

Key issue

Usage factors



RICHARD GEDYE

Research Director,
Oxford University Press and
Chair, COUNTER



FYTTON ROWLAND

Retired, formerly Senior
Lecturer in Publishing,
Loughborough University

We already have COUNTER-compliant usage statistics and Thomson Reuters (née ISI) Journal Impact Factors. Do we need another statistic measuring the relative importance of journals?

The prime purpose of COUNTER statistics for journals is to provide libraries and library consortia with a consistent basis, agreed to by all compliant publishers, for assessing the level of *local* use of each journal.

Impact factors (IFs) on the other hand represent a *global* measure, based on average numbers of citations per paper in a journal by other papers published subsequently. The rationale is that more-cited journals are higher up the pecking order of journals within their discipline; IFs thus provide a quantitative measure of journal rank order. Researchers working within a field are intuitively, informally aware of these pecking orders. Eugene Garfield realized that this informal understanding could be formalized by using citation data. IFs are much used – often controversially so – in the measurement of research quality, the argument being that research published in a high-IF journal is probably higher quality than research published in lower-ranking titles. IFs are therefore of great interest to university administrators, research funding bodies and civil servants in government departments responsible for higher education.

However, a journal with a low impact factor may have high usage by undergraduate and post-graduate students who do not publish, by academics using the material for teaching purposes, or by practitioners (lawyers, physicians, engineers, etc.) using journal material to help them in their work. These types of usage are not reflected in any subsequent publications and thus contribute no

citations. But they are an indication of journal value, a value which might perhaps become more fully appreciated if we were to develop a usage metric which embraced a key attribute of the impact factor.

Because it is a ratio, rather than a raw citation count, the IF can adjust for the fact that one journal may publish many more citable papers than another. COUNTER statistics, however, do not incorporate this adjustment. They provide a count of total usage. A title may show high usage within an institution simply because the journal is large, publishing thousands of papers per year, even though one with only tens of papers per year may in fact see heavier use per paper.

UKSG recognized the potential value of a journal usage statistic that better measured a journal's relative importance to the whole community of users. They proposed a factor that divided the total online usage of a journal (COUNTER-compliant data for a specified period) by the number of articles published online in that journal during a specified period. UKSG sponsored a feasibility study of this idea, in two phases. The first was an interview study with 29 prominent opinion makers from the publisher, library and academic communities, and the second was a web-based survey of 155 librarians and 1,394 authors. Both a project report¹ and an article by COUNTER's Peter Shepherd summarizing the findings of both phases² have been published by UKSG.

The findings of the feasibility study showed that there was considerable enthusiasm for the idea of developing a measure of global usage that could complement citation-based measures of journal quality. Of those polled, 70% of authors said they

would welcome such a measure, while librarians said it could be a key deciding factor when making decisions about new subscriptions.

In the light of this response, UKSG has moved forward to sponsoring Stage 2 of the project – testing and modelling the usage factor concept using real usage data from a group of content suppliers interested in the insights to be gained from contributing data to the project. After a competitive tender process, the contract to undertake this data modelling and analysis was awarded to a joint bid from John Cox Associates Ltd and Frontline Global Marketing Associates Ltd. The work has just started, and it is intended that it should be completed by April 2010.

In undertaking the Stage 2 work, the contractors have to consider a number of detailed issues that have arisen following the acceptance of the broad-brush definition of a usage factor as:

$$\frac{\text{Total usage over period 'x' of articles published during period 'y'}}{\text{Total articles published during period 'y'}}$$

Both the numerator and the denominator of this expression raise issues. Four major data issues that need to be resolved in Stage 2 were identified as:

Consistency – The items included in the numerator must also be in the denominator. What is an ‘item’ – is it anything with a DOI? These might include items such as lists of members of the Editorial Board, lists of forthcoming events, etc., that are not generally considered as ‘articles’ in a journal.

Article usage year – An article published in the January issue of a year will receive significant usage during that calendar year; one published in the December issue may not. Ways need to be found to avoid this distortion.

Article publication date – When is an item ‘published’? There may be an early online version, the final online version, and both may have publication dates which differ from that of the printed issue containing the item. Should we incorporate usage of all online article versions into the usage factor measure and, if so, how?

Potential disciplinary differences – Usage patterns of journal articles may differ significantly between subjects. To allow for this possibility it will be necessary to classify journals by subject. Fortunately, The British Library has already done this for the journals that they hold records of – perhaps 80% of all those which exist.

The Stage 2 contractors will assess various possible metrics, and recommend which of them are consistent and robust enough to be subjected to more widespread scaled-up testing. They will suggest how data suppliers might amend the way in which they capture, structure, label and maintain their data, in order to make the usage factor easier to measure and more reliable in use. The contractors will also propose ways in which usage factors, if calculated by publishers as an extension of the process of producing their COUNTER-compliant usage reports, can be audited for accuracy, possibly as an extension of the existing COUNTER auditing process.

UKSG and its fellow sponsors have funded this work because they believe that, when completed, it has the potential to create a measure that will promote an increased awareness of the value of today’s academic journals and of the role of publishers and libraries in generating that value.

References

1. Shepherd, P T, *Final report on the investigation into the feasibility of developing and implementing journal usage factors*, May 2007:
<http://www.uksg.org/sites/uksg.org/files/FinalReportUsageFactorProject.pdf> (accessed 12 October 2009).
2. Shepherd, P T, The feasibility of developing and implementing journal usage factors: a research project sponsored by UKSG, *Serials*, 2007, 20(2), 117–123:
<http://serials.uksg.org/media/f83kvqhwp2e9t6kducy/contributions/1/y/d/e/1yde8a8bd144uylm.pdf>; to access via DOI:
<http://dx.doi.org/10.1629/20117> (accessed 12 October 2009).

More information about the Usage Factor project can be found at <http://www.uksg.org/usagefactors>