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Indexing: As it Gains a New Meaning and Importance in Today's World

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Abstract: ***Indexing, a ranking of journals, helps scholars and the academic world ascertain the quality of the journals published. It is of utmost importance in the 21st century, with the globalization of the world, connected by the web of the Internet, to maintain a scholarly database that houses genuine and transparent literature, and to guard the integrity of journals and the articles published by them. The study aims to cover the different aspects and processes of indexing to enable a new scholar to familiarize them-self with the concept of Indexing.***

Keywords: Citation Indexing, Indexing Agencies, Indexing Parameters, Peer Review

1. Introduction

Citations are linkages to the literary work, that is built upon further or utilized as evidence to prove or disprove the point being made by an author. "The conceptual associations by citation are described as intellectual transactions, formal acknowledgments of intellectual debt to earlier authors" (Garfield, 1997). Citation indexing can be described as a tracker and storage database of current-to-source literature links that help in easy access and navigation between literatures.

Though the primary purpose of citation indexing is to enable the reach of literature to a wider community through indexing databases, it also indicates a mark of the quality and reliability of the article. The indexing databases monitor that the published journals are of quality, use diligent processes like peer-review, are consistent in the number of volumes and issues published annually, and are ethically compliant. Publishing in a journal that is indexed in a well-known database will increase the readership, as these databases are the gateway for research scholars to search relevant literature. This would mean that if a journal is indexed, the articles published by the journal are also automatically indexed (unless in special circumstances such as conference abstracts, special editions, etc.).

a) Indexing Agencies

The indexing databases monitor and store the citation indexes. These databases can include title, abstract, full article, and/or references of the articles within the indexed journals. For a journal to be indexed some of the quality criteria that need to be met are: (1) valid journal ISSN (2) published articles (3) articles meeting the standard template (4) quality checks like peer-reviews (5) consistency of publication and (6) accessibility of articles. Some of the well-known indexing agents include (1) Shepherd citations (2) Ulrich's indexing services (3) Institute of Scientific Information (4) Science Citation Index-Expanded and BIOSIS by Thomson Reuters (5) Web of Science Indexing system (6) Scopus and EMBASE by Elsevier (7) Index Copernicus (8) PubMed by National Institute of Health (9) Directory of Open Access Journals (DOAJ) (10) EBSCO etc.

A scholar would access these databases to search literature relevant to his studies using search engines. These search engines pull out the relevant literature from indexing databases using keywords like authors' names, titles, year of publishing, etc. Based on the searching mechanism used, there are four types of indexing: (1) Primary Search Engines: This would include regular search engines like Google. (2) Scholarly Search Engines: The journals should have discoverable websites accessible to the scholarly search engines like Google Scholar and Microsoft Academia (3) General Scholarly Indexing: This would be the primary indexing databases like Scopus and Web of Science (4) Discipline-specific: These are discipline-specific databases like Pubmed.

b) Indexing Parameters

Since indexing also serves as a quality check, several indexing parameters help in gauging the quality of journals and authors. There are two kinds of indexing parameters - Open parameters are numbers that can be verified by users like Impact factor (IF), and CiteScore; Closed parameters are based on algorithms and not open to the end-user like Source Normalized Impact Factor (SNIP).

Impact Factor (IF) is the indexing parameter given by the web of science and found by Eugene Garfield (1975). Impact Factor (two years IF) is a ratio of the number of citations a journal received in a given year to the number of citable items/articles published in the past two years. There is also a five-year Impact Factor. Scopus uses CiteScore which is the ratio of the number of citations a journal received in a given year to the number of citable items published in the past three years.

Unlike IF and CiteScore which are indexing parameters for journals, h-index, m-index, and g-index are author metrics. h-index, proposed by Jorge Hirsch, is the maximum value of h such that h articles are cited at least h number of times

each. This metric is not calculated by any agency but by the authors themselves. m-index accounts for the publication age of a person and is a measure of consistent publications. It is the ratio of h-index to the number of years past since the first publication. g-index is the maximum value of g such that g articles are cited at least g-squared number of times. There are other indexing parameters like h5-index (h-index of the last five years), i10-index (number of articles for an author that have received 10 citations each), and h5-median (which measures the balanced nature of publications).

2. Process of Indexing

Publishing an article in an indexed journal is not just a process of research, but an acceptance of one's idea, as a contribution and enhancement of knowledge, by the worldwide scientific community. And the indexed journal is a gateway to this sharing of knowledge in the academic world. But then what gives an indexed journal that kind of power?

