A NEW ERA OF OPEN ACCESS?

Paul Mercieca and Peter Macauley

There has been a push for open access journals for more than a decade in a higher education and research environment in which the ‘publish or perish’ syndrome is as dominant as ever. This article examines the success, or otherwise, of open access schemes in light of the Excellence in Research for Australia (ERA) initiative. It compares the Australian Research Council draft list of journals, which will be used to rank academic output under the ERA initiative, with the Directory of Open Access Journals. If academic recognition is linked to journal prestige, how do open access journals rate in this context?


Paul Mercieca and Peter Macauley, School of Business Information Technology, RMIT University, GPO Box 2476V, Melbourne VIC 3001. E-mail: paul.mercieca@rmit.edu.au, peter.macauley@rmit.edu.au

Prior to the 2007 Australian Federal election, the Howard Government’s new funding model for research in the higher education sector, the Research Quality Framework (RQF), was being implemented. The RQF was a ‘work in progress’ and a means of determining ‘quality’ and ‘impact’ in research undertaken by universities, with universities being funding according to a yet-to-be-determined model. When the Rudd Labor Government swept to power in November 2007 the RQF was dismantled and replaced by the Excellence in Research for Australia (ERA) initiative. The ERA initiative is being developed by the Australian Research Council (ARC), in conjunction with the Department of Innovation, Industry, Science and Research, and aims to assess research quality using a combination of metrics and expert review committees. The focus on metrics makes the initiative extremely relevant to academic libraries. In this article we investigate and analyse the recognition, or otherwise, of open access journals in the ARC’s recently released draft list of peer-reviewed journals which will form the basis for the metrics used in the ERA.

The open access publishing movement is not new; for more than ten years it has promoted the use of networked communications to provide alternative models for the dissemination of scholarship. Although Harnad coined the phrase ‘scholarly skywriting’ in the early 1990s, digital repositories and open access journals did
not become a serious alternative to traditional publishing processes until the last few years. The Directory of Open Access Journals (DOAJ) lists 3 487 peer-reviewed journals (in July 2008), indicating that the opportunity to publish in open access scholarly journals continues to develop. When considering how academic and research output is recognised, however, it needs to be acknowledged that academic promotion processes may be in conflict with increasing support for open access modes of publication. For instance, as Houghton states,

promotion, tenure and funding allocations in universities and research institutions are often linked to publication in a few, leading, refereed journals. Scholarly communication and widespread dissemination of scholarship, on the one hand; and publishing in a few key refereed journals for the purposes of funding, promotion and tenure, on the other, are different and increasingly divergent, if not conflicting goals.

Commenting on the 2002 Association of Learned and Professional Society Publishers report ‘Authors and electronic publishing’, Steele indicates that fewer than 1% of academics considered direct financial reward to be their primary publishing objective. What attracts authors is the ability to communicate with their peer group (33%) and career advancement (22%)⁷. Although open access models of publishing may assist in the need to communicate with other academics and the community, the way in which research is evaluated has a major impact on career advancement.

Swan and Brown surveyed a random sample of authors across all disciplines and compared the responses of those who have published in open access journals with those who have not. When looking at the reasons for not submitting to open access journals, it was noted that the perceived low impact and low prestige of open access journals were raised as concerns. Each of these two concerns was identified by 69% of the respondents as a reason for not submitting to open access journals.

While this is only an indicative presentation of aspects of the debate around open access publishing, it draws together the concern for measurement of research recognition and what impact this may have on open access journals. If academic recognition is linked to prestige of journals, then how are open access journals rated within this prestige? This is the focus of this article.

THE JOURNAL LIST SOURCES

On 12 June 2008, the Australian Research Council (ARC) released a draft list of journals to be used as the basis for ranking journal and article submissions under the ERA initiative. Throughout this discussion, this list is referred to as the ‘draft ERA list’.

19 500 unique peer reviewed journals have been identified to form a draft list of ranked journals. Each journal has a single quality rating and is assigned to one or more disciplines defined by Field
of Research (FoR) code(s) (four-digit) ... A journal's quality rating represents the overall quality of the journal. This is defined in terms of how it compares with other journals and should not be confused with its relevance or importance to a particular discipline. There are four tiers of quality rating.

