WORLD ELECTRONIC JOURNAL IMPACT FACTOR (WEJ IMPACT FACTOR) AS AN ALTERNATIVE TO ISI JOURNAL IMPACT FACTOR (JIF), SCIMAGO JOURNAL RANK

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Abstract:

Publication in scientific academic journals is a key criterion to appointment, tenure, and promotion in many universities from the developed countries. Most universities weigh publications according to the quality or impact of the journal. Traditionally, journal quality has been assessed through the ISI Journal Impact Factor (JIF), SCImago Journal Rank, Eigenfactor and many more. However, the above metric system is still a novice or indomitable for many universities from the underdeveloped and developing countries. This paper proposes an alternative metric system—World Electronic Journals Impact Factor (WEJ Impact Factor). This metric system will be an alternative mechanism for those journals which does not find a place in ISI/Thomson Reuters, SCOPUS and other database. WEJ Impact Factor is an open access electronic journal metric which uses Google Scholar citation and contribution factor of the journal, which is based on data from the E-International Scientific Research Journal Consortium. WEJ Impact factor, is calculated based on the contributing factor and citation factor. The journals are categorized under such as Arts and Humanities, Science, Social Sciences, and Multidisciplinary before assigning the impact factor. This simple and new method of computing impact factor provides fair chance for world wide electronic journals to understand the impact factor of their journals based on quantity, quality, and on contextual level.

Keywords: WEJ Impact Factor, Contribution Factor, Citation Factor, Mean Value.

Introduction:

In general, impact factors measure the average number of citations to articles for many journals in the sciences and social sciences. Overall, impact factors indicate the relative significance and influence of a particular journal within its field of research/discipline. While impact factor data were originally used extensively in journal marketing to rank and compare scholarly journals for prospective subscribers, it has become a way of ranking the scientists who publish articles in these journals.

Since the importance of scientific research is difficult to evaluate quantitatively, many universities now make funding and tenure decisions based on the average impact factor value, or
prestige, of the journals that a scientist has published in. This may seem to be a reliable tool to assess the importance of a particular scientist's research. In addition, WEJ Impact factor as an alternative tool can provide a more reliable measurement for the journals.

**Brief history of citation index**

The concept of the citation index was first developed by Dr Eugene Garfield and his concept was published in an article in the Journal Science in 1955. Six years later, exactly in the 1961 Dr Garfield created a *Genetics Citation Index* (SCI) at the request of the National Institute of Health. As a consequence of this project Dr Garfield was able to start the product of a multi-disciplinary *Science Citation Index* (SCI) in 1963.

The SCI was born and over the years developed from print in the 1960’s, On-line with Dialog in the 1970’s, CD-ROM in the 1980’s and finally a web interface in 1997. At the same time, the content was enhanced and the SCI was released in 1973 covering journals from 1956, the *Arts & Humanities Citation Index* was released in 1978 covering journals from 1975 and the *Century of Science* in 2004 covering science journals back to 1900.

The *SCImago Journal and Country Rank portal* is developed by SCImago Research Group working at three Spanish universities (Consejo Superior de Investigaciones Científicas (CSIC), University of Granada, Extremadura, Carlos III (Madrid) and Alcalá de Henares). It is named after the SCImago Journal Rank Indicator (SJR) developed by the group. The citation data used is derived from Scopus database and journal rankings are available for journals contained in the Scopus database.

The SJR indicator is calculated based on three year's citation data and attributes different weight to citations depending on the prestige of the citing journal. The prestige of a journal is estimated using PageRank algorithm in the network of journals. The prestige of a journal is transferred through the references that a journal receives from the other journals.

In connection with measurement or metrics, there are three types such as H-Index, Eigenfactor, and Google Scholar Citation Counter. For example, H-Index: Focuses on assessing the work of a particular scholar; uses a formula that includes total output and citations for a specific researcher. Another example is eigenfactor in which it provides slightly different metrics from the impact factor; some believe it is more robust, since it takes into account the significance of citations. This is often compared with the Google Page Rank system. Finally, it is Google Scholar Citation Counter. This uses Google to search for a total number of citations for works indexed by Google Scholar; also relates the H-index

**What are Bibliometrics and Scientometrics?**

Bibliometrics and scientometrics are two closely related approaches to measuring scientific publications and science in general, respectively. In practice, much of the work that falls under this header involves various types of citation analysis, which looks at how scholars cite one another in publications. This data can show quite a bit about networks of scholars and scholarly communication, links between scholars, and the development of areas of knowledge over time
The Need for an Alternate Method of Bibliometrics

Approximately there are more than 150,000 journals published worldwide, however the ISI/Thomson Reuters and SCImago indexes approximately 12,000 and 19,000 journals respectively which means 90% of the journals do not have a mechanism of knowing the impact factor of their journals. The WEJ Impact factor is an alternate to ISI/Thomson Reuters and SCOPUS.