Indexation is a hallmark of quality for any journal and brings reputation, visibility, wide access, and reach, compared to non-indexed journals. Some of the well-known indexing agents include (1) Shepherd citations (2) Ulrich's indexing services (3) Web of Science (4) Scopus and EMBASE by Elsevier (5) Directory of Open Access Journals (DOAJ) (6) Index Copernicus etc.

Citation indexing is a storage database of citing literature accompanied by cited literature which enables access to a wider community. The indexing databases monitor and store the citation indexes. These databases can include title, abstract, full article, or references of the articles within the indexed journals. For a journal to be indexed some of the quality criteria that need to be met are: (1) It makes no false claims concerning indexing (2) website that is maintained and updated on an ongoing basis (3) consistent volumes and issues published (4) genuine editorial board (5) valid ISSN (5) physical contact address (6) published articles with valid CrossRef DOI (7) quality checks like peer-reviews and (6) accessibility of articles.

The study cites as examples two indexing services namely DOAJ and EMBASE. Some of the quality expectations by DOAJ include: an archival and preservation arrangement policy in place by the Journal, one URL per publisher, one URL per journal, and one URL per article, the journal must have at least one ISSN, content must be well organized, quality webpage, clear and up-to-date information of editorial board, clearly stated APC, submission page, article processing charges, quality control of articles, article-level metadata, copyright licensing, allows mixing of content under licensing (CC BY, CC BY-SA, CC BY-NC), peer-review and plagiarism checks. Besides, DOAJ requires journals that have an open access policy. Interestingly DOAJ does not believe in Impact Factors and is IF agnostic. Some of the reasons for rejecting a journal are no response, nothing published in a one-year time-frame, no ISSN, non-original articles, the journal is not open access and doesn't adhere to transparency principles and best practices of scholarly publishing.

EMBASE which is a part of Elsevier, is a biomedical literature database. Some of its criteria for indexing a journal include relevant concept, peer-reviewing policy, original articles, if non-original it should be substantially discussed, clinical trial numbers and disease, drug, device details.

3. Review Methods

The review is a process of maintaining the originality and quality of articles published within the journals. The Journal management, Editorial Board, and Reviewers are responsible for reviewing. Every journal has a template for articles that would be published on its website along with instructions to the authors. Apart from general guidelines like non-plagiarism, originality of work and an expected standard of quality which is expected in all scholarly work, each journal has an additional set of standard expectations like; length of the article, standard template, APA, or other standard formats and processing approach. To ensure these standards are met, any article submitted for publishing has to pass through a quality check or review process.

Mostly journals use Peer Review, where the scholars and experts across the world volunteer their time and effort to ensure the quality and integrity of scholarly literature. It is an unpaid service rendered by these experts, who help by providing constructive feedback to the authors unless there are some red-flags like plagiarism. There are different stages of peer reviews: Pre-publication where journals review the article to decide on its publication and post-publication where readers can post their feedback on a published article. Some of the examples of pre-publication are peer reviews and open reviews before publication and examples of post-publication include blogs, microblogs, letters to the editor, reviews on websites like www.pubpeer.com, and formal post-publication reviews.

In addition to the stages of the review process, the approaches to review further classify them as follows: (1) Single-Blind – the author does not know who the reviewer is (2) Double-Blind – both the author and reviewer do not know each other (3) Triple-Blind – author, reviewer, and editor are all blind to each other, while only journal manager is aware of details (4) Open-Review – both the author and reviewer are aware of each other. There are advantages and limitations to each of these approaches: single-blind ensure reviewer anonymity enabling quality feedback without any restrictions while there is a possibility of bias towards the author; double-blind ensures the anonymity of the author enabling bias-free review inputs, but then editorial bias towards the author or his/her gender, geography is a possibility; triple-blind is bias-free, however, the process can be complex; open-review though transparent can lead to open criticism and slander. There is also an option for an author to suggest or request a

particular expert to review. It has been observed that double-blind (60%) is the most predominantly used review process while open-review (42%) is least in use. Accepted invitations (49%) and single-blind (53%) processes are the other observed methods in use (Kowalczuk and Samarasinghe, 2020).

There are certain guidelines to be followed by the author while responding to the review comments, to ensure the process is respectful and constructive, as listed by William Stafford: (1) author should start with an overview and then list the review comments along with his/her response (2) show respect to the reviewers (3) accept the constructive feedback (4) response should be explanatory and sufficient (5) ensure to address every comment (6) follow a format that is easy on the reviewer to navigate through the responses (7) be precise and direct in responding to the comments (8) it is good to accept the suggestions provided, where possible, as it will benefit the literature (9) be specific in pointing out the differences between the current and older version post review intake (10) do vent out your frustration by writing a copy for self if it helps, but a respectful and polite copy for the reviewer (Noble, 2017).