The draft list was developed in late 2007 by the four Learned Academies and a number of peak bodies, [who] undertook the initial journal ranking exercise to develop this draft for their relevant disciplines. The Learned Academies and other discipline peak bodies were asked to rank only those journals that are core to each discipline (for example, psychologists were asked not to rank journals in which they might publish from time to time but which could not be fairly considered as core journals to the psychology discipline).

While it is acknowledged that the journal list is a draft proposal and will probably change as individual academics, academic disciplines and universities examine the list, it does reflect a qualitative ranking developed and proposed by peak discipline bodies. The list, therefore, represents the initial attempt to determine journal rankings which will then reinforce the perceived prestige of the journals. The rankings include four tiers: A*, A, B and C. An aim of the journal ranking is to identify approximately five percent of the journals as being in the top tier – Tier A*. The distribution of the tiers is expected to vary slightly across disciplines, however, it will approximate: Tier A* (top 5%); Tier A (next 15%); Tier B (next 30%); and Tier C (bottom 50%). This ranking of journals extends the initial work completed for the RQF evaluation. The RQF also developed a journal ranking process and, although the change in Commonwealth government led to the development of a new research evaluation process, it is expected that the journal ranking processes for ERA will be similar to those developed for the RQF.

As assumption of this article is that Australian academics will use the ERA list as a means to develop their publication strategy; they will use it when selecting the journals to which they submit articles. If Australian academics are establishing publication strategies based on targeting the list's A* and A journals, then open access journals will need to be represented in the tier ranking if they are to be a focus for submission. The draft ERA list was developed by representatives of academics and discipline peak bodies. At the time of preparing this article, the draft list had been released for comment and academics and representative bodies were making recommendations on alterations to the list, to add additional titles or to change the initial ranking of some journals. This means that there is a degree of academic and discipline involvement in the development of the ERA list. It is acknowledged that there are other ranking lists, primarily that of the ISI ranked journals, which determine journal prestige and, therefore, help inform the publication strategy of academics. These lists were used by some disciplines, such as information systems, as a starting point when developing the ranking lists for the RQF. For this article, the ERA list is used as a focus for comparison with open access journals, as it is the list currently being developed as a primary indicator of research quality in Australia by the ARC.
To ascertain how open access journals are ranked, a comparison was made between the ERA list of ranked journals and the DOAJ. As is the case for all directories, the content changes as new titles are added; this article is based on a comparison made of the draft ERA journal ranking and the DOAJ as at 10 July 2008.

The draft ERA list consists of 19,533 individual titles. Discipline areas are identified in the list through the use of Field of Research (FoR) codes developed as part of the Australian and New Zealand Standard Research Classification (ANZSRC) documentation. The ANZSRC consists of 22 two-digit divisions (e.g., 08 = Information and Computing Sciences; 157 groups (e.g., 0807 = Library and Information Studies; 1 238 fields (e.g., 080706 = Librarianship). For this exercise, 155 FoR codes have been applied to the journal list, including two-digit divisions and four-digit groups. A number of journal titles are duplicated, as they have been assigned a ranking for more than one code. Thus the ERA list includes a total of 21,459 title entries, of which 1,926 titles are duplicated. Of those journals that are duplicated, 42 journals were given a different ranking for each of the FoR codes assigned to them. This is not surprising, as, although some journals cross disciplines, the disciplines they cross may differ in their views. An example of this occurs in the groups ‘Library and Information Studies’ (0807), and ‘Information Systems’ (0806).

Duplicate titles in the draft ERA list were managed in two ways. The aim of the comparison of the draft ERA journal list with DOAJ is to determine where open access journals are ranked. It was decided that where a journal title is duplicated in the ERA list, but ranked at different tiers by different FoR codes, the journal title would be included twice in the comparison with open access journal list. This means that the draft ERA list used in the comparison had 19,575 journal listings, of which 42 were duplicate listings. In the comparison of the open access list with the FoR codes in the draft ERA list, all records in the ERA list (including all duplicate titles) were used.

The aim of the DOAJ is ‘to increase the visibility and ease of use of open access scientific and scholarly journals thereby promoting their increased usage and impact.’ The directory represents journals from all discipline areas, so long as they are made freely available and demonstrate quality control through peer-review processes. DOAJ is constantly updated by the direct addition of journal titles. The list of journals used in this comparison was extracted from DOAJ on 10 July 2008 and contained 3,487 journal titles.

