AUSTRALIAN SOCIETY of ARCHIVISTS Inc.

Journal quality:
An analysis of
Archives and Manuscripts

Margaret Pember & Roberta Ann Cowan

Presented at: *Archives: Discovery and Exploration*
Perth 6-9 August 2008

ISBN: 978-0-947219-19-2

JOURNAL QUALITY: AN ANALYSIS OF *ARCHIVES AND MANUSCRIPTS*

Margaret Pember

Department of Information Studies, School of Media, Society and Creative Arts
Curtin University of Technology

Roberta Cowan

Santa Maria College and Murdoch University Library

Abstract

In 2007 an online questionnaire circulated to the listservs of the recordkeeping profession via the Australian Society of Archivists (ASA), the Records Management Association of Australasia (RMAA) and Archives and Records Association of New Zealand (ARANZ) identified the TOP TEN professional journals read by recordkeeping practitioners (archivists and records managers) in Australasia.[1]

Respondents to the survey answered general demographic questions and questions regarding their qualifications and preferences about the content of an informative professional journal. The main focus of the survey was on professional reading and 39 recordkeeping journals were presented for analysis by respondents. Of these, fourteen Australasian and international journals were identified as 'archival' rather than records management in content. This paper focuses on the descriptive methods of ranking journals to indicate quality of content. The Australian Society of Archives journal, Archives and Manuscripts, is used as an example.

1. Introduction

There are two basic ways to assess journal quality: either a subjective analysis carried out by a cohort of professionals such as that done for the Excellence in Research for Australia (ERA) Initiative, or an objective assessment done by citation analysis. Both have a valid place in an assessment of journal quality.

Citation analysis as an indication of research standing is not a new concept.[2] It looks at how works are used (author citation analysis, author impact factor); how new methods infiltrate discipline fields (methodological impact factor); and how particular publications affect fields (journal citation analysis, journal impact factor). Journal citation analysis has become a field in its own right.[3]

The most familiar form of journal citation analysis is that produced for a suite of journals indexed by Thomson Reuters known as the Journal Citation Report (JCR). It offers a systematic, objective means to critically evaluate the leading international journals, with quantifiable, statistical information based on citation data.[4]

The results of the citation analyses and impact assessment are of particular value to professional recordkeepers, be they archivists or records managers, researchers or the professional association that is serious about publishing a high quality professional archives journal. The results should also be of value to those interested in the Excellence in Research for Australia (ERA) Initiative (which replaced the now defunct Research Quality Framework or RQF[5]). The ERA Initiative, spearheaded by the Australian Research Council (ARC), will assess research quality using a combination of metrics and review by committees consisting of experienced, internationally-recognised experts in eight specific discipline areas or clusters.[6] According to the Minister for Innovation, Industry, Science and Research, Senator Kim Carr, 'ERA will be streamlined, transparent, internationally verifiable, cost-effective, and based on quality measures appropriate to each discipline. It will compare Australian researchers not just with each other, but with the best in the world'.[7] It is particularly important to researchers because it is linked to

the distribution of research funds by the Commonwealth Government. Without access to this funding, research activity is seriously limited.

As one would expect, the ERA Initiative has many similarities to its predecessor, the RQF, and for details on how the scheme will finally operate successive visits to the ARC website are recommended. It is certain that citation of publication will be a metric used. This immediately raises the question of publication quality.

One of the indicators to be used to support the ERA Initiative is a ranking of the peer-reviewed journals in which researchers publish. The ARC began this exercise by creating a list from two citation databases—*ISI Web of Knowledge* (WoK) from Thompson Reuters (formerly the Thompson Corporation) and *Scopus* from Elsevier. This provided a list of 15,000 ranked journals.[8] This original journal classification was based on the quantitative analysis done by WoK and *Scopus*. The ARC then asked a number of bodies,[9] including the Australian Academy of the Humanities and the Australian Library and Information Association (ALIA), to review the list and add further titles. The additional journals were identified and ranked by these bodies, not through quantitative analysis but rather a qualitative analysis exercise (A+, A, B, C).[10] To date, almost 20,000 journals across a broad range of discipline areas have been identified and ranked. This second (qualitative) phase of the ranking process is currently being finalised.[11] The final ARC-endorsed list will be the *only* list of journal rankings used in the ERA Initiative.

From an analysis of the journals currently on the ERA list[12] it appears that about 6% of titles are considered A+, 15% are A, 26% are B, and 53% are C class. The higher the journal ranking the greater impact the publication is considered to have on the global research community by ERA. Thus, the outcome of this exercise on individual journals will have serious implications for the choices researchers make about where they publish. A draft list of journal rankings can be accessed on the ARC website.[13]

Recordkeeping research classification

The research classification to be used under the ERA Initiative will be the Australian and New Zealand Standard Research Classification (ANZSRC), 2008 (which replaced the 1998 Research Fields, Courses and Disciplines — RFCD codes). Each research area and hence relevant professional journal is assigned to one or more classifications as defined by the hierarchical three-level Field of Research (FoR) code.[14] Archives are classified under Division 21: History and Archaeology; Group 2102: Curatorial and Related Studies; and 210201: Archival, Repository and Related Studies. Records management is more problematic as it is split into two separate areas: 080708 Information and Computing Sciences: Library and Information Studies: Records and Information Management (excluding Business Records and Information Management); and 150301 Commerce, Management, Tourism and Services: Business and Management: Business Information Management (including Records, Knowledge and Information Management and Intelligence).