WEJ impact factor uses simple mechanism of understanding the impact factor and aims to provide a quantitative and qualitative assessment of the worldwide electronic journals. The advantage of WEJ Impact Factor is its Inclusiveness. WEJ Impact Factor includes all global scientific electronic journals, not just those deemed appropriate by an arbitrary group of individuals. This characteristic makes WEJ Impact Factor truly inclusive as opposed to exclusive. It is also affordable to journals from the developing and underdeveloped countries to be estimated with WEJ Impact Factor.

Materials and Methods

The author proposes a new bibliometric system to estimate the journal impact factor. The estimation details are as follows:

\[ \text{WEJ Impact Factor} = \text{Contribution Factor} + \text{Citation Factor} \]

**Contributing Factor:**
This means the contribution of a journal to its field in terms of number of articles published in a year.

**Citation Factor:**
This means the number of times the articles are cited by other according to the Google Scholar citation index. Google Scholar is a separate search engine for scholarly literature produced by Google. It includes many disciplines and sources: peer-reviewed papers, theses, books, preprints, abstracts, articles, and technical reports from academic publishers, professional societies, preprint repositories and universities, and other scholarly organizations available across the Web. Google Scholar also includes citation data, which indicates how often other publications included in the database cite the publication under consideration.

**How to calculate Contribution Factor?**
\[ \text{Contribution Factor} = \frac{\text{Number of articles published in “Y” journal in “X” year}}{12(\text{Contribution of articles per month/year})} \]

**How to calculate Citation Factor?**
\[ \text{Citation factor} = \frac{\text{Number of times the articles cited from “Y” Journal in the “X” year X 100}}{\text{Number of articles published in a year in that journal}} \]
**Calculation of WEJ Impact Factor of E-International Scientific Research Journal (EISRJ) - 2010**

Contribution Factor = \( \frac{\text{Number of articles published in “Y” journal in “X” year}}{12} \) (Contribution of articles per month/year)

Example of E-International Scientific Research Journal (EISRJ) -2010

\[
\frac{39 \text{ Articles Published}}{12} = 3.23
\]

Citation factor = \( \frac{\text{Number of times the articles cited from “Y” Journal in the “X” year}}{\text{Number of articles published in a year in that journal}} \times 100 \)

Example of E-International Scientific Research Journal (EISRJ) citation in -2010

Citation factor* = \( \frac{\text{Number of times the articles cited from (EISR Journal) in the 2010}}{\text{Number of articles published in a year in that journal}} \times 100 \)

*The citation details are obtained from Google Scholar

Citation Factor of E-International Scientific Research Journal -2010

\[
\frac{07 \times 100}{39} = 17.94
\]

**WEJ Impact Factor = Contribution Factor + Citation Factor**

\[
i.e. \ 3.23 + 17.94 = 21.17
\]

**WEJ Impact Factor of E-International Scientific Research Journal -2010**

**Understanding the Significance of the WEJIF**

\[
\text{WEJIF/MD}=21.17
\]

The estimated WEJ Impact Factor may not reflect any significance in isolation, hence it is compared with the mean WEJ Impact Factor value of the other journals in the E-International Scientific Research Journal Consortium data base.

The journal from the
- Science category are compared with Science (Sci) Journals Mean Value
- Social Science are compared with Social Science (SS) Journals Mean Value
- Art & Humanities are compared with Art & Humanities (A&H) Journals Mean Value
- Multidisciplinary are compared with Multidisciplinary (MD) Journals Mean Value
Results and Discussion

It is a reported fact that some 90% of papers that have been published in academic journals are never cited. Indeed, as many as 50% of papers are never read by anyone other than their authors, referees and journal editors. We know this thanks to citation analysis, a branch of information science in which researchers study the way articles in a scholarly field are accessed and referenced by others.

One of the reasons why many journals go unnoticed is because they do not find a place ISI OR SCImago Journal Rank or other data base simply because they are not accommodated in the data base for various reasons. Besides that, WEJ Impact Factor is a boon to those journals of lesser God and serves as an alternate bibliometric system to assess the impact factor of the electronic journals.

The WEJ Impact Factor uses the data from the E-ISRJC and uses Google scholar citation details. The use of Google Scholar, particularly benefits academics publishing in sources that are not (well) covered in ISI. Among these are books, conference papers, non-US journals, and in general journals in various academic fields.

Because of its broader range of data sources, the use of Google Scholar generally results in more comprehensive citation coverage in the area of academic research. We would, therefore, strongly encourage both individual academics and university administrators to take advantages of WEJ Impact Factor based measures into account to estimate their journals impact factor. Moreover, much easily accessible WEJ Impact Factor estimation will be affordable to every institution irrespective of their financial status.

References:


