

## Performance analysis of ISC journals using Scopus and ISC indicators

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### Abstract

Journal performance metrics are designed to help users know the best journals in different scientific fields. In this article, some journals indexed in ISC database are compared using Scopus and ISC performance indicators. The Scopus journal analyzer uses SNIP and SJR as alternatives for IF which consider citation analysis differently. New performance indicators consider differences in citation behavior across different research fields. ISC performance indicators are a new feature added to the ISC database which results showed its efficiency in evaluating Persian scientific journals.

**Keywords:** Journal Performance Metrics, SNIP, SJR, ISC Journal Performance Indicators.

### Introduction

Evaluating the performance and quality of scientific journals is increasingly important in today's information environments. It is because the number of journals has increased dramatically and The price trend is upwards.

The journal quality assessment, can help librarians who have the responsibility to provide the resources for academic libraries, to collect the best scientific journals. Meanwhile, researchers are interested to publish the results of their research, in influential research journals. By doing performance analysis, they know the most prestigious journals in specific fields so that they take advantage of its benefits.

The research community has agreed on the difference that exist among scientific journals. Also, it is rational that instead of the subjective judgment of journal quality, we can trust scientific methods of measuring quality of information resources proposed by scientometrics. (Guerrero-Bote & Moya-Anegón, 2012)

In a recent paper, scientometrics has defined as the science of measuring different aspects of scholarly communication by using quantitative methods. The citation analysis as the core concept of scientometrics, can easily measure performance of information resources. (Mingers & Leydesdorff, 2015)

In this article, the performance of a number of ISC journals is compared by means of journal performance metrics of Scopus and ISC databases. The aim of this study is to show the ability of these tools in evaluating and ranking journals across research fields.

### Performance metrics

In order to assess the quality and performance of scholarly journals, some major

indicators have been used among which impact factor is the most used indicators in bibliometric studies.

Traditionally, The total number of articles published in a journal was an indicator of journal importance. So contribution of a particular journal in the research field could be a good importance metric. Some other criteria like readability, the number of copies published or sold and publishing costs, among others tried to rank the journal's importance in research fields.

Traditional methods of journal ranking had some drawbacks that because of them journal impact factor was developed. IF is the most recognized indicators in determining the scientific validity of scientific journals. Garfield as the founder of the Institute for Scientific Information in collaboration with Sher created IF in the 1960's. Bensman (2007) has a complete review on using journal impact factor in ranking scientific journals.

Although, this indicator has its own advantages, there are some limitations and drawbacks too. It was a good reason to develop other indicators as alternatives for impact factor. Some limitations are for example the difference in researchers' citation behavior across different fields. This difference leads to assign different and almost wrong impact factors for some journals. The more dynamic research fields also gain more credit compare to static research fields and their journals.

The influence of IF on the whole process of journal quality assessment is a reason to ignore so many of the other criteria in scholarly communication. (Glänzel, 2011)

Source-Normalized Impact per Paper (SNIP) which created by moed is designed to lessen the limitations of using IF for journals from different fields and contexts. The main idea is that the value of all citations is not the same and the citation in the contexts in which citing to articles is less than other fields has higher value. Snip concerns for citation behavior of researchers in different subject areas, so it is more comprehensive than IF (Moed, 2011).

SNIP uses normalization techniques which corrects for differences in citation pattern in different research areas..(Waltman, van Eck, van Leeuwen, & Visser, 2013)

The Scimago journal ranking (SJR) is an indicator which its main idea is that not all citations have the same value. It means that the citation which received from more prestigious journals have more value compare to less important journal citations. The factors that determine the value of a single citation, pertains to the subject, quality and popularity of citing journal for research community.

Because of the variety of indicators used and also due to the fact that each indicator evaluate different aspects of journal performance, the aggregate results of these metrics provide a more complete analytical landscape (Moed, 2011).

### **Material and method**

The journal performance analysis tools in ISC and Scopus databases, provide facilities to compare journals based on different performance indicators. We selected some journals indexed in the ISC database to compare their performance using Scopus and ISC analytical tools. Selected journals in the English language were asia-pacific journal of public health, Pakistan journal of medical sciences, archives of Iranian medicine, Malaysian journal of

economic studies and Iranian polymer journal. We also selected some Persian journals in the field of library and information sciences to assess the abilities of ISC performance indicators which in first phase support Persian journals to evaluate.

