliferation of versions, Classicists deal with texts transmitted by manual copying: no two copies are the same. We cope!

Having outgrown an obsession with ‘definitive’ versions of texts, Classicists may be puzzled to encounter it in debates about Open Access. If the archived postprint of a published paper includes corrections and updates not available in the ‘definitive publisher-authenticated’ version, it is the rigidity of conventional publishing formats that is to be regretted, not the flexibility of newer ones. One value of Open Access journals is the opportunity they provide to experiment with and demonstrate the possibilities.

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Researchers in the Arts and Humanities may be slow to develop the habit of self-archiving; but they seem to be catching on more quickly to the idea of retrieving material from archives – I have been surprised by how often my archived papers are accessed. The problem is that, while authors gain a clear benefit from the archiving of other people’s work, the benefit to them of archiving their own work is less tangible.

So realism demands acceptance of the probability that the transition will need to be patiently fostered, and will start slowly. The optimistic view is that the rate of change will accelerate as the practice gains a foothold within individual disciplinary communities, and spreads from one researcher to another by contagion.
Research funding bodies are a crucial driver in opening up access to research. The UK Research Councils are committed to the guiding principles that publicly funded research must be made available to the public and remain accessible for future generations. They have pledged to:

- Build on their mandates on grant-holders to deposit research papers in suitable repositories within an agreed time period, and
- Extend their support for publishing in Open Access journals, including through the pay-to-publish model

Other funding bodies, such as the Wellcome Trust in the UK and the National Institute of Health in the USA, have similar position statements in support of open and unrestricted access to published research.

Content collection is strongest in established subject/funder repositories and JISC has been working with the research funding bodies to support their efforts to promote Open Access and to encourage a coordinated approach to repository deposit.

In 2007, a nine-strong group of UK research funders, including JISC and led by the Wellcome Trust, launched UK PubMed Central, a permanent online archive of peer-reviewed research papers in the medical and life sciences. Based on a model currently used by the US National Institute of Health, UK PubMed Central allows scientists to access a vast collection of biomedical research and to submit their own published results for inclusion. The service ensures that articles resulting from research paid for by any member of the funding consortium are freely available, fully searchable and extensively linked to other online resources.

JISC has also worked with the Wellcome Trust and the National Library of Medicine in the USA on a groundbreaking Open Access project to make the complete backfiles from a number of historically significant medical journals freely available through PubMed Central and via Google. Under its Open Access model, participating publishers also deposit current issues of their journals, after a short embargo period, into the archive for permanent, free access. This means that Medical Backfiles will run in perpetuity as current issues of an increasing number of publications are added to grow the resource and bring it constantly up to date.

Funding organisations and higher education institutions share many common purposes and would each benefit from collaboration. That such collaboration is not as yet taking place on any significant scale is attributable less to technical barriers than to the absence of any established structure for the negotiation of cooperative working practices.

JISC has investigated ways in which data can be shared more easily between repositories. The IncReASe project looked at how White Rose Research Online, a shared repository of research outputs from the universities of Leeds, Sheffield and York, might interact with the subject repository of the Economic and Social Research Council and brought the prospect of institutional repository and funder/subject repository data sharing a step closer.
The Wellcome Trust is the largest charity in the UK. It funds innovative biomedical research, in the UK and internationally, spending around £500m each year to support the brightest scientists with the best ideas. Since 2006 Wellcome has had a mandatory policy that everyone who receives a Wellcome Trust grant has to make their outputs available as soon as possible and, in any event, within six months of publication.

Open Access is important for two key reasons, explains Robert Kiley, head of digital services at the Wellcome Library. 'The first reason is that we believe that the research we fund should be available to all. The mission of the Wellcome Trust is to improve human and animal health and we do that through funding research. The outputs of that research are research papers in the medical literature and so forth and we believe that everyone should be able to access the research we have funded. The second reason is more around how we can improve the research process. We believe that by having all our outputs available in one place, in our repository, UK PubMed Central, and by ensuring that those articles are made fully Open Access, which includes the right for anyone, wherever they are, to re-use that content for text-mining purposes, creating derivative works, perhaps doing translations, it will improve the research process. And that’s why we’re such a fan of Open Access.'

Wellcome not only mandates that all its research is made Open Access, it also funds the Open Access publication fees. It recently announced a further £2m to fund those fees for its researchers over the next 12 months. There is a clear policy statement on Open Access on its website that researchers have to sign up to and an end of grant form the authors must fill in to detail the output of their grant. These are checked through and if the output has not been made available then Wellcome goes back to the author, reminds them of the policy and asks them to comply with the mandate.

Given this, it is perhaps surprising that the compliance rate is still under half of all Wellcome-funded outputs: between 40 and 45% of Wellcome-funded articles are made available within UK PubMed Central within six months of publication date.

'It’s a significant improvement on where we were two or three years ago, but it’s not at the level we want,’ says Kiley.

‘There are three key players in the scholarly communications process and each of those players has work to do. Researchers need to be more aware of the policy and be more compliant with it. With publishers, around about 90–95% of publishers have a fully Wellcome Trust compliant policy but we are still finding that the procedure by which an author may select the author-pays model is too convoluted. We are encouraging publishers to build in support for the author-pays model into the submission process.

‘Finally, we as funders need to do more in demonstrating the real value of Open Access, so highlighting that by putting your paper into PubMed Central you do facilitate the development of services such as text-mining and your research may be cited more. On a practical level we are developing tools to build reporting back to funders into the UK PubMed Central service. When a researcher wants to tell a funder what their outputs were it will effectively create an on-the-fly report, which they can send off, which lists all their research outputs for that grant. Researchers can see how many times their paper has been cited and how many times it has been downloaded. We’re trying to give a few things back to the author to encourage them to start using the PubMed Central service to make their outputs freely available.'

Case study: The Wellcome Trust

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Open Access and publishers

‘For publishers, Open Access provides a way into the new environment. If they are willing to adapt, they can have a very good future under Open Access, but it does require that willingness to make the leap and start to change.’

Fred Friend, Honorary Director of Scholarly Communication, UCL

In a world in which there is a massive year-on-year increase in the whole range of scholarly communications, the cost of publishing is rising far ahead of inflation and well beyond library budgets.

JISC Collections is working closely with publishers to explore business models that help to address the problem of sustainability. During this period of economic crisis, publishers and academic libraries have to work together to ensure that new content is as affordable as possible and that libraries can sustain their existing subscriptions to content. One model JISC is supporting is Open Access journals. In an Open Access journal, the researcher’s article is peer reviewed, processed and published, just as with traditional journals. However, with full Open Access journals, libraries do not pay subscription fees and the online version is freely accessible to all. In a hybrid or optional Open Access journal, the author can choose to make their paper Open Access and the journal, for which the library will continue to pay a subscription fee, contains a mix of ‘open’ and ‘closed’ articles. In both cases, the author, institution or funder pays a fee to the publisher to process and publish the article. This is known as ‘Gold Open Access’.

JISC has undertaken pioneering advocacy work with publishers, the Research Information Network and Universities UK to increase the use of Gold Open Access. Studies have included a survey of universities and researchers on their experiences with this publishing model, which has raised some key areas for consideration, including that it can be time consuming for academic libraries to gather up and pay the small article fees, and expensive for publishers to collect them.2

Another issue raised by the survey is that of uncertainty on the part of researchers over the payment of article-processing charges for publishing in Open Access journals. Researchers often believe that all Open Access journals require payment, which is not the case, and tend to dismiss this avenue for disseminating their work on the basis of that misconception. There is also uncertainty about the administration and allocation of money from funders to pay the charges.

From the librarians’ perspective, there is a need for greater transparency among publishers to counter the argument that access fees are being paid twice – once through subscriptions and again through publication fees. Librarians and institutions need to be reassured that subscription levels are being reduced to reflect the additional income publishers are accruing through author payments for Open Access content.

A further concern is that some publishers define Open Access rather narrowly, making the article available to readers for free but not permitting re-use of it for other purposes, including text-mining.

JISC is working with the research community, with publishers and funders, and with international partners to find ways to address these concerns. For example, JISC Collections is undertaking a pilot project that will build a database of Gold Open Access articles and associated costs from UK researchers, and use this to inform the sector on the levels of payments that have been made, and relate these to subscription charges in the case of hybrid journals. The project will also help in the implementation of existing guidelines3 on paying Open Access publication charges, by enabling universities, publishers and funders to share good practice.

‘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. Some publishers, for example Oxford University Press, have already done this and we would like to see all publishers behave the same way.’

Sir Mark Walport, Director of the Wellcome Trust

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2 JISC Open Access publication charges survey. September 2008 www.jisc.ac.uk/whatwedo/topics/opentechnologies/openaccess/reports/chargesurvey

3 Guidance on paying for Open Access publication charges www.rin.ac.uk/our-work/research-funding-policy-and-guidance/paying-open-access-publication-charges
Case study: Oxford Open Journals

Oxford Journals, a division of Oxford University Press, publishes over 200 academic and research journals in a range of subject areas. In 2004 it became one of the first publishers to experiment with Open Access through the Open Oxford initiative. Over 90 journals operate under an optional Open Access model, where the author can choose to pay a fee and make the article freely available, while a small number of journals are completely Open Access. Oxford Journals has been monitoring the experiment and sharing their findings with the wider research community.

‘The motivation was that because we are part of a university press our main mission is to disseminate as widely as possible and we were very interested to find out whether Open Access would provide us with a route to achieve greater dissemination than was possible through the other models we were operating,’ says Martin Richardson, managing director of Oxford Journals. ‘We went into it with an open mind to discover what the advantages and disadvantages were.’

Oxford Journals selected a sample of journals that were representative of the wide range of subjects in which it was publishing, and ran them for a year to see what kind of interest there was and what the impact was.

After the first year, the majority of uptake of optional Open Access was in the life sciences, with approximately 10% of authors selecting the Open Access option across 16 participating journals in this area, compared with approximately 5% in medicine and public health and 3% in the humanities and social sciences. Three life sciences titles in the areas of molecular and computational biology saw over 20% uptake. The highest of these was for Bioinformatics, which published over 50 Open Access papers in 2006. One journal, Nucleic Acids Research, moved from subscription-only to completely Open Access following the experiment.

According to Richardson, the experiment has shown that, for researchers, whether a journal is Open Access or not is less important to an author than the quality of the journal and the review process. He is keen to emphasise that the peer review process itself is unaffected by the payment model the author chooses.

‘For all of our journals that are offering an Open Access model, we make it very clear that ability to pay doesn’t influence the decision about whether that paper is published or not and we don’t have any discussion with the author about financial arrangements and which option the author wants to choose until after the paper has been accepted. The peer review process goes ahead exactly as normal and the editors and reviewers are not aware that the paper is going to be published under an Open Access model or not. That discussion doesn’t start to happen until after the paper has been accepted. In that way there is no possibility that the decision of the author on Open Access can influence whether the paper is accepted.’

For publishers such as Oxford Journals, the main challenge is financial, and particularly what impact moving towards an Open Access model has on the other revenue streams that are needed to cover the costs of publication and balancing an increase in Open Access funding with a decrease in subscriptions.

‘We’ve had to develop new systems to be able to collect the money – that’s an extra cost as Open Access is existing alongside other models and consortia deals is now the predominant model rather than individual subscriptions. We have had to invest in working in a different way to collect that money,’ says Richardson.

‘We also offer a system of waivers on those journals that are fully Open Access, in case of financial hardship, and we also offer discounts to authors from developing countries. We find having waivers particularly useful if the paper is not the primary purpose of the research but something interesting that was found out along the way, perhaps refining an existing technique rather than an answer to a question, and the author does not feel that they can use the research grant to publish it as it wasn’t the primary purpose of the research project. That’s one area where we’ve found the system of waivers a useful element of what we’re offering and authors appreciate the flexibility of being able to request a waiver.’

Looking to the future, Richardson believes the key to increased Open Access lies in the hands of the funding bodies.

‘Over the next two to five years I would expect that in the biomedical area level of uptake would increase, but so far we haven’t seen any evidence that the level of increase is going to spread to other subject areas. Over a longer period of time, what would be needed in order for authors to select Open Access more frequently would be the funding to either enable or mandate them to do that. Without that I don’t really see there being a fundamental shift.’
Open Access will save money. The economic benefits of a move to an open system of scholarly publishing are twofold. There are direct cost savings, such as the expense to libraries of subscriptions and to researchers who access articles through pay-to-view systems; and there are efficiency savings, such as the time saved by researchers when they are able to find the information they need quickly and easily on the web, and the reduction for librarians in journal-processing tasks.

These economic savings were highlighted by the JISC-funded Houghton report (January 2009), one of the most significant pieces of research into the financial implications of Open Access.

When considering costs per journal article, Houghton et al believe that the UK higher education sector could have saved around £80m a year by shifting from toll access to Open Access publishing. They also claim that £115m could be saved by moving from toll access to Open Access self-archiving.

What do these figures mean for individual institutions? JISC has funded the development of a methodology whereby universities can consistently and with confidence estimate the costs and benefits to them of taking steps to move towards Open Access. This methodology draws on the Houghton model, and includes details of the data that need to be collected in order to use the model to make the estimates, which are made on an assumption of global Open Access. The study also features an analysis of research and library costs in four representative UK universities. This shows that, among other findings, there are positive savings to be made in the longer term under most scenarios by switching to new, open modes of communication, whether repository- or Open Access journal-based.

JISC is also funding support, such as workshops, run by the Research Communication Strategist project at Nottingham’s Centre for Research Communications, to help higher education institutions take advantage of this methodology to build their own business cases for Open Access.

“The argument for moving from more traditional subscription or toll-based publishing to a model that allows for greater accessibility and makes full use of the advances in technology cannot be ignored. This report shows there are significant savings to be made and benefits to be had.”

Professor Tim O’Shea, Chair of JISC
Interview: John Houghton

Why is Open Access important?
Open Access is important because knowledge is important. The taxpayer spends a lot of money on research and if you are going to invest that much money in it then you should be doing all you can to maximise the return from doing it. In an environment where knowledge, and scientific and technical knowledge in particular, has now become so important for the economy and for all sorts of aspects of life, communication of science research is much more important than it used to be. It used to be a club of science researchers talking to themselves but that’s no longer the case. Access is crucial.

What was the motivation behind your work on Open Access?
The motivation was to communicate the issue in a language that ministers and senior bureaucrats speak. I started to become aware of the debate that was going on about the ‘journals crisis’ as it used to be called, which was libraries and publishers having a discussion, and I felt there was a need to engage governments, a need to speak a different language, to say what they were saying in the kind of economic language that a minister for science or a minister of industry would be interested in. That was the motivation for the work I was doing for the OECD and that led on to the work for JISC.

How did you quantify the issue of Open Access in this economic language?
One of the interesting things about the topic from a purely research point of view is that it is a very challenging problem. It’s quite often the case that economics is really good at telling you something that’s glaringly obvious and very poor at dealing with important issues. There are two aspects to looking at the costs and the benefits. One is the net costs – if you have a different system you would have a different set of costs so what is the net cost – in a sense the first order benefit is the saving, having lower net costs. But then there’s the issue of what’s the potential impact of much wider communication and dissemination. So we looked at the costs and the net costs in terms of the cost savings from alternative models and then we tried to model the impact.

What was the reaction to your report in the UK?
I think the general response from funders was that it was good to have some evidence to support what they had always intuitively felt to be the case. People were happy to have that supporting evidence.

And publishers?
Some of the publishing lobby decried it without being able to disprove it. I hope we can have a more constructive dialogue with publishers about these issues. Ultimately I don’t think the subscription model is going to be sustainable for most of them, it’s not a workable model for the average academic journal. It’s a natural response to defend something that’s very profitable for as long as you can but I think there will be a lot of opportunity for publishers in the area of value-adding, especially as more kinds of different research data become available.

Where does work still need to be done?
I agree that the argument has been won but any argument can be ‘un-won’, so I think that it is important to keep making it until it is really established. Clearly it’s about behavioural change – the level of Open Access publishing is still quite low and researchers aren’t embracing it very rapidly and the main reason for that is that they are not being forced to, but it also relates to the way we do evaluation. If every time we do research evaluation we go back to metrics and citation analysis then we’re just going straight back to the traditional forms of publishing and rewarding people for doing the traditional forms of publishing. I think the efforts of the funders to mandate in a hard or soft way Open Access is wonderful but what we need next is for them to reward innovative ways to communicate. You’ve got to align the policies for access and evaluation and they are not aligned at the moment. We need people like JISC to put a lot of effort into creating evaluation metrics that fully embrace Open Access or any form of communication so that we can get the metrics that are the equal, if not the superior, of the metrics we’ve got.
Open Access research works harder and more effectively – locally, globally, socially and economically.

At the researcher level, there is evidence that citation rates are higher for Open Access papers, while Open Access repositories make it easier for researchers to manage their online presence and raise their research profile. When a researcher’s published work is stored in a repository it becomes simple to add links to the full text of papers whenever they are mentioned: in emails, Web 2.0 applications, blog posts or comments on other’s blog posts – instantly sharing the knowledge and widening the impact.

At the institutional level, research with more impact means increased visibility online, creating a wider shop window for the university. Research funders are increasingly needing to see the return on their investment and value for money, and evidence of research impact is a crucial way that higher education demonstrates its value. The same infrastructure – repositories – that enables universities to maximise the impact of their research by making it visible and freely accessible on the web via Open Access, can also be used to monitor that impact, and represent it effectively both for internal purposes and for external reporting to funders.

JISC is funding work to develop and implement an agreed standard on article-level usage statistics, so that downloads can be used as well as citation figures to demonstrate the excellence and impact of research outputs. The evidence shows that Open Access maximises both of these.

Open Access rewards not only researchers and universities but also the UK economy as a whole. As a knowledge economy, the effectiveness of the UK’s research community – and the dissemination of its research – is essential to its success.

According to the Houghton report, the financial return to UK plc from greater accessibility to research could result in an additional £172m per year of benefits from government and higher education sector research alone. This is on top of the millions of pounds UK higher education could save by shifting from toll access to Open Access publishing.

Small and medium sized enterprises (SMEs) are vital to a vibrant economy and these businesses, in particular, find it difficult to access the research papers they consider to be crucial sources of information for their work. Recent research shows that cost is the biggest single barrier when SMEs attempt to access research papers, and JISC’s work to support Open Access will directly address this and so help to stimulate the innovation the UK needs.

‘Open Access is absolutely crucial right now. Rebuilding the UK economy is going to be based on innovation, it’s going to be based on the private sector having access to the outputs from the public research base and being able to use that to innovate and to compete much more effectively in the global economy. To do that it will need to have access to research outputs.’

Neil Jacobs, JISC Programme Director, Innovation Group

A university’s prime asset is its people and the expertise they have. For researchers, this is primarily documented in their research outputs, which are often held in the institutional repository. However, while this is extremely helpful in supporting the university’s mission to support innovation in the wider economy and society, relationships also have to be brokered, organisational policies need to be appropriate, and the institution’s technical infrastructure needs to support the mission. There is good practice among UK universities in combining all of these features, and using online tools to make the university an effective partner in innovation and value chains being built regionally, nationally and internationally. JISC is funding a major piece of work to identify and share this good practice across the sector.

The G-Factor world ranking lists universities according to the links to their websites from the websites of other universities – a form of peer ranking of a university’s online presence. In this ranking, the top of the list is dominated by the big US universities that would be expected to lead such a ranking – MIT, Harvard, Berkeley, Stanford and so on. Cambridge and Oxford universities, and the Swiss Federal Institute of Technology in Zurich, make an appearance too, but the only other European university in the top 25 places is Southampton.

The reason for Southampton’s outstanding performance is its very strong online presence due to its huge repository content. Tens of thousands of links from other universities point to articles in the repository, giving Southampton’s research an extremely high international profile. Other universities can raise their global impact in the same way by establishing repositories full of current research outputs.

Open Access Scholarly Information Sourcebook, Alma Swan and Leslie Chan http://tinyurl.com/33x2bf6
Why does the University of Salford support Open Access?
Open Access goes to the heart of what a university should be in promoting the development and dissemination of new knowledge. We start from a principled, almost philosophical, viewpoint. When it comes to knowledge dissemination you can take one of two views: you can take the view that you want to put protective censors around it and you want to derive revenue from your knowledge-creating activities, which is the older approach to third stream income generation. Or you can start from the point of view that the way knowledge works best is if it is freely available and you derive benefit from the value you add to it. That second view is our approach, so our Open Access work starts from the principle that a university will become a better university if it makes knowledge freely available. That’s the starting point for us.

How does it work on a practical level?
You establish an Open Access repository at the heart of your institution, supported by the appropriate resources and policies. You start off with articles and then gradually encourage people to deposit appropriate datasets and beyond to widen that notion of Open Access resources. So, in parallel with our repository, we’ve built a virtual model of Salford using advanced visualisation tools that we are making openly available to assist public bodies and local authorities to make sensible decisions about services and planning in the city of Salford. We’re making available expertise and information on an openly accessible basis.

How does this help the University?
An immediate benefit is widening recognition. This in turn opens up greater collaborative benefits – more people know about you and more people want to work with you. Networked development is a crucial part of what a university does because you have to build associations and links with other universities and people all over the world. So the more you’re out there, the more you pop up on the search engines, the more you benefit from networking opportunities and the recognition of what you do. Open Access, the open flow of information, massively increases the possibilities for innovation because people come together and see the different ways things combine.

What’s wrong with the current system?
As a metaphor for what we’ve got at the moment, imagine that you’re setting off on a journey from A to B. You generally expect the road in front of you to be an open road. You don’t expect to be stopped by tolls. If you take the infrastructure of our motorway system in the UK, which is almost entirely but not completely toll-free, that is essentially an Open Access resource. It enables you to do what you need to do quickly and effectively and has a huge economic return because you can transport goods and people around at high speed. That’s how knowledge should work. Knowledge flows when we can get to each other easily. Conventional publishing models act like toll gates, slowing down the flow of information because they are making it more expensive and time consuming. Rather than erecting a toll and extracting rent, what the publisher should be doing is working with us to design faster cars, or more fuel-efficient cars, so that we can get more efficiently from A to B.

What role is there for publishers in the scholarly communications process?
I think that publishers need to fundamentally change the proposition of what they do and some publishers are already doing that in key ways. I don’t think that the future role of publishers will be to charge rent on intellectual property, which is what’s happening at the moment. In practice, with conventional publishing, what we in universities are required to do is give away our intellectual property to publishers, usually for no financial return, and then to buy it back again through very high journal subscriptions in our libraries. Journal subscription rates have gone up, out of proportion with inflation, for years and I don’t think that’s an appropriate model. It’s also difficult to see entirely what value publishers add, particularly when the key factor about publication is not so much the format that the publication appears in, but the peer review component. As universities usually contribute the peer review to the publishers for no charge as well, publishers are actually receiving a very hefty subsidy from universities and public funds for what they do. As they are commercial publishers, the benefit of that subsidy goes to their shareholders and not back into the public domain. I think the future role for publishers will not be in operating that way. It will rather be in adding value to publicly available information. For example, the more and more information we get out in the world, the more and more difficult it is to find what we want and we need specialist agencies that can assemble information for us in a bespoke manner.
Open Access internationally

Open Access amplifies the impact of research globally and enables research conversations and collaboration to take place easily worldwide.

Open accessible research is particularly significant for developing countries where more than half of research libraries can afford no journal subscriptions at all. An additional issue for researchers working in these countries is the difficulty they can face in meeting the financial costs of publishing their own work in journals, as well as accessing other’s work.

Open Access makes the world’s knowledge pool accessible to all, enhances the impact of local research and creates a level playing field.

The world is waking up to Open Access; here’s a snapshot of a range of recent key Open Access events and achievements across the globe.

**UK**

Jan 2010: University of Salford becomes the 100th university in the world to issue an Open Access mandate [http://bit.ly/aRxs0I](http://bit.ly/aRxs0I)

**Wales**


**Netherlands**


**UK**

Jan 2010: University of Salford becomes the 100th university in the world to issue an Open Access mandate [http://bit.ly/aRxs0I](http://bit.ly/aRxs0I)

**Ireland**


**Portugal**


**France**


**Belgium**


**North America**


**South America**


May 2010: SciELO (Scientific Electronic Library Online) is a network based cooperative international program to publish online national or thematic collections of quality scientific journals in open access gold way. Ten certified collections - total 638 journals. Eight national collections: Argentina, Brazil, Chile, Colombia, Cuba, Portugal, Spain and Venezuela. Two thematic collections: Public Health (global coverage) and Social Sciences (translations of selected articles from Latin American Social Sciences Journals) [http://bit.ly/dae8HK](http://bit.ly/dae8HK)

**Africa**


**Botswana**


**Europe**


**North America**


**South America**


May 2010: SciELO (Scientific Electronic Library Online) is a network based cooperative international program to publish online national or thematic collections of quality scientific journals in open access gold way. Ten certified collections - total 638 journals. Eight national collections: Argentina, Brazil, Chile, Colombia, Cuba, Portugal, Spain and Venezuela. Two thematic collections: Public Health (global coverage) and Social Sciences (translations of selected articles from Latin American Social Sciences Journals) [http://bit.ly/dae8HK](http://bit.ly/dae8HK)

**Africa**


**Botswana**

Philippines
2010: 35 journals listed on Philippine Journals Online with 954 articles available as full text

South Africa
2010: At least 100 journals ultimately openly accessible online thanks to the Academy of Science SciELO South Africa journal Initiative

Netherlands
Feb 2010: More than 220,000 publications at 25 repositories now freely accessible via the NARCIS scientific portal

Poland
Jan 2010: International Open Access conference held in Poland

Nepal
2010: 50 journals listed on Nepal Journals Online (NepJOL), a service to provide access to Nepalese published research, and nearly 3000 articles with the majority of them available in full text

Hong Kong
2010: Hong Kong has 10 Open Access repositories, a tool to cross search them and a Hong Kong University Libraries Open Access Policy

China
Oct 2010: Chinese Academy of Sciences co-hosts Berlin 8 Open Access conference in Beijing
March 2010: China’s first Open Access journal, Nano Research, listed in Science Citation Index
Feb 2009: National Science Library at the Chinese Academy of Sciences opens repository and mandates deposits. Over 40 Chinese Academy of Sciences institutes develop an institutional repository. A Chinese Open Access Portal has been established to build capacity and to advocate for open access

India
March 2010: Indian Journal of Agricultural Sciences and Indian Journal of Animal Sciences become Open Access. Indian Academy of Sciences: all journals are Open Access

Bangladesh
2010: 50 journals listed on Bangladesh Journals Online (BangJOL), 3063 articles available as full text
http://bit.ly/97mLrI

Mozambique
http://bit.ly/9THqcA

Australia
May 2010: Australian federal government commits to Open Access

Netherlands
Feb 2010: More than 220,000 publications at 25 repositories now freely accessible via the NARCIS scientific portal

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http://bit.ly/97mLrI

Mozambique
http://bit.ly/9THqcA

Australia
May 2010: Australian federal government commits to Open Access
JISC and Open Access: looking forward

JISC has been at the centre of the Open Access debate over the last ten years and intends to continue to lead the UK’s educational sector in adopting open policies and procedures. JISC is unique in the UK due to its combination of strengths:

- Breadth of vision across the sector
- Acknowledged leadership role
- Practical capacity to create change to make Open Access a reality

JISC will build on its groundbreaking research work, such as the Houghton report into the business case for Open Access, its mediating role in bringing together the stakeholders in the debate, and its international reach in order to realise its vision of a managed transition to a scholarly communications model that is fit for the 21st century.

A number of programmes and projects have been planned to help make this a reality.

Funding research

One effect of rising journal costs is that, for many libraries, it has become much harder to support significant purchasing of academic monographs. Since monographs have been a key format in many disciplines, especially in the humanities and social sciences, this has an impact on research. JISC has funded a pilot to work with the Open Access Publishing in European Networks (OAPEN) project, alongside funders elsewhere in Europe. This aims to develop and implement an Open Access publication model for academic books in the humanities and social sciences. The JISC pilot will run until late 2012.

Working with stakeholders

JISC has been a driving force behind an initiative to define and take forward a range of collaborative work with the Research Information Network, publishers, RCUK and Wellcome, Universities UK, Research Libraries UK, SPARC Europe and other key bodies. This is focusing initially on four projects, investigating:

- Barriers to the transition to electronic-only publication. Electronic-only publication is a pre-condition for Open Access, although it does not rule out print-on-demand. However, most journals are distributed as print and electronic versions at the moment for a variety of reasons. This work will provide a joint high-level roadmap to help

the sector move where possible to electronic-only. It reports in late 2010

- Gaps in access to research outputs. Open Access can enable people who currently do not have adequate access to the academic literature to do so. They may be researchers in universities and colleges with smaller libraries, or researchers outside the education sector, professionals and practitioners in public and voluntary organisations, and policy makers in central and local government. This project will conduct a survey and map expressed demand from these groups. It reports in late 2010

- The dynamics of improving access to research papers. While the Houghton report notes significant potential savings and benefits from Open Access, it does not model a transition. This project will describe the costs, benefits, drivers, barriers and decisions that would be involved in a range of transitions in scholarly communication, including transitions to more Open Access. It reports in early 2011

- Scenarios for scholarly communications in years to come. This scenario-planning exercise will support constructive dialogue between the stakeholders and explore a range of longer term trends and issues in scholarly communication

Building infrastructure

JISC is working with SURF in the Netherlands and other funders to support a project that will enable Open Access repositories to share citation data effectively and so begin to seed the ‘citation commons’, a place where trusted, open citation data can be shared.

JISC has also funded work to exploit the Web of Science API to gather metadata into repositories, and is keen to work with publishers and anyone else to improve infrastructure that helps improve the access to research papers.

JISC has funded an aggregation of Open Access research outputs, harvested from UK repositories. This aggregation is intended to be the basis on which new services can be built and, in support of that, it will soon be expressed as ‘linked data’ in line with developments such as the UK Government’s ‘data.gov.uk’ initiative.

Collaborating internationally

JISC will play a role on the international stage by hosting sessions at international conferences and continuing its sponsorship of the Open Repositories conference and the two-yearly OAI workshop in Geneva (next one 2011).

4 www.jisc.ac.uk/aboutus/committees/workinggroups/scholarlycomms/jointwork0910
JISC collaborates particularly closely with partners in the Netherlands, Denmark and Germany on Open Access, in an arrangement known as the ‘Knowledge Exchange’. One recent outcome from this partnership is a report on the potential of submission charges to support Open Access.\(^5\)

The Confederation of Open Access Repositories (COAR) has been established in Europe and JISC became a founder member in October 2009. The aim of COAR is to ‘enhance and progress the provision, visibility and application of research outputs through global networks of Open Access repositories’ and JISC will contribute to shaping the organisation’s objectives of looking at interoperability, raising awareness and promoting Open Access repositories, supporting the repository community and working with partners in closely related fields such as research management and publishing.

JISC and Open Access: what they say

The Medical Research Council (MRC) is committed to advancing and disseminating knowledge and technology and to promote dialogue with the public about medical research. The MRC policy is that all primary research publications should be made publicly available within six months of publication. As part of our ongoing support for MRC authors in ensuring compliance with the policy, whether it be publishing costs or copyright, we are encouraged to see JISC developing robust guidelines which will broaden the range of opportunities for quality research to be widely and freely accessed.

Tony Peatfield, MRC Director of Corporate Affairs

Open Access enables research papers to join the open web of linked data, which will transform the ways in which those papers can be used, and therefore how research can benefit the economy and society. JISC has been quick to realise this potential and continues to lead through its initiative to equip UK universities to maximise the value of their research through Open Access.

Dame Wendy Hall, Professor of Computer Science at the University of Southampton

Over the past ten years JISC has played a vital role in shaping the debate surrounding scholarly communications. From practical projects and support for all flavours of Open Access, the work of JISC has placed the UK in a leading position internationally in the wide dissemination and use of research outputs.

David Prosser, SPARC Europe

Ensuring research is sustainable in the long term is essential to knowledge creation and innovation. Open Access helps to address the issues of sustainability that have arisen with the current system. Universities, researchers, publishers and research funders need to work together to ensure production and access to research can not just be maintained, but be improved.

Rachel Bruce, JISC Programme Director, Information Environment

No other organisation in the UK, or in the world, has done so much work in this area.

Fred Friend, Honorary Director of Scholarly Communication, UCL
"I was involved with JISC in making the very first exploratory steps towards Open Access to scholarship through institutional repositories. I now am witnessing an increasing appreciation of the value and potential of these repositories for widening access to research outcomes and teaching materials. We must thank JISC for the vision and the support that has made this transformational journey possible."

Alison Alden, Chief Executive of the Higher Education Statistics Agency

"JISC has been a very important player in the Open Access arena. There are three areas they have excelled at. Firstly, in terms of promoting the idea of Open Access, engaging with publishers, engaging with the research community and generally making the argument for Open Access. Secondly, on a practical level, we are working with JISC and the Research Information Network to scope out a piece of work that will look at how we might effectively transition from a subscription model to an alternative model which is Open Access. JISC have been instrumental in bringing players together to take that debate forward. Thirdly, from a parochial perspective of UK PubMed Central, JISC gave seed funding to help that project get started. We value the work that JISC is doing."

Robert Kiley, Head of Digital Services at the Wellcome Library

"JISC has been involved with JISC in making the very first exploratory steps towards Open Access to scholarship through institutional repositories. I now am witnessing an increasing appreciation of the value and potential of these repositories for widening access to research outcomes and teaching materials. We must thank JISC for the vision and the support that has made this transformational journey possible."

Malcolm Richardson, Managing Director Oxford Journals

"I think the greatest achievement of JISC so far in Open Access has been to promote the debate earnestly and consistently over the past 12–15 years, to get it on the research councils’ agenda, to engage with other countries and indeed, in the debate internationally on Open Access I think we’ve achieved a lot there. I think we’ve now got to move on and engage the research community and the practitioners more effectively."

Malcolm Read, Executive Secretary to the JISC

"I don’t think there is any equivalent organisation to JISC anywhere else in the world. The fact that it exists and is looking so openly and constructively at all of the scholarly publishing models is a real benefit for everybody — it’s a benefit for Australia and New Zealand and other countries as well."

Professor John Houghton, Professorial Fellow at Victoria University’s Centre for Strategic Economic Studies

"JISC has done some very valuable work in the kind of experimentation that we’ve been undertaking. JISC is doing a good amount of research in this area, which is helping to inform the debate."

Malcolm Richardson, Managing Director Oxford Journals
Although the term ‘Open Access’ was not defined until several years after JISC was established in April 1993, the seeds of JISC’s work on new research dissemination models were sown in JISC’s very early policy initiatives.

1993
‘Joint Funding Council’s Libraries Review Group: Report’ (the Follett Report) www.ukoln.ac.uk/services/papers/follett/report: ‘Most important, there needs to be a sea-change in the way institutions plan and provide for the information needs of those working within them. ... The emphasis is shifting towards information and information access. This has profound and far reaching implications.’

1994
‘JISC Circular 4/94: Follett Implementation Group on Information Technology’ included amongst the priority areas ‘to consider the funding of a number of initiatives to improve the status and acceptability of electronic journals, and the promotion of new forms of electronic journals and opportunities for parallel publishing’: www.ukoln.ac.uk/services/elib/papers/circulars/4-94

1994-2001
The JISC eLib programme www.jisc.ac.uk/whatwedo/programmes/elib.aspx managed 59 projects in 12 areas of information provision, including several projects exploring innovative approaches to electronic journals, incorporating data and multimedia content and using new business models.

2002-2005
The JISC programme Focus on Access to Institutional Resources (FAIR) provided funding for 14 projects designed to improve access to content produced within UK universities and colleges by supporting the development of ‘places’ – soon to be called ‘repositories’ – in which content could be archived and accessed. www.jisc.ac.uk/whatwedo/programmes/fair.aspx

2004
JISC funds Gold Open Access pilot project. JISC submits evidence to the House of Commons Science and Technology Committee Report ‘Scientific publications: free for all?’ HC 399. www.publications.parliament.uk/pa/cm200304/cmselect/cmsctech/399/39902.htm

2003

2003
First JISC conference on Open Access issues: ‘Global access to UK research: removing the barriers’.

2001
The JISC Scholarly Communications Group was formed and began issuing reports and studies on Open Access and related topics.

Open Access for UK Research: JISC’s contributions
2004-2006
JISC funds the charges for UK authors to publish on Open Access in the journals of six publishers, encouraging publishers to offer this publication route and authors to use the opportunity. [www.jisc.ac.uk/uploaded_documents/0A_Funding_Initiative_Evaluation_Report.doc](http://www.jisc.ac.uk/uploaded_documents/0A_Funding_Initiative_Evaluation_Report.doc)

2005
JISC signs the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities and sponsors the ‘Berlin 3 Open Access Conference’. [http://oa.mpg.de/openaccess-berlin/berlindeclaration.html](http://oa.mpg.de/openaccess-berlin/berlindeclaration.html)

2005
The launch of Knowledge Exchange, enabling a closer working relationship between organisations in four European countries on a range of issues, including Open Access developments. [www.jisc.ac.uk/aboutus/partnerships/knowledgeexchange](http://www.jisc.ac.uk/aboutus/partnerships/knowledgeexchange)

2005
JISC signs the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities and sponsors the ‘Berlin 3 Open Access Conference’. [http://oa.mpg.de/openaccess-berlin/berlindeclaration.html](http://oa.mpg.de/openaccess-berlin/berlindeclaration.html)

2006
‘Moving Towards Open Access’, a JISC Conference held in Oxford. [www.jisc.ac.uk/events/2006/09/event_oaconf_0906.aspx](http://www.jisc.ac.uk/events/2006/09/event_oaconf_0906.aspx)

2007
JISC co-sponsors petition to register support for free and Open Access to European research and for the recommendations proposed in the EU’s Study on the Economic and Technical Evolution of the Scientific Publication Markets of Europe. [www.ec-petition.eu](http://www.ec-petition.eu)


2009

2005-2009
Appendix: JISC’s Open Access research

JISC has commissioned a wealth of research into Open Access over the last ten years, helping to build the expert knowledge base on the subject.

The reports in this appendix span from 2002 to 2010 and so, because of the rapid pace of change in behaviour and technology in this field, some of the findings of the earlier reports will now be out of date. However, they all represent a body of knowledge that highlights the changing scholarly communications landscape and actions required to enable improved distribution, access and use of research.

Final Report to Research Support Libraries Group from the JISC Scholarly Communications Group

Research Support Libraries Group website (May 2002)

The report begins with its conclusions. These emphasise the need to share intellectual output, the need to be able to access it ‘anytime anywhere’ and the need to recognise researchers as ‘knowledge creators’ who contribute to the economic success of the UK. They say there will be a long period of ‘hybridity’ in which both print and electronic media are used to further those ends.

They then suggest a number of programmes to help open up access to library catalogue materials and say that funding programmes are needed to stimulate innovation in scholarly communications and ensure perpetual access to digital records, along with a number of other recommendations about establishing web archives, investing in new technology and changing culture. They make a large number of funding recommendations here.

In part 2, the authors explain the background of the Research Support Libraries Group and the Scholarly Communications Group and their missions.

In part 3, they lay down a set of recommendations for effective scholarly communication, making material accessible, preserving that material and rewarding researchers.

In part 4, they look at trends in content and library purchases, noting the increase in price in journals above the rate of inflation. Along the way they also note the (then relatively new) Open Archives initiative and correctly predict that it will grow in importance. They also look at the impact of the Research Assessment Exercise and the ‘disproportionate advantage’ that gives to journal publishers, followed by an investigation of Consortial Licensing and other initiatives to make journals more freely available. They next look at e-books, noting that this is an exciting growth area that UK and that organisations should be expanding their capacity to publish electronically. In the next section on Intellectual Property Rights they note the problems caused when academics sign over their rights to publishers and recommend more pro-active involvement from institutions in teaching staff their rights and the establishment of a set of model contractual clauses. There is then a now outdated section on peer review (predicting it will be less used in five years time) and a section on ‘the way forward’ pointing out the problems associated with the journal bundles publishers offer institutions.

Part 5 looks at current (ie 2002) trends. They note the increasing availability of e-format books and journals, the impact of multimedia and similar. They also look at barriers to future growth such as uncertainties about archiving and digital preservation, and frustrations relating to finding material online. There is an overview of then-current JISC projects to facilitate Open Access programmes and improve scholarly communications, followed by a section on communications and the need to ensure perpetual access to digital records. There is then an overview of 2002 e-book formats and reading devices.

Read the full report:
http://bit.ly/boyYm0

JISC Response to the House of Commons Science and Technology Committee Report ‘Scientific Publications Free for All?’

(October 2004)

A response to a parliamentary report with many conclusions and recommendations relevant to JISC (9 out of 82 of which mention JISC specifically).

The Executive Summary notes areas where JISC’s activities are relevant to the report – such as the identification of the need for change in the scientific publishing model (which JISC has also recommended), the need to get better licensing deals from publishers and a discussion of institutional repositories.

