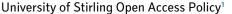UKSG

Open scholarship and research management

Based on a paper presented at the 37th UKSG Conference, Harrogate, April 2014

Open scholarship is one of the most profound influences on the research landscape. It is shaping institutional policy and strategy, changing scholarly behaviour, and raising substantial questions about infrastructure and investment. Whilst undoubtedly challenging, adapting to an open scholarship environment presents enormous opportunities for research organizations and the research management and knowledge and communications professions. This article sets out some of these issues from the perspective of a university research manager.

Introduction

We recognise the benefits of free and open access to research… We support the principle that the outcomes of research should be made freely and publically available.

University of Stirling Open Access Policy[1]

JOHN ROGERS

Director of Research and Enterprise

The University of Stirling

The University of Stirling has always endeavoured to be at the forefront of open scholarship policy and practice. It was one of the first universities in the UK to develop and implement an institutional repository and to introduce a mandatory requirement to deposit in the open access (OA) repository, STORRE.[2] The University has pursued open scholarship in part from a principled commitment based on an educational ethos of access and participation. Equally, however, it has recognized the strategic importance of open scholarship to institutional research performance and profile. A key performance metric, for example, has been the citation count for publications, and the direct correlation between deposit in STORRE and citation profile has been used successfully to encourage compliance with the OA mandate. This typifies the approach across the sector which has been growing over recent years and, importantly, reflects a much more positive open scholarship agenda than one which is often wrongly thought to be driven purely by compliance with research funder requirements.

Changing professional practice

The development of open scholarship as a central issue within institutional research management is not, of course, without its challenges. These are well illustrated in the way in which professional practice amongst research managers and administrators is developing. In 2012, the three main professional associations for this community (ARMA, PraxisUnico and AURIL) issued a joint statement of support for open access:

[We] support Open Access as a means of enabling wide access to research results, which will lead to the productive use of those results in both academic and non-academic settings. We believe that Open Access increases the ability of knowledge professionals to find, access and use the outputs and data generated by research for policy, social, cultural, health, environmental, as well as economic benefit, in the UK and internationally.[3]

"… the strategic importance of open scholarship to institutional research performance and profile."

The statement is interesting in encapsulating where research managers are in their thinking about open scholarship but also as a reflection of how far this thinking has moved on. Ten years ago such a statement would have been inconceivable, not because of anything that has happened in open scholarship but because of the way in which there has been convergence between those professionally who are responsible for supporting and managing research in universities and those who are responsible for its dissemination and translation into economic and social benefit. As with open scholarship itself, this convergence is the product of a combination of drivers: institutional ethos and principle, research strategy and policy, and response to external policy aspirations of ensuring greater impact from publicly funded research in the UK and internationally. While welcome, however, this convergence simply creates an environment within which enhanced professional practice can develop; it will not deliver enhancements without sustained effort and attention. Moreover, it does not go far enough, for the research management and scholarly communication communities, both of whom have open scholarship as a central professional concern, remain almost entirely separate. This matters because the challenges presented by further development of open scholarship are not insignificant. The joint statement reflects this in a major caveat:

> "… convergence is the product of a combination of drivers …"

Commitment to Open Access needs to be tempered with both technical and economic reality. Information held electronically may be dependent on licences and other permissions, or be held in particular formats that may not be straightforward for others to access. Furthermore, storing, curating, and facilitating access to information can have significant costs. At a time of pressure on resources, the ability of funders, institutions, and researchers to provide Open Access will need to be balanced against other priorities, notwithstanding the highly desirable outcomes that Open Access may offer. We support efforts involving all stakeholders working together to produce sustainable solutions.[4]

It is imperative that all available resources and expertise are brought to bear in an integrated approach based on a shared understanding of the opportunities and issues presented by open scholarship for research management in universities.

