

A Comparative Review of Research Assessment Regimes in Five Countries and the Role of Libraries in the Research Assessment Process

A Pilot Study Commissioned by OCLC Research

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A Comparative Review of Research Assessment Regimes in Five Countries and the Role of Libraries in
the Research Assessment Process
Key Perspectives Ltd, for OCLC Research

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Introduction

In many countries attention is being directed towards research assessment and the development of procedures for assessment both in universities and at a national level. In the UK, which has had a national research assessment process aimed at fostering research excellence for over two decades, research assessment has absorbed huge amounts of attention, effort and time, and has undoubtedly contributed towards a shift in attitudes of university managers and research communities towards their missions and towards their fellow institutions. Some believe that competitiveness has displaced the collegiate, collaborative values that the academy once held.

Those countries that have pursued different paths in regard to funding higher education and research, distributing funding on a less combative basis, may not have themselves engendered the levels of competitiveness that may be seen in the UK. Nevertheless, with the rise in usage of world university ranking systems like the Times Higher World University Ranking and the Jiao Tong Academic Ranking of World Universities, a new urgency is informing the approach to competition among universities worldwide, and within various regions and sectors.

This study was designed to review research assessment regimes and the role of research libraries within those assessment processes in five countries, each of which takes a different approach to assessment. At the beginning of the project it was postulated that libraries occupy an interesting position within the academy, both belonging to an institution yet to an extent separated from it. There is—arguably—a set of 'research library values' that remains independent of local, institutional values, enabling libraries to occupy a unique and constructive role in the development and support of research assessment processes. Libraries have an understanding of scholarly communication processes, and they are currently in a state of rapid transformation to keep pace with the way scholars work. They understand the broad range of outputs and the publishing behaviour of scholars across disciplines, and the methodological constraints, limitations and variances that pertain to assessment exercises. This report provides an insight into the extent to which research libraries have so far been able to leverage the particular skills and experience their staff possess to position the library at or near the operational and strategic centre of institutions' responses to the internal and national requirements of research assessment processes.

Aims of the Project

Research assessment is a process that involves many actors on the university campus, and considers a range of data. The scope of this project was therefore tightly defined and it set out to do the following:

- Investigate the characteristics of research assessment regimes in five different countries and gather key stakeholders' views about the advantages and disadvantages of research assessment
- Discover stakeholders' perceptions of the effectiveness of research assessment including its advantages and disadvantages
- Analyse the effect of research assessment procedures on the values of the academy
- Reveal the characteristics of research library involvement in research assessment support
- Discover the extent to which research assessment forms part of institutions' strategic planning processes and the role libraries play in planning for the future
- Draw out points of good or best practice for libraries in support of national or institutional research assessment

Methodology

This study, funded by OCLC Research, is exploratory in nature and was designed to get a flavour of what research libraries are doing in relation to research assessment in five countries: Australia; Denmark; the Netherlands; Ireland and the UK. Clearly research assessment is the province of a range of different stakeholders, but for this study we focused on distilling the views of librarians, research administrators and researchers. Although the sample size of thirty-five is limited, the project team sought and achieved the collaboration of people not just with seniority, but with first-hand experience of developments in their sector in their country, and with firsthand knowledge of the views of their peers. The project team does not claim the results to be comprehensive but it is hoped that this project has not only captured the essence of the characteristics of the research regimes that currently prevail in the five countries, but also that the interviews have illuminated many of the nuances in terms of peoples' perceptions of the role, value and implementation of research assessment. The project team is grateful to the many senior, experienced people who contributed their time and expertise, many of whom are library directors, rectors, deputy vice chancellors for research, pro-vice chancellors for research and professors heading up departments or faculties. The outcomes from the interviews have been aggregated and anonymised.

The interviews were conducted using a common set of questions, with minor adaptations according to whether the interviewee was a librarian, research administrator or researcher. Interviews typically lasted sixty minutes and approximately half of the interviews were done face-to-face, the other half being conducted by telephone.

Overview of the results

This study investigated the approaches to research assessment that have been adopted in five different countries (the Netherlands, Ireland, the United Kingdom, Denmark and Australia) and the opinions of senior research administrators, librarians and researchers about the research regime that prevails in their own countries. To begin with it is worth considering three fundamental issues: first, whether there is a need to assess the quality of research outputs and, if so, whether it is better to control the assessment process centrally or devolve the process to individual institutions; second, if research assessment is deemed useful, then what form it should take; third, whether outcomes should be explicitly linked to the distribution of research funding. The overview then continues to consider the role played by libraries in the research assessment process, the extent to which research assessment is considered in institutions' strategic planning processes, and finishes with a view of what constitutes libraries' best practice in support of research assessment.

The role of research assessment

At a national level, it is increasingly important for the research sector to be able to provide evidence to governments that their investment in research provides good value in terms of quality and impact. In the absence of such evidence, it becomes more difficult to objectively defend research budgets when governments are seeking to cut national expenditure, this being the case in Ireland at present. In countries where national research assessment initiatives exist, stakeholders think it has a positive effect on the general level of the quality of research. This positive view of the effects of research assessment is evident in the UK, where there has been national research assessment for many years. The assessment process also catalyses debate about research priorities and concomitant investment within institutions and at a wider level. Despite the downsides in terms of the costs associated with conducting research assessment, the majority of stakeholders who participated in this study accept in principle the need for a mechanism to assess the quality of research, not least when that research has been funded directly or indirectly from the public purse. The debate focuses more on the form and fairness of the assessment mechanism chosen in different countries and the extent to which rewards are contingent on assessment outcomes.

Considerations of the disadvantages of research assessment tend to focus on two key points. First, all institutions recognise the significant cost overhead of conducting internal assessments and complying with national assessment regimes. Compliance is also disruptive for individual

researchers and their departments, shifting attention from their core business of conducting their research, teaching and other duties. Second, there is concern that the behaviour of researchers and their organisations adapts according to what is being assessed, particularly when funding is distributed in relation to the outcomes of the assessment process. It can be argued that this a good thing, helping direct research effort towards research priorities set by governments or funding bodies. On the other hand, too much top-down direction can have the effect of stifling blue-sky research and innovation.

The form of research assessment

It is clear that different countries have different ideas about the ideal form of research assessment. At present the strategic options range from the use of bibliometric indicators to the use of expert review panels and, between these extremes, a combination of the two. Although a lot of work has been done over the years to establish a system that provides fair and accurate assessments to the satisfaction of stakeholders while containing the costs of the system to a reasonable level, the ideal solution appears not to have been found yet. In the UK recently a significant amount of effort has been devoted to exploring the feasibility of introducing a quantitative element to the assessment process, not simply to provide a more objective base but also to rein in the bureaucracy and costs implicit in a system that has to date leant heavily on the use of expert review panels. In Australia, too, the national assessment system that is currently being trialed combines quantitative and qualitative approaches, helping to ensure that those fields of study for which bibliometric data is not readily available—primarily the arts, humanities and social sciences—are treated fairly by the system.

In contrast to the hybrid approaches being developed in the UK and Australia, the Netherlands relies much more on qualitative review by panels of international experts for its external reviews. This allows for the consideration of a wide range of criteria including productivity, the relevance of research to society and its impact, and the adaptability of research managers. The review panels consider bibliometric and other quantitative data, but these form just part of the evidence base they consider. The system in Denmark has similarities with that in Australia in that both went through an expert review process to agree a selection and ranking of journals and other publications. If researchers publish in them, they accrue rewards within the scope of the assessment regime. Although there is no national assessment regime in Ireland, some universities have undertaken internal reviews based on bibliometric data and national funding agencies also request such information from institutions periodically.

Internal research assessment

Institutional leaders at all levels across the world need management information if they are to manage their organisations and human resources effectively. The need for information that usefully

informs the development of strategy has come to the fore with the globalization of research, the increasing need to compete for research funding, the desire of institutions to build and maintain good reputations and the requirement in many countries to consider how they are going to provide the information required for national research assessment processes. In addition to the production and use of strategic-level management information, departmental heads normally also have a responsibility to conduct individual reviews of their staff not just to assess their performance but to mentor them and nurture their research careers.

In the Netherlands a mid-term review is conducted by institutions three years after their main external research assessment. This review is conducted internally and is for the use of the individual institution, helping them measure their progress against targets and against issues raised in the main review. This structured approach to conducting internal research assessments is not mirrored in the other four countries included in this study, where assessments are instigated and organised by individual institutions with varying degrees of diligence. In Ireland, where there is no national research assessment regime, internal reviews are conducted for the reasons described above, but some universities have gone further by conducting internal, institution-wide research assessment exercises. Libraries in Denmark are well accustomed to playing a part in internal assessments, though their processes are moving towards tracking the new national assessment model.

In some cases internal assessment exercises are used to prepare for national assessment, to ascertain that an institution's internal information is of an acceptable type and quality and that the information technology systems are sufficiently robust. This approach is not uncommon in the UK, and now there is a new pressure to fashion internal systems that will satisfy the likely requirements of the next national assessment. In the UK libraries have had relatively little involvement in internal assessment exercises since they tend to be organised by faculties or departments, but this situation may change as the potential role of institutional repositories in research assessment processes becomes more widely appreciated. Certainly in Australia institutional repositories play a significant role in facilitating both internal and external research assessment.

Links to funding

One of the critical issues in the research assessment debate is the extent to which the outcomes of the assessment process should be used as bases for the distribution of research funding. This is the main issue that raises anxiety levels among stakeholders because a direct link to funding, according to one senior research administrator, makes the process “real”, providing a financial incentive to perform well in the assessment process but also a penalty if performance is judged to be deficient. In the UK the link between research assessment performance and the consequent distribution of funding is well-established. Opinions on the benefits of this for research quality in the UK as a whole are mixed: on the one hand research excellence is rewarded by greater access to

funding, so research institutions that are already strong get stronger, aiding ambitions to be globally competitive; on the other hand, institutions that do less well in terms of research and its assessment find their capacity to attract research funding diminished resulting, in the view of some, to a two-tier hierarchy of research institutions in the UK.