As a first step to rating professional journals it is critical to identify the journals that recordkeeping professionals actually read and it was to this end that the survey of journals was conducted.

2. Methodology

The online survey tool, SurveyMonkey,[15] was used to gather data from respondents. The main section of the survey dealt with the professional reading habits of recordkeeping practitioners in Australasia through an assessment of the journals they read. Only journals classed as 'refereed' and/or 'scholarly' were selected for inclusion in the survey. The only exceptions to this were the journals of the three professional bodies related to recordkeeping in Australasia[16] – these were included even if not formally classified as 'refereed'. Respondents were asked to apply the ranking system provided to each of the journals listed.[17]

Correspondents were asked about professional reading, their own professional writing, what they would like to see in the utopian recordkeeping publication and demographic questions.

3. Information about respondents

It was interesting to note that the largest response, almost one quarter, came from Western Australia. This was followed closely by New Zealand at 21%. The vast majority of respondents with professional affiliation (70%) belonged to only one professional association. Twenty-two percent of respondents belonged to two professional associations and eight percent to three professional associations. The most common dual affiliation combination was RMAA/ASA, followed by RMAA/ARANZ.

Overall 56.5% of the respondents had a tertiary qualification in information management. A further 13% were currently studying in the discipline area.

Almost half (48.8%) of the respondents were over 45 years old. Although mid-career and older practitioners were well represented in the survey, the survey did not attract much response from younger recordkeeping practitioners.

Nearly three-quarters of the respondents indicated that they worked in multiple areas of recordkeeping such as archives and document management. Of those respondents working in multiple areas, almost three quarters (71.9%) indicated that they worked in current records management and almost two thirds in archives (65.6%). In fact, two of the 160 respondents to the question worked in all areas except manuscripts. The 'other area' responses included those working in policy and standards development, in an advisory role, and as educators. Of those respondents working in a single discipline area, 14.4% worked in archives, 9.4% in current recordkeeping, 4.4% in information management, 1.3% in document management, 0.6% in knowledge management, and 0.6% in manuscripts.

About three quarters (77.2%) of the respondents answered the question about choice of journal format. Over half (54.4%) of these noted that they still preferred a hardcopy journal format. Over a quarter (28.8%) indicated that they had no preference; and only 16.8% specifically preferred electronic access. A cross tabulation of the responses to the question on 'hardcopy vs electronic format' with age, shows that all respondents over 25 preferred hardcopy over electronic format, and this preference increased with age.

4. Assessment of journals

The journals presented for assessment in the survey included publications with a broad focus on archives, records management, and knowledge management, etc. Each journal was classed as academic/scholarly by Ulrichs (other than *Informaa Quarterly*[18] and *Archifacts*). Each journal was refereed (other than *Archifacts*), and each journal has the majority of its text in English. Respondents were asked to 'classify' or 'rank' each journal according to personal perceptions of its research value, using the specific rankings described in the survey. The majority of the journals were not Australasian as there is a dearth of such publications. Consequently it was expected that respondents may never have seen some of the journals listed. Respondents were asked to rank any journals that fell into this category separately.

It was expected that many journals would be so obscure that they would not be read at all by Australasian recordkeeping professionals. However, 38 of the 39 titles listed (97.4%) were read by at least one recordkeeping professional responding to the survey.

As one might expect, the primary readers of *Informaa Quarterly*, *Archives and Manuscripts* and *Archifacts* are the respective memberships of each professional association. 82% of respondent RMAA members read *Informaa Quarterly*; 78% of respondent ASA members read *Archives and Manuscripts*; and 74% of respondent ARANZ members read *Archifacts*.

5. Top ten recordkeeping journals

The ten most widely read recordkeeping journals in Australasia were identified from the choices made by respondents in the survey. The majority of the thirty nine journals in the survey had a very small readership, mostly between 3% and 10% of respondents.

The most widely read journal by far was *Informaa Quarterly* (84.1%). This was followed by *Archives and Manuscripts* (52.1%). *Archivaria* headed the list of non-Australasian publications with a readership of 35.8% of respondents. It is interesting to note that, although read by only 28.9% of respondents, *Archifacts* (ARANZ) still made the list of top ten publications read by recordkeeping professionals in Australasia. For a complete listing of the TOP TEN journals see Table 1.

Table 1: The top ten journals read by recordkeeping practitioners in Australasia

	Journal Title	Response Percentage Respondents	Response Total n = 160
1	*Informaa Quarterly*	84.1%	106
2	*Archives and Manuscripts*	52.1%	63
3	*Archivaria*	35.8%	42
4	*Society of Archivists Journal*	33.9%	39
5	*American Archivist*	31.9%	38
6	*Information Management Journal*	30.7%	35
7	*Records Management Journal*	30.7%	35
8	*Archifacts*	28.9%	35
9	*Archival Science*	18.4%	22
10	*Information & Management*	17.9%	21

IDM Image & Data Manager was rated as the most useful 'other' publication read by respondents (41%). It was not included in the list of journals presented for analysis as it is considered a 'trade magazine' rather than a refereed and/or scholarly publication. No 'other' publication was read by more than 5% of respondents.