### Results

The results of selected journals, analysis are presented as graphs appropriate to review the performance of the selected journals through different years. According to Scopus, data on journals continue to be updated every two months, so it provides a longitudinal perspective on the journal performance over time. By means of this, the current state of journals as well as their impact on the field compares with other journals also illustrated. Journal editors can use this analysis results to plan for the future of their publications. The graphs below show the results of running some performance metrics on Scopus journals.

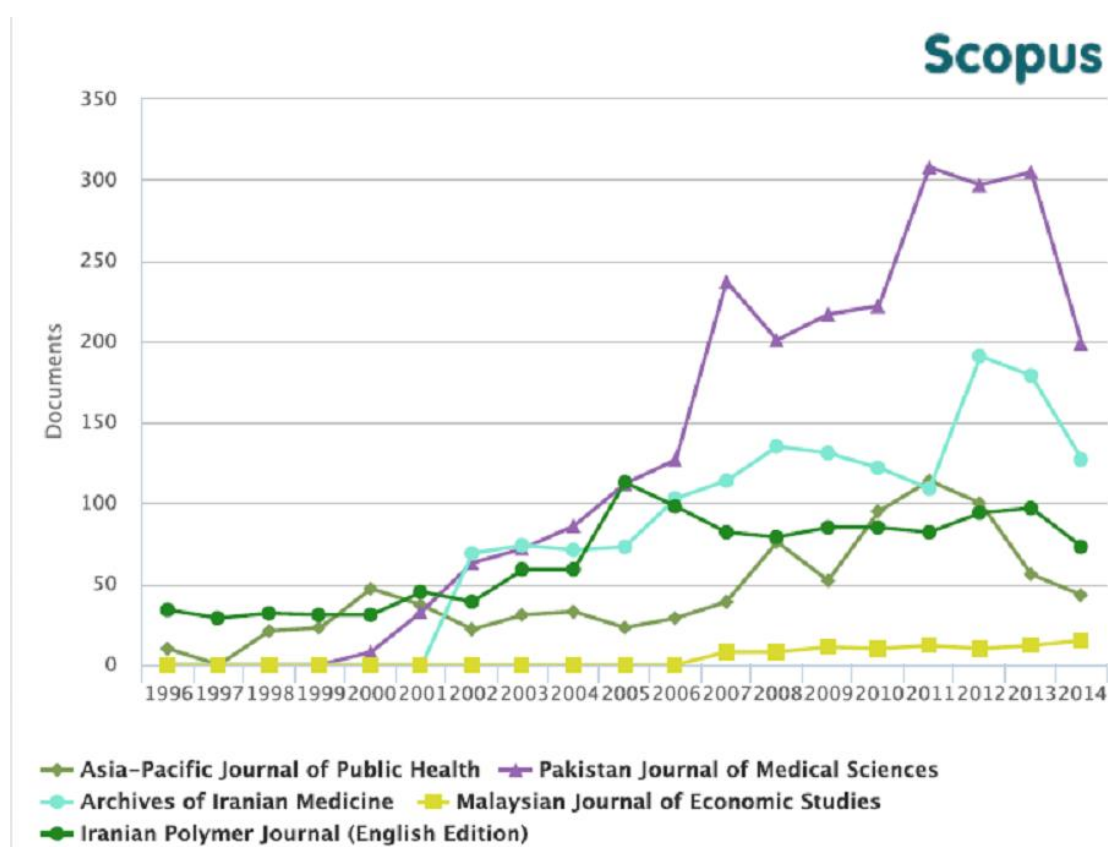


Figure 1. Comparing the distribution of selected journal articles over the years.

As it is shown in figure 1, Pakistan journal of medical sciences publishes the most articles among other journals. Using colors in this graph makes comparison to be well illustrated.