Among the study's cohort of five countries, the UK is alone in having an explicit link between performance in a national research assessment exercise and the distribution of a significant proportion of the nation's research funding. The new research assessment system in Denmark does make a link between performance and funding but, to begin with at least, it will only influence the distribution of a relatively small proportion of the government's research budget. Although the Danish government does not specify how funding should be allocated within institutions (decisions about internal research priorities are left to institutional managers) there is, nonetheless, some anxiety within the Danish research community about how their institution, discipline and personal research opportunities will be affected. Such anxieties are to be found in countries even where a link between research assessment outcomes and funding does not currently exist. In Australia stakeholders are worried that at some point in the future the government may be tempted to link the outcomes of the new national research assessment initiative with funding, even though the government currently has no publicly stated plans to make such a link.

The research assessment system in the Netherlands is not linked to funding in any explicit sense. Although assessments are conducted according to nationally-applicable guidelines, the process is facilitated by individual institutions; and although the outcomes are made public their primary purpose is to provide university boards and faculties with management information. Of course the absence of a specific link to government funding allocations does not mean there are no financial imperatives at play. Increasingly research institutions in the Netherlands compete for specific research grants, including those from the European Commission's funding streams and from industry. Positive outcomes from external research assessments help bolster the reputation of institutions and therefore help them be more competitive when it comes to winning research funding. In Ireland there is no national research assessment system, yet large amounts of research funding made available by the Irish government are distributed on the basis of competitive bids which themselves are subject to stringent assessment processes. So even in countries where much of the national funding does not rely specifically on research assessment performance, there is still an incentive to demonstrate on national and international levels that an institution has the expertise necessary to win research funding on a competitive basis.

There seems to be no general agreement on whether having an explicit link between research assessment outcomes and the distribution of national funding is a "good thing" in principle, or what benefits accrue to linking only a certain proportion of research funding to assessment outcomes. It is worth noting that the absence of a link is not necessarily the ideal situation: the equitable

allocation of funding in the Netherlands, for example, tends to smooth the research performance distribution curve so most universities or faculties are good, but spikes of international-level excellence tend not to be fostered by this system.

The effect of research assessment on the values of the academy

For researchers in Ireland the lack of a national research assessment regime allows for a lot of freedom to balance their work in ways that suit them best: those who prefer to teach are free to do so and those whose primary motivation is research are free to pursue their research interests. These researchers can find themselves applying for funding on a competitive basis and accept the peer review implicit in this process. The situation in the Netherlands is similar: researchers have a good deal of freedom to follow their research interests, although institutions and national funding bodies are beginning to emphasise strategic research priorities in their allocation of research funding.

The situation in the UK is more equivocal, with some tensions being reported between research assessment and traditional academic values and freedoms. Some researchers object to being assessed while others are nervous about whether the proposed application of bibliometrics will treat them and their discipline fairly. In areas of research that require significant funding, researchers are used to adapting to the requirements of funding bodies, but some fear that the research assessment process is having a fundamental impact on the way researchers and their departments organise themselves to maximise their chances of positive outcomes and the funding rewards that flow as a consequence of that success. In Denmark researchers are also somewhat fearful of what an assessment system that is based heavily on quantitative data might mean for them and their colleagues, particularly those who work in the arts, humanities and social sciences.

In Australia there is some underlying tension between the research assessment principle and academic freedoms, often because the assessment process can lead to a need to increase productivity (and therefore workload) but also because it emphasises research over teaching which will disadvantage some institutions. This tension is offset somewhat by a desire among researchers to work together to improve the quality of research outputs for the good of their institution and Australia's position in the research firmament. In any case, researchers have seen their freedom to research whatever interests them diminish over the past thirty years and increasingly institutions are setting their own research priorities and directing funding accordingly.

Research library involvement in research assessment

The key premise for this study was that librarians have the skills and experience that enable them to make valuable contributions to their institutions, helping to facilitate institutional responses to the requirements of national and internal research assessment systems. The extent to which they have contributed varies markedly by country, reflecting not only the nature of the prevailing research

assessment regime but also the resources available within the library at the point in time where research administrators were beginning to work on their research assessment strategies. In Australia, for example, thanks to funding from the Australian government, most institutions had a tried and tested institutional repository in place at a time when they were gearing up for the Research Quality Framework initiative. Thus libraries were well positioned to strike up collaborative relationships with colleagues in the research office. The particular nature of the current assessment initiative, which has involved a qualitative review and ranking of journals, provided further opportunities for Australian librarians to contribute based on their knowledge of the publishing system and bibliometrics. Once libraries have become embedded in an institution's assessment system, not only does their operational role appear to grow but librarians begin to play a greater role in the planning process, all of which reinforces the central position of the library within an institution.

Whereas the Australian experience demonstrates how institutional repositories can be leveraged to play a greater role in facilitating the research assessment process, the situation in other countries is less positive. In the UK, libraries that possessed a useful institutional repository at the time institutions were preparing for the latest Research Assessment Exercise submission found their skills and infrastructure in demand by the research office, reflecting the Australian experience. Those libraries that could not offer technological solutions, however, have found themselves to be more peripheral to the assessment process—in the beginning at least. When research administrators discovered that they needed people with experience in information gathering and metadata expertise, often the library was called in, sometimes quite late in the process. Despite this slow beginning, libraries in the UK are engaged with the assessment process. Indeed, the plan to include bibliometrics in the forthcoming Research Excellence Framework initiative has provided a new opportunity for librarians to come to the fore, exploiting their long experience in this field.

If institutional repositories, metadata and bibliometric expertise are key to playing a central role in institutions' responses to national research assessment systems, then a number of libraries in Ireland are well positioned to play their role if a national system of assessment was to be instituted in that country. Some libraries are taking the lead in integrating research information systems with well-founded institutional repositories and are well advanced in terms of their plans to integrate bibliometric data with their existing information systems. These information assets and this infrastructure already play an important part in internal research assessments and supporting researchers' grant applications to competitive funding sources. In the Netherlands, however, libraries' role in research assessment is constrained by the nature of the system - which is run by faculties and which typically gather the evidence they need for assessment purposes themselves. Many Dutch research libraries do, however, take responsibility for running the national research information and publications system, METIS, and this may offer the opportunity to become more closely involved with the assessment process in due course.

In Denmark libraries have a history of collecting information for research assessment and librarians were involved in developing the information technology solution which underpins the new national research assessment initiative. Because the Danish assessment system has a major bibliometric component, librarians are building on their experience to offer various levels of bibliometric analysis to the research community, while at the same time investment in subject and institutional repositories continues.

Planning for the future

Research assessment is these days a significant and persistent theme in institutions' strategic planning processes. The significance of research assessment is brought into sharper focus in those countries where funding is explicitly linked to the outcomes of the assessment process, notably in the UK. Most institutions have top level committees dedicated to planning their assessment-related strategy and operational tactics. In some cases libraries are directly represented at this top level, but more commonly the involvement of librarians is one level below this where they are typically involved with helping to plan the operational details of gathering and processing information for research assessment. This level of engagement is particularly prevalent in Australia and increasingly so in the UK and also in Denmark. The situation is different in Ireland since the external drivers in terms of national research assessment are less immediate, though some universities are looking to the future and, in these institutions, libraries are working at the cutting edge in relation to driving forward the role of the institutional repository, integrating bibliometric data and research information systems to provide timely internal reports. In the Netherlands libraries are closely engaged with their institutions' strategic processes but not explicitly in relation to research assessment where, at present, their involvement is limited.

Best practice in support of research assessment

The study set out to identify good or best practice for libraries in support of national or internal research assessment. Put another way, what advice would librarians who have achieved success in terms of putting their library at the operational and strategic centre of their institution's assessment processes give to librarians that are still on the path to success. Clearly best practice will be shaped by the national, institutional and technological context in which a library works, but many pointers apply in general.

In terms of information infrastructure, the libraries that are playing a central role in the research assessment process—particularly in Australia—are those which have been able to leverage the value of the institutional repository, which is typically managed and populated by librarians. In many cases the repository has become the information hub of an institution's response to research assessment requirements. Besides managing an institutional repository, there are many other skills which librarians possess which can add value to the research assessment process: those flagged up

as most pertinent during this study are bibliometric expertise; understanding of metadata; being able to find or acquire information necessary for assessment submissions; and expertise in cataloguing and curation, especially digital curation. These skills are valuable in their own right, but they also enable librarians to design standardised systems and quality control checks for assembling the information required for research assessment.

Being successful relies not only on librarians' information-related skills, but also on leadership skills. Successful library leaders are typically ambitious for their library and have the energy to drive organisational change. This is important because as the position and focus of a library changes, so the need to re-train and motivate colleagues increases. While the quality of librarians plays a part, so too does the quality of the professional relationships librarians build with colleagues in an institution's research office (or its equivalent—other names include, for example, planning office or communications office). It is also desirable for librarians to sustain networks of fruitful professional relationships with academic departments, research groups and individual researchers, complementing libraries' natural position of objectivity and neutrality.

All these ingredients combine to give libraries credibility in the view of senior institutional managers and the researcher communities they serve. Once librarians have shown they have a valuable contribution to make to the research assessment process, their role in planning for the future tends to be augmented, cementing libraries' position near the centre of their institutions. The discussions with library directors indicated their desire to play a full role in their institutions' future and to move their libraries forward in a strategic sense. These are exciting times for librarians faced with new challenges and opportunities, not just those related to research assessment in the present, but also in the future. Some libraries are already gearing up to take on the challenge of digital data curation, which, at some point, may be assessed as part of an internal or national process.

The Netherlands

Background information

The government steers research in the Netherlands with a light touch and the distribution of its research budget is not explicitly linked to the research assessment process. Since 2003 instigating and organising research assessment has been the responsibility of individual university boards and faculties on a six-yearly cycle. The assessment process is conducted in light of the Standard Evaluation Protocol (SEP) which is jointly developed by the Royal Netherlands Academy of Arts and Sciences (KNAW), The Association of Universities in the Netherlands (VSNU) and the Netherlands Organisation for Scientific Research (NOW). All the research institutions that fall within the jurisdiction of these three organisations are meant to participate in the assessment process described in the SEP. A new SEP, the fourth, has recently been published and will prevail for the period 2009-2015. The goal of the SEP is to provide common guidelines for the evaluation and improvement of research and research policy to be used by university boards, institutes and the expert evaluation committees.

