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## **The Publication Lifecycle and Evaluation of Publications**

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### **Abstract**

*This paper is a contribution to the debate in Italy about the evaluation of scholarly research and the role that open access journals might play in that process. Drawing on the author's experience as an academic manager and journal editor, it briefly discusses the aims and nature of research evaluation, and the types of outlets for research publications. The paper then outlines the role of a journal's editors in the selection and copy-editing that shape the papers that are published, and the work that publishers undertake to establish and maintain journals' quality. The paper summarises the issues involved in evaluating the quality of a journal and journal papers, and discusses the problems surrounding contemporary approaches such as citation analysis.*

### **Introduction**

An issue that concerns people involved in the coming national research assessment in Italy is the contribution that journal papers could make in the evaluation of the research quality. The first aim of this paper is to discuss the part that journal contents play in the overall assessment of research, drawing on my experience in three national research assessments in the UK, and as an assessor of the research work of institutions and individuals in the UK and other countries. A particular concern in the debate about the conduct of the research assessment is the quality of the contents of open access journals. In most respects there is – or should be – little difference between fee access and open access journals in the way in which quality is achieved. The second aim of the paper therefore is to provide an understanding of how authors, editors, and publishers contribute to the quality of journal contents, drawing on my experience as editor of one journal, publisher of another, a member of the advisory board of three more, and a reviewer of papers for several others.

Finally, drawing on the earlier parts of the paper, I propose to discuss some of the issues that surround the assessment of journals and the quality of their contents.

This is not a scholarly paper, underpinned by a literature review and empirical research; as made clear earlier, it draws on my current and previous experience. I should therefore begin by making clear my own involvement with journal publishing and open access in particular. As many people will know, I am currently one of the three Joint Editors of *Libri: international journal of libraries*

and information services, which is one of more than 500 journals published by De Gruyter. About half are of those are open access journals published under a subsidiary imprint, Versita, which was acquired by De Gruyter at the beginning of 2012. The business model of Versita journals, which are mainly in scientific disciplines, varies from journal to journal, but involves institutional subventions or author fees. *Libri* is not primarily an open access journal. Nevertheless, the policy with *Libri* – and all De Gruyter’s fee access journals – is that any author may pay a fee so that a paper can be immediately available on open access. However, the editors of *Libri* have told the Managing Director of De Gruyter that there is only a remote possibility that such funds would be available in our discipline. Similarly, although the possibility for independent advertising in *Libri* exists, no one has purchased advertising space for years. One *Libri* paper – the winner of the annual student paper award – does go on open access immediately; and each year the editors may select one paper from the previous 12 months’ issues to go on open access on the publisher’s web site. The authors of all published papers may place them in open access repositories after 12 months. In addition, De Gruyter has continued an agreement on open access between the previous publisher of *Libri*, K.G. Saur, and the editors. K.G. Saur had agreed to a request from the editors that they be permitted to put all issues on open access on an independent web site 12 months after publication. All those issues, covering about 10 years, remain on open access on the De Gruyter web site.

The other form of open access publishing is through institutional or subject repositories. I was involved in an informal, advisory capacity in the development of my own university’s open access repository, and in a project in Latin America that prepared and published guidelines for university managers and librarians to support similar developments there. My last major completed research was about access to journals in Latin America, where most journals have been open access in print, and many are now transferring to electronic formats and being made available online through institutional servers or aggregator repositories.

The paper aims to cover:

- Evaluation of research
- Types of publications
- Authors’ motivation
- The contribution of editors and publishers to a journal’s quality
- Quality evaluation of journals
- Citation indexes, bibliometric studies, peer review.

## **Evaluating Research**

Attempts to evaluate research activity formally on a regular basis have been established in a number of countries. In some countries, the evaluation focuses on the fitness of individuals to be eligible to apply for state research grants. In others, it may determine the level of recurrent state funding that would be awarded to enable an institution, a research group, or an individual to maintain international standards of research excellence, or to facilitate improvement towards that goal.

