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Article : THE THOMSON REUTERS IMPACT FACTOR

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Dear Author/Reader,

Many Authors/Readers are asking regarding "what is the Impact Factor (IF) for their articles published in a Journal". But most of thepeople don't know what is the impact factor, impact factor is not meant for individual articles published in respective journal. So firstlyAuthors/Readers must know that impact factor is for journals and not for individual articles.

THE THOMSON REUTERS IMPACT FACTOR

Initially when Thomson Reuters was known as The Institute for Scientific Information 'ISI' and Thomson Reuters began to publishJournal Citation Reports '*JCR* ' in 1975 as part of the Sciences Citation Index '*SCI* 'and the Social Sciences Citation Index '*SSCI* '.(1)

DEFINITION

The *JCR* provides quantitative tools for ranking, evaluating, categorizing, and comparing journals. The impact factor is one of these; it is a measure of the frequency with which the "average article" in a journal has been cited in a particular year or period. The annual *JCR*impact factor is a ratio between citations and recent citable items published. Thus, the impact factor of a journal is calculated by dividing the number of current year citations to the source items published in that journal during the previous two years

Now the question is the way for calculating the journal impact factor and how we can use the impact fact or. Most of the individualstreating the Impact Factor as a main quality parameter for ranking the journals. But it should be noted that the Impact Factor of ajour nal is no way related to the main quality parameters like quality of peer review a nd quality of content of the journal.

It is very important to know
that Impact Factor can be calculated after completing the minimum of 3 years of pu blication; hence JournalImpact Factor can not be calculated for new journals. Simil arly, Impact factor can not be calculated after the changing title of the old journal unless completing three years.

Journal Impact Factors (2)

Journal Impact Factor is from Journal Citation Report (JCR), a product
of Thomson ISI (Institute for Scientific Information
). JCR provides quantitative tools for evaluating

journals. The impact factor is one
of these; it is a measure of the frequency with which the "average article" in a jour nal has been citedin a given period of time. The impact factor for
a journal is calculated based on a three-
year period, and can be considered to be theaverage number of times published pap ers are cited up to two years after publication.

eg, the impact factor 2011 for a journal would be calculated as follows:

N1 = the number of times articles published in 2009-
10 were cited in indexed journals

during 2011

N2 = the number of articles, reviews, proceedings or notes published in 2009-10

Impact factor 2011 = N1/N2

It is most important to
note that the impact factor 2008 will be actually published in 2009, because it cou ld not be calculated until allof the
2008 publications had been received. Impact factor 2009 and
2010 will be published in 2010 and 2011 respectively.

Over the years, the JIF has become probably the most important indicator of research quality. It has induced researchers to publish in a few high-profile journals with high impact factors, with the career advancement of many researchers

becoming more dependent on where their articles are published rather than on what they publish. This unquestioning reverence of the JIF may potentially inhibit the overall progress of the research community as a whole by focusing the research community's efforts on an increasingly narrow agenda and by discouraging many erstwhile promising researchers in the so-called esoteric spheres to pursue other interests, as their research holds little appeal to journals with high impact factors. It is therefore timely that Kumar et al have highlighted the dangers of ill-informed usage of the JIF and the potential for misuse and abuse.(3)

Eventhough JIFs have gained popularity and are increasingly accepted as scientific quality measures of journals despite being the subject of considerable controversy in the academic community Based on the notion that a journal is representative of its articles, the impact factors of journals in which author's articles have been published are commonly employed to evaluate the author's scientific achievement. This same notion has in turn also led to widespread acceptance of JIF-based assessment frameworks in the allocation of research resources and grants, performance evaluation of researchers and academic position appointments in several countries. As a general rule, journals with high impact factors include the most prestigious ones.

Unfortunately, the impact factor of a journal is not statistically representative of its individual articles. Both Seglen and Garfield reported poor correlation between the impact factor of a journal and the actual citation rates of its individual articles.(1,4) Moreover, there are also variations in the impact factor of journals within a specific research discipline, which is not attributed to differences in the scientific values of their respective articles. For example, **a review article tends to be cited more frequently than non-review articles**. As a result, a journal with a number of review articles tends to have a higher impact factor compared to another journal in the same discipline but with fewer review articles. Evidently, such a difference in JIFs does not truly reflect disparities in the scientific value of these journals.