The assessment process comprises a self-evaluation and external review once every six years, plus a lighter touch mid-term review three years after the main review. The mid-term review is an internal review guided by the university board. The outcome of the external review, together with the considered response of the university board, is made public, giving stakeholders such as funding agencies, government and society an insight into the quality and impact of the research being conducted. The new SEP shifts greater emphasis towards the relevance to society of universities' work and towards benchmarking, not only against other Dutch universities but against universities around the world. In general, the SEP-guided assessment process has three key goals designed to produce results that are helpful to the academic community; to produce results that are relevant to society at large; and to educate and train young researchers.

The SEP focuses on two levels of assessment:

- At the institute level (which also applies to departments or research schools) the assessment is conducted according to four main criteria (quality, productivity, relevance and vitality/feasibility), but the emphasis is on policy and strategy. The goal is to look forward and to come up with plans to improve.

- At the research group or programme level, the emphasis is on performance in respect of the four main criteria noted above. The expert committee may use qualitative and quantitative indicators to reach its assessment as to where a research group or programme sits on a five point scale from Unsatisfactory (1) to Excellent (5). To achieve the top rating, the researchers would need to have demonstrated that they are working at the cutting edge of their field internationally and that their research has a substantial and important impact.

The key assessment criteria are described in more detail below:

- Quality

An expert committee would reach a judgement on the quality of a research group or programme by considering its academic reputation based on five sub-criteria: quality and scientific relevance of the research; the quality of leadership, research policy and research management; researchers' academic reputations; organisational factors; and the success of PhD training.

- Productivity

The expert committee would seek to judge research outputs in relation to the mission of an institute and the resources available to it.

- Societal relevance

Assessors are tasked with making a judgement as to the societal quality of the work being done (e.g. the ways in which research groups interact productively with stakeholders in society), the societal impact of the work (e.g. work leading to new protocols or laws), and the valorisation of the work (e.g. the application of the work to new products or processes).

- Vitality and feasibility

This refers to an institute's management strengths in terms of strategy and adaptability to changes in the organisation's environment and may manifest itself in, for example, developing policies to focus on particular research themes as their relevance and importance grows.

Information from the interviews

Advantages of research assessment

Although there is no government-led national research assessment regime in the Netherlands per se, research organisations are required to participate in internal and external assessments as set out in

the Standard Evaluation Protocol described in section 3.1 above. The results are used largely for benchmarking purposes and to guide management decisions at various different levels within the organisation. Typically every research group, department or faculty conducts a self-assessment every three years and is subject to an external assessment every six years. External assessments are conducted by independent committees, at the invitation of faculty deans, which normally include among their membership international subject experts. Key points to note are:

- these are not comparative assessments, since universities in the Netherlands are not competing with one another for funding (except at the margins);
- the processes are largely qualitative
- funding is not contingent on the outcome of the assessment process

Research administrators use the results of the assessments as the basis for periodic meetings with faculties (groups of departments), and may have a system of contracts with faculties which run for a number of years, under which university boards might expect the faculties to score at least 4 (Very Good) in the assessment process. University boards may tolerate a score of 3 but a score of 2 would invariably lead to change, which could mean investment in or closure of the part of the organisation in question. Although the bulk of a university's funding from government is linked to education parameters—such as the number of students—rather than the outcome of the research assessment process, obtaining funding directly from research councils or private funders does rely much more heavily on the reputation of a university and individual researchers or research groups. As such, university members tend to treat research assessment seriously.

The assessments investigate not only the quality of research, but also of teaching and library services. Although there are no explicit financial rewards for achieving good results in the external assessments, they are nonetheless taken seriously because people want to work to boost or bolster the reputation of the university for which they work. University boards pay a great deal of attention to, in particular, two ratings publications published in the Netherlands. The first is published annually by Elsevier and ranks Dutch faculties based on the opinions of professors and students, taking account of the quality of facilities (including the library). This assessment is focused on teaching rather than research but is important because it influences student recruitment and, therefore, government funding which follows students. The second publication, a Guide for Students, is based on the judgements of students and professionals. Neither of these assessments takes account of the quality of research, but they have an important impact on peoples' perceptions of the overall quality of a university, from within and without.

There are key cultural factors that limit peoples' desire for a national, more prescriptive approach to research assessment, perhaps one with more metrics. Because universities do not compete for

funding, there is more of a collegiate approach in general, with research being for the good of the nation rather than the individual researcher or institution. It is also, we are told, not in the Dutch nature to be too competitive. There are thirty universities, three of which are technical, one is agricultural, and several are quite small and specialised. Many of them are ranked in the top 200 universities in the world (though none are in the top 50), and in terms of research output the Netherlands punches above its weight.

Disadvantages of research assessment

One of the criticisms levelled at the assessment system in the Netherlands by research administrators is that the administrative burden is overwhelming; support staff are continually working on fulfilling the requirements of the research assessment process, not least because of the need to individually assess each research group or programme. These criticisms have led to the new SEP which attempts to reduce the administrative overheads mainly by limiting the size of self-evaluation reports and making the mid-term review relatively light in nature. Despite this, some research administrators continue to think the process is suboptimal and that the process of self-assessment represents a very high workload. There is also a minority view that the outcomes of the assessment process should be linked to funding to encourage a concentration of excellence rather than the current situation which tends towards uniformity of standards and can make it difficult to attract top international research talent to the Netherlands.

Notwithstanding the administrative effort involved in organising and conducting assessments, the form of assessment that currently prevails in the Netherlands is generally well-accepted by researchers - though sometimes the authority of the assessing committee is not recognised by some researchers mainly because of the specialised nature of research, and the fact that not all specialisms can be represented on one committee.

The effect of research assessment on the values of the academy

According to research administrators there is no real tension between research assessment and academic freedom. The Dutch have a reputation as free spirits who don't like to conform, but globalisation has made many appreciate the need to collaborate and to be assessed. It is also clear that, as a small nation, the Netherlands cannot be active in every field of research. Funding agencies are sympathetic to the need for selective funding and are gradually building more research themes—a course which will inevitably have an impact on academic freedom. At faculty level managers try to encourage behaviour that will contribute to the performance of the faculty in the research assessment process. For example, at one university faculty we visited, researchers receive financial incentives for having papers published in top flight journals.

Senior librarians have not seen any evidence of the assessment processes that exist having had an adverse impact on the values and freedoms of the academy in the Netherlands (bearing in mind the focus is on teaching as well as research). Professors are generally able to research what they want although there is sometimes debate about which fields are deserving of research attention—climate change, for example. National research policy tends not to be prescriptive. Tenure is achievable relatively easily, so there is a need for a stable funding regime to support the existing structure of universities.

Internal research assessment

The process of internal research assessment is closely related to external assessment, as described in the background information. The main focus of internal assessment is the mid-term review. Research administrators use the outcomes of the mid-term reviews for tactical and strategic management purposes.

Research library involvement in research assessment support

In the view of research administrators libraries do not currently have a direct involvement in the assessment process because research assessment is coordinated primarily by faculties. The absence of a uniform framework for the type of information required by the expert committees that conduct the external assessments makes it difficult for the library to serve the process efficiently. In universities where the METIS system (see below) is being managed by the central library, there are more opportunities for the library to feed information into the assessment process. Indeed administrators recognise the expertise librarians have particularly in terms of metadata and will be looking to build on this expertise in the future. Research administrators would like to see stronger connections between various systems—personal web pages, DARE and METIS for example—to reduce the work involved with researchers and administrative staff having to enter similar information multiple times.

The manner in which research assessment currently takes place in the Netherlands means that there is less impetus or indeed opportunity for libraries to be instrumental in facilitating research assessment in their institutions than is the case in places like the UK or Australia. Libraries tend to have no explicit role in the research assessment process, which is organised directly by the faculties, other than their core business of providing access to the published information their research colleagues require. That said, many libraries in the Netherlands are involved in managing the METIS information research system. All new publications go into the system, mediated by librarians, and this in turn feeds into institutions' repositories, which also tend to be managed by librarians. Crucial to the operation of METIS is the Digital Author Identifier (DAI). Developed by OCLC in the Netherlands, the DAI¹ is a unique number assigned to every author working in a Dutch research institution. METIS² was developed by Radboud University Nijmegen and has been implemented by

NOW (the Netherlands Organisation for Scientific Research), KNAW (The Royal Netherlands Academy of Arts and Science), and thirteen Dutch universities. METIS contains three categories of information:

- information about research itself (research programmes and projects)
- information about people connected to a particular research programme or project and their contributions (full time employees/capacity)
- information about research output (publications, dissertations, etc.)

The information METIS contains is used for two purposes: research management; and supplying information about research. Libraries are normally asked to administer METIS because they understand metadata, but there remains a problem with populating the system and a lot of time needs to be spent on quality control. The data that are collected will be useful for research assessment purposes.

Although there is no immediate likelihood of a fundamental shift towards national research assessment, librarians recognise the potential value of a greater focus on metrics to contribute to the management information available to institutional leaders. Librarians are focusing on populating their institutional repositories but, without a clear external driver such as national research assessment, researchers are perhaps less engaged with their institutional repository than is the case in other countries. Some libraries also see opportunities in taking a lead in digital data curation and are recruiting staff to fulfil this function.

The history of libraries can play a part in determining where they fit within their institutions and libraries can be relatively conservative when it comes to venturing into new fields such as explicitly facilitating research assessment. Until recent years faculty libraries were dominant in some universities and the idea of a central library only really became established in tandem with the rapid growth of electronic publishing and digital dissemination of information. Such libraries continue to find their place within long-established universities and, given that research assessment is faculty-driven and centred, they have little reason at this point in time to focus on research assessment.