Next, there are more detailed summaries of the report’s findings and JISC’s intentions in response to them. These relate to:

- Investing additional funding towards building up the concept of a Common Information Environment
- The need for further coordination with regard to the Scholarly Communications Group and more international collaboration – and more budget increases to enable all that
- Continued work on building up Institutional Repositories and further reports on how best to do this. It’s noted that JISC doesn’t have the funding to allow all institutions to build up repositories as the report requests and that more will have to be supplied
- Digital preservation – the problems of guaranteeing its longevity and the need for collaboration between institutions
- More exploration of the lifecycle for research data
JISC’s support for Open Access journals like BioMed continues but needs more funding to ‘pump-prime’ such initiatives on a larger scale.

Continuing experimentation with journal procurement methods and pressing for better licensing agreements from publishers.

Exploration around the foundation of a content procurement company.

The response then moves onto drawing attention to JISC’s relevance to other aspects of the Parliamentary report. Those related to Open Access include:

- Recommendations on discussion of and action on Open Access at international level.
- Recommendations that primary research data be made available – which fits with JISC’s vision for institutional repositories containing such material.
- Recommendations to build further repositories and for research to be disseminated ‘as widely as possible’.
- Recommendations regarding self-archiving, which JISC feels needs funding back-up.
- Recommendations concerning the role of the British Library in archives – and funding thereof.
- Recognition of the need for national coordination between repositories.
- Recognition of the need to address concerns over copyright issues relating to repositories.
- Potential funds for researchers wishing to publish under the author-pays model.
- Assistance for Learned Society journals.
- More experimentation with the author-pays publishing model.

There is then a discussion of the licensing issues raised by the report, such as the increasing cost of journals, restrictive practices in relation to journal purchase, the need for JISC and the NHS to work together on some procurements, the need for provisions to enable teachers to reproduce digital content in their lessons and lectures, the need for wider access to digital journals for library users, the need for monitoring of journal pricing, protection of continued access to digital content after a subscription has been cancelled, the problems related to journal bundles offered by publishers, the need for a national strategy with regard to journal purchasing.


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Open Access Self Archiving
An Author Study

Alma Swan and Sheridan Brown from Key Perspectives Ltd (2005)

A study designed to discover self-archiving behaviour among journal authors.

Self-archiving is an alternative means of providing access to articles, aside from Open Access journals. It’s when authors place articles [that might already have been/be about to be published in other journals] on personal/institutional websites or in institutional/subject-based repositories.

Swan and Brown surveyed 1,296 individuals. Some names were randomly selected; some came from a call to respond on Open Access forums; some from a trawl of email addresses in Open Access repositories; some from within the University of Southampton.

The authors discovered:

- Self-archiving is not without issues:
  - Because it grew up from a tradition of academics circulating ‘pre-print’ drafts of their work for discussion, there are negative perceptions about quality.
  - There are issues relating to copyright and contravening agreements made with journal publishers. Authors are not always sure about what rights they have for republication. Occasionally journals have raised objections. More often, however, authors don’t publish for fear of breaking copyright, even when they are actually allowed to do so.
  - There are concerns about how it may impact on traditional publishing models and about the cost to institutions of setting up the archives.
  - There is also the simple fact that a sizeable percentage (36%) of respondents didn’t know enough about self-archiving to feel confident about submitting their work.

But the authors outline clear advantages to self-archiving:

- Wider dissemination of the author’s work – and immediate dissemination, which shortens the research cycle.
- Archives can contain data that can’t be published in traditional journal format.
- They are good for institutions because they enhance the visibility of work carried out within them and can serve as shop windows and marketing tools.

Out of the various methods of self-archiving, the authors recommend a global network of Open Access-compliant institutional archives [rather than, say, personal or subject based].

Other interesting points to note are that 61% of respondents thought that archives should be preserved ‘in perpetuity’. Since plenty of humanities researchers regularly use material that is more than 50 years old, this issue has serious implications. Not just in terms of keeping current research alive, but because so few papers over ten years old have been archived or made Open Access compliant.

More people deposit postprints than preprints so the negative preconceptions mentioned above are not wholly justified.

The volume of research literature is growing – as is the price of each journal. HEIs don’t have the budget to keep up and subscription fee journals are becoming unsustainable. Open Access is the obvious alternative but there are little data available about the costs involved. This report focuses on the business models of nine ‘learned society’ publishers (eight in the UK, one in the US) publishing science journals who provided detailed figures for 13 journals – one of which is fully Open Access. For reasons of confidentiality, the publishers are not named.

The report investigates the revenue streams of the journals (average revenue in 2004 was £1,918 per article) and current trends. For instance, a steady fall in the number of print subscriptions to all journals over the past 25 years – which has steepened in the past five years. There are several reasons for this decline. As well as the price increases, online journals have had an impact, especially when libraries adopt online-only policies when both print and online versions are available.

Because publishers have access to print bills, print costs (the costs that come after all the preparation costs like copy editing etc) are easy to work out (they decreased in 2004, although an increase in distribution costs more than made up for this). But it’s very hard to work out online preparation costs and the cost lines often merge. [Print and Open Access are often sold in the same bundle to further confuse things.] The authors recommend that publishers try to keep them separate.

The vast majority of the revenue for the journals (89%) comes from subscribers. Plenty of the publishers make a surplus, but as they are learned societies, they all use this to fund ‘other activities’ (which the authors say are for the greater good of scholarship, like travel bursaries, product development, etc).

The authors then looked at recent and current Open Access experiments and emerging trends (such as increasing access to ‘good enough’ preprint versions of research).

They’ve discovered:
- In prestige journals for well-funded disciplines such as biomedicine, author fees are easily obtained
- In smaller journals for less well-funded disciplines, there’s still been a growth in uptake if the fees charged are low
- Open Access is virtually redundant in fields where there is a tradition for authors to publish preprint ‘good enough’ versions of their papers
- There’s resistance to the producer pays model in some disciplines

A competitive market is emerging in author fees. That’s to say those that charge the least are likely to do the best. But this is a potential problem for learned societies: ‘There should be concern about the future of learned societies as publishers because with downward pressure exerted on author fees by the competitive market, the publishing of research articles will become a low margin commodity business.’

Overall, they find that the current Open Access models are unlikely to allow journals to be financially sustainable – especially from the point of view of producing the much-needed surplus. Nor have they found a strong ‘pull’ from within the author community towards the Open Access model and they suggest this may only change ‘very slowly’ unless funding agencies start to make Open Access a requirement. Bearing in mind the the unsustainable conventional models ways to move towards Open Access are required that take account of the barriers that the report highlights; funders making OA a requirement is one way to do this but support for learned society publishers in the implementation of change is also required.

Read the full report: http://bit.ly/duzY1k
Electronic scholarly resources have many uses, but also present concerns:

- There are questions of ownership of electronic material. Some of it is distributed under licence with a fixed lifetime... so libraries don’t get to keep it forever
- No complete answer has been found to the question of how to safely archive electronic material
- Care has to be taken not to confuse preprint with post-print electronic articles (that’s to say those that haven’t and those that have been peer reviewed)
- In disciplines like fine art, digital dissemination is not good enough

Scholars need to be able to forge copyright agreements that suit them and avoid handing over all rights to publishers that may prevent future distribution of their work. Several universities are starting to offer advice on this subject.

The report then moves on to briefly explain how Creative Commons licences work. (It is a licence that can be used for all sorts of content to allow it to be freely distributed and re-used with various restrictions set on attribution, commercial use and copying.) They also look at SURF, an organisation set up by the Dutch government to develop ‘scholarship friendly’ copyright practices, before providing links for other relevant groups like the UK Patent Office.

Next they explain the ‘Serials Crisis’ – the problem relating to the large increase in the number of journals available and the large increase in costs which prevents institutions from ever being able to provide their scholars with access to all the journals they want/need.

They point out that old-fashioned print scholarly publishing models are unsustainable and give bad value for money to funders, tax-payers and institutions alike.

They then investigate the alternatives and ways to make digital content freely available such as new digital university presses, BioOne’s attempts to digitise previously print-only journals and, of course, Open Access – describing its essence as simply meaning: ‘that research output is made freely available on the Web from the point of publication, for anyone to read and use, permanently’.

There follows a brief explanation of how Open Access Journals work (especially those that are paid for by contributors rather than subscription) and self-archiving in research repositories. This in turn is followed by a brief overview of International Open Access Initiatives like ARROW (Australian Research Repositories Online to the World) and INRA (Institut National de Recherche Agronomique) and relevant URLs.

They point out a further advantage of Open Access repositories in that they allow researchers to store and display their research data as well as the finished reports.

Read the full report:

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**JISC Disciplinary Differences Report**

*Sue Sparks (August 2005)*

A report designed to help JISC understand the needs of researchers (both in terms of publishing and access) in relation to information resources, based on a web-based survey answered by 780 academics (as well as some desk research by Rightscom and research in Dr Valerie Bence’s PhD thesis. The paper also contains a long section with a detailed overview of previous literature on the subject). It aims specifically to provide a factual basis for assumptions about differences in resources and dissemination methods between researchers in different disciplines, as well as discovering if it is as difficult as everyone thinks for those in non-textual disciplines (like drama and music) to find outlets for their research.

It was discovered that there were indeed discipline-specific problems in terms of getting access to conference proceedings, books and databases, as well as problems getting funds to travel to access resources. (These problems were mainly experienced in arts disciplines with the latter being a big problem for language researchers.) The problem of access to journals was not discipline specific. Those in medicine and biological sciences reported problems in getting their results into preferred outlets. All had trouble relating to pressures of space in highly rated journals and with journals’ slowness in getting their results out.

The report confirmed there are other differences between disciplines. Researchers in ‘harder’ disciplines are more likely to share material informally and collaborate than those in the arts. Journal articles are overwhelmingly important for medical and biological sciences. e-Prints (pre and post) are most important in physics and engineering. Social sciences use a mix of media. Languages and ‘area studies’ favour books.

Journals are seen by the majority as most important for Research Assessment Exercise credit – which drives momentum for publishing more journals and setting up new ones. The vast majority of researchers think that the Research Assessment Exercise skews the practice and dissemination of research.

As far as informal resources go, asking colleagues and emailing colleagues questions remains far more popular than reading blogs and email newsletters.

Arts and performing arts scholars did not report sizeable problems with finding outlets for their research.

Researchers are confused about how best to self-archive and their copyright responsibilities if they do. The majority of respondents didn’t even know if their institution had a repository. They are also unsure of their institutional policies on self-archiving. But almost half of the physical scientists and engineers were aware of open subject archives, while nearly a third of social scientists, arts and humanities scholars and a quarter of language researchers were aware of their discipline-based repositories.

The main barriers to self-archiving appear to be lack of knowledge about how to do it and researchers feeling ‘too busy’ when they do not see it as an important channel. The majority favour funding bodies mandating self-archiving.

Read the full report:
Open Access Citation Information

Final Report – Extended Version
JISC Scholarly Communications Group

Written by
Rachel Hardy and Charles Oppenheim
Loughborough University
Tim Brody and Steve Hitchcock
University of Southampton

(September 2005)

A report designed to examine present sources for citation information on Open Access content and to suggest a framework for citation services for Open Access materials and a structure for the collection and distribution of citation information. The authors were asked to make recommendations with regard to citation services in a national and international context.

The authors examined citation counts because of their value in assessing the research impact of an article. Open Access is thought to increase the citation count and therefore the authors asserted that as awareness spreads that Open Access increases visibility, so Open Access will become more popular. Searchable Open Access collections can also (potentially) make citations counts easier to carry out – although a careful structure has to be worked out in order to make that work.

The report was based on desk research, interviews with 18 respondents from amongst funding bodies, librarians, authors, ‘Experts in Open Access’, producers of reference management services and those involved in managing the UK Research Assessment Exercise.

The desk research and literature review provides a broad overview of the history of Open Access and why it makes more sense from an economic viewpoint, especially in fields where the aim of publication is not profit-related. The report notes how much Open Access has grown in the years up to 2005 and that for further growth there is a requirement for services to improve searchability and article visibility – although there’s something of a Catch-22 here, in that there has to be enough Open Access material available for the searches to be worthwhile.

The authors also point out another major influence on growth: the fact that Open Access journals can potentially gain a lot of citations – and in a short time. They cite a number of reports showing free versions of datasets) and how to correctly identify the ‘final’ version (be they drafts or different versions of datasets) and how to correctly identify the ‘final’ most complete version. That’s the one that most accurately represents the ‘published version’, not necessarily the one that was completed last.

The report finds that academics have conflicting attitudes to Open Access. They want published works to be accredited and claim about high costs and prefer free access; but don’t often use Open Access publication. They also note the widespread confusion among academics about how to use Open Access and archive their work.

The study outlines funding bodies’ growing support for Open Access, as well as the support Open Access is increasingly getting from national governments and international organisations. In the context of research measurement and the Research Assessment Exercise the study sets out what scholars say about the advantages and disadvantages of Citation Indexing Services like CrossRef, Google Scholar, CiteSeer, Citebase Search, Scopus, OpenURL, DublinCore and The Web Of Knowledge, explaining how Citation Indexing works, what Journal Impact Factors are and the developing field of Webometrics.

The review suggests that Open Access is growing and that the citation indexing services available have strengths – but also many weaknesses. The authors suggested a model for improving these services (based on the standardisation of bibliographic metadata and having one autonomous user driven structure for undertaking citation information) and then asked their interview subjects for responses on its viability. The response was broadly positive, although there were concerns about some aspects of the proposal such as the need to make authors enter references in a specific format and the fact that it only targets Open Access material. authors would have to put in to make it work. There was a perceived need for more clarity around the proposed model and a major barrier to its implementation was identified as the amount of work authors might have to do to implement it.

