## International Journal of Research in Library Science (IJRLS)

ISSN: 2455-104X DOI: 10.26761/IJRLS.11.2.2025.1895 Volume 11, Issue 2 (April-June) 2025, Page: 235-245, Paper ID: IJRLS-1895 Copyright © 2025 Author(s) retain the copyright of this article. This article is published under the terms of the <u>Creative Commons Attribution License 4.0</u>.

# JQP: Mechanism for assessing the quality of a journal beyond the impact factor with special reference to Social Sciences published from India

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#### ABSTRACT

Impact Factor is not the only criteria to evaluate the quality of a journal. It has been found and proved that Impact Factor (IF) of a specific journal varies from one database to another. So, I raised the question about the impact factor when IF is considered a journal quality measuring tool. The present study suggests an alternative mechanism, i.e., Journal Quality Point (JQP), for assessing the quality of a journal, which consists of 15 parameters, where IF is one of them. We have selected seven common 7 Indian journals on Social Sciences that are available in Web of Science as well as in the Scopus database. Although each journal 's IF two databases is different. We have studied physical parameters of an individual journal like age of journal, key word availability with the article, writing style of the published article, lay out of the text, article submission procedure, Credential of authors, Specific guideline for papers to be published with peer-review process and studied 10570 references of 268 articles and also count the receiving citation of individual article.

**KEYWORDS:** Journal Ranking; Journal evaluation; Indian-Journal evaluation; Impact Factor.

### **1. INTRODUCTION**

Nowadays, the number of journals available in different subject domains is extremely difficult to count. The quality of the aforementioned communication media may be assessed using a variety of criteria. Given that 50–70% of the acquisition budgets in the majority of academic libraries go toward journal subscriptions, the evaluation of journals may play a crucial role in academic library management. Academic libraries have to choose which journals to renew, which ones to drop, or which to include based on financial constraints when subscription rates increase annually. It has been found that journal subscriptions in the majority of libraries are mostly determined by faculty preference, which poses a serious threat to the librarian's ability to choose a journal within her tight budget. As a result, we require a scientific journal selection process. A journal's quality assessment could be one of these approaches.

The research output has been assessed using a variety of methods. One can get an idea of how competitive the journal is by comparing the acceptance rate to the rejection rate. Measuring the impact of a journal article by counting the number of times it is cited in later studies is another well-liked method. IF and SJR are the two most accepted tools for journal evaluation so far. However, there are differences between these two tools. It becomes very difficult for an author or a librarian to choose which one is the best for the publication of an article or selection of a good journal for subscription in the library among the various journals. We have shown in our paper that the IF of the same journal differs according to different databases. But in different places, the validity of writing is judged according to IF. Especially in India, IF is the most important parameter that various colleges and universities promote teachers and education according to the guidelines of UGC. Here we have taken many more parameters besides IF and designed a model, which we named Journal Quality Point (JQP).

#### **2. OBJECTIVE**

The specific objectives of this work are as follows:

- 1. To identify of Indian journals where IF is varying in Scopus and Web of Science
- 2. To identify alternative mechanism for assessing the quality of a journal apart from IF
- 3. To helps the authors for selection of the journals to publish his/her works

#### **3. METHODOLOGY**

Here we observed the specific group i.e. scholarly publication on Social Sciences published in India to study the quality of the publication.

Here we have selected only 05 Indian journals available in Web of Science and Scopus databases where the journal is same but Impact is different according to said databases.

In this study we have used stratified sampling technique where our sample is not homogeneous in one sense as we have taken data of various subjects under social sciences. So the sample collected from different strata i.e. various subject domain.

From our sample we have conducted our study based on following methodology:

- 1. Consider and collect only articles from our sample for the year 2020-2021;
- 2. Collect data from authors guide, title page and adjacent pages;
- 3. Collect data from 1st page of each article;
- 4. Collect data from reference source of each article;
- 5. Study the citation received in 2022 for their source article based on Google Scholar, Web of Science and Scopus;
- 6. Collect data related physical presentation of journal;
- 7. Study the available source which provides IF;
- 8. Study to find the available of various open source software and tools which may help to calculate IF automatically.
- 9. Analysis of data using various Statistical tools and methods;
- 10. Design model;
- 11. Finding and report writing;

#### **4. LITERATURE REVIEW**

There are few studies on measurement of Impact Factor of the particular journal and ranking of the journals. But several studies have raised questions on the validity of the impact factor for quality measurement of the journals. However, we have studied several literatures for evaluation of scholarly publication in different angle. Such as follows:

It was discovered by Gavel and Iselid observed that 84% of WOS titles are indexed by Scopus and 54% of Scopus ti tles are indexed by WOS, based on their analysis of the journal title overlap between Scopus and Web of Science[1]. Keep in mind that while WOS and Scopus are always changing (mostly expanding) their journal coverage, these res ults were accurate when the study was conducted.