Planning for the future

Whereas in other countries the importance of institutions' responses to a national research assessment requirement has brought the role of the library to the fore, this is not the situation in the Netherlands. Senior librarians are involved in their institutions' strategic planning process, but this is not propelled by research assessment. Typically a university board will distribute a draft strategic plan for consultation, to which libraries respond following consultation with faculties. Libraries also produce their own strategies. In terms of the quality of libraries, there is an annual benchmarking

exercise for university libraries in the Netherlands, but this is fraught with methodological difficulties making it difficult to compare like with like.

Nearer the top of library directors' priorities than research assessment are goals such as:

- Making the physical library more attractive as a learning space for students and staff
- Supporting the research publication process, which involves work on institutional repositories
- Digital data curation
- Programmes to make the library's special collections and cultural heritage more widely available
- Focusing on the key role of procurement, with a particular emphasis on licensing digital information.

Funding in the Netherlands is currently reasonably equitable although the situation is changing as researchers bid for more external funding—from the European Commission, private foundations, business and industry. This brings university rankings, reputation and visibility into sharper focus, which in turn sharpens the focus on the research assessment process. In this competitive world, universities that wish to compete on a global scale need a mechanism to benchmark themselves against others.

Ireland

Background information

Ireland does not currently have a national, formal research assessment regime. The absence of a national scheme does not mean that the quality of research outputs is unimportant. Indeed the funding authorities in Ireland are keen to promote high quality research outputs. The current strategy document from Science Foundation Ireland (SFI)³, which invests around EUR 200 million each year in Irish research, says SFI's aim is to ensure that its research teams continue to produce the highest quality output as measured by the number and citation impact of publications. Forfás, Ireland's national policy advisory body for enterprise and science, is shortly to publish an analysis of the research output of Ireland which will provide a useful benchmark.

The Higher Education Authority in Ireland runs the Programme for Research in Third Level Institutions (PRTL) which is funded by the Irish Government and the European Regional Development Fund and is the main source of competitive funding in Ireland. The PRTL provides funding for projects that have the potential to contribute to the national objectives for higher education and research set out in Building Ireland's Smart Economy—a Framework for Sustainable Economic Renewal 2008 and in the current Strategy for Science, Technology and Innovation (SSTI). The PRTL is designed to provide concentrated investment in priority research areas and the HEA is looking for value in terms of quality and impact. Therefore, not only do applications for funding need to be competitive, relevant and high quality, but there exist rigorous requirements for evaluating the outputs. It has been said that these sorts of stipulations attached to national funding sources amount to a de facto research assessment process, albeit on a limited scale.

A new report for the Irish government has proposed significant cuts in research funding.⁴ Specifically, the report says “The fifth cycle of the PRTL scheme is due to run over the period 2010 to 2014. This scheme has been in operation since 1998 and there is insufficient evidence of the positive economic impact of the programme to date. Subject to any contractual commitments, this cycle should be cancelled.”⁵ This development brings to the fore the need for the research sector to be able to provide evidence, through research quality and impact assessments, of the value of a nation's investment in research.

Information from the interviews

Advantages of research assessment

There is no national research assessment regime in Ireland so interviewees were invited to consider the current situation and whether or not they would like to see it changed. From the point of view of research administrators, they are often called upon to provide information on research outputs, including bibliometrics, to the HEA and other funding agencies, sometimes at short notice. This ad hoc approach can make it difficult to prepare and respond adequately. It was suggested that it might be preferable to have a national research assessment scheme not only to give some clarity to the issue of what information needs to be collected, but also to help individual institutions compare their performance with others in Ireland. There is, however, no apparent agreement about what a national research assessment scheme should measure either in terms of research quality or research impact.

There are universities which organise their own external audits using committees of experts, often from overseas. For these audits the library expends a lot of time building reports on publication figures, research funding, numbers of postgraduate students and so on. As more universities conduct similar evaluations, it is becoming clearer how individual universities compare with others. Universities also pay attention to the world rankings of universities, such as the Academic Ranking of World Universities, compiled by Shanghai Jiao Tong University, and the Times Higher Education World Universities Ranking. This indicates that universities value the ability to measure the quality of their research outputs and to benchmark themselves with universities around the world. The HEA is looking for increased accountability from the research sector, which is receiving record levels of public investment, but the fabric of the higher education sector in Ireland—seven universities and twenty-two Higher Education Institutions—has been described as delicate, so the prospect of a sudden shift in terms of research assessment seems unlikely.

Disadvantages of research assessment

The main disadvantage of the current state of affairs is that, in the absence of a national system of research assessment, there are no agreed standards so there is lots of duplication in terms of data collected and work done. The Irish Universities Association is working towards the development of a national research website, the National Research Platform, which will bring together information about all Ireland's publicly funded research projects. As part of this work, a Standards and Definitions Subgroup is tackling issues surrounding standards and definitions, work which may in due course reduce the problem of duplication of effort.

The effect of research assessment on the values of the academy

From the perspective of researchers the principle of academic freedom is enshrined in Ireland's Universities Act and the lack of explicit research assessment mutes the potential for conflict with that principle. The current situation also allows academic staff to apportion the time they devote to research and teaching in the way they think best fits the needs of students and their own research interests. People who wish to teach more are given the freedom to do so; the rewards for teaching and researching are similar. Academics are typically assessed by their own managers in three key categories: administration; teaching quality (as measured by, for example, student feedback); and their research portfolio. Account is normally taken of the number of PhD students that are supervised to completion, the amount of research funding generated, and significant publications. There is a sense that there should be some form of internal assessment to discourage people from "coasting", but it is thought that assessment should be lightweight and that the assessment cycle should be long enough to allow for the process of writing grant applications, undertaking research, writing papers and the regular delay between submission, acceptance and publication of papers.

Librarians and research administrators think that because research assessment is not explicit on a national level, researchers tend to be more tolerant and accepting of internal assessment. If they wish to apply for research funding from national sources they must accept the assessment implicit in the application process and the project evaluation, but this is rarely perceived to be a problem. What researchers do not appreciate is wasting time having to submit the same data into different systems for different purposes.

Internal research assessment

Although universities in Ireland are not required to report to a national authority, most do regular internal reports, though not necessarily on a systematic basis. Research reviews and audits are often led by faculties, schools or departments. Indeed a small number of universities have conducted their own institution-wide research assessment exercises using metrics produced by The Centre for Science and Technology Studies (CWTS) at Leiden University in the Netherlands. There is an increasing preference in Ireland for using metrics and data visualisation for internal assessment processes. Some universities use a lightweight measure of research activity and outputs to evaluate internal grant applications, start-up grants for new researchers for example, as well as for the promotions process.

Research library involvement in research assessment support

Those libraries that are leading the field in terms of having a well-established institutional repository are well positioned to work with their institution's research office to provide the information asked for by national funding agencies and in support of researchers' grant applications. Libraries not only

support researchers through the publishing process, but some provide bibliometric tools, training and advice, enabling librarians to become engaged with researchers in new and interesting ways. The National Research Data Project will give all seven universities access to long run citation data. The open access mandates of the Irish HEA and the European commission will help cement the role of institutional repositories in Irish universities which, in turn, will bolster the ability of libraries to provide the information needed for internal and external research assessment in the future.

Planning for the future

Librarians report having become much more involved in the strategic thinking of their institutions and have developed collaborative relationships with their research offices. Libraries are becoming increasingly important to the operation of higher education institutions not just because of the growing role of institutional repositories, but because of the new challenges and opportunities presented by the digital information age, including the prospect of curating data sets.

Best practice in support of research assessment

Given the lack of national coordination in terms of research assessment, individual universities have evolved their own systems at their own pace in support of internally-driven assessments and the information requirements of funding agencies. Innovative library-based developments are underway in certain universities, experience that is shared within the relatively compact university community in Ireland and which could be brought to bear on any new requirements in relation to research assessment.

The United Kingdom

Background information

Research assessment has a long history in the UK. There have been six national research assessments exercises since 1986. The most recent was concluded in 2008 and included an assessment of 2,344 submissions from 159 Higher Education Institutions. Along the way there have been a number of different reviews of research assessment, notably one conducted by Sir Gareth Roberts in the wake of the 2001 Research Assessment Exercise (RAE) which was commissioned by the UK's funding bodies. The report endorsed the use of expert review by disciplinary panels for the 2008 RAE. A report by the House of Commons Science and Technology Select Committee published in 2002 supported the principle of research assessment, believing it to be a sound basis for the allocation of funding in support of research excellence. Indeed Higher Education Institutions take the RAE seriously because the results are influential in the selective distribution of research funding by the various higher education funding bodies.

The nature of the RAE has been evolving. The 2008 RAE was different from its predecessors in three key ways. First, rather than use a fixed scale results were published as a quality profile, which allows for a finer level of granularity in the grading process than was possible under the previous system. Second, a two-tiered panel structure was implemented to facilitate consistency and international comparison. Finally, explicit criteria and working methods were set out to guide the work of the expert panels. The panels themselves comprised over 1,000 members, chosen for their subject expertise and knowledge of the needs of stakeholders such as funders and the users of research outputs.

The submissions to the RAE made by Higher Education Institutions were assessed against agreed quality standards within a framework designed to accommodate the variations that exist between different disciplines. There is a five point quality classification ranging from Unclassified (quality that falls below the standard of nationally recognised work, or which does not meet the published definition of research for the purposes of the RAE) to 4* (quality that is world leading in terms of originality, significance and rigour).

The next national research assessment exercise—to be called the Research Excellence Framework (REF)—is intended to make greater use of quantitative indicators in combination with assessments

made by expert review panels. The balance between the use of expert panels and quantitative indicators will vary according to the characteristics of different subject disciplines. The REF will also take into account the impact of research upon the economy, society and public policy. The REF is still under development. A pilot exercise involving 22 Higher Education Institutions has been running since the summer of 2008 to explore various issues connected with the practicalities of using bibliometric indicators for research assessment and a full report on the outcomes is expected in the autumn of 2009. A series of Expert Advisory Groups will consider the report and its contribution to the final shape of the REF.

Information from the interviews

Advantages of research assessment

Among research administrators there appears to be little doubt that the national Research Assessment Exercise (RAE) has raised the general level of quality of research outputs in a relatively short space of time so it is viewed as having been successful in achieving its goals. It has also been noted that the framework has given researchers something to aim for—but that in doing so the RAE has affected researchers' behaviour in that their work tends to follow what is being measured. From the point of view of individual universities, the RAE has enabled managers to benchmark their institution against others and has helped with strategic planning in terms of future research directions. At the very least, the information derived from the RAE gives rise to useful internal discussions about the research focus of individual institutions.