In discussing the role of evaluating journal contents in this process, it is important to recognise that it is essentially concerned with a retrospective evaluation of the quality of published outputs from research. It is equally important to seek

evidence of the impact of the research undertaken by an individual or group in the field in which they work, of the prestige attributed to them by their peers, and of recognition of their efforts in the broader public sphere. More enlightened evaluations also examine the future strategy to maintain or develop the quality of the research, as manifested in the development of new ideas by an individual or in the efforts of a group or institution to foster new researchers. When research evaluation takes place on a regular basis, the extent to which a previously declared strategy has in fact been implemented successfully can then also be reviewed.

## **Types of Publications**

There is a variety of different kinds of publications from which aspiring authors are able to choose. Newsletters and professional magazines perform a useful function in raising awareness of new developments and thus help to keep practitioners up to date. Conference proceedings are very important in some academic disciplines – for instance in computer science. Monographs are particularly important in some other disciplines, especially in the humanities, and in a few fields, such as law and medicine, textbooks can become highly regarded standard works. Online repositories have established themselves in some fields, such as physics. They do exist in library science; DoIS (Documents in Information Science) may be the best known here because there is an Italian web site, but there are several others – DLIST, eLIST, and the French repository ArchiveSIC. While many of these outlets may include valuable publications, this presentation is focused on scholarly and scientific academic journals. Those are the publications that are used by researchers to transmit the results of their work, and by teachers to distil the knowledge that they transfer to new generations. That is why the quality of their contents is important.

## **Authors' motivation**

Although some people write solely to disseminate information in an altruistic manner, most people who write anything substantial are seeking some recognition of their efforts, or career progression. There are others who are driven to write and publish, for example as a requirement in a project grant. Perhaps best known are those seeking tenured positions in academic institutions - who are under pressure to “publish or perish.” This is likely to influence the style they adopt when writing – informal or formal - and may influence where they decide to publish.

## **Editors and journal quality**

Whatever the motivation of the authors, some of the papers that they write are likely to be offered to academic journals for publication. They are all open to evaluation by the same criteria, and that evaluation begins in the editor's office. It is not the intention of this paper to offer a definition of a quality journal, but to explain how journals seek to develop quality contents, and to provide some pointers towards how judgements about the quality of journals and the papers in them could be made.

Arguably, most of the responsibility for the quality of a journal lies with its editor(s). So, what do editors do to raise and maintain the quality of journals' contents?

All well-established journals are offered more papers than they could publish, and many that they would not wish to publish! To guide prospective authors, most journals' editors provide a description of the aims and scope of the journal, and the type of papers that they would like to receive, as well as instructions about how the papers should be prepared. Sometimes, for the benefit of prospective authors, they also set out the guidelines that are provided for the subject experts who are asked to review papers to determine whether they are suitable for publication.

All the papers that are received by *Libri* are read by one or more of the editors to determine whether they come within the scope of the journal, and whether they appear to be of an appropriate standard in terms of the way in which the information is organised and presented. We would not waste the time of subject experts on reviewing papers that are seriously deficient. *Libri* receives about 200 papers each year; about 30 are published. Some element of pre-selection is clearly necessary. Most of those that are rejected at this stage are so poorly prepared that they would not be published in any scholarly journal. Because *Libri* receives many papers from authors who may not be familiar with the standards required, even rejection of a paper at this initial stage usually involves preparing some notes to explain the problems and, hopefully, to enable the author to improve any future efforts. In this way, it is like the formative comments that good teachers provide for their students.

Papers that pass that initial test are sent for peer review by an expert in the subject area. Peer review of a single paper, and writing up comments for the author as well as a report for the editor can take 2 hours or more for each paper. *Libri* relies on peer review by the members of its advisory board and various other subject specialists to give us an expert opinion on whether the papers are suitable for publication and whether any revision would be necessary. A major challenge for a journal's editors is to identify advisory board members and other reviewers with suitable knowledge and expertise, whether as academics, researchers and practitioners. One way in which experts are identified is through their record of publishing papers on related topics in *Libri* or other journals of recognised standard.

