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# Accrediting knowledge

## The ranking of library and information science journals

Accrediting  
knowledge

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### Introduction

The nature of scientific innovation requires that professionals in library and information science do all that is possible to improve the quality of our collective endeavours. This means that serious attention must be paid to practical concerns about how to evaluate our departments, our scholars in the field and our individual research. As Christenson and Sigelman (1985) noted: "not all ideas win equal acceptance, and neither do all the scholars who generate these ideas or all the institutions that house these scholars". Giles, Mizell and Patterson (1989) stated that "publication in refereed journals is taken as a *sine qua non* for success in the discipline".

It is accepted generally that tenure and promotion decisions among academic staff in Nigeria are influenced heavily by the quantity and quality of articles published. The same is also true of librarians since they attained academic status in the 1980s. In addition, many library professionals are interested in the accreditation of knowledge for practical reasons. They assume that the quality of a journal affects user demand.

This recognition has stimulated recent attempts to rank some journals to assist decision makers in evaluating papers and presumably to assist library personnel in journal selection. In the first generation of research on this issue, two approaches have been adopted:

- (1) the "reputational" approach by Giles, Patterson and Mizell (1989) and Giles *et al.* (1989); and
- (2) the "impact" approach used by Christenson and Sigelman (1985).

### Related studies

The approach used by Giles *et al.* (1989) is a useful first step in journal evaluation. Hunter (1953) used the reputational approach to evaluate journals. Hunter and Giles were both criticized in that such judgements may provide merely an aggregation of biases. In addition, the reputational approach is based on perceptual or soft data.

Lowi (1983) criticized the reputational approach on the ground that such subjectivity-based evaluations produce a response in which "each respondent gives a presentation of self and the results will unavoidably present a fake picture that serves poorly the goals of professional socialization". In other

words, as Kuhn (1970) would say, there is no such thing as “immaculate perception”. Finally a reputational approach cannot be verified empirically.

The approach taken by Christenson and Sigelman (1985) goes further in generating a more empirical assessment of journal significance, yet it too represents an embryonic effort. Citations by themselves do not define a journal's impact.

Lester (1990) generated dimensions which are assumed to tap multiple sources of a journal's significance. He suggested three categories of variables to evaluate journals: input measures, decisional measures and outcome measures. These dimensions could be combined into an “index of journal quality” for ranking journals. The method adopted by Lester is the approach used in this study.

### **Methodology**

For the purpose of the study the country was divided into three zones, the north, west and the eastern zones. A list of universities and research institutes in each of the zones was generated. From the list, a random sample of 20 institutions was selected, nine from the north, six from the west and five from the eastern zones (see Appendix). Questionnaires, with names of journals attached, were sent to heads of libraries with the instruction that they were to be administered to ten librarians in each institution.

Respondents were asked to check off the names of journals they read most often from the list which was generated of journals in library and information science and sent to them. From the check-list the journals to be ranked and evaluated were selected. This procedure was to ensure that librarians were familiar with the journals they were asked to evaluate. The librarians are academic staff who are required to publish papers. The probability is that they must have used some of the journals for their research.

In some institutions, however, there were fewer than ten professional librarians, while in others there were more than ten. Where the number of librarians was less than the number required, all were used, and where there were more than the number required, questionnaires were given only to ten.

A total of 200 questionnaires was distributed to 200 librarians. Out of these, 163 questionnaires were returned, representing 81.5 per cent. The librarians were asked to rate each of the journals in terms of the quality of its articles on a scale from 0 to 10, with 0 equal to poor, 2 equal to fair, 4 equal to adequate, 6 equal to good, 8 equal to very good and 10 equal to outstanding. Additional data were also collected on whether or not respondents were familiar with each journal. Based on the evaluation data, the mean evaluation for each of the journals represented was calculated and evaluated.

To increase the validity of the ranking, the evaluation and familiarity indicator for each journal was combined to form a measure of journal impact. In measuring journal impact, it was necessary to weight the evaluation indicator by the familiarity measure. This was done by multiplying the mean evaluation by the proportion of respondents familiar with the journal. It was found that such a measure was correlated much more highly with familiarity. In order to correct this, the mean evaluation from ranking was added to the mean

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evaluation weighted by the familiarity indicator. This yielded the following measure of journal impact:

$$\text{Impact} = \text{evaluation} + (\text{evaluation} \times \text{familiarity}).$$

This was done because the impact of a journal in the library profession hinges not only on the strength of evaluation by those reading the journal, but also by the number of librarians who are likely to have regular access to its published findings. Two journals with similar evaluation levels might have very different impacts on the profession, depending on the number of librarians who regularly read articles in the journals and find the journal articles useful in their professional work. The impact measure obtained is correlated almost equally with familiarity and evaluation.