Researchers do see the point of research assessment and agree it can both improve the performance of individuals and make them more accountable. When departments perform well in the RAE, this has an effect on departmental morale, prestige and additional funding—such as the Research Excellence grant from the Scottish Funding Council. At an institutional level, success in the RAE helps shield departments in difficult times—when funding becomes tighter or student numbers decrease.

From the librarians' perspective, the RAE has increased the impact of UK research and has forced everyone working in the higher education sector to become focused on what the RAE measures. As well as raising quality standards, the RAE has provided a means for benchmarking institutions. In their experience of working with researchers, supporting them in relation to the RAE, the process has largely been accepted by the majority of academics as authoritative and respectable primarily because it has been based on peer review. There is a view that the RAE has measured the right things and there is some uncertainty as to whether the REF can deliver the same degree of acceptance among the research community.

For the best universities the RAE has provided a tremendous showcase for their institutions' research and has led to increased funding, enhanced national and international profiles and has sustained high levels of student applications.

Disadvantages of research assessment

The main disadvantage of the RAE, from the managerial point of view, is the cost of compliance in terms of time, bureaucracy and finance. There are fears that complying with the new assessment scheme will become even more complicated and expensive, particularly in terms of time and resources. Although the REF will make greater use of bibliometric indicators - which some think will improve efficiency and therefore reduce compliance costs - others believe it will not be possible to rely on quantitative indicators to the extent that was originally envisaged.

The fact that the results of the RAE are explicitly tied to funding makes engaging with the process a serious business for every institution. Since not all institutions can be winners there will inevitably be losers, which causes disquiet among the losers, but when the available funding is spread more widely, the winners can feel they are losing out too given that they feel they need additional funding to compete internationally.

On the human front, individual researchers can feel anxious about the pressure of the assessment process. Researchers in the humanities have found it more of a worry than others because of the need to produce four research outputs in an assessment cycle when their natural way of working would be to spend up to ten years researching and writing a book. It has been reported that researchers are put under a lot of pressure to ensure that they will make the strongest possible contribution towards the department's assessment submission. Researchers report their department being given targets such as generating a certain amount of external funding and supervising a certain number of PhD students—responsibilities that fall to all members of the department, regardless of their record or position—in order to contribute to the assessment submission. Some say that the assessment regime drives universities across the country to become obsessed with the whole process to the detriment of other areas of activity. Academics can be tempted to move to other institutions in advance of census dates.

Not all researchers can work in highly graded universities. Researchers believe that those working in institutions outside the top level are disadvantaged in that their research is not as well supported with staff and facilities and they can find it much more difficult to get research funding. They may also find it hard to move on because academic jobs in highly graded universities are relatively limited in number and much sought after.

From the librarians' perspective, a number of disadvantages are perceived. First, the financial cost of the assessment system is very high. Second, the process distorts the way people work. Third,

one of the results of the RAE is that it promotes research that gains funding at the expense of research that does not. This can re-shape research practices and even the whole institution over time as it reorganises around the needs of the assessment process. Fourth, the assessment process preserves some of the big problems that exist in the publication system, locking universities into the system of high quality, expensive journals at a time when libraries are working to advocate alternative systems such as open access.

Looking forward to the REF, to some librarians the idea of using past scores of research quality as a means for allocating funding for future research seems less effective than having a proper competitive funding round with peer assessment of the research proposals. It is thought that the current system inevitably creates a two-tier university system in the UK: super-universities that do well, attract additional funding as a reward, and continue to do well; while at the same time universities which are not so successful gradually become poorer.

The effect of research assessment on the values of the academy

There are tensions to some degree between the principle of research assessment and traditional academic values, according to senior research administrators. The issue of academic freedom is raised from time to time, and there is resistance from some researchers whose fields of research require little in the way of research funding. Those who need money to do their research have always moved in the direction of funding sources but the problem, some believe, is that funding is becoming too directed and too short term. It was noted that government policy with regard to research priorities can have shorter than desirable cycles. Although most researchers have, in the view of research administrators, responded positively to the RAE, there is nervousness about the introduction of bibliometrics in the REF. Researchers in some disciplines worry about how the REF will impact them: researchers in economics, for example, favour unpublished working papers often; while computer scientists' main outputs are peer-reviewed conference papers, neither of which are covered by citation tracking services to the same extent as journals. People are also asking questions like whether they should publish reviews to generate more citations, and how to behave regarding self-citation.

Researchers seem to feel research assessment is a necessity, albeit rather unpalatable. The quality and quantity of a department's output needs to be judged somehow because a variety of people seek qualitative and quantitative information of this sort, such as prospective students, prospective employees, academic collaborators, industrial partners and funding bodies. Even though the need to be accountable is rarely disputed, the time and effort asked of researchers to comply with the national assessment process is reported to be excessive and perhaps too prescriptive in terms of the journals in which they are encouraged to publish. They argue the most suitable journal for a particular paper is not always a high impact one.

It has been reported that there is a huge emphasis on conducting externally funded research and, to this end, it is expected that academics should focus on writing grant proposals in preference, for example, to writing books. They are encouraged to aim high in terms of journal and conference publications. The economic and social impact of research is increasingly important, while traditional blue-sky research can be frowned upon—which represents a loss of freedom for academics.

Senior librarians are aware that some researchers resent the whole assessment process; they hear grumbles and criticisms in committees from time to time but such views appear to be the minority. It can be particularly difficult for researchers who work on the boundaries between the units of assessment; indeed some academics are never submitted to the RAE because they work in these interdisciplinary areas or they work in areas where their institution does not have a critical mass. The RAE implicitly encourages research that attracts funding or is strongly supported by the assessment panels. Librarians see that when people apply for academic jobs, if they cannot articulate the impact of their research or its ability to attract funding, their chances of being appointed are diminished.

The library can and does contribute to the debate about how to reconcile the goals of research assessment and academic freedom. The library has a reputation for impartiality and the presence of a librarian on faculty or research committees can have a moderating influence. Librarians tend to have an advisory role; enforcement is normally left to the research office. Librarians have an important role in providing the facilities and information resources necessary for researchers to do their work, and senior librarians report trying to recruit innovative thinkers with academic mindsets to facilitate new collaborative working with researchers.

Internal research assessment

Research administrators see value in conducting internal research assessments in addition to the national assessments not just because they provide useful management information and feedback at all levels, but because they help researchers to continue to be tuned in to the process of assessment. Responding initially to the proposed shift in emphasis towards the use of bibliometrics for the REF, administrators paid particular attention to preparing the way for this change, with investment in specialist staff and bibliometric reviews of their institutions' research output (some of this is likely to be reversed due to the recent announcement that bibliometrics will not feature as strongly as first thought). In addition to preparation for the periodic national assessment, many internal reviews are conducted for different purposes. Individual departments may do specific research reviews for their own planning purposes, and then there is the usual staff appraisal process which encompasses research, teaching and administration at an individual level. This appraisal process measures performance but it also has a mentoring, career development purpose.

For librarians there is a definite distinction between internal and external research assessment, to the extent that in some institutions internal assessment is mediated almost entirely by schools or departments with very little library involvement. This may change as institutional repositories begin to fulfil their potential as the first port of call for research outputs and associated metadata. Invariably the internal assessments are not consistent across the institution, though there are moves in some places to align the internal and the national assessment processes, a trend that may be supported by moves to integrate research information systems with institutional repositories.

Research library involvement in research assessment support

Senior research administrators believe that their libraries have an important role to play in supporting the research assessment process and they believe that this role will become more significant with the passage of time. Part of this is linked to the need for human resources to input bibliometric information and other metadata into institutions' systems but also for quality control and advocacy. The realisation of the current or potential relevance of institutional repositories to the REF is helping strengthen ties between the research office and the library. Since the REF looks likely to have a bibliometric component—though to a lesser extent than was originally envisioned - institutions have been appointing people to be experts in this field with the expectation that they will work closely with the library and research office.

Researchers think libraries have a role to play in supporting the research assessment process now and in the future. They believe the libraries' strengths in this respect lie in managing the institutional repository and tackling the provision of bibliometric data. Some think the challenge of research assessment provides a golden opportunity for libraries to rethink their traditional role and position themselves at the hub of the institution building on the central role that could and should be played by the institutional repository. Other researchers report not coming into contact with librarians or the research office because the RAE response was coordinated by the department.

To date, library involvement in the RAE has been mainly at the operational level and has not, perhaps, been as extensive as it could be. In the early days of national research assessment libraries often had to persuade the research office that the library had a lot to offer in terms of skills, experience and access to information to support the assessment process, but it was not necessarily a spontaneous joining of forces. Over time, fruitful collaborative relationships between the two have come into being. Typically libraries have been involved with providing bibliographic details, checking Digital Object Identifiers (DOIs), locating and purchasing materials to submit to assessment panels and other 'low level' work. In some cases the library was called in to help when the research office realised it did not have the human resources to fulfil essential but time-consuming tasks such as entering and checking metadata. It seems to be the case that once research administrators realised the value of the support librarians could offer, the role of the library became embedded in the internal process of responding to the requirements of the assessment

exercise—not just in terms of operations but also in relation to assisting researchers with RAE returns, providing specific advice about issues such as handling jointly authored items, and supporting internal panels.

Where libraries already had functioning institutional repositories when institutions began working on the latest assessment exercise, the case for their involvement in institutions' response to the RAE was clearer cut from the outset. At one extreme, a small number of universities took the decision to make their institutional repository the hub of their RAE response infrastructure, which invariably brought senior librarians in close contact with senior research administrators and close to the strategic planning process. The senior librarians to whom we spoke are optimistic that libraries will play a greater role in the forthcoming REF based on factors like the institutional repository and librarians' understanding and experience of bibliometrics and metadata.