There are some unscrupulous companies or individuals who have established open access journals and assembled editorial boards by open invitation, without any evaluation of the board members' expertise. The quality control that they can exercise in the peer review process is questionable.

Peer review takes different forms in the scientific fields and the humanities, but the essence is that it is concerned with quality of the work. The key issues are outlined later in this presentation. Journals have differing policies about the number of reviewers who scrutinise a paper; it is usually one or two. They also differ in whether the reviewer is permitted to know who wrote the paper, and whether the author is permitted to know who has reviewed their paper. There seems little merit in debating the relative merits of blind, double blind, or open

peer reviewing. What is important is that any peer review should focus on the quality of the methodology and analysis that is manifest in a paper.

Some journals reject papers because the author's written English is poor. *Libri* very occasionally has to do that, but the editors have been known to advise a few authors to seek professional help in translating their paper if it appears worthwhile.

Because *Libri* accepts papers based solely on an evaluation of their content, and receives many papers from countries where English is not the first language, the papers are read carefully to eliminate any spelling and typographical errors, and - more importantly - to correct phraseology and remove ambiguity, and sometimes to correct the structure of a paper so that it is more logical and convincing. This can involve extensive dialogue with the authors. Some papers have gone through several revisions before appearing in print; they will have gone through an advisory process rather like that applied during the development of graduate students' theses. In other cases, authors have been asked to supply problematic sections of their text in their own language for the editors to re-interpret to produce an agreed final text.

Copy-editing also includes checking that there are citations for every reference in the text (and vice versa), and that the citations are in the required format, and are correct and complete. Someone who reads a paper may wish to be satisfied not simply that the source exists, but that it was an appropriate reference, that facts and ideas were not taken out of context, and that any quotations are correctly reported. About half the time of copy-editing for *Libri* is taken up by verifying and correcting citations in the papers accepted for publication. In a journal for librarians, the editors feel an obligation to ensure that citations are correct, even if the authors of papers submitted to *Libri* do not. Studies have reported that scientific journals used to have a high proportion of incorrect citations. The introduction of CrossRef may have reduced the incidence of errors, but no one seems to have undertaken any comparative investigation yet.

Finally, the papers are proofread by the author and the editors. For many journals, the proof reading may be done by professional proofreaders rather than by the editors. They are often free-lance employees who, hopefully, are selected because they are familiar with the subject and its terminology.

Copy editing and proof reading - if done properly - usually takes about 6 hours for each paper. Because of the origins of many of the papers submitted to *Libri*, these checks are usually made by 2 of *Libri's* 3 editors, almost doubling the time involved. I cannot claim that all journals go through such a rigorous process; reading papers published in some prestigious journals suggests that they do not; but, when this rigorous editing is done, it means is that the papers that you read in *Libri* may not be entirely the author's own work.

### **Publishers' pre-production services and journal quality**

When people think of publishing, they tend to think of the simple production and distribution activities. Publishing journals and books is a bit more complex than that, as I am sure you realise, and much of what publishers do does contribute in

a number of ways, directly or indirectly, to the quality of their journals and the papers in which they appear.

Sometimes the idea for a new journal is presented to a publisher by an interested specialist, who then becomes the editor. Sometimes, however, it is the publishers who identify the potential for a new journal, and identify and recruit an editor. Not all commercial publishers are like Robert Maxwell who recognised the growing diversity of scientific research, identified scientists who were involved in those new fields; offered to publish specialist journals if they would use their contacts to gather content; and persuaded 800 people to do so without payment - making a lot of money for Pergamon Press. Many editors are paid fees, sometimes linked to the journal's income; others receive funding to travel to conferences to find authors of good papers. To provide incentives for editors, companies such as Emerald make annual awards for their best editors and best journals, and for the papers in them.

