

BIBLIOMETRIC ANALYSIS OF GOOGLE SCHOLAR INDEXED TOP JOURNALS IN SOCIALSCIENCES

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The present study is a bibliometric analysis of social science journals indexed by Google Scholar, which it deems as top journals listed in its source list of 2018. The study has explored the other factors of these journals like, access pattern, frequency, impact factor, and SJR of these listed journals, which Google Scholar has not mentioned or added for these top listed journals. Besides, the study has identified top five journals among these listed journals of Google Scholar, based on highest Impact Factor, H-index, H5-index, H5-median, and SJR. This paper will be a significant piece of information for those who are in search of quality journals in the field of SocialSciences. Especially for those who have seen the top listed journals indexed by Google Scholar but are confused with inadequate information provided by the same.

Key words: Google-Scholar, H-index, h5-index, h5-median, Impact Factor, SJR, Frequency & Access pattern of Social-Science journals, Open Access, Hybrid-OA, Social Science journals

INTRODUCTION

The information resources of any kind have significant importance in communication world. Similarly, the journal resources form the basic access points to access the vital scientific findings pertinent to diverse issues & topics. Researchers have set a trending yard sticks to measure the quality of journals across various disciplines. Most of these include the Impact Factor, 5-Year I.F, H-index, H5-index, H5-median, SNIP, IPP, and SJR etc. All these metric standards are collectively termed as bibliometrics etc. These metrics are used to measure the quality of journals in all subjects and in social sciences as well. The web search engine “Google Scholar” enables to search the scholarly and academic literature across a wide array of subject areas. It draws out and visualises the replica information from different

repositories, journal publishers and other web pages that resembles it as scholarly in nature (Sam Houston State University, 2019 & NC State University, 2019). Google scholar is one of the busiest search tools used by researchers for searching and retrieving the scientific articles concerned with multiple subject domains. In July-2018 it has released a list of top 100 journals in general and top 20 journals in each subject of different disciplines based on highest h5-index and h5-median. This journal list may serve the purpose of finding and identifying the required, relevant information about the different journals for different researchers. But, due to lack of certain other elements viz, Impact Factor (Most frequently used metric), journal frequency (whether, journal is monthly, bi-monthly or quarterly publication) and access pattern (whether journal is, Open Access, hybrid-OA, delayed-OA or Toll-Access) etc. of these listed journals may not be so helpful to the researchers as it should be. In this milieu, the study will try to find missing elements of the social science journals, indexed or listed in Google Scholar's released top journal list.

LITERATURE REVIEW

The scientific knowledge is considered as the backbone for development of nations in general and that of the masses in particular. This knowledge is generated by researchers through intensive efforts and is disseminated in various information sources like books, magazines, conference proceedings, newspapers, and journals. The journals as an information source of scientific knowledge are a highly used source

especially by the scholars and scientific literature lovers.

Scholarly Journal and its importance

According to Center for Innovation in Research and Teaching (2019) there are various periodical publications available for disseminating the knowledge to their readers. Scholarly journals are one of its kinds used by researchers to disseminate the scientific findings to the target audience. Following are the basic characteristics of a scholarly journal:

- **Criteria: Scholarly Journals (also called academic, peer-reviewed, and refereed)**
- **Purpose for Publication:** Inform and report original research, provide in-depth analysis of issues related to a specific discipline
- **General Characteristics:** Lengthy articles, Citations, bibliographies, Charts, graphs, tables
- **Frequency of Publication:** Often quarterly
- **Author Information:** Scholars and professors, Researchers in the field, Author credentials included
- **Article Characteristics:** Generally lengthy, Focus on a narrow subject or piece of research
- **Words and Jargon Used:** Terminology used by scholars in the discipline

Similarly, www3.northern.edu (n.d) mentions that scholarly journals have the following characteristics: Serious, sober appearance, few bright colours; contains the words viz; journal, proceeding, transaction or quarterly in its title;

intended for more limited academic audience; usually published by scholarly publisher; article authors are scholars in that field and are usually signed; the articles are sequenced in issues; its main purpose is to report original research; writing styles followed are complex; articles are focused on special topics; articles are containing bibliographic details and it is generally published monthly, bimonthly, quarterly or semi-annually. There are varied benefits of using the academic journals in online mode. As mentioned by Asia Pacific Institute of Advanced Research(2017, May 28th). Some of its unique advantages of the academic journals in using them for your research are as follows:

- Ø They are highly credible for authors because their authority and quality can be verified through links and citation.
- Ø They offer clarity to authors view points and claims by contrasting the pros and cons of authors conclusions
- Ø They offer evidence for authors claims, as they cite the others ideas and enable the readers to access the cited papers directly.
- Ø Expands the research options by highlighting the cutting-edge research topics and ideas.
- Ø Provides case studies of diverse population from different locations.
- Ø Provides great reading with a wealth of knowledge.
- Ø Offers intensive focused research in a particular field of study.