Planning for the future

It is clear that research administrators see the role of research libraries becoming more significant with respect to research administration for three key reasons: first, recent experience with the RAE has demonstrated the value librarians can offer with their traditional information skills; second, the prospect of a bibliometric component to the REF—whatever its eventual size may be—resonates with librarians' particular experience in this respect; third, many institutions have made or are looking to make the institutional repository a central element of their research assessment process and since the repository normally falls within the remit of the library, this will help cement the importance of the library's contribution.

Researchers have the opportunity to play a part in planning for the future research assessments. Typically there are working groups that form strategies based on future submissions and outcomes of the national assessment. It is also true that researchers have many pressures on their time and so many do not voluntarily involve themselves with the planning process.

Even though the final configuration of the REF's requirements has yet to be finalised, librarians are already planning for it. This may involve setting up a cross-institution publications system, workflows, profiling systems and linking up disparate information elements. Some institutions have opted for an open access mandate to ensure the flow of research outputs into institutional repositories, and many are looking to buy bibliometric data from commercial suppliers in bulk and import it into their local systems. Staff are being recruited to liaise closely with researchers, help acquire the full text of research outputs and upload them to the repository and work with the metadata. Librarians understand publisher policies (in terms of what can and cannot be done with their information) so are called on to contribute to the planning process, but also they need to ensure, as far as possible in these financially difficult times, that their collection policies reflect the outlets where their research colleagues wish to publish.

Best practice in support of research assessment

Peoples' perceptions of what constitutes best practice are often based on their own institution's way of doing things, but research administrators point to a few generic factors. The most important factors are reported to be the quality of the staff in the research office and the library, the degree of coordination and collaboration between all the players in the process, and the quality and robustness of the information technology infrastructure that facilitates research assessment. There were reports of dissatisfaction particularly with the systems designed to capture information about grants and research activity for the RAE. Some also think that expert review panels work best when they comprise real experts in exactly the right research areas—which may be esoteric—and the fact that this is not always possible is a negative factor, one which some people hoped would be mitigated by the greater use of bibliometrics in the REF.

From researchers' perspectives, librarians have two key skills that researchers do not possess: an understanding of and disposition towards curation and preservation, as well as cataloguing. Librarians are guardians of the research output of an institution, a role that aligns closely with the need to collect and manage information in support of the research assessment process. It has been suggested that best practice would be for the library to have a subject or liaison librarian for every department in an institution, so they really come to understand the research outputs and can work with researchers to provide a range of information or data-related services - not only to curate outputs, but also to advise them on matters central to research assessment such as where to publish, research impact and bibliometrics. In the view of some, poor practice would be an over-reliance on bibliometric data and an inability to interpret the value of publications within the context of their research area. By way of example, the Most Cited list⁶ produced by CiteSeer includes many publications familiar to all computer scientists, but it has not a single entry in common with the ISI list.

According to librarians there is no ideal approach to research assessment that can be replicated in every institution, but there are some ingredients that should be in the mix in relation to library involvement. Libraries need to build professional relationships that help ensure the librarians' voices are heard at the strategic planning level within an institution, a position that can take some time to achieve. Libraries need to show they can deliver value for money in the part of the operational response to national research assessments for which they are responsible. Librarians need to be involved in collecting basic bibliographic and other metadata to provide a good quality base on which to build. Librarians need to be involved in liaising with researchers, advising them about copyright policies, bibliometrics and advocating the benefits of the repository. As part of librarians' interactions with researchers, best practice is to be sensitive to the different needs of different disciplines. Within the library, there needs to be an integrated team approach to managing the repository and the other activities that go towards supporting research assessment. This

normally entails sustained advocacy within the library to effect sustainable changes in organisational behaviour. Librarians that are leading this change are doing so because they recognise the need for the library to be closely involved with the research process and the research assessment process.

Denmark

Background information

As part of its globalisation initiative, in 2006 the Danish government tasked its Ministry for Science, Development and Innovation with developing a model to foster world class research. Research assessment is to be a key part of the strategy for measuring and raising research quality, and the Ministry has been moving towards a national research assessment regime. Having considered various different models of research assessment, it was decided that the model currently used by Norway best suited the characteristics of the Danish research. To date research funding has been allocated to institutions according to historic convention, but the goal is to allocate an increasing proportion of the available funding according to the outcomes of the national research assessment exercise.

The process by which the assessment system has been set up has involved the research community: 68 expert groups, appointed by the Rectors' Collegium, comprised 350 researchers who were tasked with selecting the journals and publishers they thought to be the most important in their fields. The Ministry required the list of journals to be divided in two. Level 1 contains 20% of the journals and Level 2 covers the remaining 80%. Impact factors were provided for the journals covered by ISI, but since not all the journals under consideration have impact factors researchers could decide themselves whether or not to use impact factors as a basis for evaluation of the journals. The journals in Level 1 were required to be the most prestigious and influential in their field, with an international readership. They did not have to be English language journals.

The expert groups agreed on 16,000 of the 20,000 journals under consideration, but there were disputes over the other 4,000. One of the key problems occurred when a single journal covered several different subject areas, and researchers within those subject areas often had different perspectives on the prestige of that journal. Attempts were made to allocate each of these types of journals to a single dominant subject area, but this was not without controversy. The journal grading process was eventually resolved and then a points system for rewarding researchers' publication practices was developed, very much along the lines of the Norwegian model. The BRI system is not explicitly based on impact factors or citations, but the process by which experts rank the journals was thought essential to giving subject areas like the humanities due recognition.

- Monographs: 5 points for a monograph in Level 2; 8 points for a monograph in Level 1. The problem with this system was that the final expert group decided that no Danish publishers were in Level 2. All Danish university publishers were put in Level 1.
- Journals: 1 point for an article in a Level 2 journal; 3 points for an article in a Level 1 journal. The threefold difference exists to provide an incentive for research to publish in the highest quality journals.
- Anthologies: 0.5 point for an anthology in Level 2; 2 points for an anthology in Level 1. In the case of anthologies there is a major difference in quality between the two levels so this needs to be reflected in the points system.
- Finally, dissertations are awarded 2 points, a doctoral thesis gets 5 points, and patents earn 1 point.

The 2008 publications were harvested on 1 March 2009 and will be used to determine funding allocations in 2010. Now the Ministry has to decide whether the Bibliometric Research Indicator (BRI) system needs to be improved and refined, and when it will be used again. Because the analysis is based on Web of Science data, some fields are disadvantaged and allowance needs to be made for this. Also, law, history, Nordic philology and similar fields have very localised publishing practices, so researchers in these fields have nominated Danish publishers and journals in the highest category; this needs to be taken into account in a refined system.

The Ministry is also working on assigning a unique number to each researcher for the future. At present, authors are “fractionalised” by institution, so if there are two authors on a paper from University x and two from University y, each university gets half the points. The minimum allocation of points is one tenth. There is also a reward system for collaboration across institutions, whereby there is a bonus of 25% of the points earned before the fractionalisation process. This is designed to encourage national and international collaboration.

The data analysis was conducted at the university level, disaggregated to the main subject headings: social sciences; humanities; natural and technical science; and medicine. Funding will be allocated on these bases. Whether universities will themselves use internal research assessment to apportion funding at a finer level is up to them. Although the explicit link between the BRI-based research assessment and funding is a source of anxiety to a number of people in the research community, it is likely that the assessment-based distribution will apply to new funding, not the whole research budget.

Information from the interviews

Advantages of research assessment

The new national research assessment system is based on one that has been running for many years but which, until now, has been voluntary. Compliance rates have been running around 50%, but with the national scheme this has gone up to 100%. Within institutions, people feel that the new system offers some objectivity in performance evaluation. In the past there have been worries about the quality of the metadata used for internal assessments, but there is a feeling now that these issues are being addressed by the new national system and that institutions are doing a lot of work to ensure the data is sufficiently high in quality for the national assessment system to work.

Disadvantages of research assessment

On a conceptual level, some believe metrics-based evaluation systems to be problematic because good research can be published in publications that do not receive high recognition or, therefore, reward. Some universities conduct research in fields such as developing country issues which, while the research is considered to be good, is not necessarily published in journals that are highly ranked. There is a sense that publication behaviour will have to change, but also a sense that including an element of peer review in the assessment process would help mitigate these difficulties.

Despite the efforts that have been made to treat all subject areas in an even-handed manner, it remains the case that it is easier to obtain publishing metrics for science, technology and medicine than for the arts, humanities and social sciences. This remains a source of complaint for researchers in those three domains.

On an operational level, there are three key practical difficulties. First, there is a lot of work libraries need to do to validate the bibliometric data after it has been harvested in order to achieve the very high level of metadata quality and consistency assumed by the national assessment model. Second, there remains the challenge of de-duplicating records, and third, libraries are faced with the challenge of managing expectations, since collecting data to the high standards required is an onerous challenge. There is also a view that not all researchers are well-informed about the nature of the new national assessment regime, and some are anxious about its fairness and the potential implications of the outcomes in terms of research funding and, ultimately, their job security.

The effect of research assessment on the values of the academy

Tension between traditional academic values and research assessment are showing up even in the sciences, but these are manifested in the way that research assessment is going to be done, rather than whether it should be done at all. There have been complaints about perceived restrictions on

publishing behaviour, though these complaints are not usually directed at the library. The issue is one for the rectors, pro-rectors and institutional managers to resolve.

Some universities have been conducting local research assessment for many years, so the initial controversy is in the past. The picture today is different: people are interested in improving the system so the criticism tends to be constructive. Researchers want to ensure that the assessment system is objective; librarians are focused on centralising the system to control the quality of the metadata and try not to become bogged down in the debate about the principle of research assessment, preferring to be seen as a neutral player.

Internal research assessment

In the past institutions often did their own internal research assessments but now that a national system is in place, any internal assessment will be influenced by the national one. It has been said that libraries are trying to retain a clear distinction between local and national research assessment. There is some uncertainty within institutions about how to proceed with internal assessment and the internal allocation of research funding. In universities where historically arts, humanities and social sciences have received the bulk of the funding available to the university, researchers in these areas are now fearful that funding will be diverted to other departments.

Research library involvement in research assessment support

Libraries are closely involved in the new research assessment process and, in many cases, are at the operational heart of it. Before the inauguration of the national assessment regime libraries were collecting information about their own universities' research but it was an uphill struggle to engage researchers in the process and to gain their acceptance. The library sector has been involved in the development of publication performance assessment since the mid-1990s, collecting relevant information but also developing the technical architecture, software and doing information management.

The role of libraries has been central to the new research assessment regime not least because of their experience with publication metadata, but also because of their track record in advocacy. Now that the bibliometric research indicator system is in place, although libraries do not necessarily collect all the data, they are involved in performing quality assurance checks. Thinking about the future, individual universities are now making efforts to collect the full text of research outputs in addition to the bibliometric data. The collection and care of data is seen to be the remit of libraries, but the data analysis required for assessment is not always done within the library. In the two biggest universities the exercise has been carried out by research analysts in special communications departments, whereas other university libraries have academic research librarians who perform the same function.

Libraries are moving towards supporting research assessment in a variety of ways, such as offering bibliographic services, subject repositories, institutional repositories and by producing manuals and guides on how to use the national research registration system. In some institutions librarians conduct bibliometric analyses and provide researchers with information on indicators such as their h-index, impact factors and citation numbers. Some librarians are trying to offer a common service for their whole university, providing services of varying levels of complexity such as (a) providing simple measures such as the h-index; (b) providing complex analyses for research groups or institutes using a widely-applicable methodology; and (c) developing the library's knowledge centre as the hub for providing these services.

There has been some disquiet within the research community about the new national research assessment scheme, so for many one of the key advantages of the library being at the operational centre of the assessment process is that it occupies a neutral position between researchers and management.

Planning for the future

The extent to which libraries are involved in research assessment at a strategic level varies, though the national research assessment initiative and greater awareness among senior institutional managers about open access have increased the visibility of libraries. Libraries tend to be fully involved at the practical planning level in terms of institutions' operational responses to the requirements of the national research assessment process and some librarians are on committees that provide input to the research assessment development process at a national policy level. There is a general sense that the traditional library business of books on shelves is being consigned to the past and that librarians see their libraries as having an institutional information infrastructure role within their universities.

Best practice in support of research assessment

Libraries have a lot to offer with regard to their experience and understanding of bibliometrics and metadata, particularly since the Danish system is based on metrics. Because the national research assessment regime is so new it remains to be seen what policy and operational adjustments need to be made, but in terms of organisational relationships, in the future libraries will need to collaborate closely with universities' communications departments.

Australia

Background information

Australian universities are well accustomed to the idea of national research assessment having already been through the process of preparing for the Research Quality Framework (RQF). The RQF was designed to recognise and encourage high quality and high impact research and to demonstrate to the Australian public and government the value of investing in research. Both quality and impact were to be assessed on a five point scale by thirteen assessment panels. For many the government's intention to use the results of the first round of the RQF to guide the distribution of university funding was a source of some anxiety. Universities conducted their own internal audits to evaluate their strengths and weaknesses in relation to research quality and impact in preparation for the RQF proper.

The 2007 general election brought a new Labour government to power and, shortly after, the RQF was abandoned. The replacement for RQF, Excellence in Research for Australia (ERA), was announced in February 2008. Developed by the Australian Research Council, the ERA initiative will assess the quality of research using metrics and expert review committees across eight disciplinary areas but, until recently, there were no explicit plans to link the outcomes to the distribution of research funding. The Australian government is proposing to allocate the majority of its Sustainable Research Excellence in Universities budget—\$512 million until 2013—according to each institution's share of Australian competitive research grant income and their performance in the ERA assessment process⁷. A trial is underway in two ARC disciplinary clusters: physical, chemical and earth sciences (PCE) and humanities and creative arts (HCA), the outcome of which will inform the plans for wide scale implementation of ERA in 2010. The precise nature of the assessment has been considered by the Indicators Development Group, a process which led to the publication at the end of 2008 of two key documents, the ERA Indicator Principles and the ERA Indicator Descriptors, both of which are available on the ARC website.⁸

Information from the interviews

Advantages of research assessment

Overall the views toward research assessment of the senior research administrators with whom we spoke in Australia are positive for a number of reasons:

- Having a national research assessment framework gives the country and institutions confidence that there is a focus on quality—that people are thinking about research quality and how to measure it.
- The research assessment requirements give institutions the opportunity to have conversations about how access to information should be provided, which metrics should be used, and what type of quality certification is appropriate.
- It is recognised that the government needs a fair and transparent basis for assessing the value and impact of its investment in research.

According to the researchers who participated in this study, many researchers in Australia have come to accept research assessment as an inevitable part of their professional lives, albeit perhaps reluctantly in some cases. This is because many recognise that their research is paid for, in most cases, with public money and that there exists, therefore, a need to be accountable for how that money is used. There is also a feeling that research assessment is here to stay, in one form or other, so people need to come to terms with this reality. With regard to researchers' perceptions of the advantages of research assessment, the following insights were offered:

- It has been said that research assessment increases the professionalism of the research community and helps demonstrate the overall value of their work.
- Although some Australian researchers know where they stand in relation to their international peers, others do not. There is a general sense of Australia's distance from world research centres, so the research assessment process may help individual researchers find their place in the global research firmament and, on a broader level, it may help internationalise some of the research done in Australia.
- It is also felt that the effort that researchers put into the research assessment process will be worthwhile if the management information it produces is helpful in terms of aligning researchers' efforts with their institution's strategic direction. Research assessment increasingly influences performance reviews and appointments, so individuals need to reconcile this with their own career aspirations and research interests.

- In the creative arts, academics are pleased not only that ERA means a more sophisticated and nuanced approach to the use of metrics for assessment, but also that, finally, creative outputs are now being regarded as research outputs. The new systems, involving an expert review process, mean that researchers in the creative arts are finally players in the research assessment game. Because of the requirement to submit research statements and electronic files which demonstrate researchers' work, some believe these new rigours will strengthen the creative arts field.

Librarians have clearly been playing their part in the challenge of adapting to the changing research assessment environment in Australia. Their views on the advantages of research assessment tend to be framed with reference to the changes they have perceived among their colleagues in their institutions' research communities, as outlined below.

- Librarians report that the research assessment process is bringing about a general change of attitude among researchers: there is increasingly a feeling that what researchers are doing is not just a personal activity, but is also something that has the potential to benefit their university community as a whole.
- Academics now tend to select for review samples of their work most likely to benefit their institution through the research assessment process. Historically many academics—particularly in the arts and humanities—have selected works for the assessment process that express something of themselves, rather than those which their peers believe have had most impact. The tendency to select favourite works for assessment has, therefore, given way to more pragmatic considerations.
- The research assessment process has had the effect of raising researchers' awareness of and interest in citations and impact in the arts, humanities and social sciences. Libraries are ideally positioned to provide advice and training in these areas.
- There is a view among librarians that the ERA is a lighter touch process than the RQF—relying to a large extent on metrics where practicable—and that therefore the process is less bureaucratic and burdensome than its predecessor.

Disadvantages of research assessment

For research administrators, the major disadvantage of research assessment in Australia is the amount of effort required of individual institutions to comply with the research assessment regime. This is not a criticism of the principle of research assessment per se; it is simply the reality of the situation. There is a great deal of work to be done, not only to comply with the mechanics of the process such as identifying and selecting research outputs for measurement, but to manage the process of change. Typically, research administrators take a leadership role in the change

management process and institutions appear to have invested money in this activity, recognising its importance for their future. More specifically, a number of disadvantages of the research assessment regime in Australia have been identified:

- There are significant cost-related overheads at the national and institutional levels.
- There is widely-held concern that the ERA inadvertently reinforces the notion of the journal title as a certifier of quality. There is a need for further discussion about this. Some believe that research assessment should focus on the level of individual output rather than a collective level—which is what journal-based assessment does.
- Research assessment gives rise to contention between universities. For example, for the RQF, the Group of Eight (Australia's research-intensive universities) campaigned to have the exercise based on quality, not impact, meaning that they wanted it to be based on peer assessment. The technical universities, on the other hand, wanted a greater focus on measuring and accounting for the impact research had on social or economic problems—because these universities undertake a lot of applied, industry-connected research.

Since the assessment of the quality of researchers' outputs is the primary goal, it is perhaps no surprise that some researchers are wary for the following reasons:

- People are apprehensive about the outcome and how the results might be used. It has been mentioned that the principle behind the current research assessment regime is flawed and that this will lead to a hierarchy of outputs which will then give rise to a temptation on the part of managers and government to do something with this information—such as use it as the basis for funding allocation.
- The process of selecting and submitting research outputs can be a time-consuming and therefore burdensome undertaking.

Librarians are well-placed to get an overview of the downsides of the research assessment process since they are closely involved with collecting, processing and storing the required information. The key disadvantages are outlined below.

- The methodology for research assessment, particularly in science, technology and medicine fields, is inherently conservative and is, to a significant degree, dependent upon the relative impact and reputation of journals. The fact that the process promotes journals (at a time when many libraries are struggling to meet the increasing costs of journals) while not promoting other channels—such as university-based publishing or open access—is a cause for concern.

- The research assessment process puts the focus on individual disciplines, which creates something of a problem in terms of measuring inter-disciplinary research. Universities that have moved strongly towards collaborative research are concerned that the research assessment regime will not recognise or, therefore, value this shift. It has been stated that innovative, inter-disciplinary and collaborative research will in fact be disadvantaged and discouraged by the new research assessment process.
- The whole process of preparing for research assessment is very labour-intensive, not least in terms of finding and digitising research outputs and putting them into an archive. There is also a great deal of administration to do—though this is thought likely to diminish as the system beds down.
- The process inherent in the ERA involves ranking journals according to their relative importance. The ranking process has not been without controversy. There has been a desire by some, for example, to give a high rank to Australian journals when such a high ranking is not supported by citation metrics. The ranking of journals will also influence libraries' purchasing patterns, since they will be almost obliged to buy access to the highly ranked journals.
- Until recently the Australian government had no explicit plans to link the results of the ERA with their current funding allocation patterns. Now that there are indications that the government is proposing linking some funding with ERA assessment outcomes, librarians fear that some fields of study will lose out. On the other hand, some people think that the ERA outcomes should be linked with funding.
- Some universities take a wider view of “quality” than the suite of metrics currently being trialled with the ERA. This wider view may include judgements about, for instance, social engagement at a local and national level, the degree of influence an institution has, say, in impacting professional practice or where members of the faculty are opinion leaders or trendsetters. These sorts of impacts are likely to be largely overlooked by the current system.

