Impact Factors

Library Factsheet no.1

What is an impact factor?
The impact factor of a journal is a quantitative tool for evaluating the relative importance of a journal. It is a measure of the frequency with which its published papers are cited up to two years after publication.

How is it calculated?
For any given journal a count is made each year of the total number of times all its articles, reviews, proceedings or notes from the previous two years were cited during the current year.

This number is then divided by the total number of 'citable' items published by the same journal over the same two year period. Items deemed as 'non-citable', such as editorials or letters to the editor are excluded (but any citations they receive still count).

For example in 2016 the journal 'Econometrica' had 473 citations to items it published in 2014 and 2015, during which time period it published 140 items in total. The 2016 impact factor is derived from dividing 473 by 140, thus making 3.379. The Lancet has 27,742 cites in 2016 to articles it published in 2014-2015 from a total of 580 articles altogether, producing a 2016 impact factor of 47.831.

Where does the information come from?
The information is available on the Journal Citation Reports (JCR) service via the Thompson Reuters ISI Web of Science database. This service is updated annually and the Library has a subscription to the latest edition available.

A direct link to the JCR, including an alternative for off-campus access via Institutional Login is available from the Library list of databases (http://library.soton.ac.uk/resources/). You can also access the JCR, via the Web of Science (http://wok.mimas.ac.uk/).

It can be found through the link at the top of the screen in the main Web of Science.

The JCR by default will show the most recent year, and include all Science or Social Science journals. You can then view a group of journals by various criteria (e.g. subject category, publisher, country, etc.) or search for a specific journal title. ‘Categories by Rank’ gives summary statistics for each category.

To make a selection in the JCR tick the box of the Categories etc. you want to choose.

Then click followed by the Submit button (bottom left of the screen).

The JCR currently covers approximately 12,000 journal titles. For more information there is a 'Help' link at the top right of the screen.
The summary list shows the Impact Factors for each title. Clicking on a title will give full details of the available metrics for that journal.

The ‘Customize Indicators’ allows different metrics to be displayed in the summary list. If you register with Web of Science your preferences can be saved. You can click instead to apply your selections without saving.

From either route it is possible to navigate to further information that can be used to assist in determining the relative importance of a journal such as:

- A five-year calculation instead of the usual 2 (useful for those subject areas which take longer to cite)
- The Journal Immediacy Index (how likely an article is cited in the year it is published – based on the current year only).
- The Cited Half-life (50% of the journal’s cited articles are at least this old). This helps to evaluate the age of the majority of articles in a journal being cited.

**Limitations**

The impact factor can only be used as an indication of a journal’s overall influence; it can’t be used to assess the quality of individual papers or the work of specific individuals. It is necessary to be aware of the selective coverage of titles by the JCR, and the danger of placing too much reliance on the methods used. For example:

- There can be some disagreement about whether letters, editorials, etc. should count as a ‘citable’ article.
- Those journals that publish more review articles are likely to get a higher number of cites than those which publish more research reports.
- You can only compare impact factors within a subject area. Differences in citation patterns can make any other comparison meaningless. E.g. the average for medicine (general) is 4.104, for Maths 0.735.

**For more information see:**

The Thomson Reuters Impact Factor  

“European Association of Science Editors statement on impact factors”  

Joint Committee on Quantitative Assessment of Research Citation Statistics  