



Indexing

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ABSTRACT

If the value of a text is dependent on the reader, does an article have meaning without an audience to access it? Every author might be concerned about the impact, accessibility and acceptance of their work and indexing acts as a knowledge guide to ensure that purpose. This article delves into the various aspects on indexing ranging from history of indexing, indexing agencies, parameters and the criteria for indexing.

Brief History

Geraldine Beare refers to Indexing as simply ‘information retrieval’ and she traces back to the most primitive origin of index through the *book of hidden space* containing distinguished chapters with catalogues recording the journey of sun (Beare, 2007). Hugo de St. Caro assembled the first concordance in 1270 (Wheatley, 1879) which contained the heading and the locator of the files included (Rayward & Bowden, 2004). Another notable history is the alphabetical listing of the Old and New Testament by Alexander Cruden (Cruden, 1785). Since the early eighth century, we can note Hebrew literatures containing bibliographical information in alphabetical order such as in *Masorettes* (Rayward & Bowden, 2004). William Frederick Poole with the help of William Issac Fletcher gave us *Poole's Index to Periodic Literature* in which English literature between 1802 and 1906 were covered (Carlson, 1928). Frank Shepard added a legal basis to citations as he introduced a listing with the help of coding system through which previous court rulings on similar matters were recorded and consulted by lawyers when presented with a case. Eugene Garfield, in his article (Garfield, 1967) introduces *Historio-Bibliography*, in which a work on any field is to be listed in a chronological manner which can trace it back to the origin of ideas used in the latest work. This would be very useful when considering our current day citations and how, borrowed ideas are given the stand of an intellectual debt.

Purpose of Indexing

Journals indexed within recognized databases are recognized as quality work as they are reviewed by peers within the specific area of work published (Murlimanju, Prabhu, Prameela, Pai & Saralaya, 2016). Moreover, the online content of the journal will contain all information concerning the work, which is easily available to a third party leading to wider outreach and easy access of information (Dhammi & Haq, 2016). The citations of the work published can also be traced, thus resulting in interconnectivity and acknowledgement of work in similar fields.

Some databases provide only the vita data of the article such as the abstract and author details alone and some databases may give access to the full article either upon publication or as an open access service. While some databases of indexed journals may belong to certain institutions such as PubMed, some are managed by the publishers such as SCOPUS (Shekhawat & Chauhan, 2017).

Criteria for indexing

Let's consider the database Medical Literature Analysis and Retrieval System Online (MEDLINE) and the nature journals published within. It contains articles with original ideas and strong data for evidence along with ethical protocols, relevance, ease of understanding and pertaining to a particular field that will be of interest to its audience. (Gasparyan, 2013). For the selection of journals by bibliographic databases, it should contain specific information that are cross-checked by the indexers. Some of these are the format of references, funding needs, DOI, Abstract etc. The main criteria among these are timelines for publishing and influential periodicals (Gasparyan, Ayvazyan & Kitas, 2013).

For Scopus, the Content Selection and Advisory Board (CSAB) has 5 criteria under which their journals are selected: journal policy, content, journal standing, publishing regularity and online availability (Content Policy and Selection - Content - Scopus - Solutions | Elsevier, 2020).

According to Danielle Padula, the indexing requirements are the International Standard Serial Number, Digital Object Identifiers, copyrights and metadata of the article (Journal Indexing: Core standards and why they matter, 2019)

Therefore, the main factors for indexing can be encased in but not limited to the content within journal and it's coherence to audience, frequency of publication, the peer review process and editorial board composition.

The list of some indexing agencies are provided below:

- ISI Web of Science
- Scopus
- Ulrich's Periodicals
- Bielefeld Academic
- Google Scholar
- Crossref
- Index Corpenicus

Alternatively, the Master Journal List will provide the list of all indexed journals. And the Journal Citation Report (JCR) releases a list of journals with their rankings and impact factor which are arrived at through their citation counts.

Metrics

Vassily V. Nalimov used the term scientometrics in 1960 and is related to the citations count in scientific literature (Sengupta, 1992). Paul Otlet initially used '*bibliometrie*' in 1934 and using the algorithm of the Dewey Decimal System to store and retrieve huge amounts of data (Godin, 2006). Bibliometrics came into existence in 1969 and can be referred to as 'Scholarly Communication' as it conveys various information relating to the journal such as the scholarly essence of the content, institutional affiliations or progress in a particular field (Hérubel, 1999). The metric system is effective in the scholarly literature as it's provides vital information such as the number of printed copies, editions, translated languages, audience with access to content etc.

Journal Metric/Author Metric

Journal metric can also be used interchangeably as journal rank or journal impact and is a cumulative quantitative measure of the quality of that particular journal. According to Scopus, the cite score for the year 2019 was calculated by taking into account the data published from the years 2016-2019 and dividing by the number of publications through the same years. It follows a 4-year publication window ("Scopus preview - Scopus - Sources", 2020).

