Journal Impact Factor (JIF)

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Introduction

- The **Journal impact factor (JIF),** also known as **Impact factor (IF)** is a measure of the frequency with which the average article in a journal has been cited in a particular year.

- is the Journal Impact Factor (JIF), used by Web of Science.

- It is used to measure the importance or rank of a journal by calculating the times it's articles are cited.

- Its primary purpose is to show the relative importance of a journal within its respective field.

History

- The impact factor was devised by Eugene Garfield, the founder of the Institute for Scientific Information (ISI) in Philadelphia.

- Impact factors began to be calculated yearly starting from 1975 for journals listed in the *Journal Citation Reports* (JCR). ISI was acquired by Thomson Scientific & Healthcare in 1992, and became known as Thomson ISI.

- In 2018, Thomson-Reuters spun off and sold ISI to *Onex Corporation* and *Baring Private Equity Asia*. They founded a new corporation, Clarivate, which is now the publisher of the JCR.

Overview of IF

- ▣ The impact factor relates to a specific time period; it is possible to calculate it for any desired period.

- ▣ New journals, which are indexed from their first published issue, will receive an impact factor after two years of indexing

- ▣ Journals covering large research areas that use many references per article are likely to have high impact factors.

Impact Factor(IF) calculation

- 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 2020 IF of a journal:**

- *A* = the number of times articles published in 2018 and 2019 were cited (Citations) by indexed journals during 2020.

- *B* = the total number of "citable items" published (Publication) in 2018 and 2019.

- *A/B* = 2020 impact factor

Use

- it is frequently used as a <u>proxy</u> for the relative importance of a journal within its field;

- journals with higher impact factor values are given status of being more important, or carry more prestige in their respective fields, than those with lower values

Criticism

- Regarding the use of impact factors, both in terms of
  - its statistical validity and
  - implications for how science is carried out and assessed.
- Intervals representing plausible ranges of values for journal impact factor ranks indicated that most journals cannot be ranked with great precision.
- validity of the impact factor as a measure of journal importance and the effect of policies that editors may adopt to boost their impact factor (perhaps to the detriment of readers and writers).

Limitation

- The percentage of total citations occurring in the first two years after publication also varies highly among disciplines from.
  - Thus impact factors cannot be used to compare journals across disciplines.
- Other studies have repeatedly stated that impact factor is a metric for journals and should not be used to assess individual researchers or institutions.

Other metrics (1/3)

H-index

- ◼ The h-index has been originally an author-level metric that quantifies a writer's scientific research output. This index measures the scientific productivity and impact of a scientist at the same time.

- ◼ The h-index is often computed for journals as well

Cite Score

- ◼ Scopus' CiteScore measures a specific journal's citation impact. It's completely free to use, transparent, and calculates metrics using Scopus data.

Other metrics (2/3)

SCImago Journal Rank

- ▣ SCImago Journal Rank (SJR) in Scopus' and SCImago's databases operates on the principle that "not all citations are created equal."

- ▣ With these metrics, a specific journal's subject, quality, and reputation directly affect the value of its citations.

Source Normalized Impact per Paper

- ▣ Source Normalized Impact per Paper (SNIP) – also used by Scopus – measures the impact of a citation by analysing them according to the overall citation number in a particular subject field.

- ▣ Therefore, a single citation's impact will be higher in subject fields where citations are less likely.

Other metrics (3/3)

Altmetrics

- Altmetrics is the quality and quantity attention measure a scientific paper receives on social media and through citations and article downloads.

- It is a non-traditional metric type that complements traditional metrics (such as impact factors and h-index) with additional data.

Journal indexing

- The indexation of a journal indicates its quality.
- The indexed journals have expanded online presence, improved article discoverability, and reputable for high-quality publication in their own field.

Types of indexes

- **General indexes**
  - cover various disciplines and a broad variety of topics.
- **Specialized indexes**
  - cover a specific topic or discipline and will usually index more scholarly journals.

Basic Indexing Standards

Any journal should have the following standards to meet basic indexing requirements:

- An International Standard Serial Number (ISSN): **ISSN** is the number given to one set of the series, to identify a serial, recurring publication, such as a monthly journal.

- Digital Object Identifiers (DOIs): A **DOI** is just like a social security number for a digital item (journal article, data file, presentation file, etc.)

- An established publishing schedule

- A copyright policy

- Basic article-level metadata

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THANK YOU

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