Ø Offers freedom to collect journals by downloading them using internet.

Ø Broadened the researcher perspective.

Ø They contain the information in many forms like, images, tables, graphs and illustrations, as well as in PDF, HTML & many other formats.

The scholarly journals publish the quality contents on various topics and issues of scientific importance. These journal articles are very much important for researchers and the other literature users. The importance of these journal articles is mentioned by Thyer (2009) says that “published journal articles typically have gone through a rigorous screening process known as blind peer review, whereby independent experts provide the author with critical commentary and suggestions to improve their final paper, prior to publication”. It can be said that journals contain the fresh and qualitative knowledge on various topics.

Different Accessibility modes adopted by journals

The journal publications were considered as the basic information resource for researchers across various disciplines. Since the inception of scientific communication the reliability of researchers on scientific journals has been increased and there accessibility become a major matter of concern for them. In the beginning the journal articles were accessed by paying a good amount in the form of subscription charges by the users. It was called as toll-access mode of journal publication. In the recent decade there has been an evolution of new accessibility concepts

in scholarly communication. These new models include; Open Access and its different variants. All of these are discussed below:

OPEN ACCESS

**“Our mission of disseminating knowledge is only half complete if the information is not made widely and readily available to society”—
——Berlin Declaration**

The concept of Open Access is a trending sensation across the scholarly world. The ICT-technologies has enabled the fast and free communication transfer over the internet. This led the existence of Open Access concept among the publishing industries. According to SPARC (2020) Open Access is the free, immediate, online availability of research articles coupled with the rights to use these articles fully in the digital environment. Open Access ensures that anyone can access and use these results-to turn ideas into industries and breakthroughs into better lives. Similarly, Eysenbach (2006) states that, “Open access (OA) to the scientific literature means the removal of barriers (including price barriers) from accessing scholarly work”. When there is an unrestricted, free access to peer-review scientific research findings and the information is often accompanied with calls on open data, open education and open research & science, it is called as Open Access (Terras, 2015; Björk, 2017). The impact of the Open Access is increasing on both knowledge disseminators as well as on knowledge seekers or users. It enables the authors to enhance the impact by reaching the wider audience and enables them to get more citations (Harnad et al., 2004; Gargouri et al. 2010). The users on the other side get an opportunity to get a free access

to quality information without any financial and technical barriers. The Open Access comes in different variants; some of them are as follows:

- **Hybrid-OA**
- **Delayed OA**

Hybrid-OA

According to Björk B-C as cited in Laakso and Björk (2012) “the term commonly used for describing individual articles being provided openly within subscription-only journals through an optional author payment. It is only recently that this type of OA has been properly studied”. Similarly, De La Roche et al. (2010) mention that “Hybrid access techniques can be seen as a trade-off between open and closed approaches”. In the same vein, Björk (2012) stipulates that, “mainstream scholarly publishers have (since 2004) started to offer authors in subscription journals the possibility to free their individual articles from access barriers against a payment (hybrid-OA). This has been marketed as a possible gradual transition path between subscription and open access to the scholarly journal literature, and the publishers have pledged to decrease their subscription prices in proportion to the uptake of the hybrid option”.

Delayed OA

According to Lin (2006) delayed-OA means, “to publish those papers whose authors do not want to pay Open Access publishing fees in non-Open Access form for a certain period of time, before making them Open Access — so-called “delayed Open Access”. So it can be said that “Delayed-OA” is that variant of Open Access mode in which authors are offered the choice, either to pay the

publishing charges for making their papers accessible in Open Access mode immediately or if they are not able to pay the same then their papers can be made available in Open Access mode after a delayed, embargo period generally a period of six months.

