

Measuring Your Impact: Impact Factor, Citation Analysis, and other Metrics

Guide Information

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Guide URL: <http://researchguides.uic.edu/if>
Description: Overview of h-index, Eigenfactor, Impact Factor (IF), Journal Citation Reports, Citation Analysis, and other tools.
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About IF & Citation Analysis

Where to Publish?

There are many resources that you can consult in order to determine what journal might be best for your publication. One of the aspects that you may want to consider is the [impact factor](#) of the journal. There are several resources measuring the impact of journals. In addition, you may want to consult [Ulrich's Periodicals Directory](#) which can provide information about the history of a journal, its publisher, if its open access, and what databases index the journal.

About Journal Impact

Impact Factor - What is it?; Why use it?

The **impact factor (IF)** is a measure of the frequency with which the average article in a journal has been cited in a particular year. It is used to measure the importance or rank of a journal by calculating the times its articles are cited.

How Impact Factor is Calculated?

The calculation is based on a two-year period and involves dividing the number of times articles were cited by the number of articles that are citable.

Calculation of 2010 IF of a journal:

A = the number of times articles published in 2008 and 2009 were cited by indexed journals during 2010.

B = the total number of "citable items" published in 2008 and 2009.

A/B = 2010 impact factor

See [Introducing the Impact Factor](#) and [Reliability of the Impact Factor](#) for more information.

How to Measure your Impact PPT

- [How to measure your impact.](#)

Feel free to use this power point and change it as you need it. Please however give credit to me (Sandra De Groote) as part of your document or powerpoint.

About Citation Analysis

Citation Analysis - What is it?

The process whereby the impact or "quality" of an article is assessed by counting the number of times other authors mention it in their work.

Citation Analysis - Why use it?

To find out how much impact a particular article or author has had, by showing which other authors cited the work within their own papers. H-Index is one specific method utilizing citation analysis to determine an individuals impact.

Ulrich's Periodicals Directory

[Ulrichweb](#) provides detailed, comprehensive, and authoritative information on serials published throughout the world. It covers all subjects, and includes publications that are published regularly or irregularly and are circulated free of charge or by paid subscription. Ulrichs will also indicate if a journal is peer-reviewed. A refereed journal will have a "refereed" icon next to the title.

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Journal Impact Factor (IF)

Tools to Measure Impact Factor

[Journal Citation Reports](#)

Journal Citation Reports provides ranking for journals in the areas of science, technology, and social sciences. For every journal covered, the following information is collected or calculated: Citation and article counts, Impact factor, Immediacy index, Cited half-life, citing half-life, Source data listing, Citing journal listing, Cited journal listing, Subject categories, Publisher information

To determine the impact factor for a particular journal, select a JCR edition (Science or Social Science) and year. Next, select a search option (view journals by subject, search for a specific journal, or view all journals) to find if the journal you're looking for has an impact. Because impact factors mean little on their own, it's best to select the 'view journals by subject' option to the journal you are interested in compared to the other journals in the same category. Sort your results by impact factor so you can see how the journal compares.

Tutorial: [Journal Citation Reports Impact Factor](#) - ISI Thomson [7 min 35 sec]

[Eigenfactor](#)

Eigenfactor scores can be found in the above listed Journal Citation Reports or at [eigenfactor.org](#). Eigenfactor scores are intended to give a measure of how likely a journal is to be used, and are thought to reflect how frequently an average researcher would access content from that journal. ([Wikipedia](#)) Ranks journals using an algorithm, comparable to Google's ([Morrison](#)). Each journal has a calculated Eigenfactor (determined by the number of articles published in a journal, with prolific journals having a high Eigenfactor; also have an article influence (AI) which is similar to the impact factor where it measures the average influence of an article . ([more information](#))

SCImago

"The SCImago Journal & Country Rank is a portal that includes the journals and country scientific indicators developed from the information contained in the Scopus® database (Elsevier B.V.)." Scopus contains more than 15,000 journals from over 4,000 international publishers as well as over 1000 open access journals. SCImago's "evaluation of scholarly journals is to assign weights to bibliographic citations based on the importance of the journals that issued them, so that citations issued by more important journals will be more valuable than those issued by less important ones." ([SJR indicator](#))

