Journal Ranking & Impact Factors

Are you trying to decide which journal to publish in and want to know more about a journal’s impact?

This practical workshop aims to highlight the main tools available to identify and compare journal rankings and impact factors. Their relative strengths and weaknesses will also be covered.

It will be useful for those intending to publish their research and who wish to identify journals in their field that receive higher number of citations which therefore can be considered to have the greater impact.

For those interested in identifying citations for a specific paper or author, the companion workshop ‘Who’s Citing You?’ would be more suitable.
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1 Why are journal rankings & impact factors useful?

- To identify journals in which to publish: journal rankings/impact factors can indicate which publications receive higher rates of citations.

- To identify key journal titles within a subject field: higher rankings/impact factors can indicate higher levels of influence and readership.

- May be used by funding agencies to assess grant applications and the outcomes of existing projects.

- May be used to monitor and compare the research output of an institution: to benchmark performance, identify strengths & weaknesses, allocate research funding.

2 What tools are available for measuring journal impact?

The most established source for journal rankings is the Journal Citation Reports (JCR) database but this workshop will also cover the following alternative tools: Scimago (SJR), Source Normalized Impact per Paper (SNIP) and Google Scholar Metrics. Each has their own strengths and weaknesses, particularly around the area of subject coverage.

Points to consider:

- As different ranking tools use different metrics and have different journal coverage, it is advisable to use several tools. The same journal can be ranked higher or lower depending on the tool used.

- It is difficult to compare journal rankings across disciplines as differing publication and citation behaviour leads to higher rankings in certain subjects.

- None of the current ranking tools adequately categorise multi-disciplinary journals.

- Journal rankings are not appropriate for all subject areas, particularly those with low citation frequency. Some disciplines also mainly publish in books or conference proceedings.
3 Journal Citation Reports (JCR) – Web of Science

Journal Citation Reports in Web of Science, uses citation data drawn from approximately 12,000 scholarly and technical journals and conference proceedings from more than 3,300 publishers in over 80 countries/regions. The JCR contains citation data on journals in the areas of science, technology and social sciences. There is a Science edition and a Social Sciences edition but no Arts and Humanities edition.

The Journal Impact Factor (JIF) is calculated by dividing the number of current year citations by the total number of items published within that journal during the previous two years.

The more citations a journal receives, the greater its impact factor.

Using the journal Nature as an example

<table>
<thead>
<tr>
<th>Total number of citations in 2017 to articles published in 2015 &amp; 2016</th>
<th>74,090</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of articles published in 2015 &amp; 2016</td>
<td>1,782</td>
</tr>
<tr>
<td>Impact Factor for 2013=74,090/1,782</td>
<td>41.577</td>
</tr>
</tbody>
</table>

JCR strengths and weaknesses

- Selective and authoritative with good coverage of high impact journals
- Stronger in Science and Technology with fewer titles included from the Humanities
- New journals need to be in existence for at least 3 years before receiving its first impact factor which may be problematic for fast moving areas.
- Can display Open access only journals
- Difficult to compare Impact Factors across disciplines as differing publication and citation behaviour leads to higher impact factors in certain subjects.
- Currently limited coverage of non-English language titles

3.1 Searching for the Impact Factor of a specific journal

Go to the Online Library and select Resources A-Z

Scroll down the list and select Journal Citation Reports (JCR)

Type in the journal title NATURE in the search box. Note that you can enter the journal title or the ISSN.

Click Search. You will see the Journal Profile page with the Journal Impact Factor Trend and Citation distribution for the latest available citation year. To see previous years click All years. The citation trend graph shows how the journal impact factor has varied over the previous 5 years. The Citation distribution shows how articles and reviews perform in this journal.

The Journal Impact Factor and how is calculated is followed by a list of the articles which contributed to the impact factor of the journal with the most cited articles first and a list of the citations they generated.
All the key indicators and metrics are summarised further down in the Key Indicators section.

### Key Indicators 2017

<table>
<thead>
<tr>
<th>IMPACT METRICS</th>
<th>INFLUENCE METRICS</th>
<th>SOURCE METRICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cites</td>
<td>Eigenfactor Score</td>
<td>Citable Items</td>
</tr>
<tr>
<td>Journal Impact Factor</td>
<td>Article influence Score</td>
<td>% Articles in</td>
</tr>
<tr>
<td>5 Year Impact Factor</td>
<td>Normalized Eigenfactor</td>
<td>Citable Items in</td>
</tr>
<tr>
<td>Immediacy Index</td>
<td></td>
<td>Average JIF Percentile</td>
</tr>
<tr>
<td>Impact Factor Without</td>
<td></td>
<td>Cited Half-Life</td>
</tr>
<tr>
<td>Journal Self Cites</td>
<td></td>
<td>Citing Half Life</td>
</tr>
</tbody>
</table>