6. Quality of journals

However, evidence of journal readership is not necessarily evidence of 'quality' *per se*. As noted earlier, journal quality can be a qualitative measure—usually done by surveying appropriate professionals and asking them to grade the journal and its content; or it can be a quantitative measure—usually done by citation analysis of journal content.

Respondents were asked to rank all journals listed by name (including the 14 archival journals) according to the perceived content value, such that A class journals provided key theoretical information for the discipline area and B class journals provided information about the more practical aspects of the profession. C class journals indicated a provision of broader professional reading beyond the respondents' current area of employment, while the D classification indicated a lack of access to the journal in the past five years[19] and so has not been included in this analysis beyond a simple listing in Table 2 below.

As previously noted, this type of qualitative assessment by professionals in the various discipline areas is how Phase 2 of the ERA journal ranking exercise was done.[20] And some archival journals do appear on the ERA listing: these titles are the *Society of Archivists Journal* (currently listed as an A class journal), *Archivaria* (currently a C class journal), *Archives and Manuscripts* (currently a C class journal), and

Information Development: The International Journal for Librarians, Archivists and Information Specialists (currently C class). It is the scarcity of archival titles on the ERA list and the relatively low ranking levels of these journals that should be a concern for the archive profession.

Of particular note is the long and passionate discussion in the library profession about this ranking of journals and their efforts to have them classified at a higher level.[21]

7. Qualitative analysis of archival journals by respondents

The Pember/Cowan survey responses provided data for a qualitative assessment of the professional journals. The journal rating highest with respondents was *Archives and Manuscripts*. Just over one-quarter (27.3%) of the respondents indicated that *Archives and Manuscripts* should be considered A class. *Archivaria, American Archivist, Archival Science* and *Comma,* were also rated as A class. The *Society of Archivists Journal* and *Archifacts* were rated as B class. A number of journals straddled the rankings, for example, *Library and Archival Security* was considered as A, B, or C class, depending on the perspective of the respondent (Table 2).

Table 2: Qualitative ranking of archive journals by survey respondents

Journal Title	Journal Class	Response Percentage Respondents
Archives and Manuscripts	A	27.3%
Archivaria	A	20.5%
American Archivist	A	16.8%
Archival Science	A	9.2%
Comma	A	6.8%
Library and Archival Security	A/B/C	4.5%
Society of Archivists Journal	B	18.3%
Archifacts	B	14%
Archival Issues	B/C	9%
Information Development: The International Journal for Librarians, Archivists and Information Specialists	B/C	6%
African Journal of Library, Archives & Information Science	C	2.5%
RBM: A Journal of Rare Books, Manuscripts and Cultural Heritage	C	1.8%
Archiwum Informatyki Teoretycznej i Stosowanej	C	1.7%
Suid-Afrikaanse Argiefblad	D	100%

When compared to the ERA Initiative percentile, respondents ranked a far greater percentage of archival journals at the A class level: 41% against 21% for overall ERA rankings. The percentage of journals ranked at the B class level was very similar between the survey and the ERA listing. Because of the greater number of journals assessed at the A class level in the survey there is a correspondingly lower number of survey rankings at the C class level when compared to the ERA listing (Table 3).

Table 3: Comparison of ERA journal ranking and survey ranking of archives journals

Journal Class	Journal Ranking (n)	ERA Initiative Rankings
	n = 13[22]	n = 20,000[23]
A+ & A class journals	41% (5.34)	21%
B class journals	25% (3.33)	26%
C class journals	34% (4.33)	53%
	100%	100%

8. Quantitative assessment of journal quality

Quantitative assessment of journals is very different from the qualitative assessment discussed above. Quantitative analysis focuses on the objective measurement of various factors related to citation analysis (metrics). The following section of the paper looks at quantitative analysis of journals with a focus on *Archives and Manuscripts.*

Quantitative analysis of journal quality can be done using various techniques, for example, a count of article citations in a particular time frame or the number of journals in which articles from a particular journal are cited (Garfield, 1955; Haddow, 2008).[24]

The most commonly discussed analysis of journal quality is that produced for a suite of journals indexed by Thomson Reuters known as the Journal Citation Report (JCR). The JCR analyses about 7,600 international peer-reviewed journals from 3,300 publishers. It provides a 'systematic, objective way to evaluate the leading international journals and their impact and influence in the global research community'.[25] Two JCR Editions, the Science Edition and the Social Sciences Edition, are issued on an annual basis.

Scopus (Elsevier)[26] also indexes over 15,000 peer-reviewed journals (science, technology, medicine and social sciences) from more than 4,000 publishers.