Reliability of the Impact Factor

- Seglen, P. O. (1997). [Why the impact factor of journals should not be used for evaluating research](#). British Medical Journal, 314(7079), 498-502.
- Johnstone, M. J. (2007). [Journal impact factors: Implications for the nursing profession](#). International Nursing Review 54(1), 35-40.
- Ironside, P. M. (2007). [Advancing the science of nursing education: Rethinking the meaning and significance of journal impact factors](#). Journal of Nursing Education, 46(3), 99-100.
- Satyanarayana, K. & Sharma, A. (2008). [Impact factor: Time to move on](#). The Indian Journal of Medical Research, 127(1), 4-6.
- Greenwood, D. C. (2007). [Reliability of journal impact factor rankings](#). BMC Medical Research Methodology, 7(48), 48.
- Howard, J. (2009). [Humanities journals confront identity crisis](#). The Chronicle of Higher Education, 55(19), A1.

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Citation Analysis

Citation Analysis

Citation analysis involves counting the number of times an article is cited by other works to measure the impact of a publication or author. The caveat however, there is no single citation analysis tool that collects all publications and their cited references. For a thorough analysis of the impact of an author or a publication, one needs to look in multiple databases to find all possible cited references. Below is a list of resources at UIC that identify cited works.

[Web of Science](#)

Web of Science provides citation counts for articles indexed within it. It indexes over 10,000 journals in the arts, humanities, sciences, and social sciences.

- [Tutorials](#) on Citation Analysis in Web of Science

[Scopus](#)

Scopus provides citation counts for articles indexed within it (limited to article written in 1996 and after). It indexes over 15,000 journals from over 4,000 international publishers across the disciplines.

[Google Scholar](#)

Google Scholar provides citation counts for articles found within Google Scholar. Depending on the discipline and cited article, it can be find more cited references than Web of Science. Try [Harzing's Publish or Perish Tool](#) in order to more selectively examine published works by a specific author.

Databases containing limited citation counts:

- [CINAHL](#)
- [CSA Illumina Databases](#) (BioOne Abstracts and Indexes, ERIC, PsycInfo, Social Services Abstracts, Sociological Abstracts, Worldwide Political Science Abstracts)
- [EBSCOhost Databases](#) (Academic Search Complete, America: History and Life, CINAHL, Communication and Mass Media Complete, Historical Abstracts)
- [EMBASE](#)
- [PubMed Central](#)
- [Science Direct](#)
- [SciFinder Scholar](#)

Have Questions?

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About the H-index

The h-index is an index to quantify an individual's scientific research output. J.E. Hirsch - <http://www.pnas.org/content/102/46/16569>
The h-index is an index that attempts to measure both the scientific productivity and the apparent scientific impact of a scientist. The index is based on the set of the researcher's most cited papers and the number of citations that they have received in other people's publications ([Wikipedia](#)) A scientist has index h if h of [his/her] Np papers have at least h citations each, and the other (Np – h) papers have at most h citations each.

Find your h-index at:

- [Web of Science](#)
- [Scopus](#)
- [Google Scholar](#)

Find your H-index

[Web of Science](#)

- Enter the name of the author in the top search box (e.g. Smith JT). Select Author from the drop-down menu on the right.
To ensure accuracy for popular names, enter Univ Illinois in the middle search box, then select “Address” from the field drop down menu on the right.

- Click on Search
- Click on Citation Report on the right hand corner of the results page, the H-index is on the right of the screen

[Scopus](#)

- Once in Scopus, click on the Author search tab.
- Enter the name of the author in the search box. If you are using initials for the first and/or middle name, be sure to enter periods after the initials (e.g. Smith J.T.).
- To ensure accuracy if it is a popular name, you may enter University of Illinois in the affiliation field.
- Click search.
 - If more than one profile appears, click on your profile (or the profile of the person you are examining). Under the Research section, you will see the h-index listed.
 - If you have worked at more than one place, your name may appear twice with 2 separate h-index ratings. Select the check box next to each relevant profile, and click show documents.