Following this interview-feedback, the report gives a more detailed analysis of the recommended proposal. The proposed model supports the cutting of costs and increased ease of use by standardising and automating procedures for citation indexing and harvesting. The report points out especially the need for well-referenced metadata at the point of deposit in archives, the need to develop a standards-based approach to the storage and communication of reference data.

They conclude by pointing out that the proposal needs to be tested before it can be incorporated into a production version of repository software.

Read the full report:  

Scoping Study on Repository Version Identification (RIVER)

Sally Rumsey and Frances Shipsey  
London School of Economics and Political Science

Michael Fraser and Howard Noble  
Oxford University Computing Service

Mark Bide, Hugh Look and Deborah Kahn,  
Rightscom

(March 2006)

A report investigating the complexities behind version identification of material in repositories. That’s to say, how to correctly label each version (be they drafts or different versions of datasets) and how to correctly identify the ‘final’ most complete version. That’s the one that most accurately represents the ‘published version’, not necessarily the one that was completed last.

The report begins by defining a number of terms and debating semantics relating to different versions of material to be deposited in repositories. The authors bring out the interesting point that the confusion and difficulty surrounding these terms (especially the near legistical term ‘version of record’ for the best version of an item in an archive) gives a good idea of some of the complexities involved in working out the significance and state of finish of many items that are placed in repositories. Although
even a fully formalised labelling scheme doesn’t fully address the central question of how to work out a ‘version history’.

They then go through a series of 36 scenarios that the RIVER project came up with at a workshop to highlight potentially tricky areas such as: how to label versions of a digital images; how to cope with dynamic ever-changing group wikis of projects; whether to regard photographs of the same item that are considered to fulfil the same function as different versions of each other. They then posit potential solutions.

The next section looks at current labelling practice in various repositories and then there is a section on metadata harvesting protocol. There is also a more detailed investigation of how the solutions they proposed to the various scenarios can be enacted, with reference to current practice.

They recommend further dialogue about repository identification, awareness raising, more detailed analyses of the requirements of identification within repositories and the formulation of a set of consistent semantics.

Read the full report: http://bit.ly/8Ye0xE

Use of Research Content in Undergraduate Teaching

Jill Armstrong and Bill Norton (June 2006)

A small scale survey to investigate how academics alert undergraduates to the use of research content in their teaching based on an online survey and several interviews carried out at seven universities and in seven different subjects (Engineering, Life Sciences, Art and Design, Media and Humanities, History, Education, Information and Communcation).

The authors’ literature review discovered that very little research has been carried out in this area and they proceeded accordingly. (Although they do point to interesting surveys saying students tend to use generic guides instead of the specialised journals academics recommend to them and that a high percentage of researchers and students use the material libraries put on the web as an information resource... but that there is plenty of scepticism of the authority of articles on the web.)

The questionnaire asked how academics directed students to reference material, how effective students were at seeking and using this material, and about attitudes to e-reference and new forms of reference material. Key findings were:

- Printed books, electronic articles print articles, databases and electronic books were the most frequently used resources (in that order). Although plenty of other types were used
- Numerous methods were used to direct students to material (face-to-face, course handbooks, printed and electronic reading lists, lecture handouts, etc)
- Far more academics relied on generic support mechanisms (such as librarian-led introductory sessions) than themselves telling students how to find things
- Few academics thought their students good at finding material. Over half thought they were satisfactory. About a quarter inadequate
- Staff thought students preferred to use electronic research material to print
- Most staff thought they were at least mainstream users of electronic media, and a sizable proportion saw themselves as early adopters

A series of interviews built on these findings, looking in more detail at how staff led students to appropriate research materials and attitudes to various media. They highlight among other things, how difficult students find it to ‘drill down’ and find data relevant to them, even after they have been directed to the right portal.

The conclusions note that academics have good awareness of the need to alert students to resources and generally do so in a strategic and varied way throughout their courses.

Read the full report: http://bit.ly/9X6NMG
As such, Hong Kong has banned smoking in indoor public spaces.
Summary of Scholarly Communications Survey Findings (2007)

A short report based on a JISC survey (Key Concerns Within The Scholarly Communication Process: Key Perspectives Ltd March 2008) to find out about how the rapid changes in the communication of research affects scholars.

195 people (in multiple disciplines) were surveyed and the focus was towards individual concerns rather than larger institutional questions.

78% expressed concerns about the changes in communications methods as researchers. 85% as research authors. 92% as librarians. 67% as university administrators. 13% of respondents expressed concerns about their ability to freely distribute work to anyone. 15% of librarians expressed concern about the cost of journals.

The top concerns raised were about:
- Access to electronic data and information
- Inability to freely distribute work
- Pressure to publish as a member of a university
- Quality control (as editors/reviewers)
- Cost of journals
- Lack of integration among subject communities

Read the full report: http://bit.ly/aFuhCR

UK Access for UK Research

Published in ‘Serials’ 2007 20(3) pp. 231–234

In the light of concerns that changing purchasing models for journals have favoured big publishers over small and created more bias towards journals over monographs, a survey was undertaken to discover if: `researchers and learners in any UK university have barrier-free access to research publications from any other UK university?’

The authors highlight a particular worry about the expensive ‘big deals’ whereby institutions buy large numbers of journals in a package. The concern was that they might skew budgets in favour of big publishers’ journals and to the detriment of book-availability and smaller publishers.

The survey results are taken from six universities. Each one had the list of publications produced by their academic staff checked against the catalogue of another university to see how readily available their research was to other institutions – and vice versa.

The results showed that 63% of publications are available – either online or in paper format. However, that figure disguises considerable differences between institutions and variations in the type of publication available. One institution had 91% of publications available to its researchers. One had just 32%. This variation between institutions can be partly explained by the different levels of funding they enjoy. Other results are independent of funding levels. Both large and small institutions favoured journals over books, for instance.

The worrying conclusion is that an average of one third of the research material produced in UK universities is not available to students and researchers in other UK universities. The ‘big deals’ do indeed also seem to be skewing funding in favour of journals.

Possible solutions put forward are targeted access funding for books and journals not included in the ‘big deals’. It’s also noted that: ‘new access models may provide a more cost-effective method to make up the shortfall in access’. The authors suggest a repository of publicly funded work could be created to which access is open.

Read the full report: http://bit.ly/clyat4

Survey on the Use of Different Forms of Scholarly Output

Sally Maynard (June 2007)

A report to discover the various forms of scholarly output, the nature and extent of their use and any problems they might cause.

The author posits that it is likely that the ‘extensive use of multi-format resources is becoming the norm across many subject areas’. She introduces the ideas of ‘blended learning’ in which new technology is used alongside traditional media as a teaching aid, social software (software that encourages social interaction) and the explosion of Web 2.0, which is well understood and used throughout the academic world.

The survey [based on a questionnaire sent to a variety of departments in 20 institutions – and then a further 20, and then another 20 again thanks to low response rates] set out to explore these phenomena.

The results of the detailed survey show the various methods teachers employ to communicate and encourage further learning. Most of the findings were unsurprising. They use a wide variety. Print books are most popular (although electronic journals just edge print journals). Most had access to Virtual Learning Environment software (only 1.9% of respondents said they did not).

Similarly, the scholarly output results are unsurprising. They use a wide variety of media, but primarily print and electronic journals, print and books chapters. Very few participants made use of blogging software, wikis or other collaborative software to disseminate their results. Subject portals and repositories were not often used either.

Respondents noted problems with access to journals and lack of funds for subscriptions. They also noted copyright concerns related to using other people’s material in teaching aids.

The discussion looks at these results again and notes how they fit into expected patterns, concluding that use is ‘mixed’, but that Web 2.0 has not yet been adopted ‘fervently’ as a teaching aid.

Read the full report: http://bit.ly/9hKjth
Copyright Matters for UK Researchers, Teachers and Learners

(April 2008)

A document describing ‘copyright issues important to researchers, teachers and learners.’

It starts by highlighting the importance of copyright – since almost every word and piece of data UK researchers use probably has some kind of copyright on it – and then offers a number of guidelines on how to manage copyright issues. These include:

- Get to know copyright law
- Have respect for authors – and imagine how you would feel if you yourself were infringed
- Find out if your employer has a copyright policy and what it is
- Remember student rights and to acknowledge them too

Next there is a brief overview of what can and can’t be copied (with notes on the importance of looking out for Creative Commons licences) and how copyright affects what researchers write, with references provided for places to look for help.

As far as publishing goes, there are tips about the importance of caution when signing away rights, reading any documents publishers request researchers to sign and how to express which rights they wish to protect.

Finally there is a section on the complex area of data rights and the complications surrounding who has copyright when multiple parties are involved in collecting and collating data.

There is also a glossary of technical terms.

Read the full report: http://bit.ly/dvFq2b

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Study on the Availability of ‘Grey Literature’ to UK SMEs

Key Perspectives Report to the JISC Scholarly Communications Group (December 2008)

A report to document the findings of a small survey on the availability of academic grey literature to Small and Medium Sized Enterprises in the UK (SMEs). 23 people from SMEs (under condition of anonymity) were interviewed as well as three related organisations: Business Link, The Federation of Small Businesses and the South West England Regional Development Agency.

The report starts by documenting the various ways universities carry out their ‘third mission’ duties in reaching out to the business community by offering consultancy work and similar and with a discussion of the challenge of how to make the knowledge contained within universities available.

After a discussion of the variety of SMEs and organisations involved and how they were approached the authors detail the ways the SMEs interact with universities. These include practical benefits like using resources and university facilities as well as training opportunities and scouting for potential recruits. They also look at how universities reach out to SMEs.

The key finding is that SMEs require grey literature, but few turn to (or even think of) universities as a possible source. None of the people interviewed had sought literature from universities.

Likewise, none of the universities questioned had ever supplied grey literature to SMEs. So the SMEs turn to other sources like the web and professional and trade associations – but they cannot supply everything the SMEs need, as the report details.

The discussion highlights the negative perceptions of universities – particularly with regard to the speed in which they can supply information – within the SME community and the need to make

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Researcher Awareness and Access to Open Content Through Libraries

Key Perspectives (June 2007)

An investigation into what libraries are doing to promote Open Access and how effective their attempts are, based on questionnaires and focus group sessions, alongside detailed examinations of library websites.

The premise is that libraries are in a strong position to influence the low general knowledge about Open Access among staff in UK universities and it should be useful to find out what they are doing to that end.

The survey results first confirmed that understanding of Open Access is low and then revealed that most of those who are more familiar with Open Access didn’t even learn about it in their institution’s library.

In spite of a number of initiatives tried by libraries to foster interest in and understanding of Open Access, statements from researchers show that library education on the subject is ‘at best patchy’.

Researchers remain unclear about how to deposit Open Access content and how to find it. They are also unclear about their copyright situation.

From the website survey the authors discovered that only one department in the sample had a repository presence on its homepage – and that was the University of Southampton. Few advertise their Open Access functionality well – but the actual Open Access areas of institutional websites tend to be user friendly and full of useful information.

The overall discovery is that communications channels are not particularly effective. And even though researchers do see libraries as the place they would go for help with creating Open Access material, they don’t seem to be listening to the messages libraries send out to try to help them.

A number of recommendations follow about getting JISC to influence other bodies to help library websites improve and to reinforce the message that ‘mandatory policy is the only one that works.’

Ground-level recommendations include encouraging senior staff to pass on the message about Open Access and perhaps mailing researchers directly and inviting them to Open Access events.

Read the full report:
universities both seem and become a more useful resource. They finish by highlighting the fact that the costs associated with the literature at universities, as well as permission barriers, prevent SMEs from using it.

The authors then recommend:

- A scoping study should be carried out to find out how to help SMEs discover the grey literature that is available
- A scoping study should be carried out to find out how much and what grey literature is out there
- Universities should be encouraged to interact further with SMEs
- Grey literature should be made openly accessible on the web
- The best way to make grey literature available should be determined
- Advice should be provided to the SMEs about Open Access literature

Read the full report:
http://bit.ly/d3Dup1

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e-Publication and Open Access in the Arts and Humanities in the UK

Malcolm Heath, Michael Jubb and David Robey (January 2008)

A report designed to address the interests and needs of researchers in the arts and humanities with regard to Open Access [as opposed to those in the sciences whom the authors say get most of the attention]. Also: the libraries that serve them.

They review past discussions and focus on the UK’s Arts and Humanities Research Council and the Research Information Network to highlight specific discussions – after first explaining what these two bodies are and do.

The take-up of Open Access is generally slower in the arts. Online publication is becoming increasingly widespread and popular, yet according to a Research Information Network survey only 14% of arts researchers say they are familiar with the options of making their research outputs Open Access.
Consequently, very few have used it. Fewer arts researchers than scientists read Open Access journals too.

The authors attribute this low level of awareness and take-up to the nature of arts and humanities research and also the way it is funded. Notably, there are few specific funds for publication fees.

They suggest the ‘overlay’ journal as a possible solution. That’s to say a journal that becomes ‘a specialist peer review service’. Not a publisher of content, but an interface to papers within repositories that have met quality standards.

They then look at problems related to storing arts and humanities journals in repositories; generally associated with the fact their long shelf life – and the fact that publishers may be less likely to allow Open Access posting of them, even after an embargo period.

They also investigate the resource constraints on purchasing arts and humanities journals and the possible costs and benefits of moving to new models.

On the subject of monographs, they note how popular they remain in these subject areas and the simple fact that print is preferred because monographs are still easier to read on paper than in electronic formats. They question the potential benefits of print on demand in this regard and conclude that they are not yet clear.

One development that has clear benefits are the electronic editions of manuscripts that include hyperlinked pictures, critical apparatus, edited text, original text etc.

They also explore the new EthOS initiative to make UK theses available for global use and electronic data publication.