A journal does not just magically 'get on the list' of journals indexed by Thomson Reuters or Elsevier just because it is considered a 'quality' journal by professionals in a discipline area. There is usually a formal application process. For example, Elsevier actively encourages researchers to submit new titles for consideration for *Scopus* and has a special 'Title Suggestion Form' for this purpose.[27] New titles are reviewed annually by the Content Selection and Advisory Board. The deadline for the next round of applications is 1 September 2009. Journals approved by this Board will then be added to the list for 2010. The process with Thomson Reuters is very similar.[28] Perhaps this is an area where the professional associations, as publishers of professional journals, could have a significant impact by putting forward their particular journal for consideration at a higher level?

The JCR uses a number of calculations developed to measure the impact of a journal. The main assumption of the JCR is that researchers cite only relevant research and that current research is more important than older research.

The JCR consists of the total cites (number of article citations in a given year), the impact factor, the immediacy index and the cited half-life for articles in that journal. Similar techniques to those of the JCR were used to provide a quantitative analysis of *Archives and Manuscripts.* This journal was chosen for analysis because it was assessed as the lead quality journal by respondents to the 2007 survey.

9. Quantitative analysis of *Archives and Manuscripts*

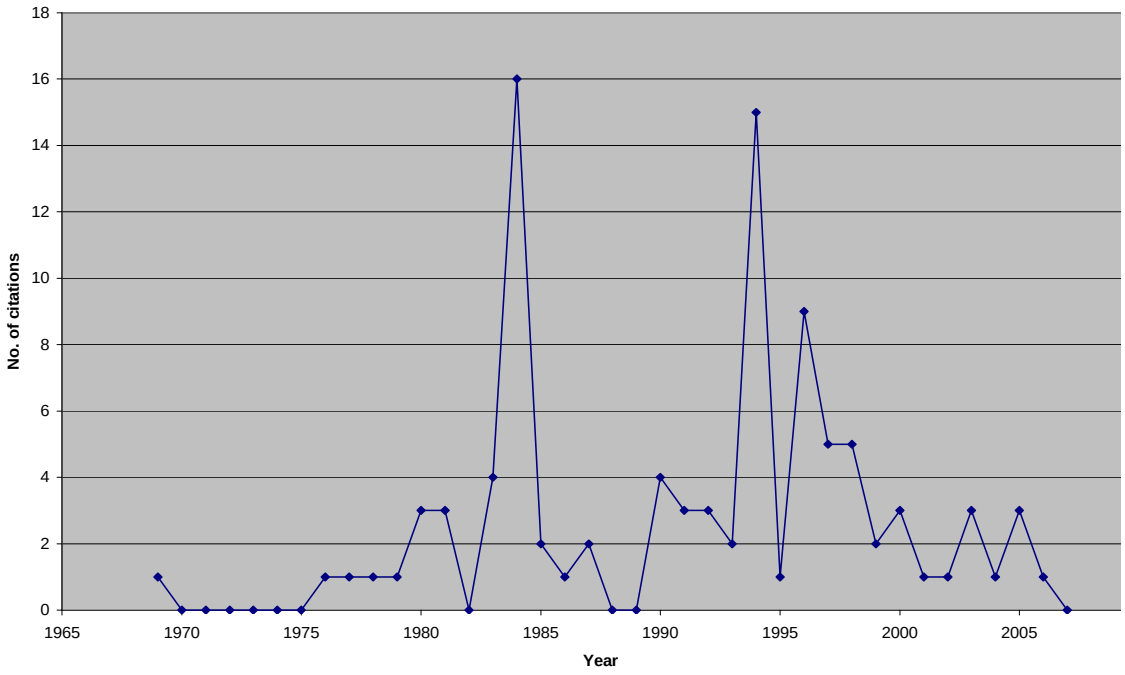
Despite the large number of journals on the list analysed by Thomson Reuters for the JCR, none of the archival journals listed in Tables 1 or 2, including *Archives and Manuscripts,* is among them. We can, however, by using the data gathered from databases such as WoK, provide a quantitative assessment of a

specific journal by studying the frequency and patterns of citation. Any such assessment will consist of a number of different citation techniques, e.g. impact factor and immediacy index.

Total cites (total number of citations in any given year)

The total number of citations (total cites) is a very significant factor in the assessment of journal quality. The calculation refers to the total number of citations to articles in a given journal in any given time period. Most large scholarly databases are not designed to retrieve data about references cited by authors, but the WoK (ISI), *Scopus* (Elsevier) and *Business Source Premier–BSP* (EBSCO) can be examined to provide citations data. A search of these three databases for citations to articles in *Archives and Manuscripts* did not return any citations from *BSP* or *Scopus*, but there were 102 citations from *WoK* spanning the years 1969 to 2007 (Figure 1).

Figure 1: Citations of articles from *Archives and Manuscripts* using data from *Web of Knowledge*



Archives and Manuscripts normally has around 1–3 citations a year in the journals indexed by WoK. In the time period analysed a number of 'blips' or high citation episodes can be identified. 1984 and 1994 were good years for *Archives and Manuscripts* with peaks of 16 and 15 citations respectively. There was also an increased number of citations in 1996.

The 1984 citation 'blip' is curious because, unlike the other blips, all the cited articles were cited only once: there were 16 articles published and all 16 articles cited. That is, every article in the 1984 volumes were cited somewhere in a journal indexed by WoK. The 1994 citation 'blip' is readily explained as there was a theme issue on electronic records, which included articles such as Bearman's[29] paper on managing electronic mail. The 1996/1997 'blips' are attributed to papers focusing on the Continuum (e.g. Upward[30]).