Most publishers make efforts to encourage new writers, through promotional sessions at conferences and presentations at academic institutions, sponsoring competitions for student writers and other prizes for good papers, and in some case sponsoring conferences and publishing proceedings. Publishers also use their online platforms to try to stimulate the production of quality papers. For example, Emerald produces an information service for librarians, which draws attention to forthcoming events for which they might develop papers that might eventually be published; Elsevier has recently introduced a training programme in ethics and integrity for new researchers.

The use of editorial management systems such as Open Journal System (which is a free, open source, system) and ScholarOne (a commercial system) is increasingly common. They are invaluable in managing the flow of papers through the 'editorial office', and in making sure that the appearance of papers is not delayed because an editor has lost sight of them or because a reviewer has forgotten to deal with them.

There are a number of other ways in which publishers are continually trying to develop quality content. In the electronic era, copyright abuse is becoming more common as writers cut and paste from other people's work, and sometime forget to attribute facts or ideas to their original source. Several systems that search the web and other publishers' databases, using pattern matching to identify similar phrases, have been introduced in academic institutions to ensure that students do not unwittingly or deliberately commit plagiarism and to teach them how they should prepare academic texts. Publishers are now introducing these systems; for example, one is expected to be in use in 2013 to check all papers submitted to *Libri*. If we find examples of unacceptable practice, we shall ask authors to revise their texts. In appropriate cases, the publisher will also help with copyright permissions.

Most English language journals are now published electronically as well as, sometimes instead of, in print. In electronic journals linking citations for references to the original text when it is also available electronically is now the norm, using the CrossRef scheme. Inputting the details of new titles and the citations in them takes time, and has a cost, but is invaluable in enabling researchers to follow the emergence and development of ideas easily.

## **Publishers' post-production services and journal quality**

Maximising the use of a journal's content and its subsequent citation by others working in related fields is often taken as an indicator of its quality. Hence, publishers are interested in raising awareness of journals' contents, which they do through services that alert potentially interested readers to the Table of Contents of new issues, and by ensuring that journals' contents are covered by all relevant indexing and abstracting services (including the ISI citation indexes, of which more later). Search engine optimisation is also becoming more common. It is not just a matter of adding metadata to the papers on the web site. So much is now published that it is often only the abstract that is read, and computer software can be used to revise author's own abstracts of their papers, to ensure that all relevant keywords all appear.

Most major publishers now release information about which papers are most frequently read on screen or downloaded. This could be seen as a way of trying to direct busy people to the key papers in their field. However, that data can easily be distorted, deliberately or inadvertently, and is not necessarily a guide to the relative quality of a paper. For example, the author of one of the most frequently read and downloaded papers in *Libri* was known to require hundreds of her students to read her paper. The frequency with which a paper is read is not necessarily an indicator of the standing of its readership or its likely impact.

Sales support has been the electronic publisher's 'Achilles heel.' Publishers had little contact with their customers in the age of print, and were not well prepared to deal with the issues with which they had now to contend. Publishers were also slow to acknowledge that the shift to electronic media meant that they had to become more closely involved in archiving their products via electronic legal deposit and permanently secure web sites. These issues were for the most part temporary, and have little bearing on the quality of journals' contents, although they may have created a lasting degree of antagonism between librarians and publishers.

Branding might be seen as an indicator of quality. It is well-established that the availability of large numbers of well-known journals attracts users to a publisher's web site, and help to establish the publisher's brand identity. Is this an indicator of quality?

## **Evaluating a journal**

To summarise some of the points I have been making, I suggest that if you wish to evaluate a journal, you need to:

- Consider the statement of its aims and scope
- Study the editor's 'Instructions to Authors'
- Investigate its peer reviewing policy
- Examine the editor's guidelines for reviewers
- Consider the relevance and currency of the expertise of the editorial board and other reviewers
- Consider how the publisher seeks to enhance perceptions of a journal's quality.