More general issues that they explore include the scope for ‘open peer review’, the potential of ‘interactive publications’ for comment and response, the need for better awareness and training for researchers as regards Open Access and e-publishing, and potential inequalities of access that could arise from the restrictive licensing conditions of e-books.

They conclude by saying that even though progress may seem slow at first glance, the advances in the arts and humanities from a decade ago are considerable and that Open Access advocacy should be extended to researchers in these fields as well as the sciences.


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**Key Concerns Within the Scholarly Communications Process**

**Report to the JISC Scholarly Communications Group**

*Key Perspectives report prepared by Alma Swan (March 2008)*

A response to a Scholarly Communications Group survey that showed researchers’ top concerns about communications were accessibility, cost, copyright and quality.

The study is based on interviews, focus-group sessions with researchers in the UK and further conversations with librarians, funders, and policy makers in Europe and the US.

The first section looks at the rapid uptake of digital technology in the past 20 years, but also explains that most researchers are still ill-informed about Open Access. It looks at the inevitable cultural factors arising from the fact that most senior scholars tend to be the oldest and most closely wed to the traditional way of doing things. It also takes in the current state of journal publication and purchase, introduces the word ‘datument’ to describe digital articles which contain prose and other data elements and talk about the new possibilities opened up by digitisation as well as the problems of preservation and access. It then provides an overview of the growth and current status of Open Access publication.

Following on, there is a section on new ways of doing research, taking in e-research, cyber-research and ‘cyberscholarship’, interdisciplinary research – which is hampered by the specific requirements of traditional journals (for instance, biology journals don’t want to grapple with mathematical notation) but for which Open Access provides the obvious answer.

There is next a look at university presses and their resurgence thanks to Open Access and the benefits these offer to scholars, followed by notes on the new metrics for assessing research offered by digitisation and potential new methods of peer review – with networked consortiums and open pre- and post-publication discussions. The section finishes with notes on changing copyright practice (towards scholars keeping control of their own copyright), the preservation of digital material and the blurring of roles (between, say, libraries and publishers) that digitisation will bring about.

The second section addresses scholars’ concerns. These relate to access issues, difficulties relating to discovering material, the lack of material available in digital form in the arts and humanities, and the lack of availability of monographs (although the recent waves of digitisation of out of copyright books is proving very helpful).

It’s also noted that many researchers are not making their work available on Open Access due to their lack of awareness of the concept and fears about copyright.

A number of recommendations are made, including the commissioning of new studies to assess problems faced by researchers working outside traditional norms, attempts to engage senior research managers and policy-makers with new developments in scholarly communications and start-up funds for new Open Access journal initiatives.

The next sub-section looks at the costs of Scholarly Communications from traditional journal purchase to article processing charges for Open Access journals – as well as data preservation costs – followed by recommendations for more surveys to discover how money is being used and how copyright costs may be hindering research.

The next looks at copyright concerns, the confusion surrounding what materials can and can’t be used and what rights researchers have – and should try to maintain. It also investigates how copyright restrictions can hamper research, the confusion surrounding web content, the issues raised by increases in collaborative works, the issues raised by the EthOSnet service and the web publication of theses.
particularly the reluctance arts and humanities researchers eager to turn their theses into first books to use the service. Recommendations include more studies and the formulation of guidelines for authors on how to manage their rights with a ‘light touch’ – that’s to say protecting their interests while maximising possibilities for the re-use of their work.

The next section looks at quality control, the problems associated with the peer-review process and new developments such as open review (discussed above). Recommendations include more studies and the monitoring of any new models of peer review – such as open peer review.

Read the full report:

**JISC Open Access Publication Charges Survey**

*(September 2008)*

A report to investigate the payment of charges to publishers for Open Access articles, based on two surveys: one sent to 160 UK HEIs and one to 4,055 biomedical authors.

The payment of these charges allows toll-free access to journals, but for the model to work there need to be funds in place to allow authors to claim Open Access funds.

The report notes a comparatively high response rate among the biomedical authors (18%), which demonstrates how interesting they find the issue of Open Access.

The responses show that many of the respondents in the biomedical field (72%) had used Open Access. There was some confusion about funding, however since only 43% of those claimed to have paid for it. (It’s suggested that this discrepancy was perhaps because their employers paid without their knowledge, perhaps because they have used journals that make no charge.) Of those that knew how their Open Access authorship was funded, most said their funder had given them a publication grant. There was also widespread confusion and ignorance about the availability of funds for Open Access, but plenty of interest in the scheme, reflected in a wide range of comments about it (that were both positive and negative).

There was even more confusion and uncertainty among the responses from HEIs. A large percentage (36%) didn’t know whether their institution had an Open Access policy, for instance. There was a wide variety of methods in place for paying publication charges, but few seem to have funds in place or plans to set them up prompting the report’s authors to write that the situation ‘looks bleak’. Most HEI respondents at least acknowledged the need ‘to develop procedures’, however.

In the conclusion, the interest in Open Access is again noted, along with a summation of where problems arise, particularly relating to which part of the university should be responsible for Open Access funding and where those funds can be found. Further Open Access advocacy is also recommended to counter the negative perceptions shown by some of the respondents.

Read the full report:

**Scoping Study on Issues Relating to Quality-Control Measures within the Scholarly Communication Process**

*Charles Oppenheim and Fytton Rowland (March 2009)*

A study based on interviews with ‘26 authoritative people, covering a wide range of academic disciplines’ to find their views on quality control relating to: (i) research communications, (ii) data compilations, (iii) digital learning and teaching materials in higher education, and (iv) scholarly communications in Web 2.0 media.’

The introduction gives a brief history of peer-review procedures from the 1660s onwards, noting the emergence of editorial boards after the Second World War and the role of editors in improving works as well as keeping ‘poor ones out’. The authors also note a few criticisms of the system (for example, the imbalance arising from the fact that referees know who the authors are, but authors don’t know about the referees). They then focus on Open Access and its implications for peer-review (noting some suggest Open Access could weaken peer review procedures) and Web 2.0. They then discuss judging the quality of institutions based on their output of journals and mooted changes to the Research Assessment Exercise (including a name change to Research Excellence Framework). There’s also an overview of the need for quality control as regard teaching materials coming from sources like Wikipedia and new Web 2.0 tools that are ‘increasingly blurring the boundaries between traditional categories of scholarly publication’.

The report then details the interview methods used and the experience and qualifications of the interviewees, before moving on to their responses.

These show that although respondents have concerns about traditional peer review (such as a bias towards conservatism and ‘safe’ pieces of research), they still see it as ‘essential’ to maintain academic quality. Many involved in the editing of journals note how the pressure to produce journals (for which recognition is received) is preventing many academics from also having the time to referee them (since no recognition is received for that onerous and time-consuming task). Various ways of ‘rewarding’ referees and their departments are discussed.

The report uncovers various dubious practices (some admitted to by academics, some ‘anecdotal’) such as journals accepting poor work by good scholars so they don’t lose out on the good scholars’ top material too, and discusses alternative forms of refereeing such as ‘double-blind’ (when no one knows who has written the paper and who is reviewing it) and open (when everyone knows).

They discuss open-peer review, which isn’t favoured as a replacement for traditional peer review but seen as potentially useful after publication (following traditional peer review) to allow scholars to comment upon and improve papers. They also discuss the comment facilities on papers put on the website of the Atmospheric Chemistry and Physics (ACP) journal.

They then look at different methods of peer review and how much criticism, reconstruction of papers and arguments referees do, before moving on to whether electronic publishing has affected the quality control of journals (broadly, no). The latter question was asked of Open Access journals which also were not seen as a major problem in terms of quality control, although did arouse
more concerns, particularly with regard to copy-editing and questions of articles being accepted on the basis of whether the author could pay as much as their quality. Repositories too were not seen as a major problem.

The next section details teaching methods and concerns about what should be cited as reference material (Wikipedia, yes or no?), borrowing course structures, the emergence of Virtual Learning Environments and similar. They conclude that ‘the main quality-control mechanism for L & T materials is the professionalism of the lecturer using them’.

They then collate the responses of five researchers involved in data collection, noting that ‘it seems that it is difficult to generalise across disciplines’. Hard scientific and social science data are so different in terms of stability, sourcing, potential flaws and storage that there are large variants in judgements about quality control.

The conclusions go over these findings and take a few suggestions from them such that peer review should both evaluate and improve papers, before recommendations on training and refereeing procedures.

Read the full report:
http://bit.ly/bA8EmO

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**Students’ Use of Research Content in Teaching and Learning**

*Stuart Hampton-Reeves, Claire Mashiter, Jonathan Westaway, Peter Lumsden, Helen Day, Helen Hewertson and Anna Hart*
*UCLAN (2009)*

The introduction explains that while the internet and new electronic search methods have made accessing content easier, researchers and learners have had to learn to differentiate information and sort out the good research from the bad.

The aims of the study are stated as answering a series of questions about ‘learners, as graduate teaching assistants or as others for whom the research environment may not be familiar’. For instance: How do they access content? How do they use the research? Do they differentiate between formal, peer-reviewed content and other content they discover through the internet?

The study was based on a literature review, a survey, focus groups, recordings of student searches and case studies. The surveys were carried out at three universities as well as the University of Central Lancashire itself.

The literature review emphasises how students’ research methods are generally influenced by the conventions of their discipline and that it is hard to generalise outside those boundaries. Still, it’s clear that most still favour using their libraries to find research content, but also increasingly use the internet as a virtual library and first port of call for information.

The research also shows that (perhaps because of digital culture) students access research content in a more fragmentary way than in the past and that there has been a move away from depth of reading to width (ie multiple hyper-linked references are followed rather than one involved read of a book). It also questions the assumption that students are more likely to be digital literate than staff (they aren’t necessarily) and looks at the growth of social networking.

The authors surveyed over 400 students. It asked questions about how they view research, how they assess the usefulness of the content they find, in what way they use it and similar. In terms of
problems, many noted difficulties of access to papers, but also problems with the standards of writing within the papers and their inherent difficulty. Notably, a high percentage of students (71.5%) recognised websites as research content (more than PHD dissertations on 36%, for instance) – although they have a diverse view on what constitutes research content.

In terms of quality recognition, peer review was not rated highly by students (lower than relevance to assignments and tutor recommendations, for instance).

The focus groups looked more closely in students in action as they researched, showing up a variety of methods, generally based on entering key phrases into search engines and library intranet services and the use of specialised research databases like Project Muse and similar before moving on to libraries. They also uncover the obstacles students face [broadly as mentioned above, but also including lack of ICT skills]. Tutors are their last port of call when hunting materials.

The next section deals with trust issues and discovers that students are generally wary of the material they find on the internet and trust journal articles above it. Plenty haven’t heard of peer review in the social sciences disciplines, but in hard science most had. No students admitted to using undergraduate-produced material as research. They found it difficult to access postgraduate dissertations. Few students use social networking sites as a research tool – and those that do tend to be older. One student posted questions on Twitter, a habit the authors expect to increase as a trend.

The conclusions go over these trends, again highlighting the problems of accessibility students face alongside the other issues raised.

Recommendations include that JISC should further promote Open Access repositories, work with Google to ensure that the search engine helps UK users and that student friendly benchmarks be invented to help students assess the quality of research.

Read the full report: http://bit.ly/a2WMZr

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**Economic Implications of Alternative Scholarly Publishing Models: Exploring the Costs and Benefits**

*John Houghton, Bruce Rasmussen and Peter Sheehan, Centre for Strategic Economic Studies, Victoria University*

*Charles Oppenheim, Anne Morris, Claire Creaser, Helen Greenwood, Mark Summers and Adrian Gourlay, Information Science, LISU and Economics, Loughborough University (January 2009)*

A very significant paper looking at the most cost-effective publishing model (taking into account potential benefits as well as actual price) out of subscription publishing, Open Access and self-archiving.

The report starts with discussion of how to ‘quantify the benefits’ of potential cost and time savings, followed by definitions of the three publishing models mentioned above and an in-depth analysis of scholarly communications systems and the life cycles of scientific information and other research.

There is then an analysis of costs involved in funding research, funding flows, the impact of publishing costs on funding activities and the way current publishing models impact on costs in terms of access costs, copyright payments, search and discovery and similar. Along the way, they take in opportunities for innovation and value-adding, such as electronic publishing of monographs.

The authors then look at the costs and benefits of Open Access and self archiving. As well as making considerable savings, the report authors discover that Open Access has considerable wider Research and Development and public sector benefit, since it allows more people to view material (and makes it easier for them to find it in the first place).

The overall conclusion is that Open Access is the most cost-effective system, with benefits across the system – especially to the most intensive users of journals in academic libraries.

‘More Open Access to scientific and scholarly works has the potential to reduce costs, drive efficiency gains, create new opportunities and, by increasing use, help maximise the impact of research and increase the returns to public investment in it.’
This is followed by a more specific quantifiable analysis of the overall current costs of scholarly publishing and purchase (which run into billions of pounds).

They estimate how much it would have cost if the Open Access publishing model had been followed (considerably less, even taking into account the cost of repositories and author fees). Individual article costs are far lower in the Open Access model. Open Access is also cheaper than toll access in electronic-only format.

They refute other studies that have stated Open Access publishing fees may exceed journal acquisition fees in research intensive universities, saying these overlook the library handling costs that will be saved in these research-intensive universities by using Open Access and call for a fuller accounting of costs than has been before typical.

They note the impact author-pays Open Access would have on funding costs, but maintain that the benefits of enhanced accessibility and efficiency outweigh these. Researchers would make considerable time-savings thanks to ease of access to research materials, but there could be problems in poorly funded areas unless specific funds are set aside to pay author fees. Institutions would also make savings. The authors claim that publishers would be able to seek 'alternative revenue streams' but quickly move on to talking about the minimal wider economic effects resulting from the (inevitable seeming) destruction of the industry as we know it thanks to Open Access. Libraries, they say, will continue to play a key role in maintaining Open Access archives.

