**Impact Factor: Advantages and Disadvantages**

Journal ranking provides an indication of an academic journal's influence and quality relative to other journals in their field. Journals may be ranked using a number of measures and the most popular among them is by calculating the Journal Impact Factor. 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.

Impact factor has been adopted for use as measure of journal quality based on the premise that: “the value of information is determined by those who use it” , the idea being that the value of a journal can be measured by the number of times its use is formalized in the form of a citation. There have been many innovative applications of journal impact factor.

**Definition**

Eugene Garfield defined Impact Factor as the ratio of the number of citations received by source items [articles, editorials, letters to the editor, short communications, corrections, notes, review articles] in a particular year to the number of source items published over a fixed period of time [usually two years] in a particular periodic publication, say a journal.

**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 published.

**E.g. Calculation of 2017 Impact Factor of a Journal**

 A = Total number of articles published in the journal in 2015 and 2016.

 B = The number of citations received by the journal during 2017.

 B/A = 2017 impact factor

**Origin and Development**

Impact factors were conceptualized by Eugene Garfield, the founder of the ‘Institute for Scientific Information’ (ISI), USA as an aid to evaluating journals for inclusion in Current Contents and the Science Citation Index databases published by ISI in the 1960s. Later, Thomson had acquired ISI and all its products in 1992 and merged with Reuters in 2008 to form Thomson Reuters. Presently, the impact factor is calculated based on the citations received for the journals indexed in the Web of Science databases (Totally, 10 nos.). The citation data from the web of science databases are published yearly by the Thomson Reuters as the Journal Citation Report (JCR) in two editions: Science and Social Science. While the science edition contains data from 8000 journals in 171 subject categories, the social science edition contains data from 2900 journals in 55 subject categories.

**Variant Forms of Impact Factor**

**Normally, impact factor is calculated for a period of two years. However, there are variant forms for impacts factor such 5-Year Journal Impact Factor and** Journal Immediacy Index.

**5-Year Journal Impact Factor:** The average number of times articles from the journal published in the past five years have been cited. It is calculated by dividing the number of citations in a particular year by the total number of articles published in the five previous years.

**Journal Immediacy Index:**Citations to articles from the current year, divided by the total number of articles from the current year.

**Features of Impact factor**

1. The Impact Factor is a pure number and does not have any unit
2. The number is expressed up to three digits after the decimal e.g. 2.892
3. It is year specific and because of various factors generally varies from year to year.
4. It is database specific. To get impact factor, a journal must be indexed in any one of the Thomson Reuters Web of Science databases.
5. The value of Impact factor generally lies between zero and 50. It may go beyond 50 due to various reasons.
6. By and large review periodicals tend to have greater impact factors than research periodicals.
7. It also varies from subject to subject.
8. The impact factor indicates the standing of the journal in the world.
9. The impact factor may be considered as an indication of the quality of the journal in most cases.

**Applications and Uses**

With the passage of time impact factor is finding more and more uses. Some of them are:

1. **Selection of Journals for an organization**

While selecting journals for an organization, preference is given for those with impact factors as the impact factors clearly show the standing of a journal in the world.

1. **Discontinuation of a journal**

Now- a-days many a times organizations are forced to discontinue journals because of budget constraints and various other factors. So, the discontinuation can be based on the low impact factor.

1. **Market Research**

In market research, the impact factor provides quantitative evidence for editors and publishers for positioning their journals in relation to others in the field.

1. **Placing a Paper**

Every researcher would like to publish his paper in the most reputed journal in his field so that the paper comes to the notice of the researchers in his field world over. In such case, the list of journals arranged subject-wise according to impact factor will help him/her in selecting the journal.

1. **Academic evaluation**

Perhaps the most important and recent use of impact is in the process of academic evaluation. The impact factor can be used to provide a gross approximation of the prestige of journals in which individuals have been published.

**Advantages**

1. The calculation of impact factor is easily understood
2. It is an objective measure
3. In market research, the impact factor provides quantitative evidence for editors and publishers for positioning their journals in relation to the competition - especially others in the same subject category.
4. It provides librarians and researchers a tool for managing library journal collections.
5. As a management tool for library journal collections, the impact factor supplies the library administrator with information about journals already in the collection and journals under consideration for subscribing new.

**Disadvantages**

1. Journals with a large proportion of reviews may have a comparably higher IF, as reviews are, on average, cited more frequently than research papers.
2. The title / name change of a journal affects its impact factor value.
3. Expensive prices for access to databases
4. The impact factor is not necessarily a measure of the quality of a particular article in the journal, as relatively few articles in a journal contain the majority of citations.
5. Impact factors vary from one subject category to another within medicine and cannot be compared directly as, for example, large or rapidly-growing specialist disciplines have more researchers and publication organs.
6. Non-English-language journals have a relatively lower IF, as they attract less attention worldwide due to language barriers.
7. Basic research is rated higher than clinical medicine, as clinical medicine draws heavily on basic research.
8. Journals with free access to full-text articles (Open Access) have a comparatively high IF.
9. Expensive price of the Journal Citation Report (JCR)
10. Journals that are less available to readers will almost never achieve a higher impact factor regardless of the quality of papers it publishes.
11. It can be used to provide a gross approximation of the prestige of journals in which individuals have been published.