**COMPARING THE LISTS**

The premise of the ERA ranking list is that it will act as one measure of research quality within Australian university and research sectors. The rankings aim to differentiate the journals, so that for each FoR code, there are journals identified in Tiers A* and A as the ‘top’ rated journals. These are the journals academics target as a means to support their academic careers and promotion processes. It may be surmised, therefore, that for open access journals to survive, they need to be represented within these top tier journal rankings. If they are not, then the
use of the ERA journal ranking in selecting which journals to target in getting articles published will mean that open access journals will be overlooked.

Of the potential 3,487 open access journals, only 588 titles (16.86%) are represented in the draft ERA list of journals. Although there is an obvious difference in the size of the two journal lists, the ability to target open access journals is weakened by the limited percentage of open access journals that have actually been included on the draft ERA list of journals. The 588 open access journals in the draft ERA list constitute only three per cent of the ERA listed journals. It is acknowledged that one of the main reasons for the difference in the number of titles in the ERA and the DOAJ lists is the relative infancy of open access journals as a means of scholarly communication. With such a low level of representation of open access journals in the ERA list, however, the likelihood that Australian academics will target open access journals for publication diminishes.

Table 1 compares the rankings of all journals in the de-duplicated ERA list with the rankings of open access journals in the list.

<table>
<thead>
<tr>
<th>Rank</th>
<th>A*</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERA Journal List - Total</td>
<td>1,070</td>
<td>2,729</td>
<td>5,072</td>
<td>10,704</td>
<td>19,575</td>
</tr>
<tr>
<td>Open Access Journals</td>
<td>10</td>
<td>31</td>
<td>120</td>
<td>427</td>
<td>588</td>
</tr>
<tr>
<td>OA as % of ERA Journals</td>
<td>0.93</td>
<td>1.13</td>
<td>2.36</td>
<td>3.93</td>
<td>3.00</td>
</tr>
</tbody>
</table>

The raw journal counts presented in Table 1 indicate that only ten open access journals are listed within the top tier journals (A*) and 31 open access journals are represented in the second tier (A). The percentages presented in this table indicate a comparison of open access against all ERA journals for each tier level (excluding duplicate titles). Thus, in Tier A*, open access journals represent only one in 100 journals, and, in Tier A, one in 88 journals.

As indicated, the ERA ranking has prescribed a number of journals (based on percentages) for each tier of the ranking scale. The percentages attempt to maintain a smaller number of journals (5% for Tier A*) as the top tier journals in each FoR. Although the open access journals are spread across the tier rankings, the data in Table 2 suggests that, when compared with the tier weighting developed by the ERA consultation, open access journals have a greater representation in the lower rankings.

<table>
<thead>
<tr>
<th>Rank</th>
<th>A*</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERA Journal List</td>
<td>5.46</td>
<td>13.94</td>
<td>25.91</td>
<td>54.68</td>
<td>100</td>
</tr>
<tr>
<td>Open Access Journals</td>
<td>1.7</td>
<td>5.27</td>
<td>20.4</td>
<td>72.61</td>
<td>100</td>
</tr>
</tbody>
</table>
That is, while the ERA ranking preserves 5.46% of the journals as Tier A*, only 1.7% of the open access journals are ranked as A*. In the lowest ranking (Tier C), however, while the ERA ranking aims to have 50% of the journals (actual 54.68% across the total list) listed as Tier C, this tier includes 72% of the total number of open access journals listed in the rankings.

Although open access journals are included in the ERA list of journals, their distribution across the rankings does not match that of the percentage breakdown developed for the total ERA list. This implies that only a limited number of open access journals are identified by this ranking process as being of a ‘high quality’. It appears that, generally, open access journals are grouped among lower ranked journals, as illustrated by the large percentage of open access journals ranked in Tier C.

FIELD OF RESEARCH AND OPEN ACCESS JOURNAL RANKING

The limited number of open access journals in the draft ERA list could conceivably have an impact on submissions to these journals. Because of the perceived need among academics to target highly ranked journals, the low representation of open access journals in the higher rankings supports an expectation that targeting of open access journals for submission may be limited.