Applying SJR indicator on the selected journals, generated graph 2 which shows an Iranian polymer journal preserved its performance and good impact during the time period of evaluation. Beside it, the journal, Asia-Pacific journal of public health, has a continuous move toward getting more importance in its research field. Malaysian journal of economic studies has started to rise its SJR score and future evaluations can show how the journal,

has become successful in getting more quality and acceptance.

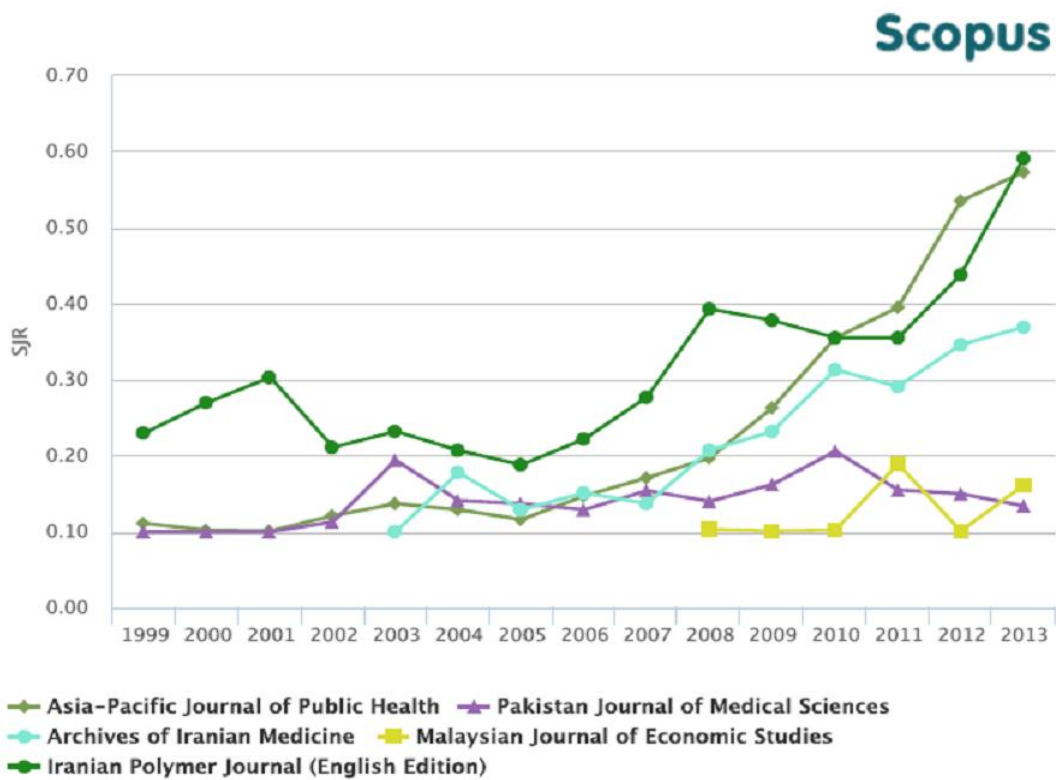


Figure 2. Applying SJR indicator on selected journals

Figure 3 shows the result of applying snip indicator on selected journals. The graph shows the state of evaluated journals when snip indicator is applied. Journal editors can use this information to plan for development in their ranking among other research journals.