Google Scholar

- [Google Scholar Citations](#)
 - Using your google (gmail) account, create a profile of all your articles captured in Google Scholar. Follow the steps that Google Scholar takes you through to add your publications to your profile. Once completed, this will show all the times the articles have been cited by other documents in Google Scholar. Its your choice whether you make your profile public or private but when you make it public, you can link to it from own webpages.
 - See [Albert Einstein's](#)

[Harzing's Publish or Perish \(POP\)](#)

- Publish or Perish Searches Google Scholar. After searching by your name, deselect from the list of articles retrieved those that you did not author. Your h-index will appear at the top of the tool. Note: This tool must be downloaded to use

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Citation Analysis

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Other Metrics

AltMetrics

Studies have started to examine metrics, such as the number of downloads and the number of social bookmarks for an article, with the number of citations an article has received. Using Web 2.0 technology to assess the value of the scholarship or more specifically, “the creation and study of new metrics based on the Social Web for analyzing, and informing scholarship” is known as “altmetrics” (Jason Priem, Dario Taraborelli, Paul Groth, and Cameron Neylon, 2010. “Alt-metrics: A manifesto,” at

<http://altmetrics.org/manifesto/>). Altmetrics are not meant to replace citation counts or the h-index, but instead compliment the metrics with additional data. Eysenbach (2011) found the number of tweets about a research article, within the first three days of an article's publication, can predict which articles will be highly cited. Articles that were tweeted highly on Twitter were more likely to be cited more often in scholarly papers later. Eysenbach notes, "Correlation is not causation, and it harder to decide whether extra citations are a result of the social media buzz, or whether it is the underlying quality of an article or newsworthiness that drives both the buzz and the citations — it is likely a combination of both. (Eysenbach, 2011. "Can Tweets predict citations? Metrics of social impact based on Twitter and correlation with traditional metrics of scientific impact," Journal of Medical Internet Research, volume 13, number 4, at <http://www.jmir.org/2011/4/e123/>)

- **PLoS** has begun to track impact metrics beyond just citation counts and have developed software that will track the number of times an article is shared using social networking tools such as CiteULike, Connotea, Facebook and Mendeley.
- **Altmetric** - <http://www.altmetric.com/>

The Altmetric score is a quantative measure of the quality and quantity of attention that a scholarly article has received through social media.

- **ImpactStory** (<http://impactstory.org/>)

Scholars enter information about the articles, such as the DOI to generate an impact report (may provide the number of times an article has been liked on Facebook, tweeted, cited in publications, viewed at the publisher Web site, or shared on social bookmarking tools such as Delicious, Mendeley, or CiteULike).

- **CitedIn** (<http://citedin.org/>)

Scholars enter the PubMed PMID to generate an impact report.

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Unique Author IDs

Name Authority

When publishing an article, consider how unique your name is at your institution or nationally at the research level. Databases such as Web of Science and Scopus attempt to connect your publications together for impact and h-index calculations. However, the more common your name is, the more difficult it can be to distinguish you from other authors. When publishing an article, consider using not only your first name, but your second name or first initial of your second name to help disambiguate your name from other researchers.

Some databases such as Web of Science and Scopus assign unique author IDs to help connect articles from one author. However, these author IDs are unique to the specific database, and they may not completely unit all your publications together under one ID if you belong to multiple departments or have worked at multiple institutions.

ORCID aims to solve the name ambiguity problem in scholarly communications by creating a registry of persistent unique identifiers for individual researchers and an open and transparent linking mechanism between ORCID, other ID schemes, and research objects such as publications, grants, and patents.

- **ORCID. A System to Uniquely Identify Researchers** outlines best practices for collecting and displaying ORCID identifiers in research papers.

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<http://researchguides.uic.edu/aecontent.php?pid=43156>

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