### Analysis of results

The construction of this indicator is in keeping with the view that journals should score rating points for having a strong evaluation, but should also improve their standing as a function of how many librarians are exposed to their highly regarded messages. A journal with the highest possible impact would have perhaps a mean evaluation equal to 10 and the proportion of librarians familiar with the journal would be 1. Of course, such a journal does not exist but, if it did, the impact score would be 20, i.e.  $10 + (10 \times 1)$ .

A journal with a moderate evaluation of 6 and a moderate familiarity level of 0.4 would have an impact score of 8.4, i.e.  $6 + (6 \times 0.4)$ . A journal with a very strong evaluation of 8 but with a very narrow readership of 0.1 would have an impact score of 8, i.e.  $8 + (8 \times 0.1)$  while a journal with a moderate reputation of 6 but a broad readership of 0.6 would have an impact score of 9.6, i.e.  $6 + (6 \times 0.6)$ . The interesting discovery from this is that a combination of strong evaluations and high visibility yields a strong impact, while weaker evaluations and/or lower familiarity result in a lowering of the journal impact score.

### Interpretation of scores

Table I presents librarians' ratings of selected library science journals. Columns (3), (4) and (5) present the computed journal impact scores, the standardized scores and the impact rankings for 26 journals. It readily can be seen that the major broad-based journals in the profession take on the highest impact rankings, with *African Journal of Library Archives and Information Science*, *Journal of Information Science*, *IFLA Journal*, *International Library Review*, and *College and Research Libraries* having the highest impact. It is, however, surprising to see a relatively new journal, *African Journal of Library Archives and Information Science*, occupying a top position on the ranking.

The rankings could represent an accurate assessment of the relative general significance of these journals to librarianship as a profession. While *Library Resources and Technical Services* (16), *Information Processing and Management* (18) and *Journal of the American Society for Information Science* (19) get a low impact ranking, it is clear that articles published in those journals are less likely to have the broad exposure to librarians in Nigeria than one would expect to observe from a publication in one of the first five broad-based library journals.

Journals	(1) Mean rating	(2) Proportion familiar	(3) Journal impact	(4) Standard score	(5) Impact ranking
<i>Information Technology for Development</i>	6.7	0.581	10.74	1.15	1
<i>African Journal of Library Archives &amp; Information Science</i>	6.1	0.786	10.72	1.14	2
<i>Journal of Information Science</i>	6.5	0.606	10.41	1.00	3
<i>IFLA Journal</i>	6.4	0.605	10.27	0.94	4
<i>International Library Review</i>	6.3	0.626	10.24	0.91	5
<i>College &amp; Research Libraries</i>	6.0	0.691	10.14	0.87	6
<i>Information Technology &amp; Libraries</i>	5.4	0.869	10.09	0.85	7
<i>Journal of Library Administration</i>	6.4	0.575	10.08	0.84	8
<i>Libri</i>	6.0	0.661	9.97	0.80	9
<i>Nigerian Libraries</i>	6.9	0.428	9.85	0.74	10
<i>Nigerbiblios</i>	6.1	0.377	9.78	0.71	11
<i>Library Quarterly</i>	6.3	0.567	9.56	0.60	12
<i>Library Review</i>	5.4	0.808	9.76	0.70	13
<i>Special Libraries</i>	6.5	0.460	9.49	0.57	14
<i>Wilson Library Bulletin</i>	6.4	0.419	9.22	0.45	15
<i>Library Resources &amp; Technical Service</i>	5.8	0.589	9.21	0.44	16
<i>Nigerian Library and Information Science Review</i>	6.2	0.488	9.08	0.38	17
<i>Information Processing and Management</i>	7.3	0.186	8.66	0.19	18
<i>Journal of the American Society for Information Science</i>	5.7	0.484	8.61	0.16	19
<i>Journal of Academic Librarianship</i>	5.6	0.467	8.57	0.13	20
<i>Unesco Journal of Information Science, Librarianship and Archives Administration</i>	6.6	0.280	8.45	0.09	21
<i>African Journal of Academic Librarianship</i>	6.8	0.238	8.42	0.07	22
<i>Assistant Librarian</i>	6.4	0.758	11.25	1.39	23
<i>Library Journal</i>	6.2	0.326	8.22	-0.02	24
<i>Information Services &amp; Use</i>	6.1	0.344	8.20	-0.03	25
<i>Library Waves</i>	6.3	0.210	7.62	-0.29	26