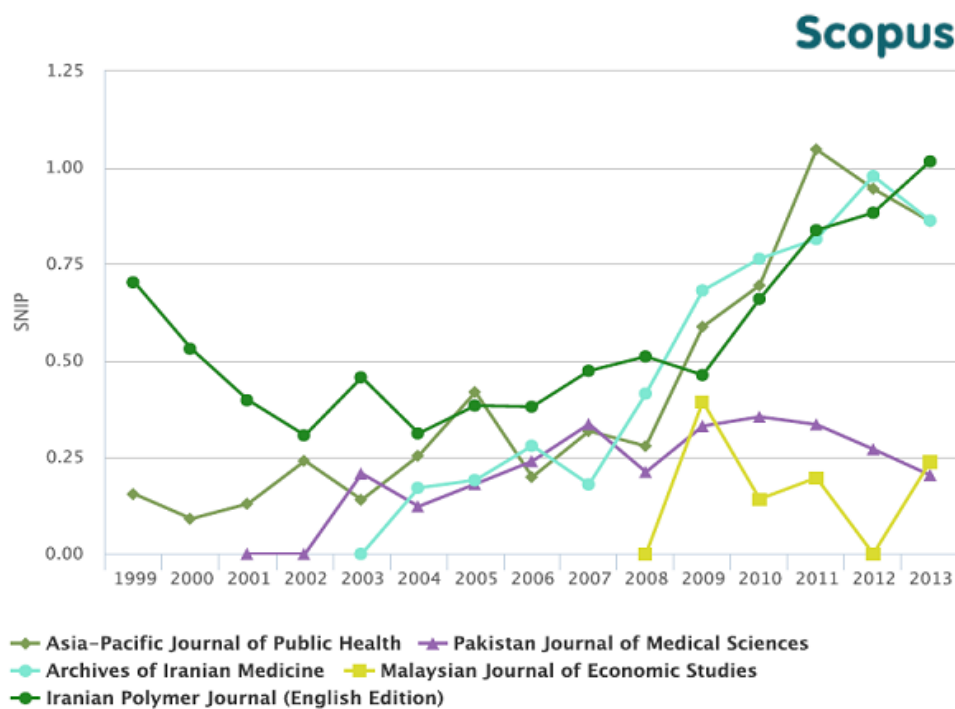


Figure 3. Applying SNIP indicator on selected journals

The ISC performance indicator tool, has several features which compare different aspects of Persian scientific journals. It can compare journals based on the amount of articles published each year as well as total numbers of citations received. Figure 4 shows the number of citations each journal has received over the selected time period.

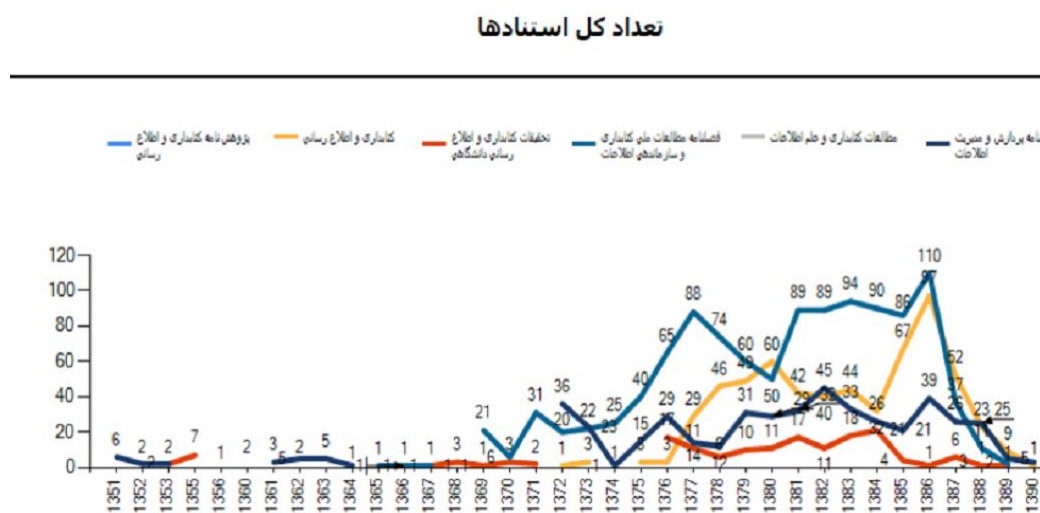


Figure 4. Distribution of citation received by selected journals over the time

The above graph shows show the number of citations each journal has received in different years of the evaluation time period. The results show *فصلنامه مطالعات علم کتابداری و سازماندهی اطلاعات* has received more citations compare to other journals.

### Conclusion

Gathering information on different aspects of scientific journals, which is gained by applying various journal performance metrics, help us to rank most influential journals which leads to make use of them wisely. Journal performance metrics are designed to help users select the best choice for their research needs. Beside so called IF, new measures are developed to evaluate the quality and performance of scientific journals more carefully. Using such measures, give a more complete view on journal performance, which corrects for limitation of IF and differences of subject areas. The debate of assessing quality of scientific journals is an open research area which attracts the researchers to conduct more studies and design more sophisticated metrics.

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