CONCEPT OF BIBLIOMETRICS

Bibliometrics is an important instrument which helps in gauging the research in a particular field of study (subject). Bibliometrics is derived from two terms “biblio” and “metre” which means the term is concerned with the measurement of books. The term bibliometrics was first coined by Pritchard in 1969 to define the statistical measurement of the documented information. However, Fairthorne (1969) is of the view that “Bibliometrics refers to the Quantitative treatment of properties of recorded discourse and behaviour appertaining to it.” Okubo (1997) holds the perception that “Bibliometrics has now encompassed all the explicit indicators and measurements for its application in the research evaluation”. Bibliometrics is the field that helps to assess the bibliometric facets of the documented information and its containers. Bibliometrics is a wide area of study that covers many parameters that are meant to quantify the research. With the technological intervention and the need of more modern information systems some related terms thrived in the family of metrics or measurement science which are technometrics, scientometrics, informetrics, cybermetrics, webometrics, altmetrics etc. Similarly, the study of quantitative aspects of communication systems and science processes is said to be called as scientometrics. Generally,

it deals with citation analysis in the academic literature and in recent years it has played an important role in measuring and evaluating research performance (Mingers & Leydesdorff, 2015).

BIBLIOMETRICS IN RESEARCH ASSESSMENT

Bibliometrics has a non-negligent role to play in the evaluation of research output in a particular area of study. It is a major instrument for gauging the research and its allied facets. Bibliometrics fulfils the criteria as a research assessment tool with the help of its indicators. Bibliometric indicators are mathematical values that are destined to evaluate the quantitatively the research output of a particular entity (be it nation, institution, person). Bibliometric indicators are precious scales that analyse/measure the quality and quantity of research capacity of a particular entity. Vinkler (2001) elaborates the bibliometric indicator as a mathematical measure that is a characteristic of a prolific entity (journal, individual etc.) Different bibliometric tools are citation analysis, impact factor, h-index etc.

IMPACT FACTOR

Impact factor is a tool which helps to analyse the relative importance of a journal in a particular subject field. Garfield (2006) is of the view that Impact Factor is a measure which gives a relationship between the number of articles published and the number of citations fetched to them. Mathematically

Number of citations / Number of articles

[The number of citations for the previous chosen time period and number of articles for the previous chosen time period.]

H-INDEX

This index was proposed in 2005 by Jorge E Hirsch. H-index is a tool that helps to evaluate the productivity and the impact of citations of a documented information credited to a particular scholar / individual. It is basically an author level metric but can be used to assess the quality of the journal as well. The index is based on the distribution of citations gained by a journal. According to Hirsch (2005) a journal is said to possess a M as h index if papers (N_p) have at least M citations each, and the other ($N_p - M$) papers have no more than M citations each. This index is very important for the evaluation of quality of the journal, individual and institution.

H5-index

h5-index is the h-index for articles published in the last 5 complete years. It is the largest number h such that h articles published in 2014-2018 have at least h citations each (Google scholar, 2019).

H5-median

h5-median for a publication is the median number of citations for the articles that make up its h5-index (Google Scholar).

SJR

The concept of SJR is briefly mentioned by Elsevier as follows, “SCImago Journal Rank (SJR) is based on the concept of a transfer of prestige between journals via their citation links. Drawing on a similar approach to the Google Page Rank algorithm - which assumes that important websites are linked to from other important websites - SJR weights each incoming citation to

a journal by the SJR of the citing journal, with a citation from a high-SJR source counting for more than a citation from a low-SJR source” (Elsevier, 2020).

RESEARCH PROBLEM

The Google Scholar released list of top journals on all subjects’ fields on July-2018. But the said list supplies inadequate information i.e. it only shows the h5-index & h5- median of the listed journals. Some important elements are absent viz: Impact Factor, Frequency, Access Pattern, H-index, and SJR of these journals. In this landscape, the study made an effort to identify these missing elements of top journals in the field of social sciences, besides the top five journals having the highest Impact Factor-2017, H-index, H5-index, H5-median and SJR were also identified.

OBJECTIVES OF THE STUDY

- To acquaint the audience with the concept of bibliometrics, particularly with H-index, H5-index, H5-median, Impact-Factor, & SJR.
- To check the accessibility pattern and frequency of Google Scholar indexed top twenty journals in the field of Social Sciences.
- To identify the top five highly impacted journals based on I.F-2017, H-index, H5-index, H5-median and SJR in the field of Social Sciences.