Moed and Visser conducted a comparison of WOS and Scopus coverage, breaking it down by individual papers. It was discovered that 89% of the publications from 1996 that WOS had indexed were also indexed by Scopus; by 2005, that number had risen to 95% [2]. Tsay discovered a strong link between the use of journals by faculty members and journals that are rated according to citation counts [3]. Oppenheim and Norris Among these data sources, they discovered that Scopus offered the best coverage of social-science literature. Based on this, they came to the conclusion that Scopus might be used as a substitute for Web of Science as a tool to assess the effect of social science research [4]. Nisonger came to the conclusion that self-citations could not be included in the impact factor calculation. According to Nisonger's analysis, the (1994) ranks based on impact factor and total citations were recalculated after journal self-citations were eliminated, and the resulting rankings were then contrasted with the original rankings [5]. Lopez-Illescas and his coworkers discovered that Scopus included a greater number of titles. But WoS tended to cover fewer highly cited journals overall. Ninety-four percent of the top 25% of sources in Scopus with the highest impact factor were indexed in WoS [6]. Bhatta and Gandhi examine how the impact factor is a very helpful tool for evaluating periodicals, but they also highlight the need for direct application and the need to be aware of the impact factor's limitations [7].

### 5. DATA COLLECTION & ANALYSIS

#### 5.1 Quality asses on the basis of reference study

A distinct metric has been used in this study to assess the journal content. The quality of a journal is found to depend not only on the research and emerging micro thoughts of any researcher, but also on the various types of documents he has used as references to add value to his content when creating a report. In order to determine what kinds of documents were used to create each article, we have examined all of the references in this view. In order to achieve this, we categorized all of the references that we found in books (B), journals (J), conference proceedings (C), and free online resources (W). This allowed us to assess an article's quality from several perspectives. Regarding references to journals, we have reclassified them as J (I) for Indian journals and J (F) for foreign journals.

Thus analysis of all references of individual journal, we have got a scenario of usage pattern of references which is used in their article.

We have used 3 point scale to measure the value as per various conditions as stated above . The scale has been set as bellow-



Example:

| Point    | Rating        |
|----------|---------------|
| 3 Points | Very Good(VG) |
| 2 Points | Good (G)      |
| 1 Point  | Average (AV)  |

| Reference from foreign journals       | Reference≥50                 | 3 |
|---------------------------------------|------------------------------|---|
|                                       | 30≥Reference<50              | 2 |
|                                       | 1≤Reference<30               | 1 |
|                                       | No foreign reference used    | 0 |
| <b>Reference from Indian Journals</b> | Reference≥60                 | 3 |
|                                       | 40 Reference<60              | 2 |
|                                       | 1≤Reference<40               | 1 |
|                                       | No Indian reference used     | 0 |
| Reference from Conference proceedings | Reference≥70                 | 3 |
|                                       | 50≤Reference<70              | 2 |
|                                       | 1≤Reference<50               | 1 |
|                                       | No conference reference used | 0 |
| Reference from books                  | Reference>80                 | 3 |
|                                       | 60≤Reference<80              | 2 |
|                                       | 1≤Reference<60               | 1 |
|                                       | No book reference used       | 0 |
| Reference from Webpage (Excluding     | Reference≥90                 | 3 |
| database)                             | 70 Reference>90              | 2 |
|                                       | 1≤Reference>70               | 1 |
|                                       | No web reference used        | 0 |
|                                       |                              |   |

The percentage (%) of appearance has given in the list and respective points from scale has given within parenthesis () beside each data.