There is much about the statement which reflects the embryonic stage of professional practice within research management circles around open scholarship. It is interesting, for example, that the organizations represented support open scholarship as a means of enabling wide access to research outputs and data in the hope that this will lead to their productive use, but says very little about how the translation from output to outcome might be effected. As has already been noted, the relationship between open scholarship and enhancing research performance and profile is increasingly embedded into institutional strategy and practice. When we move beyond the academy, however, there is little understanding of the mechanisms through which research outputs and data should be utilized to enhance economic success or societal benefit. The familiar translational devices centre around management of intellectual property and know-how within clearly defined 'packages' such as patents, licences, consultancy and training courses. These embody only a small fraction of the total intellectual output of university research which, despite ever increasing openness of availability, remains largely unaccessed and unused beyond the academic sphere. The professional understanding and expertise to address this impasse resides within the knowledge management and scholarly communication community, not amongst research managers. This demonstrates perfectly the need for further cross-professional integration and points to the very substantial benefits which it could unlock. Ongoing work by Jisc, for example through the Research Management Programme[5], is beginning to open up the potential of the shared approach.

> "… the need for further cross-professional integration …"

Broadening horizons?

Much of the attention of research managers is currently focused on ensuring compliance with the open scholarship requirements laid down by the UK research councils[6] and other

funders. While important, that is a rather narrow field of vision. A substantial risk of even greater introspection is presented by the open access requirements which the Higher Education Funding Council for England (HEFCE) and the other HE funding bodies have announced for the next Research Excellence Framework (REF) assessment exercise, anticipated to take place around 2020. Under these requirements, journal articles and conference proceedings must be available in an open access form from the point of acceptance for publication in order to be eligible for submission to the REF. The requirement becomes mandatory from 1 April 2016 but with strong encouragement given to universities to implement it earlier.[7] In the face of these compliance drivers, there is a real challenge to maintain a positive, good practice focus on open scholarship based on principle and enhanced performance. The nature and tone of the dialogue around open scholarship for many years to come will be determined by the extent to which the sector rises to that challenge.

> "Horizon 2020 is principally an innovation, rather than simply a research programme …"

We may look to a number of broader developments for encouragement. Horizon 2020, the new EU research and innovation framework programme, is seeking to build a principle of open access to research outcomes and data into the very heart of European research practice.[8] While the programme does, of course, contain requirements which must be complied with, the policy objective is tremendously exciting because it places open scholarship as a central component of the competitiveness and performance of a research power which approaches the US in terms of its scope and scale. Thus it positions the European Research Area (ERA), within which the UK is a leading contributor, strongly within the existing and emerging global research landscape. Moreover, Horizon 2020 is principally an innovation, rather than simply a research programme, and so requires the key questions of translation of research outputs into economic and social benefit already discussed to be tackled head on. A breadth of perspectives, therefore, will be brought to bear on the continuing development of open scholarship through Horizon 2020, with the opportunity to regard regulatory compliance as a necessary but subsidiary concern. That can only benefit the debate between development and compliance within the UK sector and its constituent institutions.

The mind-set and principles behind open scholarship are also driving, often in rather unexpected ways, even broader changes in the research landscape. The ORCID programme[9] is a fascinating example of such a change where the global research community increasingly is seeking ways to identify each of its members uniquely, in what is inherently a transient, migratory, fluid population. ORCID is very much a consequence of an environment characterized by mass open access to scholarly work in which ready identification and attribution become critically important for researcher and user alike. The perspectives and horizons of the academic research community are being expanded exponentially by the open scholarship agenda and that, in turn, is driving some really interesting developments like ORCID, the implications and benefits of which we are only just beginning to explore.