The draft ERA list of journals assigns the journal titles to 155 different FoR codes. It should be noted that while there are more than 155 research codes, some of these do not have any journals allocated to them in the ERA list. The ranking of the journal titles across the FoR codes was analysed to determine whether the open access journals that are listed are clustered into particular research areas.

Open access journals were listed in 114 of the 155 FoR codes. Thus 73.55% of the research areas include some open access journals. Although the number of journals, obviously, varies among the different fields, the median number of open access journals in the research fields is two.

Different fields of research may provide different opportunities for publishing in open access journals. This difference is dependent on the ratio of open access to closed access journals within the research field, as well as where the open access journals are ranked. Unless academics are making an active choice to select open access journals, the potential for open access journals to attract submissions becomes dependent on how widely the open access journals are available to academics. That is, if an academic is targeting Tier A* or A journals and there are a substantial number of open access journals in that ranking in their field of research, then the possibility that the academic will target an open access journal increases.

Comparison of the number of open access journals in the ERA list with the total number of journals within the ERA list determined that open access journals make up only three per cent of the ERA journals. If a particular field of research was engaging with open access journals, then it would be expected that the percentage of open access journals to commercial journals in that field would be higher than three per cent.
Practitioners in the library and information community have generally been supporters of open access processes, or are, at least, well aware of the debates around open access issues. Academic libraries have developed repository infrastructures for submission of articles and, in Australia, some of the university-based e-presses have adopted an open access model for their publication processes. The reporting of research associated with this discipline has been assigned the FoR code 0807 – Library and Information Studies. If the reporting of research for this code was to match the interests of the practitioner community, then there would be an expectation that journals ranked for this code would include open access journals as a focus for publication. The journal ranking for FoR code 0807 was extracted from the ERA list and the journals were compared with the DOAJ listing. This comparison is presented in Table 3.

Table 3: Library and Information Studies Journals

<table>
<thead>
<tr>
<th>ERA Journal Ranking</th>
<th>Library and Information Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A*</td>
</tr>
<tr>
<td>ERA Journals</td>
<td>12</td>
</tr>
<tr>
<td>Open Access Journals</td>
<td>1</td>
</tr>
<tr>
<td>OA as % of ERA journals</td>
<td>8.33%</td>
</tr>
<tr>
<td>% Breakdown of OA Journals Across Ranking</td>
<td>7.69%</td>
</tr>
</tbody>
</table>

Out of the 158 journals proposed for this research area, 13 are open access. This equates to 8.23% of the journals listed for this FoR. While this percentage is higher than the percentage of open access journals in the ERA list overall, it still does not indicate a major take-up of open access journals. By their nature, lists such as the draft ERA list are selective and will never include all possible journals available in a discipline. In selecting journals for publication, academics look at ways of identifying ‘quality’ within a journal. Peer-review processes and academic editorial boards assist in identifying quality journals. So too do ranking lists, whether they are lists such as the draft ERA list or citation ranking and ISI lists. If the ERA list is used as a measure of quality, then only 13 open access journals related to Library and Information Studies have received this acknowledgement. This may certainly be a valid decision, but it presents the ‘catch 22’ for open access journals. Is the potential for open access journals (or any new journal) to establish a brand of quality diminished because academics will target journals on lists such as the ERA list? If academics wish to actively support open access journal publications, will they publish in open access journals outside the ERA list? Or will the ratio of open access journals on the ERA list change their preference for publication?

The DOAJ does not use a standard coding system for discipline areas or research fields. It does, however, assign keywords to each title in the directory. There seems to be some variance in how these keywords are used, but for journals relevant to the 0807 ERA FoR code, keywords used in DOAJ include ‘Librarianship’, ‘Library and Information Science’, ‘Library and Information Services’, ‘Library
Research’ and ‘Library Technologies’. These keywords were used to determine how many of the journals listed in the directory may have relevance to the 0807 FoR code. The term ‘information science’ is also used in the list to describe some computer or information systems journals. Thus the term ‘information science’ was only counted if the journals for which it was used had a library focus and not a programming or hardware focus. Using these keywords, 54 journals in DOAJ were identified as having relevance to the 0807 research code.