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cites: 710,767</td>
<td>Eigenfactor Score: 1.35500</td>
<td>Citable Items: 836</td>
</tr>
<tr>
<td>Journal Impact Factor: 41.577</td>
<td>Article influence Score: 22.537</td>
<td>% Articles in Citable Items: 95.93</td>
</tr>
<tr>
<td>5 Year Impact Factor: 44.959</td>
<td>Normalized Eigenfactor: 158.27100</td>
<td>Average JIF Percentile: 99.219</td>
</tr>
<tr>
<td>Immediacy Index: 9,700</td>
<td></td>
<td>Cited Half-Life: 10.8</td>
</tr>
<tr>
<td>Impact Factor Without Journal Self Cites: 41,015</td>
<td></td>
<td>Citing Half Life: 8.0</td>
</tr>
</tbody>
</table>

### 5-year Impact Factor

The 5-year Impact Factor is the average number of times articles from the journal published in the past five years have been cited in the JCR year. It is calculated by dividing the number of citations in the JCR year by the total number of articles published in the five previous years. Citation behaviour varies between disciplines. In some fields there is a very rapid pace of citation activity whereas in others it takes longer to reach a peak of citation activity, so the impact is extended over a longer period of time. For this reason, the 5-Year Impact Factor may be a better indicator than the traditional 2 year factor.

Impact Factor Without Journal Self Cites calculates the journal’s Impact Factor without the contribution of self cites. Self-citations are the number of times a journal has cited from itself. This may not be unwarranted, especially in niche fields, or in particularly dominant publications. However, in some cases it may be a distortion of the journal's true position (i.e. impact) within the discipline.

Immediacy Index can be useful for identifying which journal is publishing “cutting edge” research. It measures how frequently the average article from a particular journal is cited within its same year of publication. The immediacy index is calculated by dividing the number of citations to articles published in a given year by the number of articles published in that same year.

Scroll down to ‘Contributions by organisation’ and ‘Contributions by country/region’ at the bottom of the page to see which organisations and countries generated this journal’s performance.

### Contributions by country/region

<table>
<thead>
<tr>
<th>country</th>
<th>count</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>3,095</td>
</tr>
<tr>
<td>England</td>
<td>1,004</td>
</tr>
</tbody>
</table>

### Contributions by organizations

<table>
<thead>
<tr>
<th>organization</th>
<th>count</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIVERSITY OF CALIFORNIA SYSTEM</td>
<td>587</td>
</tr>
<tr>
<td>HARVARD UNIVERSITY</td>
<td>475</td>
</tr>
</tbody>
</table>

If you need more detailed metrics information the ‘Journal Source Data’ gives the number of the citable items and references.
The ‘click here’ link takes you to a page with more metrics data and ‘Journal Relationships’. The latter displays the cited or citing data relationships between Nature and the top 20 journals in its network.

3.2 Comparing impact factors within a subject category
Return to the JCR home page by clicking the Journal Citation Reports tab

Click Browse by Category and on the next page click the tab Journals By Rank
Scroll down and select the ones you want to compare by ticking the box next to each one.
Scroll through the subject category and select Psychology (you can choose more than one category by holding down the CTRL key. Mac users should use the Command key).
Select the edition you want to use and add any additional filters you want to include like Open Access, Impact Factor Range and Country/Region.

Click **Submit**

This will display a list of journals in this category and their impact information.

To compare two or more journals, tick the ones you want to use and then click **Compare Selected Journals**.

On the next page click **Trends**, select **5 year Impact Factor** and click **Submit**.
The 5 year Impact Factor of the selected journals will be displayed.

4 SCImago Journal Rank (SJR) - Scopus

SCImago Journal Rank (SJR) is a freely available tool that uses the citation data contained within Elsevier's Scopus database. The SJR metric differs from Journal Impact Factor (JIF) in that it covers a three year citation period and takes into account the importance or prestige of the citing publication as well as the number of citations received by a journal. It identifies and shows separately the number of self-citations.

4.1 SJR strengths and weaknesses

- Broader coverage of Social Sciences, Humanities and Engineering journals
- Can display Open access only journals
- More regional coverage than JCR
- Only peer-reviewed articles are counted as cited or citing
- It is updated twice a year. New journals are picked up more quickly
- Includes more low impact journals than JCR
- Does not allow comparisons between disciplines

4.2 Search for a specific journal title

Go to [www.scimagojr.com](http://www.scimagojr.com). Type in the journal title Biomaterials and click the search icon. You can also search by Journal ISSN or publisher.
Click on the journal **Biomaterials**.

The top part of the page shows journal information and H-Index of the journal.

Journal rank screenshot Scroll down to see the citation graphs and charts. The first chart shows the **SCImago Journal Rank (SJR)** which shows how influential an average article in this journal is. A widget with the quartile and SJR factor can be found at the bottom of the page. Other charts show:

- total cites versus self-citations,
- cites per document across 2, 3 and 4 years,
- external cites per document and cites per document
- % of articles showing international collaboration
- citable versus non-citable documents (those articles not considered to be primary research)
- cited versus uncited documents

### 4.3 Comparing journal rankings within a subject category

Scroll back to the top of the page and select **Journal Rankings** from the main menu.

Click **All Subject Areas** and type in “Earth and Planetary Sciences” or select it from the drop down menu.