In terms of total cites journal rankings vary greatly. For example, the Social Science Citation Index (SSCI) journal with the highest 'total cites' score in 2007 was the *American Journal of Psychiatry* [31](ERA A+ class) with a score of 38,989 cites. In the LIS journal set[32] *MIS Quarterly*[33] scored highest with 4,329 cites (ERA A+ class).

For the purpose of this paper 16 journals, four from each ERA rank, were selected from the SSCI for comparison. Eleven of these journals were from the LIS journal set. From the JCR for these 16 journals the total cites in 2007[34] for journals with an ERA quality rating of A+[35] ranges from 250 and 9,500 cites; an A journal ranges from 83 and 2,780 cites; a B journal ranges from 70 and 360 cites, and a C journal ranges from 10 to 380 cites (Table 4).

Table 4: Correlation of total cites 2007 and ERA journal ranking

Total Journal Cites	ERA Journal Ranking
250–9,500	A+ class journal
83–2,780	A class journal
70–360	B class journal
10–380	C class journal

You will note that there is quite some discrepancy between total cites and ERA ranking. This is because total cites is just *one* factor impacting on the quality ranking. For example a journal with only 250 cites may still be considered an ERA A+ journal because it has a very high impact factor (IF), whereas a journal with 2000 cites may be ranked at the B class level because it has a relatively low impact factor.

For *Archives and Manuscripts* in 2007 the total citation number indexed by WoK was zero (Fig. 1). If one considers the total cites over the period 1969 to 2007 *Archives and Manuscripts* cannot be ranked higher than an ERA C class journal for any year.

Journal impact factor

In its simplest form the journal impact factor (IF) is a measure of the frequency of article citation given as a ratio of the total number of citations of journal articles in a given period over the total number of articles published in the journal for which the analysis is being done over the same time period (see Egghe, 2008).[36] For the JCR the IF is calculated over the preceding two-year period.

In 2007 the highest rating journal (*Behavioural and Brain Science*[37], ERA A+ class) of the 1,865 journals included in the SSCI had an impact factor of 17.462. In the LIS journal set *MIS Quarterly* scored highest with 5.826 (ERA A+ class).

Using the 2007 edition of the Social Sciences JCR for the comparison journal subset, the range of journal impact factors for journals with an ERA score of A+ is between 0.556 and 5.826; for A class journals between 0.533 and 2.573; for B class journals between 0.245 and 0.638; and for C class journals between 0.136 and 1.241. Again there is considerable overlap of journal impact factor across the ERA rankings (Table 5).

Table 5: Correlation of 2007 Social Sciences JCR impact factor (IF) and ERA journal ranking

Journal Impact Factor	ERA Journal Ranking
0.556–5.826	A+ class journal
0.533–2.573	A class journal
0.245–0.638	B class journal
0.136–1.241	C class journal

The journal impact factor for *Archives and Manuscripts* for 2007, based on the previous two years (2005–2006) using data extracted from WoK, is 0.1538 (Table 6).

Table 6: Calculation of impact factor for *Archives and Manuscripts* 2007

Year	Citations of A&M (n)	Articles in A&M (n)	Impact factor (IF)
2005	3	12	-
2006	1	14	-
IF 2007	Total citations = 4	Total articles = 26	IF = 4/26=0.1538

Archives and Manuscripts (IF = 0.1538) would be ranked at 1,747th out of 1,865 in the SSCI. The IF calculated for *Archives and Manuscripts* indicates that it is correctly rated as a C class journal in the ERA list (cf. Table 5).

Immediacy index

The immediacy index is the 'average number of times a journal's current articles are cited in the year of publication'.[38] It is particularly important in discipline areas where the speed of research communication is paramount. It is expressed as a ratio of the number articles cited in any journal in that publication year. For example, the 16 citations to *Archives and Manuscripts* in 1984, when divided by the total number of articles in *Archives and Manuscripts* for 1984 (15), give an immediacy index for 1984 of 1.06.

In 2007 the *American Journal of Bioethics*[39] (ERA C class) had the highest immediacy index in the full list of SSCI journals with a score of 9.800, whereas *Interlending & Document Supply*[40] (ERA A class) scored the highest in the LIS subset with a score of 0.806.

Using the 2007 edition of the Social Sciences JCR for the comparison subset of journals, the immediacy index assessed as A+ in the ERA list is between 0.080 and 0.368; for those assessed as A class between 0.031 and 0.806; those assessed as B class between 0.0 and 0.225 and C class between 0.0 and 0.343 (Table 7).

Table 7: Correlation of 2007 Social Sciences JCR immediacy index and ERA journal ranking

Journal Immediacy Index	ERA Journal Ranking
0.080–0.368	A+ class journal
0.031–0.806	A class journal
0.0–0.225	B class journal
0.0–0.343	C class journal

When the immediacy index is calculated for *Archives and Manuscripts* for the year 2007, the result is zero (Table 8).

