

# Indexing: History and its usage

Sharmili Chatterjee, M.Phil. Scholar, Christ University Bengaluru, India,

sharmili.chatterjee@res.christuniversity.in

**Abstract** Indexing plays an important role in any form of research. It helps to understand and categorize an existing set of information. This paper is carefully divided in different sections which deal with various aspects related to indexing. It provides the history of indexing, indexing agencies, indexing parameters and review methods. This article also briefs about open access journals. This paper aims to help students to understand the concept of indexing.

**Keywords** — *History of Indexing, Indexing Agencies, Indexing Parameters, Indexing, Open Access Journal, Review Methods*

## I. INTRODUCTION

Indexing is a process in which one creates indexes. Indexing helps to arrange and record data for future reference. This is often used by researchers or students to locate a specific topic. It also helps to understand and categorize a data based on lists, terms or definitions which are often arranged in alphabetical order which helps its easy usage.

## II. HISTORY OF INDEXING

Now that we discussed the meaning of indexing, I would like to reflect on the history of indexing. The concept gained its prominence with the invention of printing during the fifteenth century. Before that indexing had its limited use as creating two identical copies was difficult. It started with papyrus scroll which was used by ancient Greeks and Romans. It was used to sort information. Later, they started working on writing large works that compiled data from various domains.

Indexing was also used to list phrases and concordances to Bible. Concordances to bible began from 7th century. Indexing was also used for subject indexes to work on ethics, natural philosophy and logic. Headwords and marginal references from the manuscripts were used as guide to text.

The printed books on indexing appeared in the 1460's. The field of medicine was also helped with indexing. It was used to index medical texts and herbals. Biblical concordance was first published in 1544. The composer was burned as it effected the religious belief of certain sections of people. Concorades was written again written by Alexander Cruden was published in 1737. This is still under print. The next prominent movement in indexing was seen with the first dictionary in English language. It was produced single handedly by Samuel Johnson in 1755.

Coding in indexing came into picture in 19th Century with the formation of Indexing society in 1877. They aimed at creating 'a general index of universe literature'. In 1878,

Henry Benjamin Wheatley, wrote 'What is an indexer?' in 1878. Later, in 1947 the Society of Indexers was formed in Great Britain.

Looking now at the history in United States, William Frederick Poole started his Index to periodical Literature. Almost during the same time period, Belgium Paul Otlet started 'Bibliographic Repertory.' This was said to be the universal index of all knowledge. In 1914, this had a record of over eleven million entries backed by text files and illustrations.

Later, the British Standard on Indexing was published; with its subsequent revisions. It is still used throughout the English-speaking world.

Modernization is often marked by the availability and access to computers. This had a huge and positive impact in the process of indexing. From the time of the easy availability of computers, it had aided the process of indexing. This has helped to record and organize large amount of database. The major drawback of the process was the lack of planning under World Wide Web. At times, it makes it difficult for a user to search their required data. The quality of information under this also requires check and control. It is also not subject to any kind of quality control with well-documented and spurious information existing side-by-side, along with advertising and other forms of propaganda.

## III. INDEXING AGENCIES

There are various setups who have taken the great job of indexing. Here we will discuss three of them.

### A. Google Scholar

The first one is Google scholar. This broadly aims to aid the search scholarly articles and literature. This is a single platform which assists to search across various disciplines. This helps researchers source down articles, theses, books, abstracts and court opinions, from academic publishers, professional societies, online repositories, universities and other web sites o broadly search for scholarly literature.

One can also create a public author profile which helps the authors track the citations for their publications. However, they often cite articles based on its publicity. This might divert the researcher from the present status. Instead only prominent and trending studies may only be highlighted.

#### B. Ulrich's periodicals directory

The next one is Ulrich's periodicals directory. This is a database which provides detailed, comprehensive and authoritative information on serials published throughout the world. This indexes information across all the journals. This includes publications that are circulated free or by paid subscription.

This has a weekly update making it convenient for researcher access latest authentic data.

#### C. Scopus

The last one and probably the most important one is Scopus indexing. This is the largest abstract and citation data base with abundance of peer reviewed literature, scientific journals and various data which enhances a researcher's research. This aims to deliver a comprehensive view of the research which goes around the world across fields. This aids the users to search based on domains, authors and so on covering maximum amount of information in a research.

### IV. INDEXING PARAMETERS

Indexing parameters helps the researchers understand the quality of a journal and articles. This also helps one understand the current trends, prominent people in a field, and at times, even the authenticity of a journal.

There are various indexing parameters. They are described below:

#### A. Impact factor (IF)

The first one which is being discussed here is the impact factor. This is the measure of the frequency with which the average article in a journal has been cited in a particular year. It helps in ranking a journal based on the number of times it is being cited.

#### B. H- Index

The next one is h-index. It helps in understanding the quality of an author or authors. This is calculated by counting the number of publication an author/ author has been cited based on the number of publication by the author. This helps to understand that quality of research/ articles produced by an author.

For instance, if an author has published one paper which has been cited 20 times and rest has not been cited at all. This helps to understand the significance of an author in a particular field.

#### C. i10-Index

The last one to be discussed here is i10- Index. This was created and used by Google scholar and has been used in

Google's 'My Citation' feature. In simple terms, this means that a particular publication has been cited 10X number of times. This means i10-Index = the number of publications with at least 10 citations. The major disadvantage is that it is only used by Google scholar.

### V. REVIEW METHODS

Reviewers have an important role in any field. They can make or break a person. In research peer review plays an important role to check the authenticity of a publication. This validates academic work, which helps to improve the quality of published research.

The two prominent ways to distinguish peer review are:

- Closed review
- Open review

Closed review is categorized under three categories. They are single blind, double blind and triple blind.

#### A. Single blind review

In such review methods, the reviewer is not known by the author. This helps to get impartial review to a publication. However, this process may often be delayed. At times, due to the anonymity, reviewer may at times be too critical while reviewing a publication.

#### B. Double-blind review

The next one is double blind method. Here, neither the author, nor the reviewers are known to each other. Author anonymity limits reviewer bias making a healthy reviewing process.

#### C. Triple-blind review

The third one to be discussed here is triple blind review. Here the reviewers are anonymous and the author's identity is unknown to both the reviewers and the editor. Articles are anonymized at the submission stage and are handled in such a way to minimize any potential bias towards the author(s). This helps good and new researchers gain appropriate recognition and platform to show their ability.

#### D. Open review

The last one discussed here is open peer review. This aims to have transparency in the process of reviewing. Both reviewer and the author are known to each other. This makes the review process more open for discussion.

### VI. OPEN JOURNALS

Open journals or Open access (OA) journals refers to those journals which are open and are free to access for all. They are unrestricted and are free.

There are two ways of make a publication openly accessible. The first one involves publishing articles or

books through Open Access route on a publisher's platform. The second one is having a manuscript under OA repository. This often takes time and comes under open access after certain time period.

## VII. CONCLUSION

Indexing has made the life of a researcher convenient and easy. This article lists down the concept, history, indexing agencies, indexing parameters and various review methods. Indexing helps a researcher understand a concept in a structured manner. However, the task of indexing may be tedious and long. With the intervention of technology, the process has become more easy and convenient. This article can guide future researchers to understand the concept and design new processes for indexing.

## REFERENCES

- [1] A brief history of indexing. (n.d.). Retrieved from <https://www.anzsi.org/resources/about-indexers-and-indexing/a-brief-history-of-indexing/>
- [2] About Google Scholar. (n.d.). Retrieved August 19, 2019, from <https://scholar.google.com/intl/en/scholar/about.html>
- [3] Elsevier. (n.d.). Retrieved August 19, 2019, from <https://www.elsevier.com/reviewers/what-is-peer-review>
- [4] Elsevier. (n.d.). What is Scopus Preview? Retrieved August 19, 2019, from [https://service.elsevier.com/app/answers/detail/a\\_id/15534/supporthub/scopus/#tips](https://service.elsevier.com/app/answers/detail/a_id/15534/supporthub/scopus/#tips)
- [5] Forsythe, G. (n.d.). History of Information Retrieval. Retrieved from <https://www.asindexing.org/about-indexing/history-of-information-retrieval/>
- [6] LibGuides: Measuring your research impact: I10-Index. (n.d.). Retrieved August 19, 2019, from <http://guides.library.cornell.edu/c.php?g=32272&p=203393>
- [7] Measuring Your Impact: Impact Factor, Citation Analysis, and other Metrics: Journal Impact Factor (IF). (n.d.). Retrieved August 19, 2019, from <https://researchguides.uic.edu/if/impact>
- [8] Open Access at NatureResearch. (n.d.). Retrieved August 19, 2019, from <https://www.nature.com/openresearch/about-open-access/what-is-open-access/>
- [9] Ulrich's Periodicals Directory. (2017, September 13). Retrieved August 19, 2019, from <https://www.library.ucsb.edu/research/db/338>
- [10] What is an h-index? How do I find the h-index for a particular author? (n.d.). Retrieved August 19, 2019, from <http://mdanderson.libanswers.com/faq/26221>
- [11] What is open access? (n.d.). Retrieved August 19, 2019, from <https://preview.springernature.com/gp/open-research/about/what-is-open-access>
- [12] Directory of Research Journals Indexing. Retrieved from <http://olddrji.lbp.world/AboutIndexing.aspx>