**Table-1:** Point distribution according to reference used in article

| Journal name                      | <b>J</b> ( <b>F</b> ) | J(I) with | C with  | B with   | W with  | Total |
|-----------------------------------|-----------------------|-----------|---------|----------|---------|-------|
|                                   | with %                | %         | %       | %        | %       | Score |
| India economic & social history   | 22.22(2)              | 32.90(2)  | 4(1)    | 39.05(1) | 1.83(1) | 07    |
| review                            |                       |           |         |          |         |       |
| Contributions to Indian sociology | 21.65(2)              | 34.10(2)  | 3.35(1) | 34.20(1) | 6.70(1) | 07    |
| Studies in history                | 19.26(1)              | 25.60(1)  | 4.15(1) | 47.11(1) | 3.88(1) | 05    |
| Indian journal of gender studies  | 19.45(1)              | 29.84(1)  | 4.90(1) | 28.10(1) | 17.8(1) | 05    |
| Indian historical review          | 17.21(1)              | 29.70(1)  | 2.24(1) | 47.83(1) | 3.02(1) | 05    |

| Journal of social & economic      | 15.85(1) | 30.(2)   | 2.87(1) | 38.90(1) | 12.38(1) | 06 |
|-----------------------------------|----------|----------|---------|----------|----------|----|
| development                       |          |          |         |          |          |    |
| Journal of quantitative economics | 21.58(2) | 30.69(2) | 2.36(1) | 34.87(1) | 10.50(1) | 07 |

#### 5.2 Evaluation of physical presentation of a journal

The impact factor is the traditional metric used to assess a journal's quality. On the other hand, some novel ideas for evaluating a journal's quality are emerging these days. The gate opening, paper quality, writing style, aesthetics, and a few other standards in different areas are also being taken into consideration side by side. A notion that has gained popularity in social media and other forms of media is that impact factor might not be the only thing to take into account. The other physical requirements must also be taken into account when evaluating the journal's quality. We also note that before sending an article to be published, the author of several internationally renowned journals is given strict instructions. This isn't just to uphold publication standards; readers' perceptions are also impacted. Therefore, in addition to the impact factor, these factors should be taken into account when assessing a journal's quality.

However, we have taken following parameters for evaluation of physical appearance or presentation of a journal.

- Reputation of Publisher
- Period of Publication (Age of Journal)
- Reference style used in articles
- Keyword available with the article
- Writing style of the published article
- Lay out of the text
- Article submission procedure
- Credentials of authors
- Specific guideline for papers to be published with peer-review process

For the various evaluation parameters, we have assumed three indicators: Very Good, Good, and Average, denoted as VG, G, and Av, respectively. We have also used a 3-point numerical rating scale for each point value on the scale. The scale has been set as bellow-



We have talked about and evaluated different journals using different standards. Every journal has been assessed using predetermined standards. We will now see the overall score based on all eleven criteria in this section. In order to compile all of the points into a single table, let us assume:

c1, c2, c3... represent following parameter i.e.

| Parameter  | Category |
|--|----------|
| Reputation of Publisher  | C1       |
| Period of Publication (Age of Journal)                                 | C2       |
| Keyword available with the article                                     | C3       |
| Writing style of the published article                                 | C4       |
| Lay Out of the text  | C5       |
| Article submission procedure   | C6       |
| Credentials of Authors   | C7       |
| Specific guideline for papers to be published with peer-review process | C8       |
| Reference style used in articles                                       | C9       |

Based on all the above criteria following results have been found:

Table 2: Total score based on 09 criteria

| SI. | Journal Name                             | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | Final |
|-----|--|----|----|----|----|----|----|----|----|----|-------|
| No. |  |    |    |    |    |    |    |    |    |    | score |
| 01  | India economic & social history review   | 3  | 3  | 3  | 3  | 2  | 2  | 1  | 2  | 2  | 21    |
| 02  | Contributions to Indian sociology        | 3  | 3  | 3  | 3  | 3  | 2  | 3  | 3  | 2  | 25    |
| 03  | Studies in history                       | 3  | 3  | 3  | 3  | 2  | 2  | 3  | 3  | 3  | 25    |
| 04  | Indian journal of gender studies         | 3  | 3  | 3  | 3  | 3  | 2  | 3  | 3  | 3  | 26    |
| 05  | Indian historical review                 | 3  | 3  | 3  | 3  | 2  | 2  | 2  | 3  | 3  | 24    |
| 06  | Journal of social & economic development | 3  | 3  | 3  | 3  | 2  | 3  | 3  | 3  | 3  | 26    |
| 07  | Journal of quantitative economics        | 3  | 2  | 3  | 3  | 2  | 3  | 2  | 3  | 3  | 25    |

Based on the above table we now able to rank of our sample journals based on the score gained by each journal given in the last column of the table 3.