Table 8: Immediacy index *Archives and Manuscripts* 2007

Year	Citations of A&M (n)	Articles in A&M (n)	Immediacy Index
2007	0	8	0/8=0

When compared with data in Table 7 *Archives and Manuscripts* is placed in either B or C class in the ERA journal rankings based on the immediacy index.

Cited half-life

Journal citing or cited half-life refers to the median age of the articles cited by that journal. In order for a journal to have a cited half-life it must have at least 100 cited references in the year for the JCR. Journal cited half-life is calculated on 'the number of publication years, going back from the current year that account for 50% of the total citations from articles in a journal in a given year'.[41] Journal self-citations are not included in cited half-life calculations. For example, **if** in the 8 articles in *Archives and Manuscripts* in 2007 there were 200 citations which spanned the years 1969 to 2006, and 100 of these spanned the years 2003 to 2006 the cited half-life for *Archives and Manuscripts* in 2007 would be 3. Please note that these figures have been used simply to illustrate the concept, they are not actual.

A higher or lower cited half-life does not imply any particular value for a journal. For instance, a primary research journal might have a longer cited half-life than a journal that provides rapid communication of current information. Cited half-life figures may be useful to assist in collection management and archiving decisions.'[42] Most libraries would be reticent to weed journals with a cited half-life >10. Cited half-life is of no real value in assessing journal quality for ERA purposes but is part of normal JCR.

10. Sitation analysis

And finally, a word about sitation and an example of its impact on a single article in *Archives and Manuscripts*. Citation of websites and webpages is common practice. As we move further into the Web N.0[43] world this may become the most common way of communicating reference and research sources. A *citation* provides a link to a published source which, in the past, has usually been a hardcopy source, usually one that can always be located when required. *Sitation* is provision of a weblink as a source or link, especially in and between online files. Sitation analysis[44] is the study of sited URLs (Uniform [previously Universal] Resource Locator) in a similar way to other cited references. Rousseau (1997)[45] noted that citation is used to establish links between more scholarly publications, whereas this is not necessarily so with sitation as it is concerned less with scientific or scholarly content and more with linking websites and directing people to visit websites for further or related information on a topic.

URLs are notoriously fragile and long-term access is problematic. In order to demonstrate the fragility of this phenomenon as a publication vehicle, an analysis of the URLs cited in one specific paper in *Archives and Manuscripts* (Volume 32, 2004) was undertaken. The paper was 'The laws of war and destruction of cultural property in the Iraq War 2003' authored by Caravella. The paper cited 58 endnotes, of which 14 were sitations to URLs (Table 9).

Table 9: Investigation of URL persistence 2004 and 2008

	URL sited in paper (2004)	URL today (2008)
1	http://fp.arizona.edu/messasoc/Bulletin.bosnia.htm	http://fp.arizona.edu/mesassoc/Bulletin/bosnia.htm
2	www.archaelogy.org	http://www.archaeology.org/
3	http://www.unesco.org/webworld/mdm/administ/en/detruit.html	Still extant
4	http://www.unesco.org/culture/laws/hague/images/2plist.doc	Not found
5	http://listserv.acsu.buffalo.edu/cgi-bin/wa?A2=ind0304&L-justwatch-'&P=R6	Not found
6	http://www.ifla.org/VI/4/admin/iraq2407.htm	Still extant

7	http://kvc.minbuza.nl/artikelen	www.powerofculture.nl/nl/actueel/2003/oktober/war_and_cultural_heritage.html
8	http://www.un.org/law/icc/general/overview.htm	http://untreaty.un.org/cod/icc/general/overview.htm
9	http://hrw.org/wr2k4/10.htm	Still extant
10	http://www.ifar.org/heritage.htm	Still extant
11	http://www.middle-east-online.com/english/?id=8773	Still extant
12	http://www.unesco.org/webworld/archives/sro_citra/index.html	Not found
13	http://www.interpol.int/Public/ICPO/PressReleases/PR2003/PR200306.asp	Still extant
14	http://www.opinionjournal.com/taste/?id=110004655	Still extant

These 14 sitations were analysed to determine the persistence of the sites after a timelapse of four years. The analysis revealed that only half of the sites listed in 2004 were still available at the same URL in 2008. With extensive searching another 28.6% of the articles could be located but 21.4% could not be found at all (Table 10). This result must be clarified, however: sites 1 and 2 (above) had typing errors in the URL and so could not be found until an extensive search was done for the information using other methods, while for sites 7 and 8 the information still existed although it had been moved to a different area of the website and again needed persistent searching to locate.

Table 10: Results of investigation of URL persistence 2004 and 2008

URL reference 2004	URL reference 2008	n	%
URL reference 2004	URL reference 2008 same	7	50%
URL reference 2004	2 spelling errors in 2004 paper, paper found by persistent searching	2	14.3%
URL reference 2004	Moved to another area of website, required diligent searching	2	14.3%
URL reference 2004	Totally disappeared despite diligent searching	3	21.4

From this simple analysis of URLs sited in a single paper it is clear that electronic publishing is a fragile entity with a very limited half-life. Four years is a very short life span for academic papers, as some continue to be important for decades (a.k.a. cited half life). The September issue of *RecordKeeping* (UK National Archives, page 3) states that 'the average life of a web page is less than one hundred days. Web links are similarly transitory. They can easily become broken as information is moved or deleted, or web addresses change.'[46]

11. Conclusion

The sitation analysis indicated that 50% of the URLs sited in a single article of *Archives and Manuscripts* had disappeared in a space of four years. Latest reports such as that from The National Archives (UK) indicate that the problem of broken links and disappearing web pages is occurring even faster. Should authors and editors take this phenomenon into account when deciding whether to cite or site?

