

## **A Quick Guide to Assessing Journal Quality**

Journal standards vary widely. The best journals practice rigorous peer-review and have exacting standards. The worst are vanity publications, existing only to minister to the self-importance of their editors and those who contribute to them.

### **Impact Factor**

The most commonly used measure of journal quality is Impact Factor. This is a number which attempts to measure the impact of the journal in terms of its influence on the academic community. Impact Factors are published by Thomson-ISI.

In simple terms, a journal's impact factor is the ratio between the number of citations and the number of recent citable articles in Thomson-ISI's database. A journal's impact factor is defined by a simple calculation: "The impact factor is calculated by dividing the number of current citations to articles published in the two previous years by the total number of articles published in the two previous years."

Thomson-ISI's Journal Citation Reports (JCR) provides quick access to the impact factors for thousands of academic journals. In general, the higher the impact factor, the more important and prestigious the journal.

Unfortunately, Thomson-ISI provides impact factors for only a small proportion of the total number of peer-reviewed titles. Although Thomson-ISI claims to provide figures for the leading international journals, coverage is heavily weighed towards English-language titles in the fields of science and medicine. Except in the case of titles from the United Kingdom and the Netherlands, reporting of journals published outside the United States of America is extremely patchy. For example, there are few Australian titles in ISI-Thomson's database compared to the total number of peer-reviewed journals published in Australia.

Although JCR claims to cover 200 separate disciplines, coverage within these disciplines is far from even. The Science Edition of JCR covers over 5,900 titles, whereas the Social Sciences Edition covers only 1,700.

### **Journal Ranking**

Even Thomson ISI admits that Impact Factors are not the whole story. The range and type of articles published in a journal can have a direct effect on a journal's impact factor. An average-quality title which publishes on topics of wide interest will have an advantage in terms of impact factor over a higher quality title that deals with a more highly specialised area.

Another guide to journal quality is ranking. Thomson ISI also ranks the journals within JCR according to their importance within a particular field.

The *Economic History Review* has an impact factor of 1.051. At first glance, it would appear that this journal is relatively unimportant. In fact, it is arguably the premier English-language journal in its field (its major competitor, the *Journal of Economic History Review*, has even lower impact factor: a mere 0.529!). Far more illuminating is the journal's ranking. *Economic History Review* ranks first out of 15 journals in the Thomson-ISI's list of journals dealing with the history of the social sciences. In these terms it is clear why *Economic History Review* can have an impact factor less than fortieth of some science titles and still be .. "an excellent journal of world standing" (Herman Van Der Wee).

The example of the *Economic History Review* also reveals some of the limitations of journal ranking. There is no separate category for the discipline of economic history. Missing from the Thomson-ISI database are other premier titles in the field, such as the *Agricultural History Review*.

### **Learned Societies**

Another guide to journal quality is the general reputation of the association, society, or organisation publishing the journal.

Leading professional associations such as American Psychological Association (APA) or the Institute of Electrical and Electronics Engineers (IEEE) publish a range of journals that are highly regarded.

The American Medical Association publishes *JAMA*, and the Medical Association of Australia is responsible for the *MJA*. These journals are very important titles in the United States and Australia respectively. *JAMA* in particular is known by its reputation world-wide.

### **Editorial Board**

The reputation of the journal editor or editorial board is a good indication of the title's prestige. Once again, the *Economic History Review* provides an example. The journal has been edited by a succession of some of the most famous names in English economic history: including M M Postan, D C Coleman, H J Habakkuk, F M L Thompson, and E A Wrigley.

Membership of a journal's editorial board is often available on the journal's site or the inside cover of a paper issue.

### **Rejection rates**

A further indicator of journal quality is a high rejection rates. If a journal rejects all but a small percentage of the articles submitted for publication, it is likely that the journal's standards are higher than those of a journal with a higher acceptance rate. A premier

journal, like *Nature* might reject 95% of the articles submitted. Rejection/acceptance rates are often available on the journal's site or the inside cover of a paper issue.