The effect of research assessment on the values of the academy

According to research administrators there is some tension between the research assessment principle and traditional academic values though not to a significant degree. Senior research administrators are keen for their institutions to be on an improvement trajectory, but while researchers on the whole are keen to contribute to this goal, it is difficult to sustain in the medium term as people become exhausted. Apart from the workload, there is a general desire among researchers to pull together for the good of their institution within the assessment structure. Having encouraged this corporate improvement, research administrators worry about the prospect of the

assessment rules changing again in the future. As to whether the research assessment regime has the potential to change researchers' work-related behaviour in terms of what they choose to research, it is thought highly likely that they will be influenced by the strategic direction set out by government and institutions which will itself be informed by the research assessment process.

According to researchers, assessment can go hand-in-hand with traditional academic values and freedom, but there is the potential for tension because research assessment comes with a productivity implication. This may not worry tenured researchers as much as those at a less senior level. No-one likes being told what to do in terms of research, but if researchers seek funding, particularly large amounts of funding in subject areas that require big investment, then it makes sense to align research aspirations with the strategic goals of their institution and national funding organisations.

Researchers sense very keenly the potential impact of the research assessment process on the quantity and quality of teaching, and perceive this to be one of the key potential downsides of the focus of the current assessment regime on research. There is reportedly some anxiety among good teachers in the university sector that they will have to reduce their emphasis on teaching and focus more on research. It has been noted that many of the newer universities in Australia tend to prioritise skills development, curriculum reform and vocational training and there is a feeling that, within the new research assessment regime, teachers will begin to feel like second class citizens.

From a different perspective, librarians have seen a gradual tightening up on what people can research over the past thirty years, though this trend is likely to be accentuated as researchers increasingly factor into their research choices the needs of the research assessment process. In terms of institutional structures and their impact on what researchers choose to study, internal funding tends to follow identified priorities and, if people want to follow research interests that are not congruent with these priorities, they are increasingly required to find their own sources of external funding. Librarians who have insights into the activities of university presses in Australia have noticed that researchers are now less likely to try to start a new journal, propose new monographs or contribute to university press journals. Instead they seek to publish with publishers or journals that are likely to yield greater impact in research assessment terms. This is perceived to be a short term shift in publishing behaviour or aspirations mainly because the capacity of highly ranked journals is finite.

Internal research assessment

The degree to which individual institutions have conducted internal research assessments varies, as does the choice of factors to measure. Institutions keen to improve the standing of their organisation have used performance measures such as research income, grants and industry funding, but the goal was to facilitate management decisions and to encourage positive change

rather than to wield a big stick. Many of the factors that have hitherto been measured as part of an internal assessment programme do not form part of the current national research assessment regime.

Research administrators typically coordinate all the activity to do with research assessment and a key part of the role is maintaining good working relationships with the library and research directors. In common with universities around the world, Australian universities have struggled to come up with meaningful ways to measure outputs in the arts and humanities, though progress is now being made in these areas.

Researchers in the creative arts have had no incentive to undertake internal assessment because, until now, their work was not formally recognised by internal or assessment regimes. The ERA has put this right. In many fields internal assessment has taken the form of an annual performance review.

Research library involvement in research assessment support

Research administrators acknowledge the pivotal role libraries play in supporting their institutions' response to Australia's national research assessment regime. The existence of an institutional repository and librarians' skills and experience administering the repository is the basis for the library's operational contribution. In many institutions the relationship between the research office and the library has become more collaborative and fruitful with the passage of time, leading to libraries being involved with research assessment at many different levels, providing input to policy, conducting a lot of the operational work, and undertaking an advocacy role. As to the scope of librarians' contributions, they range from institutional to regional and national policy level.

It is often said that the extent to which the relationship between the library and the research office is fruitful depends to a reasonable extent on the strength of the professional relationships between the two. In situations where the research office and library are in conflict for whatever reason—personal disputes, competition for resources or power for instance—the outcome for the institution in terms of the efficiency and effectiveness with which they respond to the national research assessment challenge is believed to be impaired. Research administrators think the library's position as a focal point for the organisation has been enhanced by their role in responding to national research assessment requirements, and recognise not only the importance of the work related to running and populating the institutional repository, but also librarians' information skills.

According to senior researchers the role of their university libraries in supporting research assessment has been central. The general view is that libraries have been involved in this endeavour from the beginning and that librarians have good relationships with faculty members. The most visible aspect of the central role played by libraries in the minds of researchers is the

institutional repository. Librarians are known to manage the repository, but they are particularly valued for the role they play as curators of researchers' outputs, leaving researchers free to focus on research. Librarians are also recognised for their ability and often tenacity in guiding research outputs from their creators into an institution's repository.

Apart from their role in managing the institutional repository, researchers value librarians in relation to research assessment in other ways as well. Librarians have been active in providing advice and assistance to faculty members; many have been closely involved in the process of ranking journals for the purposes of ERA; and they have been providing advice on the role of citation analysis and the interpretation of citation data. The researchers to whom we spoke recognised a high level of collaboration between the library and the research office, and recognised also that in their own institutions library staff have been proactive in engaging with their institutions' responses to the research assessment regime.

In Australia the national government has been proactive in supporting the introduction of institutional repositories. This means that much of the infrastructure, together with the skills needed to support the collection, processing and storage of the research outputs required by the current research assessment process, were in place before the latest iteration of Australia's research assessment regime came into being. It also helped establish the central operational role of the library in the research assessment process. There are, according to librarians, many more benefits a library can bring to the process:

- The library is normally a cross-cutting part of an institution, having professional contact with all the faculties and administrative departments. This web of relationships supports the process of collecting research outputs from across the institution, liaising on an operational and strategic level with the research office (or its equivalent), and working with other relevant departments such as information technology.
- The library is also perceived to be unique in that it is involved with all parts of the information life cycle, from helping researchers to source the information they need to providing advice on bibliometrics. Some institutions take this further and provide expertise in data management planning and, ultimately, digital data curation. Their acknowledged information-related expertise means librarians are ideally positioned to be at the operational core of an institution's response to the research assessment process.

The importance of complying with national research assessment requirements has given librarians the opportunity to leverage their skills and experience, positioning or reinforcing the position of the library at the centre of the institution. This has not always been a natural process; it has involved ambition, re-skilling and the forging of collaborative working relationships with colleagues in the research office or the policy group tasked with managing the institution's response to the ERA.

While many of libraries' efforts are dedicated to the practical aspects of facilitating the research assessment process, together with providing advice to the research community, senior librarians are involved with the business of research assessment at a policy and strategic level.

Planning for the future

Research administrators see the research office as being the centre of an institution's response to the requirements of the national research assessment regime. This is their remit and they manage important information about research grants and what research is being undertaken. Views differ about the extent to which libraries can influence an institution's strategic response to national research assessment. Although librarians may not always have direct strategic input at the very top level of university management, they typically have input at a senior level into an institution's planning processes and they have a central role in the institution's operational response to research assessment imperatives. For the future, libraries may have an important role to play in respect of e-research.

Most libraries interact with researchers at an operational level, working to move research outputs from the creators' offices to the institutional repository and, from there, a relevant portion will contribute to the research assessment process. In addition to this regular workflow, innovative work is being done jointly by researchers and librarians to work out how to curate non-standard outputs. Creators of time-based arts such as dance or a show are working with librarians to consider the best way of making these outputs available for sustained peer review—possibly using digital video with annotation capabilities. Researchers in the creative arts recognise the value that can be added to their work through the use of rich media representations, and work with librarians to advance practice in these areas. Researchers are also open to discussions with librarians about the future of scholarly communications, such as the role of the institutional repository in supporting the open access model.

Senior librarians feel very much part of the strategic planning process; they typically produce their own strategic plan which feeds into the wider organisation's plan, but they also sit on many advisory committees and similar fora. It has been suggested that the prevailing culture in Australia makes for egalitarian and collaborative decision making so although the library may not be the controlling mind with respect to the national research assessment regime, there are clear opportunities to influence and contribute to the strategic planning process. In this respect, those libraries which have taken the opportunity to leverage their institutional repository experience and put themselves firmly in the midst of institutions' operational response to the research assessment challenge say they are reaping the political rewards in terms of enhanced visibility and recognition of their value within their institutions.

Best practice in support of research assessment

For research administrators best practice in research assessment means collecting a diverse evidence base so they can be confident that the outcomes are not unduly skewed by over-reliance on single points of measurement. They are also concerned with developing processes for collecting data and research outputs from academic staff that are somehow standardised. In terms of operational design ideally one should begin with knowing what reports will be needed to meet the needs of the research assessment regime and work backwards, considering what information should be collected and how it should be managed. Finally, research administrators recognise the importance of getting the right people together—librarians, senior researchers and research office staff—and nurturing beneficial working relationships between them.

According to researchers, there are a number of areas where attention should be focused in order to best support research assessment:

- There is a need to build skills and understanding around the role and mechanisms of peer review. Staff at all levels should be trained to do peer review effectively.
- Institutional repositories need to be managed to ensure research outputs are available over the medium to long term for sustained peer review.
- Some researchers think that in some fields, humanities for instance, research assessment should be based on disciplinary grouping where individuals are not identified.

From the library perspective, best practice means that libraries need to be well informed about the issues with respect to research assessment so they have credibility in their interactions with their institution's research office. Librarians also need to build relationships within their organisation, becoming “best friends” with colleagues in the research office and researchers. Librarians must also be prepared to work collaboratively, which is sometimes easier said than done. On a management level, there is a need for senior librarians to build staff skills in emerging areas and to manage the change process as the role of the library shifts. Finally, librarians need to work out where they can add value for their institution and be ambitious for their library.

Notes

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