Assessment of journal quality includes both qualitative and quantitative aspects and both should be considered when determining the quality of any journal. The qualitative analysis by the peer group provides a subjective assessment of quality whereas quantitative analysis provides substantive objective data about the journal.

The analysis of journals by recordkeeping professionals provided a qualitative assessment of quality. Respondents assessed 41% of the archival journals as A class journals, i.e. these journals provided key theoretical information. Respondents assessed 25% of journals as B class, i.e. these journals provided information about the more practical aspects of the profession. Respondents assessed 34% of the journals as C class, i.e. journals providing broader professional reading beyond the respondents' current area of employment. These percentages differ quite markedly from the current ERA rankings (Table 3).

Qualitative analysis of *Archives and Manuscripts* by the respondents to the 2007 survey indicated that professionals in the discipline area consider it to be an A class journal (27.3%, Table 2), whereas in ERA *Archives and Manuscripts* is currently a C class journal.

Quantitative analysis is a complex mix of different techniques and calculations. Using one technique alone is not the most accurate indication of quality and for this reason tools such as the JCR use a combination of techniques to evaluate journal quality. *Archives and Manuscripts* is not indexed by WoK and therefore does not have a JCR. However, using the same techniques as the JCR (total cites, impact factor, immediacy index, and cited half-life) and data from WoK for citations to *Archives and Manuscripts* it has been possible to provide a quantitative analysis of the quality of this journal.

Thus, *Archives and Manuscripts* is placed in the ERA C class for total cites (Table 4), journal impact factor (Table 5) and immediacy index (Tables 7, 8).

From such an analysis, based on hard data, *Archives and Manuscripts* can be considered only a C class journal. C class journals from the Library and Information Science (LIS) subset of SSCI have been elevated in the ERA rankings, in some cases to an A class, by a concerted effort on the part of ALIA and the profession. Lobbying has paid off for the library and information science sector who, armed with substantial qualitative data, have moved their journals up the ERA rankings. Does the archival profession have the passion to do the same?

Endnotes

[1] Cowan, R., & Pember, M. (2008). The top ten professional journals read by recordkeeping practitioners in Australasia. *Informaa Quarterly, 24*(1): 42-47.

[2] Gross, P., & Gross, E. (1927). College libraries and chemical education. *Science,* 66(1713): 385-389.

[3] Garfield, E. (2006). The history and meaning of the journal impact factor. *JAMA, 295*(1): 90-93. Garfield originally presented this paper at the Fifth International Congress on Peer Review in Biomedical Publication, in Chicago, USA. The term journalology has been used to describe journal citation analysis. It has been used in two different ways in the twentieth century, firstly in 1928 to describe the academy of journalism (Johnson, C. 1928 Journalology, the new science. *Social Forces* 6(3):382-385), secondly by Steven Lock in his 1989 paper titled 'Journalology'. (published in *CBE* (Council of Biological Editors) *Views*). In this paper he discussed the role of the journal editor and journal citation analysis and called them journalology. The word journalology is rarely used outside the sciences but then there are many more science journals indexed than any other journals. In addition there are numerous blogs on journalology.

[4] Thomson Reuters Journal Citation Report (JCR) http://scientific.thomson.com/products/jcr/

[5] The *Excellence in Research for Australia (ERA) Initiative* was launched by the Federal Minister for Innovation, Industry, Science and Research, Senator Kim Carr, on 26 February 2008.

[6] See ERA http://www.arc.gov.au/era/ for details.

[7] Minister's foreword to the *Excellence in Research for Australia (ERA) Initiative: Consultation Paper.* June 2008, Australian Research Council: [Canberra]
http://www.arc.gov.au/pdf/ERA_ConsultationPaper.pdf

[8] The initial ERA A+, A, B, C ranking of the journals was based on their impact factor provided by the two databases. Impact factors are a quantitative metric calculated from a citation analysis. This is an important point when arguing for placement of journals without impact factors within the scheme http://www.arc.gov.au/pdf/ERA_ConsultationPaper.pdf. Do not confuse the A+ to C ranking of ERA with the A to D ranking of the Pember/Cowan survey.

[9] 27 bodies in all, see http://www.arc.gov.au/era/consultation_ranking.htm

[10] ARC ranking http://www.arc.gov.au/era/tiers_ranking.htm

[11] See phase 2. http://www.arc.gov.au/era/consultation_ranking.htm

[12] Analysis done August 2008.

[13] Research indicators http://www.arc.gov.au/era/indicators.htm

[14] For more details on the Australian and New Zealand Standard Research Classification (ANZSRC), 2008 see the Australian Research Council website http://www.arc.gov.au/applicants/codes.htm or the Australian Bureau of Statistics website www.abs.gov.au

[15] SurveyMonkey website www.SurveyMonkey.com

[16] Australian Society of Archivists (ASA), the Records Management Association of Australasia (RMAA) and Archives and Records Association of New Zealand (ARANZ).