### **Circulation figures**

Circulation figures are sometimes used as a clue to the quality of a journal. However, these depend on a range of factors. If a journal is published by a professional society, it might have a large quoted circulation, even if most of the members never bother to read it. Small, specialised journals can also have higher standards of peer-review than other titles.

Circulation figures for many journals are available from UlrichsWeb  
<<http://ezproxy.une.edu.au/login?url=http://www.ulrichsweb.com/ulrichsweb/>>

### **Frequency of inclusion in indexes**

A final guide to the quality of a journal is the number of journal indexes which index or abstract articles from the journal. Once again, this information is often on the inside cover of a journal, on the Web or available through Ulrichs.

### **Finding a Journal's Impact Factor using JCR**

- Go to <http://ezproxy.une.edu.au/login?url=http://isiknowledge.com/>
- Click on *Journal Citation Reports Go*
- Choose *JCR Science Edition* or *JCR Social Science Edition*
- Click on Search for a specific journal
- Click on the *SUBMIT* button
- Enter the Full Journal Title
- Click on the *SEARCH* button

### **Finding the relative ranking of a journal using JCR**

- Go to <http://ezproxy.une.edu.au/login?url=http://isiknowledge.com/>
- Click on *Journal Citation Reports Go*
- Choose *JCR Science Edition* or *JCR Social Science Edition*
- Click on *View a group of journals*
- Select *Subject Category* from the pull-down menu
- Click on the *SUBMIT* button
- Click on the required Subject Category from the pull-down menu
- Choose *View by Journal Data - Sort by Impact Factor*
- Click on the *SUBMIT* button

### **Citation Tracking**

Citation tracking is the method used to discover how many times a particular article has been cited by other articles. The usual tool employed for this purpose is a citation index.

### **Which indexes allow you to track citations?**

The major citation index is Thomson-ISI's Web of Science. Web of Science includes three separate parts: Science Citation Index (SCI), Social Sciences Citation Index (SSCI), and Arts & Humanities Citation Index (AHCI).

Google Scholar is another useful database for citation tracking. Articles in the Google Scholar database are linked to articles and books which refer to them.

Web of Science is the best known and most comprehensive citation index. We will therefore begin by learning its use.

### **Logging onto Web of Science**

- Type in your UNE username and password.
- Click on the Go button next to the words Web of Science.
- Choose which citation index you'd like to use by clicking in the check box next to the index title. The options are: Science Citation Index Expanded, Social Sciences Citation Index, Arts and Humanities Citation Index. You can search across one or more of these indexes at once.
- Check that the default date is set to all years (ie from 1996 to the present year)
- When you have made your choices, click on the CITED REFERENCE SEARCH button.

### **Cited reference searching**

Cited reference searching is used to discover who has cited an article since its publication.

For practice, we will find the authors who have referenced the following journal article:

J R Petit, J Jouzel, D Raynaud, N I Barkov, J M Barnola, I Basile, M Bender, J Chappellaz, M Davis, G Delaygue, M. Delmotte, V.M. Kotlyakov, M. Legrand, V.Y. Lipenkov, C Lorius, L Pepin, C Ritz, E Saltzman, M Stievenard. "Climate and atmospheric history of the past 420,000 years from the Vostok ice core, Antarctica" *Nature*, 399 (6735): 429-436, Jun. 3, 1999.

To find articles which have sited this article, we follow these steps:

- Enter the name of the first author (in this case J R Petit) in the CITED AUTHOR box. Web of Science expects the author's name to follow the format: Petit J\* (using \* means that you will find all authors with last name Petit and the first initial J, including those who have second initials, such as our author, JR Petit. Otherwise, you will miss some citations). The name of the author can be in upper, lower or mixed case.
- Enter the standard abbreviation for the journal In the CITED WORK box. In this case the abbreviation is *nature*. If you don't know the correct abbreviation, click on the *cited work index* or the *Thomson ISI list of journal abbreviations* link.
- Enter the year in which the article was published in the CITED YEAR box.
- Click on the Search button.