## **Evaluating an Open Access journal**

As I indicated, the criteria for assessing an open access journal should be little or no different from those applied to fee access journals. I mentioned that I had done some research in Latin America, where most journals have been published by universities, research institutions, and professional associations, whose budgets fluctuated according to the state of the national economy. This unstable financial basis led to irregular publication. There was minimal marketing effort because the institution did not employ anyone with professional publishing skills. Most journals were distributed free of charge, often in a haphazard or inconsistent way, so that libraries had incomplete collections. These journals were rarely represented in international indexing services and citation indexes; many were not even indexed in the index of Latin American journals compiled by the largest university in the region. Consequently, the journals were held in low esteem by the academic community, and received few papers, often of poor quality, while the best papers tended to be published in English language journals. The transfer of these journal to open access electronic media was being accompanied in many cases by manifestation of similar issues, and left me sceptical about the future of open access.

Do the editorial standards and the publisher's services of an open access journal match those of subscription-based journals? What arrangements are made for peer review? Is it published regularly? Where is it available? Where is it indexed?

## **Quality evaluation of journal papers?**

The inclusion of journal papers in research evaluations has presented a practical challenge for the evaluators. In disciplines in which there are many researchers, it may be impossible for the evaluators to read every paper, and they may have to rely on metrics derived from citation indexes, if these exist. It is now many years since the ISI citation indexes began to be published. More recently, Scopus and Google Scholar have been introduced. The data derived from these services has changed the approach to the attribution of prestige to journals. We have seen the production of lists of the so-called 'best' journals and not so good journals. For example, there is a list of journals in the field of Business Studies, and lists covering all academic disciplines have been compiled for use in national research assessments, in Australia for example, as well as in Italy, in which journals have been categorised as Class A, B, or C. In turn, these lists have led to pressure on researchers to publish papers only in journals that are listed as 'the best,' regardless of the significance of particular journals in their specialist field, as indicated by those journals' aims, scope, and intended audiences. In many developing countries, researchers are under pressure to publish in ISI ranked journals rather than in local journals, whose readers might find the topics more relevant.

The existence of these indexes and their rankings has also distorted the nature of many journals. Their alleged significance has caught the attention of publishers, some of whom have been pressing editors to change their journals to conform to ISI's requirements. Some journals such as 'Information Development' have found that, following their inclusion in the ISI indexes, the number of papers that they



have been offered has increased substantially, because the journal became more attractive to authors under pressure to publish in journals with an ISI ranking. Often these papers do not conform to the journal's aims and scope, but the increased workload has put pressure on the journal's team of reviewers.

### **Citation Indexes - Issues**

This would perhaps be understandable if the shortcomings of citation analysis were not well known. The geographic coverage of the indexing services is poor. Publications from the developing countries have been ignored. Their linguistic bias, until recently, has been exclusively towards papers published in English. It has been alleged that Thomson ISI changed its language policy only after the Spanish government questioned why it was paying millions of euros for a subscription on behalf of all Spanish universities to a service that did not include any Spanish language journals. The ISI citation indexes do now include a growing number of journals in Spanish and other languages.

The criteria for inclusion have always been opaque. There are some published criteria, but the selection process seems to include other, unpublished criteria that are applied by Thomson's editorial staff. The qualifications of Thomson's staff for making decisions about which journals to include or exclude are not clear. ISI pays for those fee access journals that it indexes. Increasing the number of journals has added to Thomson ISI's costs, and may have created some internal pressure to exclude journals that had been in the list of accepted titles for some time. Recently, I noticed that a journal in which I publish papers from time to time, 'International Information and Library Review', had been dropped from the ISI list. At my suggestion to the editor, its publisher asked for an explanation of the criteria; how the journal failed to meet the criteria; and how it compared with others that continued to be included in the ISI list. No explanation seems to have been offered, but the journal has been restored to the list.

There are also quantitative and qualitative anomalies

The number of subscribers to journals varies. Of course, a journal's availability increases its use - and subsequent citations. Some journals that are heavily used by practitioners have large numbers of subscriptions. 'Library Resources and Technical Services' has 10,000 subscribers; *Libri* has about 500. Changes in publishing formats also affect subscriptions. The journal 'Information Development', for which I sometimes review papers, sold about 350 copies in print, but it is now included in a large electronic 'bundle' of Sage's journals that has 5,000 subscribers.