In the conclusions the authors state the report shows that 'there is evidence to support a move towards more Open Access to research findings' but there are barriers to overcome, which are tackled in the recommendations. These include ensuring that there is funding for author fees, encouraging the further development of repositories and supporting advocacy initiatives to show the benefits of Open Access. They also make recommendations for further research (for instance into getting better data about repository costs) and sharing on an international level.


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**JISC Response to Feedback on the Economic Implications of Alternative Scholarly Publishing Models Report**

*(Summer 2009)*

Following the publication of the Economic Implications of Alternative Scholarly Publishing Models report in January 2009, JISC and the report authors met publishers and their representatives for feedback discussion and then the International Association of STM Publishers published a statement on the report, on behalf of the Publishers Association, raising questions about the report’s methodology and findings.

This paper responds to those issues and also puts forward a robust general defence of the report, quoting from Danny Quah, Head of Economics at LSE who sat on the report steering group and said: 'The report represents the best evidence so far on the questions it addresses.'

It quotes from the publishers (in black) and then comments on these quotes (in blue) generally with bruising rebuttals.

**Issues raised by the publishers include:**

- The fact that they weren’t consulted – Defended on the grounds that they don’t make cost data available and the report gathered data from public sources and there was no need for fieldwork
- Their need to maintain sustainable business models – Defended on the grounds that Open Access is more sustainable for the UK and UK research rather than any one ‘actor’ within that model
- The low take up of author-pays model – Defended on the grounds that the uptake has been impressive given how patchy the advocacy has been
- The potential destabilising effect of mandates for self-archiving on traditional peer review – Defended on the grounds of lack of evidence

Less combatively, there are also notes on potential areas of dialogue with JISC, such as how to close ‘access gaps’ and problems over the take-up of e-publications which JISC endorse.

There is then a more in-depth analysis of the report. The publishers claim that the report actually shows that author-pays would cost HEIs more than they pay now for subscriptions. JISC refute this on the basis of ‘non-cash costs’ such as time. There is plenty more squabbling over costs, with the publishers repeatedly questioning the findings on the benefits of Open Access and JISC questioning the publishers’ questions.

The publishers also question the report’s statements about time savings and state that many stated savings would not accrue unless the rest of the world adopts Open Access. JISC say that this is based on a misunderstanding of the report – and anyway, there are big moves towards Open Access around the globe.

The publishers suggest that there would be many library job losses. JISC say that there would be other benefits to the UK economy and job losses will not be ‘significant’.

There is then a discussion of specific figures (which JISC notes have been ‘taken out of context’). Importantly, the publishers claim that the original report underestimated the cost of the author-pays models and put forward an alternative report as giving a more ‘realistic’ figure. JISC claims this alternative report is flawed. There is also more considerable disagreement about the costs of the author-pays model and estimates about time savings, which the publishers say are ‘arbitrary’ and JISC say are ‘based on data and modeling’.

The publishers also point out the other areas of ‘value’ that they provide. These include: defending authors’ rights, building up communities, certifying research, maintaining versions of record, managing post-publication activities such as retractions. JISC says the models in the report take these into account.

Among other criticisms the publishers also deride the economic models used to quantify the wider R&D benefits of Open Access as ‘simplistic’ and question whether the ‘Open Access citation advantage’ actually exists.

Non-JISC-funded Open Access Reports

Open Access To Research Outputs
RCUK final report (September 2008)

A survey to discover the impact of RCUK Open Access policies on pay-to-publish and self-archiving and the general impact of Open Access on the scholarly communication process.

The report is based on a literature review, a series of consultations with ‘stakeholders’ (like funding bodies and HEIs, publishers and teachers) and two surveys (one of HE libraries, one of researchers).

The introduction provides background on scholarly communication models and the emergence of Open Access (together with a definition of Open Access and the difference between ‘gold’ pay-to-publish Open Access and ‘green’ self-archiving of journal articles following an embargo period). It then makes the case for Open Access in terms of potential expansion of numbers of readers and discusses the relative merits of repositories versus peer-reviewed journals.

An overview of the current situation shows that there has been a move towards Open Access in the UK in the last decade, but that knowledge about it remains limited and there are large variations between disciplines. There is also an overview of the journal market looking at who demands journals, where the costs lie and how they are funded.

They then highlight drivers for Open Access including the public-good argument made above, the fact that research bodies don’t often have easy access to the research they have funded and the virtuous circle of increased access to research helping further research. They also note the legacy of the ‘serials crisis’ (the rising cost and number of journals since the 1970s) and libraries’ distrust of commercial publishers.

This is followed by an overview of the UK scholarly communications landscape, the role and number of institutional repositories in action and academic adoption of these repositories (which the authors note is slow). Journals come under surveillance, particularly in relation to how easily academics can access them, the ‘increasingly stretched’ business model of journal publication and the benefits of ‘brand’ and quality assurance they offer. There is also an overview of HEIs’ and funders’ increasing use of mandates to bring in Open Access and concerns about potential costs of the pay-to-publish Open Access model, especially given the large volumes of research published in the UK.

They next look at publisher concerns about embargo periods, the impact Open Access (and subsequent subscription fee losses) could have on the good work of well-regarded Learned Societies and worries about payment systems and the fact that there’s a strong profit motive to publish more lower quality articles in the pay-to-publish model.

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Modelling scholarly communication options: costs and benefits for universities

Key Perspectives [May 2010]

A study to investigate the costs and benefits of changing communication practices within UK higher education institutions (HEIs). There is special focus on the benefits of enabling Open Access to research papers and on the economic implications of these changes.

Four (un-named) universities were used as case studies; each one chosen to represent the different types of HEIs in the UK in terms of size and mission.

The authors determined the current costs involved in subscriptions to journal articles. They then compared these to the potential costs of using electronic-only journals, and various different routes of achieving Open Access. These latter included using Open Access journals (remembering that these often charge a processing fee or have associated costs somewhere in the research process) and shifting to Open Access repositories with overlay publishing services.

They discovered that moving to electronic-only journals would deliver significant savings – and Open Access via Open Access journals yet more.

They note, however, that there are significant costs involved in setting up repositories and then depositing articles within them. They say that “most universities” would make a saving if they “switch to a system of using their repositories as the locus for collecting articles that are ready for publication, and use paid-for peer review and editorial services.” However, the two larger institutions in the study may face “costs above those of the current subscription-based system”.

The authors also note that the full potential cost savings modelled in this study can only be realised when there is worldwide Open Access.

Another note of caution is sounded in that although Open Access can simplify access in the long term, it does also involve potential complications in that it may disrupt systems that have been in place “for a very long time”. Even so the authors say that the transformation may well be worthwhile on purely economic terms – and that it brings considerable “additional returns” that outweigh the price of change.

They also point out the academic benefits of switching to Open Access - related to the fact that freely available reports have much greater potential visibility and usage. Furthermore, they suggest that there are wide benefits to society in terms of universities being able to freely exchange research information and in enabling businesses and professionals to access research that they would not be able to get hold of otherwise.

Read the full report: http://bit.ly/a04qvc
Chapter 4 looks at other factors in the move to Open Access, and questions how changing international situations and the increased research output of countries like China might make a difference. The authors also predict that the UK government is unlikely to mandate for Open Access, and discuss differences between disciplines and the question of whether the traditional journal article is becoming obsolete, given that researchers can decide for themselves if articles in repositories are useful (they think not). They also state that they don’t think technology will have much more impact on the move to Open Access since most is already ‘fit for purpose’, before moving onto potential profit losses for publishers and fears for Learned Societies.

They state that repositories are not likely to be included in REF assessments and so there will be little forward impetus there, and look at other potential drivers such as HE funding councils and JISC.

Chapter 5 looks at the current state of play with regard to Open Access in an attempt to establish national and international trends. There are interesting new points about block deals between Dutch HEIs and publishers to allow academics in the Netherlands to publish in Open Access journals for free—although the authors note that is made easier in that case because of a smaller research community and fewer complexities than in the UK.

There follows a more statistical breakdown of the survey results on uptake of Open Access, use of repositories and attitudes to both—which vary from positive to negative to ignorance (for instance, 65% of researchers were at institutions which were reported by the library staff to encourage self-archiving in a subject repository, but less than one in five of them—19%—knew this). Significantly they note that subscription costs do not seem to be a barrier to access for large R&D labs outside institutions.

The authors then look at three potential scenarios with regard to Open Access (a majority of funders move towards mandating Open Access, business as usual, a majority of funders demand Open Access is removed) and then move on to their conclusions. These note a trend towards acceptance of Open Access, but also obstacles such as the perception in many disciplines that Open Access journals lack impact. They also quote a Research Information Network survey stating that pay-to-publish Open Access might have a net cost to the UK above the current subscription model. The report authors are sceptical about the risk that Open Access might destroy a scholarly publications system that is already fit for purpose, but do note that Learned Societies are likely to find it hard to compete and adapt to a new business model.

Read the full report: http://bit.ly/9ss7Fk

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**Economic Analysis of Scientific Research Publishing**

A report commissioned by the Wellcome Trust

(Compiled by SQW Ltd) [2003]

The first two chapters provide an introduction to scholarly communications (up to 2003) with particular reference to journal publication, its (rapidly rising) costs and practices like bundling and ‘big deals’. They also look at ‘new technologies’ relating to online peer review and manuscript management schemes, electronic discussion ‘fora’, digital archives and Open Access publishers (such as BioMed Central), and search facilities such as PubMed Central, CrossRef and ScienceDirect.

There is then an overview of the publishing market. They acknowledge that publishers don’t just sell books, they sell a ‘set of activities acquiring, selecting, editing, presenting [in print or electronic form], marketing and selling content.’ They note that science journals work (or should) in an international market since English is the international language of science, before giving an overview of the UK publishing industry and the [relatively minor] role of academic journals within it. They then move onto electronic publishing and the uncertainty over ‘the appropriate business model’ to make it work, before looking at the demand for science and technology journals, the peculiarities of a market—largely based on library purchasing budgets and the potential for journals covering niche areas to build up ‘monopoly power’. They also look at the unusual not-for-profit positions within this market taken up by Learned Societies and some university presses.

Overall, they say, publishing has moved away from discussions about ‘the merits of the book’ towards a ‘much harder edged commercial reality.’ They then look at how this market can be distorted by commercial publishers keen to maximise profits by gaining control of key journals and making sure they take up as much of libraries’ budgets as possible. They conclude: ‘Certainly, the current distribution of property rights, with copyright handed over completely to the publisher, does not encourage us to think that the needs of all stakeholders will be taken into account.’ They note particularly the ‘revulsion’ caused by the predatory ‘price gouging’ of companies like Elsevier.

After an overview of current (2003) merger and acquisition activity, and institutional attempts to take on publishers (such as the alternative journal suppliers set up in the US, SPARC) they look at the impact of electronic access on the market and the future potential for electronic journals. Specifically they look at Open Access and the benefits it may bring as well as all the usual questions of ownership of material and the negative impact on Learned Societies. They also discuss the need for funding for a single central repository for electronic journals and how to protect publishers from ruin if all these journals are to be made available.

In their conclusions the authors express their doubt that left to itself the ‘market’ in academic publishing would produce ‘better outcomes’. They feel that relations between libraries and publishers are likely to deteriorate.

They then set out four possible future scenarios:

- More of the same. More online publication. More squeezing of learned societies. More price manipulation by commercial publishers
- Commercial withdrawal. Online publication with Open Access archives. Small journals fail. Big publishers lose influence
- Commercial publishers gain more control. Commercial publishers refuse to allow third-party archiving, learned societies are squeezed, as are tight library budgets
- Deposit libraries and Open Access become dominant. Academics insist top journals support Open Access. Library budgets focus on access.

Their suggestions generally involve more funding for Open Access repositories and journals.
They note, however, that it is in the interest of the greater good that commercial publishers survive: ‘if commercial publishers abandoned scientific publishing, it is likely that the net effect would be negative.’

Read the full report: http://bit.ly/b5J1vv

Overlay Journal Infrastructure for Meteorological Sciences (OJIMS) Final Report

S.A. Callaghan, S. Pepler, F. Hewer, P. Hardaker and A. Gadian (April 2009)

This project aimed to develop mechanisms to support a new online journal for meteorological data and an Open Access repository for documents related to meteorology.

To demonstrate how those might work the authors set up a prototype data journal and prototype overlay journal. They also developed the repository’s access policies and built and evaluated business models for further potential overlay journals.

The repository was designed to be a comprehensive access point for meteorological information, including non-peer-reviewed journals, web pages and podcasts – with quality assured by ‘editorial oversight’ and a kite-marking scheme that marks peer-reviewed entries and displays user-ratings on items. There was at the time no subject repository for meteorology, although a survey of delegates at an NCAS (National Centre for Atmospheric Science) conference found there was considerable demand for one.

This survey also discovered that delegates particularly rated the idea that this subject repository could also work as a single point of access to other repositories. This presented a technical problem (current overlay mechanics allow researchers to search for articles within a subject repository – but to read them, they have to transfer to the repository that actually contains them). There was a further problem in that only 38% of respondents archived in repositories. This low usage would have to be changed considerably if the subject repository was to provide comprehensive access to their material – but the authors argue that the existence of the repository, and the benefits it could show would in themselves be agents for that change.

The online data journal was designed to extend the discipline of peer-review to data, recognising the importance of data creation and allowing the data to be more easily re-used. Respondents at the NCAS conference again endorsed this idea, saying they would be more likely to deposit their data if it won them academic recognition. The journal wouldn’t provide direct access to the data. It would provide access to data description documents and meta-data, but researchers would have to visit the repository in which the data were deposited for further access (and comply with that repository’s licence restrictions).