Web of Science presents you with a list of matching articles. Note that there are a number of variant citations. These are the results of minor citation errors by article authors.

Click in the check boxes next to the matching citations and then click on the FINISH SEARCH button.

Web of Science will present you with a complete list of articles which cite our original article.

### **Creating a Marked List**

From this list of results, you can create a marked list of selected items. These can then be printed, saved, emailed or exported to EndNote at one time.

To create a marked list:

- Select individual records from each page by clicking in the check box to the left of each record you want to mark. Click on the ADD TO MARKED LIST button before you leave the page or the selections will be lost.
- Click in the Select All check box on the right to select all the records on this page. Click on the ADD TO MARKED LIST button in the
- To select a range of records (up to a maximum of 500), click in the check box next to the word Records and enter the range in the boxes to the right. Click on the ADD TO MARKED LIST button.

The MARKED LIST button will appear once you have saved a list of articles using any of these three methods.

## **Working with the marked list**

Click on the MARKED LIST icon to choose the fields you wish to include in your list of citations. It is a good idea to include the abstract field if you are exporting records directly to EndNote.

The next step is to decide which action you want to take – print, save, export or e-mail.

## **Printing records**

- Click the FORMAT FOR PRINT icon.
- Click on the PRINT button within Web of Knowledge or click on the Print icon in your browser.

## **Saving records**

- Click on the SAVE TO FILE button on the Marked Records page. A Save window appears. Choose where you want the file saved and give your file a name.
- Click on the Save button.

## **Exporting records to EndNote**

If you have EndNote installed on your computer, then you can send references directly to your EndNote library.

- Click on the EXPORT TO REFERENCE SOFTWARE button.
- Web of Science will ask you to select the EndNote library to receive the exported references.
- Select the relevant EndNote library.
- Click on Done when finished.

## **E-mailing records**

- Click on the E-MAIL button.
- Enter an email address in the E-mail records to: box. Note: you must enter your complete email address.
- Enter your email address in the Return e-mail: box. This step is optional.
- Enter any comments you wish to make in the Notes: box. This step is optional.
- Choose the desired email style. The safest option is Text.
- Click on the Continue button.
- Click on the Done button.

## **Secondary cited author searching**

Web of Science allows you to search by a second or subsequent author if the article was published after 1997.

For example, you can look up the references to the article by J.R. Petit, J. Jouzel, D. Raynaud, N.I. Barkov, J.M. Barnola, et al. by entering jouzel j\* or raynaud d\* or barkov n\* or barnola j\* as the cited author.

However, in order to retrieve all variations, you must perform a cited reference search on the first author listed (Petit in this example).

### **Cited reference searching – variations**

Author names are sometimes indexed differently in Web of Science's citation indexes.

To retrieve all the variations, enter punctuated or multipart names in their joined and unjoined forms.

For example, the cited author in Figure 9 below is Lisa Lobry de Bruyn, so try debuyn l\* or de bruyn l\*.

### **Eliminating self-citations**

Most of the time you will want to exclude self-citations (an author's citation of their own articles) from your results. This is necessary if you wish to gain a truer picture of their influence.

This can be done by combining a cited reference search with a search by source author.

- Perform a [cited reference search](#) (as explained above) to find articles that cite the works of a particular author.
- Click the **General Search** button on the toolbar. Enter the name of the same author in the Author field. Click **Search**.
- Click the **Advanced Search** button on the toolbar. Combine the two searches you just completed in a Boolean NOT expression (e.g., #1 NOT #2). The results of the General Search (the articles written by the author) should be the set on the right-hand side of the operator.
- Click on the Search button.

The results will exclude self-citations.

### **Logging out**

As there is a limit to the number of simultaneous users of Web of Science please ensure that you click on the Log out button when you have completed your session.

### **Limitations of Web of Science**

Although Web of Science is often the best place to begin your citation tracking, this source has significant limitations. These include:

- coverage is heavily biased in favour of English-language journals. If a journal does not provide a summary of its article contents in English, ISI simply omits the journal from its database, no matter how prestigious or important the journal.
- coverage outside science, technology and medicine is thin: the Social Science Citation Index indexes fewer than 3% of social science journals world-wide.
- misspellings of author names and incorrect citations are common. This makes it difficult to be certain that there are no missing citations.
- coverage outside of the US (other than the UK and the Netherlands) is extremely limited.
- books are not included in the Social Science Citation Index.

It is equally important to note that UNE subscription to the Web of Knowledge indexes is only from 1992 onwards. The Library does have older volumes of these indexes in the Reference section.

Many researchers have turned to Google Scholar as an alternative to Web of Science.

### **Citation tracking in Google Scholar**

Google Scholar offers citation totals for journal articles and other items in its database. If a Google Scholar has been cited by another source, a Cited by link will appear below the article entry in Google Scholar's search results. Clicking the 'Cited by' link will display a list of articles that have cited the original article. As many of these articles are also likely to display a Cited by link, this process can be repeated many times.

In addition, many articles also display a "Web Search" link. Clicking on this link will run a regular Google search using the primary author's last name and a phrase search of the document title. This can pull up other sources not in Google Scholar, although the results of the search can include Web pages and other non-academic material.

Even when you use the Cited by link, the citations you see are not restricted to articles in academic journals. They include citations in books (both academic and popular) research reports, dissertations, conference proceedings, and article preprints/postprints. Citation counts in Google Scholar should not therefore be compared directly to those in Web of Science. The additional citations in Google Scholar are sometimes of questionable academic value in terms of academic impact, although they may be useful for other reasons.

## Google Scholar

Although Google Scholar has attracted enormous attention, it is not without its critics. Professor Péter Jascó, an information scientist at the University of Hawaii, is one of the harshest. He concluded that “for scholarly research the breadth of coverage is not sufficient, the implementation is sloppy and the software options are inferior.” Not suprisingly, Thomson ISI, the publishers of Web of Science, are happy to give prominence to the results of his research. (Dr Jascó is also an online columnist for Gale, one of Thomson-ISI’s sister companies.) Although harsh, Dr Jasco is not wrong. The citation counts which Google reports cannot be taken at face value. Each item needs to be checked. Despite this flaw, Google Scholar will remain a useful tool for citation indexing. As long as Web of Science excludes over 90% of journals in the social sciences and humanities (and many non-English language journals), researchers will continue to use tools such as Google Scholar to plug the gaps.

## Other sources of citations

Although Web of Science and Google Scholar record citations across a range of disciplines, there are also a number of specialised indexes that can assist you to track citations within a discipline.

Like Web of Science and Google Scholar, these indexes will only alert you to citations within their databases.

These include:

- **CSA:** Where a CSA-hosted index provides a list of article references (eg BioOne or PsycARTICLES), it will also include the information how often a particular reference has been cited by other articles in the CSA database.
- **ERIC:** If an article has been cited by another article in the ERIC database, ERIC will display this information in the original article record.
- **HighWire:** HighWire informs you if an article in its database has been cited by one or more other HighWire articles. Click on **View Citation Map** next to the article details in the list of search results
- **Institute of Physics (IoP):** The abstracts for articles in IoP journals will often contain links to **All Citing Articles**.
- **SpringerLink:** This database uses Cross-Ref to provide links from its articles to citing articles. Citing articles are displayed in the article abstract under **Referenced by**.

- Wiley InterScience: Wiley is another journal provider which uses Cross-Ref to provide links from articles to citing articles. Click on **citation tracking** in the article abstract.

No citation index will give you a complete citation count. Even Web of Science (arguably the most comprehensive citation index available) provides only a partial coverage. By searching a number of indexes you can gain a better idea of the actual citation count for a particular article.