As indicated in the figures in Table 3, 13 open access journals have been included in the ‘Library and Information Studies’ field of research in the ERA listing. This means that this field of research has adopted 24% of the potential number of available open access journals. Compared to the overall percentage of open access journals within the ERA list, this is a good sign of support for open access journals. However, it still means that three-quarters of the potential open access journals have not been recognised and will probably not be targeted by academics for publication.

The active adoption of open access journals as a publication process is hindered by a number of barriers when lists such as these are compared. Obviously there are more established print/commercial journals than current open access journals. This means that when publication lists such as the draft ERA list are developed the ratio of open access to closed access journals will not be even, thus reflecting the comparisons suggested in this article. This means, therefore, that, if academics use lists such as the ERA list to guide their publication strategy, the likelihood of targeting an open access journal is reduced.

Table 3 indicates how the open access journals are spread across the four tiers of the ERA ranking. While only one journal has been ranked as Tier A* (School Library Media Research), the other open access journals are relatively evenly distributed across the remaining tiers.

Until the ERA list is finalised and publication patterns monitored over the coming years, it is difficult to predict accurately whether library and information studies academics will publish more in open access journals. Judging from the ‘publish in top tier journals or perish’ syndrome, however, it is unlikely the current trend will change.

An examination of other fields of research indicates where the adoption of open access journals may be clustered. FoR code 11 (Medical and Health Sciences) has 21 open access journals as part of their ERA list. This equates to 12.3% of the total journals for this research field (164 journals). While this percentage of open access journals is four times higher than for the whole ERA journal list, all of these 21 journals have been ranked as Tier C. Of the 53 journals listed for the FoR code 08, Information and Computing Sciences, ten journals are open access, representing 18.87% of the journals for this field of research. This ratio of open access to closed access journals has the potential to increase the likelihood of submission to open access journals. These open access journals have also been ranked, however, in the lower tier levels, with two journals in Tier B and eight in Tier C.
Astronomical and Space Sciences, FoR code 0201, has only two journals, out of a total of 44 journals in the field, listed as open access. In this field only two journals are ranked as Tier A* and one of these is an open access journal. If academics are to actively target this top tier for their publications, this means there is a 50% chance that their work will be available through open access journal publication.

POTENTIAL IMPACTS ON PUBLICATION PATTERNS

It is assumed that as the draft ERA list is finalised and ultimately adopted as the prescribed list of research recognised journals, Australian academics will use this list as a basis for developing their ongoing publication patterns. While it is difficult to predict the impact of this list for all academic disciplines or fields of research, the list does not seem to be supportive of a migration to an open access publication pattern. It is predicted that the overall limited number of open access journals on the ERA list will restrict take-up of open access journals. If academics strive to publish in Tier A* and Tier A journals, open access journals will not form part of the publishing strategy in most fields of research. This may not be the case in all fields of research, as in some research areas, such as Library and Information Studies, a greater number of open access journals than other discipline areas have been included. Although this may still not lead all academics within that field to submit to open access journals, it may increase the likelihood of such journals being included within their publication strategy.

Where open access journals have been included within the ERA list, they have predominantly been ranked within the lower tiers of the ranking scale. This suggests that, in general, open access journals are seen as not having the highest research quality. Obviously some open access journals are recognised as being of the highest quality (by their A* and A ratings), but such journals make up only 6.9% of the open access journals included in the draft ERA list.

As early career academics begin their publication processes, however, they may submit to the lower ranked journals. Although an academic may aspire to publish in Tier A* journals, submissions to these journals are usually only accepted once the academic has established a publication history. Not all academics will get the opportunity to publish their articles in top ranked journals. An overall comparison between the draft ERA list and the DOAJ reveals that, although many of the open access journals are ranked as Tier C, they only make up 3.9% of all journals in this tier. Therefore, submitting more articles to lower ranking journals does not necessarily mean submission to open access journals. In some disciplines, however, such as FoR code 11 Medical and Health Sciences, where open access journals are predominantly in the lowest tier and make up 15.33% of the journals within that tier, there may be a slightly increased chance of submission to open access journals by emerging academics.

As the ERA list of journals is finalised, its ongoing impact on submission patterns should be monitored. Australian academics are currently providing comment on the list, so will this lead to more open access journals being included in the final list? Once the list has been adopted, it may be a major factor influencing whether Australian academics actively contribute to open access journals.
NOTES


12. Steele op cit.