The report explains how these projects were implemented and provides considerable background on the organisations involved in doing so (The Royal Meteorological Society –RMetS – and NCAS). It also provides notes on surveys carried out by RMetS – a survey of organisations that discovered favourable opinions about the OA repository – and the above-mentioned survey at the NCAS conference of 8–10 December 2008. [Full details of both surveys are available at http://proj.badc.rl.ac.uk/ojims].

It then details how the model subject repository was set up and populated by trained staff from the British Atmospheric Data Centre (available to view at http://cedadocs.badc.rl.ac.uk).
Next, there are detailed notes on the creation of the data journal and screenshots of the finished product, which can be viewed at: http://zonda3.badc.rl.ac.uk/index.php/MetData

Another report (Business Models Report, Fiona Hewer, available at: http://proj.badc.rl.ac.uk/ojims) gives full details of the business case development strand – the results are not detailed in this report.

The authors state that nearly all their objectives were achieved, except for the development of a kite-marking journal, for which the surveys suggested there was little demand.

The mechanisms and software built within the project are also open source and available to all.

Online Catalogue and Repository Interoperability Study (OCRIS) Final Report
Duncan Birrell, Gordon Dunshire and Kathleen Menzies,
Centre for Digital Library Research, University of Strathclyde (September 2009)

The development of institutional repositories (IRs) potentially conflicts with the traditional role of Library Management Systems (LMSs) and their Online Public Access Catalogues (OPACS) in providing information about the publications and other bibliographic output of higher education institutions. But there could be considerable efficiency savings if institutions ensured [as they do not seem to be doing now] that the new digital Open Access systems were interoperable with the other higher education institution systems.

The authors say: 'Logic dictates (and evidence shows) that Library Management Systems (LMSs) already hold much metadata pertaining to IR items – thus IRs should theoretically supplement the OPAC.' They state that they must begin to interoperate in order to provide the ‘secure central archive for digital publications’ demanded by the House of Commons Science and Technology Committee in 2004. There are also useful potential benefits such as the generation of comprehensive publication lists for individual authors or ability to audit an institution’s research output.

OCRIS was designed to survey the extent to which repository content is being integrated with OPACS, to identify potential improvements, provide information about services offered by OPACS and repositories and make recommendations for the development of possible further links between OPACS and repositories.

The survey was based on sampling and analysis, desk research, case studies from within the libraries of two research-intensive institutions, online questionnaires [some of which received disappointingly low response rates, particularly those targeted at non IR stakeholders] and informal email and telephone conversations.

In a survey of LMS and IR systems and software the authors note that ‘not all systems are being developed with a clear focus on interoperability.’ No one said that they didn’t see improving this interoperability as ‘important’, but several respondents noted that they were not sure about its importance. Notably, only 2 percent of questionnaire respondents state that their systems definitely interoperate, with a further 14 percent stating that interoperability is pending.

There follows a long list of the services supported by IRs (the most popular of which is providing advice on Open Access, far above publishing, which appears 2/3 of the way down the list). They follow this with information on IRs and discussion of the scope overlap between the two systems. When they place these on a Venn diagram they show that: ‘every item type in scope for the OPACs of UK HEIs are now also in scope for IRs. There are only four item types unique to IRs.’ (Some of this overlap may be partial as IRs may contain full data sets where OPACS will only contain metadata – but the authors say they view all overlap as significant.)

A more in-depth analysis of the scope of various institutional systems follows, together with an analysis of the complexities and confusion inherent within various platform search interfaces and of the differences in terminology and an investigation of duplications in the systems, especially the overlap of journal articles.

The case studies (undertaken at Cambridge University and the University of Glasgow) look at how two research-intensive institutions operate and fund their IRs and LMSs and the interoperability problems they are already experiencing (particularly at Cambridge with its many libraries and fragmented databases that their Voyager software was not able to bring together). Again, the authors encountered problems with terminology: ‘When searching amongst various catalogues one commonly encounters issues both of inconsistency and ambiguity because of different standards being used for names or because of the different ways in which those standards are applied.’ On this theme, the authors conclude that while authority control within LMSs is ‘high’, in IRs there is little authority control ‘for subjects, and only a moderate amount of effective classification’.

In the overall conclusions the authors point out the clear advantages of interoperability, but the lack of uptake. They also highlight the problems with authority control and item description within IRs, before pointing out some of the advantages that IRs present to institutions [quoted in detail in key points below].

In a section on implications, the authors acknowledge the unique needs of institutions and user communities and say that these all deserve consideration – but also state: ‘What is necessary – across the board – is the creation of effective, efficient links between “central” IRs and specialised instances, between IRs, LMSs and OPACS and hence, between the different copies and versions of items within [and ultimately across] HEIs’. The key, they say, is making links between systems and records and ensuring that everything can be easily found.

Recommendations include:

- That JISC ‘formulate and promote a standardised, controlled vocabulary describing item types, formats and scope, for use across HEI libraries and departments administering IRs, created in consultation with staff from those libraries and their institutions’ and ‘support the interoperability of subject authorities within and between institutions’
- Higher Education institutions should: ‘Exposure all LMS and IR records for harvesting and linking [except in cases where legal requirements restrict such data re-use]’ and develop clear policies on the use of IRs and OPACS

Read the full report: http://bit.ly/b8cfsI
**SIRIS: Report of the Subject and Institutional Repositories Interactions Study (November 2008)**

Catherine Jones, Robert Darby, Linda Gilbert and Simon Lambert (Information Services Team, eScience Centre, Science and Technology Facilities Council)

This is a report commissioned by JISC to produce a set of recommendations to help improve the interactions between institutional and subject repositories in the UK.

The authors present a review of the current state of interactions in UK repositories, based on meetings and telephone interviews with repository stakeholders (such as funders and repository managers) and an online survey of repository managers.

After defining various types of repository (institutional, subject) and giving a brief overview of their uses, purposes and funding sources, the authors provide background on repository activities and workflows, content acquisition processes, developments in repository technology and protocols for information transfer.

The authors discovered that there is widespread commitment among funding bodies to subject/funder-related repositories and that funding councils are very interested in developments in this area. However, although subject classifications were important to many of the funders the authors spoke to, there was no consistent approach to subject classification and the assignation of terms (although there are ongoing discussions on this subject at RCUK level with the Higher Education Statistics Agency). They also note that even ‘a well-established funder repository such as UKPMC, which is backed by a strong mandate to deposit from the Wellcome Trust, and obtains most of its content by direct transfer from publishers, has a low deposit compliance rate – somewhere in the region of 30% as of June 2008’.

The biggest concerns of institutional repository managers were collecting content and how to approach different disciplines that had different views on how to use the repository. There were also different approaches depending on the purpose of the repository and whether content was full text, or only metadata (the latter in repositories with publication reporting roles). The authors also note: ‘There is also the issue of level of detail; it is likely that an institution will want to classify the affiliation to a smaller organisational unit than other stakeholders will want to.’

In terms of collecting from other repositories, institutional managers prioritised the ability to easily identify their institution’s output, the ability to get full text and minimal processing post-information transfer. They also said they needed to trust the source, have a clear understanding of rights and permissions and good quality metadata.

The authors then present several findings, including that high levels of trust are needed between repositories for content transfer, more clarity about rights material is required and that repositories need to fit in with the needs of their users rather than the other way around. They also state that it is difficult to predict future interactions because a ‘critical mass’ of content within repositories has not yet been reached. They do, however, include a list of visions for an ideal future submitted by the people they questioned, including desires for more user engagement, true Open Access and more communication between institutional repositories.

There follows a discussion of potential future directions for repository interactions, based on various drivers. Looking at increased population of repositories as a driver, the authors suggest that interaction may be helped by developments such as:

- A deposit tool for authors to enable common deposit at the point of origin
- Standard requirements for external reporting
- Greater use of the OAI-PMH protocol to enable content transfer
- Involvement of publishers at the publication stage
- Greater use of the OAI-PMH protocol to enable content transfer

They also look at the ability to track the usage of resources in repositories as a driver, long-term preservation of resources and aggregation of research outputs.

In conclusion they state there are benefits from repository interaction, but there are some barriers. ‘One of the most obvious’, they say, relates to the different stages of development of various repositories and the ‘understandable’ need to address their own issues before looking outwards.

Their recommendations towards fostering greater interaction include: the adoption of clear standards to identify authors, funders and higher education institutions in relation to deposited works; the adoption of information interchange standards; fostering trust between repositories; clear versioning identification at object and metadata levels (using the Version Identification Framework guidelines); community engagement and dialogue.


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**Overcoming Barriers: access to research information content**

**A Research Information Network report**

(December 2009)

A report investigating the barriers researchers face in their work – and ways to overcome them. In particular it looks at restrictions on access to key resources.

The paper is based on five reports carried out by the Research Information Network (RIN) on how researchers secure access to licensed content, library perspectives, how institutions manage access for non-members, information access for research pools in Scotland and non-cost barriers to access (these are available in full at: [www.rin.ac.uk/barriers-access](http://www.rin.ac.uk/barriers-access)).

The authors say that researchers have no problems finding vast amounts of content nowadays – but often find that they can not freely access the contents thanks to the complexity of licensing arrangements, restrictions placed on researchers accessing content outside of their own institution, problems with search and access and the laws protecting public and private sector information. A significant percentage (40%) of researchers questioned in Scotland said that they were denied access to material (particularly electronic journals) on a weekly basis, while even more (two-thirds) faced a problem monthly.
Thanks to a ‘cluttered’ variety of mechanisms researchers use to find content, researchers also often find that content they thought was unavailable to them is actually available in their own institution. Librarians say that researchers ‘struggle to cope with the complexity and diversity of different publisher interfaces’.

Of the survey respondents, 80% said that these difficulties have a negative impact on their individual research. A fifth said that this was significant. The report also discusses the negative impact such access issues can have on collaborative research across institutions and highlights the important worry among researchers that limited access to resources also creates ‘bias’ in their work. Scientists further worry that lack of access to the latest developments may lead them to undertake redundant work. Peer reviewers are hindered when they cannot follow up citations. Crucially, for many researchers, access limitations ‘undermine their faith in the integrity of their own work’.

They do at least have a variety of methods open to them to obtain material, such as inter-library loans and the (unpopular and expensive) pay-per-view method. Science researchers in particular, also contact colleagues to get hold of material. Arts researchers (particularly those with easy access to London, Oxford and Cambridge or Edinburgh and Glasgow) will also travel to other institutions to look at books. The report suggests this latter process (although institutions have varying access procedures) appears to be relatively painless for most researchers, although there are complexities and problems when it comes to borrowing rights.

Problems (first reported in a 2007 Rin/CURL report) also remain relating to reciprocal access to digital resources and only a handful of libraries allow access to walk-in users. Although some librarians did note that JISC model licences are helping to open up e-resources ‘by simplifying the interpretation of licence terms, and allowing walk-in user access’, there are also widespread complaints that complex licensing agreements from publishers make it very difficult to allow access to resources to external users. There is also a widespread lack of technical infrastructure to accommodate visitors, partly because librarians do not see it as a priority.

Researchers also encountered a wide variety of restrictions to do with copyright, commercial concerns, individual privacy and data formatting and Freedom Of Information restrictions.

In their conclusions, the authors note that there have been access improvements in recent years, but there are still problems and ‘the impact on the efficiency as well as the quality of research, across the HE sector and beyond, is real’.

They express the hope that Open Access may alleviate some problems – but that it has not yet reached a scale to have significant impact. They also note that ‘until licensing and technical issues have been resolved, the moves towards a digital environment may impose new barriers, as researchers face restrictions on access to resources which would formerly have been available to them in print’.

Recommendations include further encouragement of Open Access, a relaxation of access barriers within libraries and that there should be an investigation into the implementation of a national library membership card to enable access and borrowing rights at all higher education institutions in the UK.

Read the full report: http://bit.ly/9TlfZR

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RIOJA (Repository Interface for Overlaid Journal Archives) Final Report

Martin Moyle and Simon Lewis (September 2008)

RIOJA was an 18-month partnership between UCL, Imperial College London and the universities of Glasgow, Cambridge and Cornell to investigate aspects of overlay journals within the astrophysics community. These are: ‘quality-assured journals whose content is deposited to and resides in one or more open access repositories’. RIOJA guides researchers to ‘accepted’ papers – those that receive its quality stamp.

The report focused on astrophysics especially because depositing in a repository (the arXiv repository) is already fairly standard practice within the community.

The project aimed to:

- Provide a platform-neutral toolkit for the creation and maintenance of overlay journals, supporting data exchange between repositories and a piece of journal software
- Provide a demonstrator model of an overlay journal making use of this toolkit and applying it to the arXiv subject repository
- Test the accessibility and feasibility of the overlay model – via a survey of the astrophysics community; interviews with journal editors and publishers, and a literature review.

The report first details the methods by which RIOJA demonstrated was set up and the technical (and staff) issues encountered during this process. It also notes the problem that the survey had to be carried out before the demonstrator model was ready.

However, the authors say: ‘the technical strand of the project succeeded in creating a set of reusable tools to support overlay journals. These may be implemented by any journal software and any repository to support overlay publishing’.

The report then details how RIOJA can be used.

The survey confirmed the importance of the arXiv repository within the community and discovered that researchers are generally receptive to the overlay model, with a few caveats about long-term accessibility, quality certification and in which journals in the archive they should publish in order to enhance their career prospects.

Interviews the researchers carried out revealed that publishers are open to change – but that that change has to be consumer driven. The authors were unable to get hold of detailed cost breakdowns of the various parts of the publishing process.

Suggestions for further research include applying the overlay model to humanities journals and more journal specific application of overlay models within the field of astrophysics.

The toolkit, demonstrator and supporting reports, together with copies of all the papers and presentations prepared by the project team, are available through the RIOJA website: www.ucl.ac.uk/ls/rioja/about

Read the full report: http://bit.ly/cFIPaW