SCOPE

The scope of the present study is limited to the analysis of Google Scholar indexed top listed journals in the field of Social Science. Therefrequency, access pattern and an

identification of top five journals having highest Impact Factor, H-index, H5-index, H5-median, and SJR.

METHODOLOGY

Google Scholar had released a list of top journals covering different subject areas, including Social Sciences in July-2018. The same was downloaded and it was observed that the list only reveals h5-index & h5-median of these listed journals, thus lacks the other elements like frequency, access pattern & Impact Factor, H-index and SJR. The study endeavours to take an initiative to identify these missing elements of Social Science journals by searching the homepages of these listed journals and find the required elements. The harvested data was compiled in MS-excel for further analysis and interpretation. Accordingly, the results and findings are figured & tabulated to meet the laid objectives.

DATA ANALYSIS AND INTERPRETATION

Access pattern of scholar indexed journals in the subject field of Social Sciences

Social Science is a broad discipline that encompasses different subjects concerned with diverse social issues or topics of interest. There is a lot of literature available that deals with the same, especially the Journal literature. Google scholar has listed top twenty journals in the field of social sciences. As it was one of the objectives of present study to analyse the access pattern of these scholars indexed journals, it was found that out of twenty journals the number of hybrid OA journals is (17), followed by Toll-access journals (2 in number), delayed OA (1 in number) and None of them is fully OA journal (Table 1).

Table 1: Access pattern of scholar indexed journals in the subject field of Social-Sciences

Access pattern	Toll-Access	Hybrid OA	Delayed OA	Fully OA
No. of journals out of 20 indexed journals	02	17	01	Zero (0)

Frequency distribution of top 20 scholar indexed journals in social sciences

The study was also curious to check the frequency distribution of top 20 scholar indexed journals in the field of social sciences. After analysing the collected data it was observed that seven journals out of twenty has frequency other than monthly, bimonthly & quarterly. The breakup

of these other journals is as follows; 3 out of 7 journals has 10 issues per year, 2 out of 7 journals has 8 issues per year, 1 out of 7 is biweekly and 1 out of 7 journals has 28 issues per year. Besides, the six (6) out of top twenty scholar indexed journals in the field of social sciences has monthly frequency, followed by 4 journals having bi-monthly frequency, and 3 out of twenty has quarterly frequency. For lucid view see Table-2.

Table 2: Frequency distribution of top 20 scholar indexed journals in social sciences

Frequency	Monthly	Bi-monthly	Quarterly	Others
8 issues/year	-	-	-	2
10 issues/ year	-	-	-	3
Bi-weekly	-	-	-	1
28 issues/ year				1
Total Number	06	04	03	07

Top five journals based on highest Impact Factor

The objective of the study was also to find out the top five journals based on the highest Impact Factor. Similarly, the study succeeded in identifying these high-quality journals and they includes: *Progress in Human Geography* (I.F, 6.885) is ranked at first position, followed by *Global Environmental Change* (I.F-6.371) at 2nd

rank, *American Journal of Political Science* (I.F, 5.22) at 3rd rank, *Annals of Tourism Research* (I.F, 5.086) & *American Sociological Review* (I.F, 5.063) placed at 5th position. It was also revealed that out of these top five journals 04 out of 05 are bimonthly & Hybrid-OA, only 01 out of 05 is quarterly & toll-access. Table-3 offers a bird's eye view.

Table 3: Top five journals based on highest Impact Factor

Rank	Name of the journal	Frequency	Access Pattern	Impact Factor
1	Progress in Human Geography	Hybrid OA	Bi-monthly	6.885
2	Global Environmental Change	Hybrid OA	Bi-monthly	6.371
3	American Journal of Political Science	Hybrid OA	Quarterly	5.22
4	Annals of Tourism Research	Hybrid OA	Bi-monthly	5.086
5	American Sociological Review	Toll-Access	Bi-monthly	5.063

Top five journals based on highest H-index

The study also aimed at identifying the top five journals based on highest H-index among these twenty journals indexed by Google Scholar in the field of social sciences. Data analysis reveals that journals viz: *American Journal of Public Health* has the highest H-index (236), followed by *Social Science & Medicine* at 2nd

position having H-index of (213), *Research Policy* at 3rd rank with H-index of (206), *Journal of Educational Psychology* at 4th rank with H-index of (177), and *American Sociological Review* is placed at 5th position with H-index of (174). There are two hybrid –OA journals, one delayed –OA journal and two toll-access journals among these top five journals. For clear picture see table-4.