Open scholarship thinking is also influencing the emergence and development of new areas of research. This is exemplified by the increasing prominence of big data, both as an area of scholarly enquiry in its own right and in its application to a range of research questions. Big data might be considered rather distant from open scholarship but, as an intellectual concept, it is undoubtedly driven by a recognition that access to large amounts of data is beneficial. Furthermore, the growing use of big data for research is typified by principles of open access (albeit subject to appropriate safeguards to protect sensitive or confidential information), contrasting sharply with the closely guarded commercial applications by, for example, supermarkets and online retailers. It is likely that the expertise in big data management and use in the academic and commercial sectors may generate some highly interesting and productive collaborations in due course. In the meantime, researchers are increasingly opening up and integrating large data sets while the scale and scope of data sets themselves increases exponentially. This, in turn, presents issues in the management of research data which are amongst the most challenging presently facing research managers within institutions.

Infrastructure

The opportunities in research management presented by open scholarship are considerable. So, however, are the short-term challenges of managing the transition to a fully open research landscape. There are well rehearsed current arguments about the true cost of OA publication and how responsibility for meeting that cost should be shared between funders, institutions and academic publishers. These arguments tend to centre around the immediate demands of article processing charges (APCs) and journal subscription costs. There are, however, more fundamental resource questions to be addressed.

> "… that resource will be released to be reinvested back into research itself."

There are significant additional resource requirements for universities in the short term to engage effectively with the open scholarship agenda. Equally, in the medium to long term, the efficiency gains for the whole research system from open scholarship will be very substantial and that resource will be released to be reinvested back into research itself. What this means is that there are a series of investment decisions that we need to make as a research sector and individual institutions that allow us to take full advantage of the range of exciting possibilities that open scholarship presents. The debate requires to extend well beyond APCs and subscriptions to encompass investing in supporting changing behaviours within the academic community, thinking about ways in which we enhance research performance and unlock new ways of conceptualizing, delivering and developing research and its translation through open scholarship.

A particular dimension to this discussion centres around electronic research management systems. These require significant up-front and ongoing maintenance and development costs for software, hardware and, especially, human resources. The potential of research systems for delivering efficiency gains in the research process, enhancements in research performance and profile, and managing ever increasing compliance and regulatory requirements, however, far outweighs the required investment. The exploration of this potential within research organizations, nevertheless, is in its infancy. Discussion of research management systems is one of the most prominent areas of discussion within the research management profession and is likely to remain so for years to come.

The infrastructure required for an open scholarship research system is not only a matter of changing use of resources. It also necessitates adaptation in regulatory and governance processes. This is best illustrated through the area of ethics and integrity. Open scholarship operates on the principle that research outputs and data should be freely available as a public good. In most instances this is clearly to the benefit of the collective research endeavour. In a limited number of circumstances, however, open access to research data could actually frustrate the research process itself. This is typically true when the raw data underpinning research findings is of a highly sensitive nature or where it could be open to misuse. A well-publicized example relates to research by the Institute of Social Marketing at the University of Stirling into tobacco use. The University holds a data set consisting of thousands of records of interviews with teenage children on their attitudes to smoking and tobacco marketing. The interviews were conducted under consents based from the children and their parents on the confidentiality of the information provided. From 2009–2011, Philip Morris International, the world's largest tobacco company, pursued the University for access to the research data set under Freedom of Information legislation. Had access been granted, it is unlikely that consent for further or similar work would have been able to be secured given the uses to which a tobacco company could put the information. The research by the Institute of Social Marketing is widely regarded as making one of the most significant recent contributions to public health in the UK.[10] Of course, it is all too easy to present arguments against open access based on integrity of the research process when what is really involved is an unwillingness by researchers to share 'their' data. Care and mature debate are required, therefore, to redesign a research governance framework which enshrines the principles and

> "The potential of research systems … far outweighs the required investment."

practices of open scholarship whilst ensuring protection for the research process where it is genuinely required.

Conclusion

Open scholarship is one of the most profound influences on the research landscape. It is shaping institutional policy and strategy, changing scholarly behaviour and raising substantial questions about infrastructure and investment. Whilst undoubtedly challenging, adapting to an open scholarship environment presents enormous opportunities for research organizations and the research management and knowledge and communications professions.

"… adapting to an open scholarship environment presents enormous opportunities …"

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