SOME MISUSES OF JOURNAL IMPACT FACTOR IN RESEARCH EVALUATION (5)

Since it was first defined by Garfield in 1979, the use of the impact factor (IF) of scientific journals as an indication of research performance and quality has been discussed extensively. Impact factors of a selected set of approximately 5,000 of the world's leading journals in a broad range of disciplines are published yearly by the Institute for Scientific Information (ISI) of Philadelphia, in the Journal Citation

Reports (JCR). In many countries, IF is one of the criteria applied to evaluate not only the status of scientific journals, but also the publication output of scientists. In these evaluation exercises, IF is frequently considered as an indicator of research quality and scientific excellence. Sometimes, publication in "mainstream journals" or "impact journals" – defined as those with an IF, i.e. those covered by the JCR – is used as the only evaluation criterion, in such a way that scientific tribunals pay more attention to the IF of the journal than to the quality of the scientific contribution itself. Many problems arise from the use of IF. Some of these problems are related to the geographical and local linguistic origin of the journals and the papers that are published in them. Paris et al. (1998) consider how the frequency with which an article is cited is affected by its country of origin. Van Leeuwen et al. (2000) point out the language-bias problem caused by the non-English language journals within the Science Citation Index (SCI). On the other hand, Reguant and Casadellá (1994) allude to the lack of information derived from the absence, in valuation lists of current serials, of non-English-written journals with relevant information. Katz (2000) shows that a power law relationship exists between recognition and impact and the publishing size of a research community – nation, institution or group. In my opinion the misuse of the IF in relation to the language of publication in certain fields of work that are characterised by territoriality – for example, **Marathi, Kannada, Telagu, Gujarati, Urdu** etc. is a problem that is affecting Indian and other non-English speaking countries.

Rey-Rocha et al. (1999) showed how a biased evaluation of research performance and quality, based on the analysis of research output published in journals covered by ISI's database, is unfair to scientists working in those countries whose journals are poorly represented or not represented at all in the SCI. The study shows how this database does not properly reflect the total scientific output of **Indian researchers in various regional languges of their articles published in domestic journals, none of which are currently included in the SCI.** This fact could be extended to many countries with a high scientific output but whose scientific journals are not significantly covered by the SCI. For instance, Italy, with 3.2% of world's scientific and technical articles in 1995-1997 (National Science Board, 2000, from ISI's data) had only 25 journals in the SCI in 1997 (ISI, 1998), or Spain, with 2.0% of articles and only 4 journals in the SCI.

Misuse of IF in research evaluation is also applicable to other scientific disciplines. As a demonstrative exercise, Jesús Rey-Rocha and others have surveyed the Spanish scientific literature in three different scientific fields and disciplines: Earth Sciences, Physics and Neuropsychology. For this purpose, they searched the Spanish scientific output in both domestic and foreign journals, through both

domestic and international database, for the period 1990-1999. In addition to the most internationally prestigious database in each area (for Physics, Medline for Medicine, and Georef for Earth Sciences), they searched the Spanish databases covering the literature published in Spanish journals on Medicine (Spanish Medical Index: IME) and Science and Technology (Spanish Index on Science and Technology: ICYT). The trend of Spanish scientists to publish in foreign journals is noticeably higher in disciplines of a more "general" or "international" interest than in those where the research has a high local or national interest. 92.1% of papers on Physics are published in foreign journals compared with 62.5% of Neuropsychology papers and only 28.1% of papers on Earth Sciences, the latter of which is a very geographically oriented discipline. The higher or lower presence of national journals of a particular field in the SCI can affect the ease with which researchers are able to publish their work published in impact journals. For instance, 52.8% of articles by Spanish Neuropsychologists were published in SCI journals, while 33.1% of them were published in 7 different Spanish journals. In light of these data, would it follow that Spanish research papers in Physics are of better quality than those in Neuropsychology or Earth Sciences, or that Spanish Physicists perform better than their Neuropsychology and Earth Science colleagues, just because a higher proportion of the former publish in impact journals? If they were to reach this conclusion, they would be disregarding the idiosyncratic nature of some scientific fields. Unfortunately, evaluation practices in Spain, as in many other countries, labour under the assumption that research papers published in impact journals are of better quality than those published in domestic, non-SCI journals. Although citation and impact measures, together with other bibliometric analyses, are only a part of the many possible indicators of research performance and quality, they have been over-emphasised in many evaluation processes in different countries.

To understand each individual regarding the Impact factor, I have collected the main points here below.

Some key points related to Journal Impact factor:

1. Journal Impact Factor can not be calculated for new journals. I mean "the impact factor of a journal is calculated by dividing the number of current year citations to the source items
published in that journal during the previous two years", hence impact factorcan be calculated after **completing the minimum of 3 years of publication**.

2. Impact factor can not be calculated after the **changing title of the old journal** unless they completed three years of their age after changing the title

3. Journal Impact Factor will be a **quotient factor** only and will not be a **quality factor**.

4. Journal Impact Factor will not be related to **quality of content and quality of peer review,** it is only
a measure of the **frequency**with which the "average article" in a journal has been c ited in a particular year or period i.e. JIF is measure of the scientific quality of journals.

5. Journal which publishes more **review articles will get higher impact factors**.

Suggestions

The Indian researchers in various regional languges of their articles are published in domestic journals, none of which are currently included in the SCI are facing various problems towords impact factor, so I suggest to solve this problem by making association/ organisation of publishers of all Indian domestic journals in their own language, as well as scientific journal included in the SCI and they will have to make separate **Indian Journal Impact Factor IJIF** like **ISO** which is generally meant for industry.

References

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