The ISI citation indexes also still reflect the American bias in the initial selection of titles that were included. No one, for example, would claim that 'Library Journal' is a scholarly journal, but it is an old established American journal, widely read in the USA, widely cited by American authors, and has always been included in the ISI list. In contrast, many Open Access journals do not appear in the ISI indexes. In some cases, this is because they are relatively new and do not meet the published criteria for inclusion; in others, it may be that the editor/publisher lacks a professional knowledge of the publishing field.

However, perhaps the most serious criticism that can be levelled at the use of ISI data as a measure of quality is that the impact factor is based on citations that are made within 2 years of a paper's publication. That may be appropriate in some fast-developing scientific fields, but in the humanities and social sciences, a longer-term perspective on a journal's use is essential. *Libri* will shortly publish a paper that reviews new knowledge since we last published a paper on the same topic more than 50 years ago. That seemed to the editors an appropriate timescale for reviewing new evidence from monumental inscriptions and papyrus manuscripts for the existence of recognisable libraries and the profession of librarianship in ancient Egypt. Even in the natural sciences, papers written 100 years ago are still cited from time to time.

Moreover, most scholarly journals publish 30 or more papers each year. The impact factor for a journal can be distorted by particularly heavy citation of only one of those papers.

### **Bibliometric Studies – Issues**

Their initiation of the ISI citation indexes led to the emergence of citation analysis and bibliometric studies. By definition, they are based on the incomplete data that is all that is available from the citation indexes. Many of these studies simply count the characteristics of a journal's contents or an author's output, or record the recycling of other people's work, proving nothing more than the authors of the bibliometric studies can count. At best, these studies do little more than reveal trends in published outputs. However, the context is all too frequently ignored, and the studies are often trivia, with meaningless conclusions. Few have been able to demonstrate a link between the literature and its impact on policy and practice.

### **Peer review – what should it assess?**

So, if a journal's impact factor (or lack of one) is no guide to the quality of the individual papers that are published in it, and bibliometric studies are unable to demonstrate their impact, how is research output to be evaluated?

There is a solution in academic disciplines where the number of researchers is small, such as library and information science, or where the citation indexes do not cover a country's output effectively. A subjective analysis of published output could be undertaken - by reading what the authors consider to be a small selection of their best papers. In effect, this may be similar to a journal's peer review process, and should ask:

- Is the title accurate and succinct?
- Is the abstract sufficiently informative?
  
- Is the research problem clearly stated?
- Has the literature been searched thoroughly?
- Does the literature review provide an effective underpinning?
- Is the research methodology appropriate?
  
- Is the context well described and sufficiently analysed?
- Are the findings presented clearly?

- Is the analysis/interpretation of the evidence rigorous?
- Are the conclusions based in the evidence presented?
- Are the wider implications and limitations discussed?

Fundamentally, this is seeking to determine whether the evidence has been gathered in an appropriate and effective way, and whether the analysis of the results has been undertaken thoroughly described in a way that gives some credibility to the conclusions.

### **Concluding remarks**

Research evaluation is a controversial subject, and the evaluation of journals and their contents form a major part of that controversy. This paper could not provide a resolution of the issues. Hopefully, however, it will facilitate a broadly informed discussion of them.

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This paper is based on notes prepared for a presentation and discussion at *Digital Scholar and Evaluation of Open Access Publications*, a seminar organised during 'Open Access Week' by the Università degli studi di Parma, International Master in Digital Library Learning, Parma, Italy, 24-25 October 2012.

### **AUTHOR**

Professor Ian Johnson held senior positions at the Robert Gordon University from 1989 to 2007, where he led the development of a wide range of on-campus and distance-learning courses, and research activities, in library and information sciences, and in publishing and communication studies. He is currently Joint Editor of '*Libri: international journal of libraries and information services*'; a member of the editorial advisory boards of '*Education for Information*' and '*Information Development*'; and Chief Editor of a new series of books, '*Global Studies in Libraries and Information*', to be published by De Gruyter for IFLA.