Table 3: Journal name with rank position

| Sl. No. | Journal Name                             | Rank                 |
|---------|--|----------------------|
|         |  |                      |
| 01      | Indian journal of gender studies         | 1 <sup>st</sup> rank |
| 02      | Journal of social & economic development | 1 <sup>st</sup> rank |
| 03      | Contributions to Indian sociology        | 2 <sup>nd</sup> rank |
| 04      | Studies in history                       | 2 <sup>nd</sup> rank |
| 05      | Journal of quantitative economics        | 2 <sup>nd</sup> rank |
| 06      | Indian historical review                 | 3 <sup>rd</sup> rank |
| 07      | India economic & social history review   | 4 <sup>th</sup> rank |

#### 5.3 Content analysis based on Citation Analysis

By studying previous two years (2020-21), we have got number of citations which have been received by source article of each journal. This has been found by consulting Google Scholar, Web of Science, Scopus and other online sources.

We have used 3-point scale to measure the value as per various conditions. The scale has been set as bellow:



| Impact factor                            | Point |
|--|-------|
| More than 3 (IF $\geq$ 3)                | 3     |
| Between 2.99 to 1 ( $1 \le IF \le 2.9$ ) | 2     |
| Less than 1 (IF<1)                       | 1     |

Based on Impact Factor we have ranked each journal in given in the following Table-4:

**Table 4:** Journal IF with their rank position

| Sl. No. | Journal Name                             | IF   | Point | Rank            |
|---------|--|------|-------|-----------------|
| 01      | Indian journal of gender studies         | 2.08 | 1     | 3 <sup>rd</sup> |
| 02      | Journal of social & economic development | 4.6  | 3     | 1 <sup>st</sup> |
| 03      | Contributions to Indian sociology        | 1.05 | 1     | 3 <sup>rd</sup> |
| 04      | Studies in history                       | 2.95 | 2     | 2 <sup>nd</sup> |
| 05      | Journal of quantitative economics        | 0.97 | 2     | $2^{nd}$        |
| 06      | Indian historical review                 | 4.91 | 3     | 1 <sup>st</sup> |
| 07      | India economic & social history review   | 3.59 | 2     | $2^{nd}$        |

In our model we have, hence given importance of physical presentation in one hand for evaluation of a scholarly publication. On the other hand, we have given huge importance on usage of references besides the impact factor.

Based on the data analysis we found three different types of ranking of the same journal when

- (i) Quality ranking measured based on physical appearances;
- (ii) Quality ranking measured based on reference analysis;
- (iii) Quality ranking measured based on impact factor

So, any single method may not be suitable to evaluate the scholarly publication. For this reason we have proposed a model based on these three aspect stated above and set the scale accordingly.

Fulfilling the criteria one can evaluate any journal and make them ranking among others. This model is applicable irrespective of subject, discipline and domain.

### 6. MODEL EVALUATION & FINDING

Physical Appearance, Reference study, Citation analysis quality measurement based on 3 point scale



| Sl.<br>No. | Parameters                  | Criteria  | Given<br>Scale | Give Point For<br>Your Publication |
|------------|-----------------------------|---|----------------|------------------------------------|
|            |                             | Society/Association/ Organization                                       | 3              |                                    |
| 1          | Journal Published<br>by     | Academic Institute like Universities/<br>Colleges/Department            | 2              |                                    |
|            |                             | Private agencies or Individual  | 1              |                                    |
|            |                             | Above 20 years old  | 3              |                                    |
| 2          | Age of Journal              | 5-20 years old  | 2              |                                    |
|            |                             | Below 5 years   | 1              |                                    |
| -          | Availability of             | Available with all articles   | 3              |                                    |
| 3          | Keywords                    | Available only few article  | 2              |                                    |
|            | Keywords                    | Not available   | 1              |                                    |
| -          |                             | Maintain same pattern   | 3              |                                    |
| 4          | Writing Style               | Occasionally maintain   | 2              |                                    |
|            |                             | Not maintain  | 1              |                                    |
| -          |                             | Maintain same pattern   | 3              |                                    |
| 5          | Layout of the text          | Occasionally maintain   | 2              |                                    |
|            |                             | Not maintain  | 1              |                                    |
|            | Submission                  | Through Online submission   | 3              |                                    |
| 6          | procedure                   | Through email or CD   | 2              |                                    |
|            | procedure                   | Through print   | 1              |                                    |
|            | Credentials/                | Always mentioned with fixed format                                      | 3              |                                    |
| 7          | affiliation of              | Occasionally mentioned  | 2              |                                    |
|            | Authors                     | Not mentioned   | 1              |                                    |
|            | Specific                    | Specific guideline with peer-review process                             | 3              |                                    |
|            | guidelines for              | exits and followed  | 5              |                                    |
| 8          | papers to be published with | There only specific guideline but not per-<br>review process maintained | 2              |                                    |
|            | peer-review                 | No guideline for submission, even it is there is                        | 1              |                                    |