**Table I.**  
Librarians' rating of  
selected journals

It is observed that, even though *Assistant Librarian* has a slightly higher mean evaluation (6.4), (0.758) than some of the major journals, the greater visibility of the latter means that they most certainly have a greater impact on the library profession. As one moves below the highest ranked journals, there are some significant differences in the evaluation-based rankings and the impact-based rankings. Some journals (particularly those of the broad-based journals in information technology) occupy more prominent positions in the rankings.

Many of the journals with strong evaluation have lower levels of visibility: *African Journal of Academic Librarianship* (6.8), (0.238) is 22nd, while *Unesco*

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*Journal of Information Science, Librarianship and Archives Administration* (6.6), (0.280) occupies 21st position, whereas *Information Processing and Management*, with a strong rating of 7.3 and low visibility of 0.186, is rated 18th on the impact rankings. This indicates that these journals are well regarded by those familiar with their content, but the low levels of visibility would indicate that the profession-wide impacts of these journals are lower than one might suggest, given the total evaluation of those familiar with the journals.

Some journals published in Nigeria, such as *Library and Information Science Review* and *Library Waves*, get low ratings because of their low levels of visibility as a result of irregular publication. *Assistant Librarian* has a high impact rating but is ranked low probably because articles published in the journal are less likely to have broad exposure and acceptability to librarians in Nigeria. Some journals have very little visibility, for example *Information Processing and Management* (0.186), but those who communicate their research findings within the pages of these journals may be perfectly content with what they find therein.

### Discussion

It should be noted, however, that ranking of a journal will depend to a large extent on the values which one brings to the evaluation process. Some librarians, administrators or departments will be interested in making assessments based on how journals are perceived by the audiences with exposure to the journal. For example, in an assessment for promotion, some departments and administrators may be concerned with whether a candidate is publishing in journals which are highly regarded by experts in a specific field, regardless of profession-wide visibility. In such a case, a publication in *Nigerian Libraries* by a Nigerian librarian or in *American Libraries* by American librarians may carry great weight.

On the other hand, some in the profession will want to make assessments based both on evaluation and profession-wide visibility of a journal. In these cases, publication in *American Libraries*, *College and Research Libraries*, *IFLA Journal*, *Libri* or *Journal of Information Science* may be perceived as reaching a wider audience and, therefore, contributing more broadly to the visibility and/or national reputation of the individual in question. It must also be remembered that the selection of evaluative criteria for making these types of decisions is a value judgement.

### Conclusion

The rankings reported in this study serve the purpose of different evaluative dimensions for library and information science journals. Journal impact is a function of both the evaluations of a journal by those familiar with it and also of the visibility of the journal to a wide range of librarians and information scientists. Having a lower general impact does not mean that a journal is not highly regarded by librarians and information specialists writing and reading in specific sub-fields to which the journal is directed, but only that the combination of evaluation and profession-wide visibility is lower than for other, more highly-ranked journals.

The study presents a useful insight into what determines the quality of a journal. It is an essential contribution to various methods used in evaluating journal quality and should help librarians acquire more journals with high rating scores than low rated journals. In addition, it should serve as a criterion in determining their journal utilization and subscriptions.

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#### Appendix: list of institutions used in the study

##### *Northern zone*

Abubakar Tafawa Balewa University, Bauchi.  
Ahmadu Bello University, Zaria.  
Bayero University, Kano.  
University of Maiduguri, Maiduguri.  
National Mathematical Centre, Abuja.  
University of Agriculture, Makurdi, University of Jos, Jos.  
University of Abuja, Abuja.  
Federal University of Technology, Yola.  
Federal University of Technology, Minna.

##### *Western zone*

University of Lagos, Akoka, Lagos.  
Obafemi Awolowo University, Ile Ife.  
University of Ibadan, Ibadan.  
Federal University of Technology, Akure.  
University of Benin, Benin.  
University of Ilorin, Ilorin.

##### *Eastern zone*

University of Calabar, Calabar.  
University of Nigeria, Nsukka.  
University of Port Harcourt, Port Harcourt.  
Federal University of Technology, Owerri.  
University of Uyo, Uyo.