The author metric is an individual ranking of the author based on factors such as the number of articles published, number of citations for articles to identify the impact of her/his particular work and significance in that particular field.

Indexing Parameters

Indexing parameters are important to assess the journal quality and ranking. These are usually calculated on the basis of citations as, the number of citations will have an impact on the journal and on the author metric. A common parameter used is the Impact factor. It is a journal metric and is calculated by the number of articles of a journal in two consecutive years (D) divided by the number of citations for all the first and second years published (N).

Impact Factor = N/D Published in the 4th year.

The Journal Citation Reports is a database published periodically contained the impact factor and ranking of journals by Clarivate Analytics.

Along with Impact factor, CiteScore and SCImago Journal rank are other metrics. CiteScore is used by Scopus whereas SCImago journal rank is calculated from the database of Scopus.

H index

The name can be traced back to Jorge E. Hirsch. This index is calculated according to the number of articles cited with the corresponding number of times (Shekhawat & Chauhan, 2017). For e.g.: Mr. X has 10 publication, then Mr. X should have at least 10 citations. Therefore, it is a cumulative value of the citations and total publications.

One disadvantage of H index is the differing value for the same author across different databases. The H value of an author might differ from one database to another due to technical discrepancies. It is also not an exact quality measure for authors with few publications (Carpenter, Cone & Sarli, 2014).

H Core

H core also known as Hirsch's core are those articles which add the value to the h index. It is simply put the productivity core of the author (Burrell, 2007).

M Index

m is calculated by dividing the H index by n where 'n' is equal to the current year subtracted by the year of first publication. Therefore, the n value is equivalent to the active scholarly years of the author.

G index

H index faced criticism by the scholarly community and g index was introduced to eliminate the disadvantages of h index. Therefore, g index is calculated by considering the number of citations for particular articles and disregarding the concept of highest number of overall publications of a particular author.

G is calculated by taking into account the articles published and the citations for the articles published, in which the citations should be a squared value of the number of publications. The citations are a squared amount in proportion to the number of g articles (Egghe, 2006)

I10 Index

Refers to the number of articles that are cited at least 10 times (Sangeeta, 2018).

H5 Index

Calculated with respect to the articles published in the past 5 years, such that, the articles are cited at least 5 times each.

Quality of Publishing

The journal usually will have a group of Journal Manager, Editorial board, Editor in chief or Section Editors and reviewers. The reviewers could be an outside body and not part of the journal board. The reviewers could be suggested by the author of the article submitted, identified by the editors of the journal or may even be an individual who have volunteered to be a reviewer. Depending on the discretion of the journal, there might be two or three reviewers to review a particular article.

Types of Review

It can be categorized into 4 types namely, single blind peer review, double blind review, triple blind review and open review.

Single blind peer review

For the reviewing process, the author will not be given any information regarding the identity of the reviewer however, the reviewer will have access to the identifying details of the author. Though this process is practiced within many journals, it can arise in prejudices as known characteristics of the author can cause biases in the reviewer, such as academic credibility, affiliated university, or even religion and gender.

Double blind peer review

For this process, the author will be asked to attach a separate title page along with the identity sensitive details and to submit the manuscript without any identifying details. Only the chief editor will have knowledge about the identity of the author and reviewer. The author would be anonymous to the reviewer and vice versa. This process is to eliminate as basis for bias based on personal information.

Triple blind review

Under this review process, the editor, author and reviewer will not have access to the identity of each other. The identity sensitive information will be managed by the journal manager. This process has the highest anonymity in the review process however, is a more complex practice to carry out.

Open review

For this process, there is no identity anonymity. The identity of the authors, reviewers and editors and known to each other and the review process is transparent.

Conclusion

Keeping in mind, the Indexing parameters, review process and criteria for indexing. It becomes much easier for scholars to understand publishing and choose a best fit journal to publish their work. Moreover, it makes availability of literature and the network of related information much easier to access when working on collecting literature for research. The wide range of options from open access journals to databases listing abstracts have given us a good coverage of information. Primary concerns of scholars when choosing journals could range from how accessible is their work to the population to what is the best platform to gain maximum citations.

Given below is a table reprinted from the article ‘Choosing the Target Journal: Do Authors Need a Comprehensive Approach’ which could be using for young authors when selecting journals.

Table 1: List of factors for author consideration when selecting journals

Journal Impact factor
Indexation
Journal prestige
Relevance of research topics
Acceptance/Rejection rates
Size of print circulation
Manuscript turnaround time
Editors characteristics
Quality of reviewer comments
Previous experience with publishing in the journal
Colleagues recommendations
International status
Open access
Publication charges
Promotion at social platforms (e.g. Facebook, Twitter)
Press attention to the journal

Note. Reprinted from “Choosing the Target Journal: Do Authors Need a Comprehensive Approach?” Gasparyan, A., 2013, Journal of Korean Medical Science, Page used: 9.

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