4. Conclusion

Indexing is a quality and consistency parameter for journals, to increase their visibility to researchers. It also enables easy access to literature for scholars. Indexing is also a measure of research authors and their publications. Citations are at the heart of Journal and Author Indexing and are a due acknowledgment of the intellectual debt leveraged from earlier scholars and their work. Generally, for a journal to be indexed by an indexing agency, the following criteria need to be in place: ISSN, journal title, publisher, online access, content access, peer review policy, contact details, scholarly content, article titles and abstracts, bibliographic information, clarity of language, timelines and publication volume, website functionality, journal format, presence of ethics statement, editorial details, author details, editorial board composition, the validity of statements, peer review, content relevance, grant support details, adherence to community standards, author distribution and appropriate citations to the literature. The peer-review process ensures the quality of the articles published by the journals.

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References

[1] Balhara, Y. S. (2012). Indexed journal: What does it mean? In Lung India (Vol. 29, Issue 2, p. 193). https://doi.org/10.4103/0970-2113.95345

[2] Baethge, C. (2009). On Ghost Authorship and Reviews – The 6th International Congress on Peer Review and Biomedical Publication. In *Deutsches Aerzteblatt Online*. https://doi.org/10.3238/arztebl.2009.0731

[3] Concept of Citation indexing: A Unique and Innovative Tool for Navigating the Research Literature. Retrieved from http://www.garfield.library.upenn.edu/papers/vladivostok.html, accessed on 14.04.2020ion (CEC), pp. 1951-1957, 1999. (conference style)

[4] Dhammi, I., & Rehan-Ul-Haq. (2016). What is indexing? In Indian Journal of Orthopaedics (Vol. 50, Issue 2, p. 115). https://doi.org/10.4103/0019-5413.177579

[5] Four Index Types for your Academic Journal to consider. (2017, June 21). Retrieved from https://blog.scholasticahq.com/post/index-types-for-academic-journal/, accessed on 14.04.2020

[6] Gewin, V. (2019). Junior researchers are losing out by ghostwriting peer reviews. *Nature*. https://doi.org/10.1038/d41586-019-01533-8

[7] Huh, S. (2017). How to successfully list a journal in the Social Science Citation Index or Science Citation Index Expanded. In the Korean Journal of Medical Education (Vol. 29, Issue 4, pp. 221–228). https://doi.org/10.3946/kjme.2017.68

[8] Indexing Guide: A comprehensive guide to Embase's indexing. (2018). Retrieved from policy https://www.elsevier.com/__data/assets/pdf_file/0016/92104/Embase-Indexing-Guide.pdf, accessed on 24.04.2020

[9] Kowalczuk, M., Samarasinghe, M. (2020). Comparison of Acceptance of Peer Reviewer Invitations by Peer Review Model: Open, Single-blind, and Double-blind Peer Review. International Congress on Peer Review and Scientific Publication. Retrieved from https://peerreviewcongress.org/prc17-0227, accessed on 13.05.2020

[10] Kurtz, M. J. (1996). Indexing: what you find is what you get. In Vistas in Astronomy (Vol. 40, Issue 3, pp. 393–394). https://doi.org/10.1016/s0083-6656(96)00021-9

[11] Markusova, V. (2014). 50th anniversary of the Science Citation Index: History and Evolution of Scientometrics. In Handbook for Scientometrics: Indicators of science and technology development (pp. 14–48).

[12] Murlimanju, B. V., Prabhu, L., Prameela, M. D., Pai, M., & Saralaya, V. (2016). What is indexing? In Indian Journal of Orthopaedics (Vol. 50, Issue 5, p. 577). https://doi.org/10.4103/0019-5413.189598

[13] Noble, W. S. (2017). Ten simple rules for writing a response to reviewers. *PLoS Computational Biology*, *13*(10), e1005730.

[14] Post-Publication Peer Reviews (P3Rs). (2004). In *PEDIATRICS* (Vol. 114, Issue 1, pp. 251–251). https://doi.org/10.1542/peds.114.1.251

[15] Web of Science Core Collection: Journal Evaluation Process and Selection Criteria. (2019). Retrieved from https://clarivate.com/webofsciencegroup/wp-

content/uploads/sites/2/2019/08/Journal-Evaluation.pdf, accessed on 24.04.2020

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