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|    | process                                     | not followed strictly                    |   |  |
|----|---|--|---|--|
|    | Reference style                             | Followed recommended standard            | 3 |  |
| 9  | used in articles                            | Followed self-standard                   | 2 |  |
|    |   | Used variety of different styles         | 1 |  |
|    |   | Reference≥50                             | 3 |  |
| 10 | Reference from                              | 30≥Reference<50                          | 2 |  |
| 10 | foreign journals                            | 1≤Reference<30                           | 1 |  |
|    |   | No foreign reference used                | 0 |  |
|    |   | Reference 260                            | 3 |  |
| 11 | Reference from                              | 40≤Reference<60                          | 2 |  |
| 11 | Indian Journals                             | 1≤Reference<40                           | 1 |  |
|    |   | No Indian reference used                 | 0 |  |
|    | Reference from<br>Conference<br>proceedings | Reference≥70                             | 3 |  |
| 12 |   | 50≤Reference<70                          | 2 |  |
| 12 |   | 1≤Reference<50                           | 1 |  |
|    |   | No conference reference used             | 0 |  |
|    |   | Reference≥80                             | 3 |  |
| 13 | Reference from                              | 60≤Reference<80                          | 2 |  |
| 15 | books                                       | 1≤Reference<60                           | 1 |  |
|    |   | No book reference used                   | 0 |  |
|    | Reference from                              | Reference 290                            | 3 |  |
| 1/ | Webpage                                     | 70≤Reference>90                          | 2 |  |
| 14 | (Excluding                                  | 1≤Reference>70                           | 1 |  |
|    | database)                                   | No web reference used                    | 0 |  |
|    |   | More than 3 (IF≥3)                       | 3 |  |
| 15 | Impact factor                               | Between 2.99 to 1 ( $1 \le IF \le 2.9$ ) | 2 |  |
|    |   | Less than 1 (IF<1)                       | 1 |  |

Accordingly giving points for a particular journal for every specific points and finally by calculating the sum of the acquired points on can measure the scale of a particular journal and thus measure the quality of the journals. From the above scale we have calculated mean value of maximum points  $(x_M)$  and mean value of minimum points  $(x_m)$ . From these two value calculate the Average Mean Point (AMP) to fix the standard yardstick to measure the quality point of a particular journal.

AMP = AVERAGE MEAN POINT =  $(X_M + X_m)/2$ = (3.0+0.66)/2= 1.83

To calculate the quality of a particular journal one has to find out the Journal Quality Point, we call it JQP. To measure the JQP following formula need to be followed-

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#### JQP = 1.83- $J_m$

where, JQP= JOURNAL QUALITY POINT, Jm = Journal Mean Point [Total score occurred/15] We have assumed the JOURNAL QUALITY SCALE

- IF 0<JQP≤1 Then it will be considered as AVERAGE quality Journal
- IF 1<JQP≤2 Then it will be considered as GOOD quality Journal
- IF 2<JQP≤3 Then it will be considered as VERY GOOD quality Journal

In this scale by testing our sample we have find following score given below-

Table 5: Total score acquired by each journal

| Journal Title                            | JQP  | STATUS    |
|--|------|-----------|
| Indian journal of gender studies         | 2.2  | VERY GOOD |
| Journal of social & economic development | 2.26 | VERY GOOD |
| Contributions to Indian sociology        | 2.26 | VERY GOOD |
| Studies in history                       | 2.13 | VERY GOOD |
| Journal of quantitative economics        | 2.13 | VERY GOOD |
| Indian historical review                 | 2    | GOOD      |
| India economic & social history review   | 1.86 | GOOD      |

We have compared this result with the total score acquired by each individual journal as given in table 5. That table gave us the total points gained by each journals which had little difficult to conclude the status of that particular journal. By applying this formula now we can indicate the status of individual journal.

Following this formula any one can find the quality status of the particular journal or can rank by comparing among few journals of the same domain.

### CONCLUSION

So, we can conclude that IF may not be a very important of prime factor to be considered for measuring the quality of a journal. Even the results of IF in various journals may vary in different databases. Even if someone wants to calculate the IF based on five years will appear with a different value in the same journal. Hence, we are discarding the concept of IF to measure the quality of journals and trying to measure it automatically.

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