Select “Geology” as the **Subject Category** and **Journals** as the publication type.
This will display a list of the journals within the chosen subject category ranked by the SJR.

It is possible to download the data in Excel format by clicking the Download Data box.

5 Source Normalized Impact per Paper (SNIP)

SNIP is one of the few tools that allows comparison of journal rankings across disciplines. Using citation data from the Scopus database, SNIP takes into account differing citation behaviour by weighting or “normalising” citations based on the total number of citations in a subject field. The impact of a single citation is given higher value in subject areas where citations are less likely, and vice versa. Immediacy is also considered - how quickly a paper is likely to have an impact in a given field.

However unlike JCR and SJR, SNIP does not attempt to remove or limit journal self-citations.

5.1 Search for a specific journal title

Go to: [www.journalindicators.com](http://www.journalindicators.com). Click on Indicators.
Type in the journal title **Journal of Marketing** in the **Select Sources** search box

Click on **Journal of Marketing** from the list of results

<table>
<thead>
<tr>
<th>Title</th>
<th>P</th>
<th>SNIP</th>
<th>Stability interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Journal of Marketing</td>
<td>125</td>
<td>3.97</td>
<td></td>
</tr>
<tr>
<td>2 Journal of Marketing Research</td>
<td>165</td>
<td>2.47</td>
<td></td>
</tr>
<tr>
<td>3 Journal of Marketing Education</td>
<td>51</td>
<td>1.63</td>
<td></td>
</tr>
</tbody>
</table>

The following indicators for this title are displayed since 1999.

SNIP (Source Normalized Impact per Paper) = Average number of citations per publication, corrected for differences in citations practices between fields.

P (number of publications)

RIP (Raw Impact per Publication) = Average number of citations per publications

Percentage of journal self-citations

Click on the indicator pull down menu to change graph display from SNIP to RIP etc. Position your mouse on the graph to reveal precise annual figures.
5.2 Compare rankings within a subject field

Click on Indicators in the top menu bar.

In the Subject Area section, use the drop down menus to select Business, Management and Accounting as a main area and then Accounting as a sub-area.

Results are displayed in order of SNIP values but this order can be changed by using the pull down menu in the Select Sources and Sort Order section.
6 Google Scholar Metrics (GSM)

Google Scholar Metrics was established in April 2012 and ranks journals using the h-index. Although more commonly associated with the assessment of researchers’ careers, this metric can also be used to evaluate journals. A journal with an h-index of 12 has published 12 papers with at least 12 citations each. Google has chosen a five-year time frame for calculating the h-index and also shows the median number of citations obtained by the articles that contribute to the h5-index.

The figures are based on citations from all articles that were indexed in Google Scholar as of June 2014 and currently covers papers published between 2009 and 2013. Only journals that have published at least 100 articles in the last five years are included in GSM. Publications that received no citations are also excluded. Other sources have been included such as repositories, and selected conference papers in Computer Science and Electrical Engineering.

6.1 GSM strengths and weaknesses

- Includes journal articles from websites that follow their inclusion guidelines and selected conference articles in Computer Science and Electrical Engineering
- Freely available with a simple interface
- Covers non-English language titles
- Poor quality control and lack of standardization resulting in errors in bibliographic data and duplication of journal titles.
- Coverage is uneven across disciplines
- No source list of journal titles & other material
- Journals that publish more papers will have proportionally larger values
- GSM results should therefore only be used in conjunction with other journal ranking tools.

6.2 Comparing journal rankings within a subject category

Go to http://scholar.google.co.uk/

Click on the three lines in the top left hand corner. Then click Metrics. The top 100 publications in English are displayed in order of their five-year h-index and h-median.
For English language titles alone, it is possible to see the top 20 journals ranked within specific subject areas. Click the drop down arrow next to **Categories**. Click **Social Sciences**.

Click the drop down arrow next to **Subcategories** and then click **Education**.

To see which articles in a publication were cited the most, click on its h5-index number.

<table>
<thead>
<tr>
<th>Publication</th>
<th>h5-index</th>
<th>h5-median</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Teaching and Teacher Education</td>
<td>57</td>
<td>88</td>
</tr>
<tr>
<td>2. British Journal of Educational Technology</td>
<td>57</td>
<td>79</td>
</tr>
<tr>
<td>3. Educational Researcher</td>
<td>56</td>
<td>90</td>
</tr>
<tr>
<td>4. Learning and Instruction</td>
<td>51</td>
<td>73</td>
</tr>
<tr>
<td>5. Review of Educational Research</td>
<td>49</td>
<td>92</td>
</tr>
<tr>
<td>7. Studies in Higher Education</td>
<td>48</td>
<td>60</td>
</tr>
<tr>
<td>8. Higher Education</td>
<td>46</td>
<td>68</td>
</tr>
</tbody>
</table>

The disciplines and subcategories in which a journal has been classified and its position are shown. The first item has been cited 310 times. Click on the **cited by** number to view all of the articles that cite it.
6.3 Search for a specific journal title

Type the journal title “Harvard Business Review” in the search box at the top of the screen and click on the Search symbol.

Click on the h5-index number to see the full record for that title.