[17] Further information about journal selection and ranking can be found in the Cowan & Pember paper (2008). Thirty nine journals were surveyed, one journal was included which was not refereed, *Archifacts*, the journal of ARANZ. The list of journals was developed largely from Ulrich's Periodicals Directory and information on individual journal websites (e.g. RMAA).

[18] *Informaa Quarterly* has since become listed by Ulrich's as a 'refereed; academic/scholarly' journal.

[19] Cowan & Pember, 2008. *loc. cit.*

[20] ERA Consultation Paper. *loc. cit.*

[21] See the archives of the ALIA listserv.

[22] The journal *Suid-Afrikaanse Argiefblad* was not included in the analysis as it was not read by any of the respondents.

[23] 20,000 at the August 2008 analysis date.

[24] Garfield, E. (1955). Citation indexes for science: New dimensions in documentation through association of ideas. *Science, 122*(3159): 108-111; Haddow, G. (2008) Quality journals in the Humanities and Social Sciences *Australian Academic & Research Libraries*, *39*(2): 79-91.

[25] Thomson Reuters JCR http://scientific.thomsonreuters.com/support/products/jcr/

[26] *Scopus* website www.scopus.com

[27] *Scopus* Journal title suggestion form http://forms.scopus.com/scopus/titlesuggestion

[28] http://thomsonreuters.com/business_units/scientific/free/essays/journalselection/

[29] Bearman, D. (1994). Managing records sent by electronic mail. *Archives and Manuscripts*, *22*(1): 28-50.

[30] Upward, F. (1996). Structuring the records continuum, Part 1: Post-custodial principles and properties. *Archives and Manuscripts*, *24*(2): 268-285; and Upward, F. (1997). Structuring the records continuum, Part 2: Structuration theory and recordkeeping. *Archives and Manuscripts*, 25(1): 10-35.

[31] ISSN 0002-953X.

[32] The SSCI has a subset of journals—Library and Information Science (LIS)—many of which are also in the ERA list.

[33] ISSN 0276-7783.

[34] Total cites data obtained from the JCR for each journal in tables 3 and 4.

[35] Based on ERA rankings.

[36] Egghe, L. (2008). The mathematical relation between the impact factor and the uncitedness factor. *Scientomentrics*, *76*(1): 117-123.

[37] ISSN 0140-525X

[38] Thomson Reuters http://www.thomsonreuters.com/content/press_room/sci/275132

[39] ISSN 1526-5161.

[40] ISSN 0264-1615.

[41] Garfield, E. (1994). Expected citation rates, half-life and impact ratios. Originally published in *Current Contents* September 12, 1994. http://www.thomsonreuters.com/business_units/scientific/free/essays/citationrates/

[42] Journal Cited Half-Life, Journal Citation Reports Help File http://scientific.thomsonreuters.com/support/products/jcr/

[43] Web N.0 refers to version of the web.

[44] Gerry McKiernan was the first to define 'sitation' as cited sites (undated) (found at bottom of web page) http://www.public.iastate.edu/~CYBERSTACKS/Cited.htm

[45] Rousseau, R. (1997). Sitations: An exploratory study. *Cybermetrics*, *1*(1). http://www.cindoc.csic.es/cybermetrics/articles/v1i1p1.html

[46] Riley, J. (2008). Digital continuity. Creating a usable past: Recent developments from the National Archives. *RecordKeeping*, Sept. pp. 2-4.

Biographical Notes

Dr Margaret Pember has worked in the records, archives and library environment for over twenty years. She is currently a lecturer and course co-ordinator in the Department of Information Studies, School of Media, Culture and Creative Arts at Curtin University of Technology. Consultancies include the establishment of the archives at the School of Medicine in Fiji and developing a new records management course for Temasek in Singapore. Long-term projects involve working with students at the Historical Museum of Gwalia-Leonora and with the Benedictine Community of New Norcia.

Professional research interests include information disaster planning and risk management, information quality, information as a corporate resource or asset, mentoring, and professional development and continuing education for archives, records and information professionals. Margaret also has an abiding interest in making archives more accessible for historical research.

Margaret has been fortunate this year in winning two very prestigious awards: a 2008 Curtin *Excellence & Innovation in Teaching Award* (individual) for "Enhancement of student learning in archives education through workplace integrated learning opportunities with special reference to the Benedictine Community of New Norcia"; and also the Records Management Association of Australasia *J Eddis Linton Award 2008* for "Excellence in Records Management in the Category of Outstanding Individual".

Dr Roberta Ann Cowan has a doctorate in biological taxonomy, postgraduate qualifications in librarianship, and a masters in archives and records management. She is the Archivist at Santa Maria College and for the Pallottine Community of Australia. In her adjunct role at Murdoch University she conducts research in information management and biological taxonomy. Roberta is employed at Curtin University of Technology in University Information Management and conducts research with the Division of Humanities. She has published in the fields of botany, biological systematics, history of science, librarianship, business history, information systems, information literacy and record keeping.