Table 4: Top five journals based on highest H-index

Rank	Name of the journal	Frequency	Access Pattern	H-index
1	American Journal of Public Health	Monthly	Delayed –OA	236
2	Social Science & Medicine	Bi-weekly	Hybrid –OA	213
3	Research Policy	10 Issues/year	Hybrid –OA	206
4	Journal of Educational Psychology	8 Issues/ year	Toll–Access	177
5	American Sociological Review	Bi-monthly	Toll–Access	174

Top five journals based on highest H5-index

The present study also succeeded in identifying the top five journals in social sciences based on highest H5-index. These identified journals are as follows: Computers & Education (H5-index, 91) placed at rank1, followed by Journal of Business Ethics (H5-index, 90) at 2nd

rank, Global Environmental Change at 3rd rank having (H5-index, 88). Similarly, Research Policy is placed at 4th rank with H5-index of (84) and Health Affairs at 5th rank having H5-index of 80. All of these identified journals are hybrid-OA journals. The table 5 offers a lucid picture.

Table 5: Top five journals based on highest H5-index

Rank	Name of the journal	Frequency	Access Pattern	H5-index
1	Computer & Education	Monthly	Hybrid –OA	91
2	Journal of Business Ethics	28 Issues/year	Hybrid –OA	90
3	Global Environmental Change	Bi-monthly	Hybrid –OA	88
4	Research Policy	10 Issues/ year	Hybrid –OA	84
5	Health Affairs	Monthly	Hybrid- OA	80

Top five journals based on highest H5-median

H5-median is another metric used to identify the top five journals in this study. After analysing the data, results showed that there are certain journals with the highest H5-median. The top five among them are: Computers & Education journal placed at rank1 with H5-median of 152, followed

by Research Policy placed at 2nd rank with H5-median of 128, Global Environmental Change at 3rd rank with H5-median of 127. Similarly, Journal of Business Ethics is placed at 4th position with H5-median of 124 and American Journal of Public Health at 5th place with H5-median of 119. For clear understanding see table 6.

Table 6: Top five journals based on highest H5-median

Rank	Name of the journal	Frequency	Access Pattern	H5-median
1	Computer & Education	Monthly	Hybrid –OA	152
2	Research Policy	10 Issues/year	Hybrid –OA	128
3	Global Environmental Change	Bi-monthly	Hybrid –OA	127
4	Journal of Business Ethics	28 Issues/ year	Hybrid –OA	124
5	American Journal of Public Health	Monthly	Hybrid- OA	119

Top five journals based on highest SJR

The study also felt it necessary to identify the top five journals based on highest SJR in the field of Social Sciences. This aim was successfully achieved and these top five journals include: Rank1, American Journal of Political Science, (SJR-9.6), followed by rank 2- American

Political Science Review (SJR-6.53), rank 3- American Sociological Review (SJR-5.86). Similarly, Global Environmental Change & Health Affairs both of these journals are placed at rank4 with (SJR-4.38 each), and Progress in Human Geography is ranked at 5th position with (SJR-4.37). Table-7 offers a clear view.

Table 7: Top five journals based on highest SJR

Rank	Name of the journal	Frequency	Access Pattern	SJR
1	American Journal of Political Science	Quarterly	Hybrid –OA	9.6
2	American Political Science Review	Quarterly	Hybrid –OA	6.53
3	American Sociological Review	Bi-monthly	Toll-Access	5.86
4	Global Environmental Change	Bi-monthly	Hybrid –OA	4.38
4	Health Affairs	Monthly	Hybrid- OA	4.38
5	Progress in Human Geography	Bi-monthly	Hybrid- OA	4.37

CONCLUSION

The study has successfully achieved its objectives and the major findings of the study reveals that the access pattern of maximum journals among the top listed Social Science

journals of Google Scholar is Hybrid-OA, (refer to-Fig 1). Similarly, it has also been identified that frequency of maximum journals is not monthly, bi-monthly, and quarterly, although the monthly journals are sufficient among these listed journals (refer to-Fig 2). Top journal with highest

I.F (6.885) is *Progress in Human Geography*, with highest H-index of (236) is *American Journal of Public Health*, with highest H5-index of (91) & H5-median of (152) is *Computers & Education*, and with highest SJR (9.6) is *American Journal of Political Science*.

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