Chapter 5

Web of Science

5.1. Introduction

Web of Science (WoS) is a citation indexing database which provides contents of fully indexed records. Earlier it was known as Web of Knowledge. WoS was originally produced by Institute for Scientific Information (ISI). Earlier WoS was maintained by Thomson Reuters (it is a Canadian public mass media industry founded in 2008 with the chairmanship of David Thomson) but currently it is officially maintained by Clarivate Analytics of U.K. [https://www.thomsonreuters.com/en.html. (accessed on 24.12.18)]

5.2. Clarivate Analytics

It is an analytics industry which owns and operates a collection of subscription based services. Clarivate Analytics was established in 2016 but actively working from 2017. The predecessor was Thomson Reuters. The Headquarter is in Philadelphia, United States. The current CEO is Jay Nadler. Clarivate Analytics was formerly Intellectual property of Thomson Reuters but later on in the end of 2016 it becomes an independent company. [https://clarivate.com/products/web-of-science/ (accessed on 22.12.18)].

It helps by providing:

- World’s first scientific citation Index
- Editorially enhanced patent database
- Clinical genomic toolkit
- Content agnostic life sciences and drug discovery platform
- 150 years of zoological genus records
- 1.75 million journal publications
- 200,000 clinical trial records.
Speciality of Clarivate Analytics are:

- Scientific and academic research
- Life sciences
- Patent research, intelligence and services
- Industry codes and standards
- Trademark research and protection
- Domain and brand protection
- Intellectual Property Management

The following types of literature are indexed in WoS.

WoS is designed for providing access to multiple databases, cross-disciplinary research, and in-depth exploration of specialized subfields within an academic or scientific discipline. As a citation index, any cited paper will lead to any other literature which currently, or in the past, cites this work. In addition, literature which shows the greatest impact in a field covered by Web of Science, or more than one discipline, can be selectively obtained. In this way, current trends, patterns, and emerging fields of research can be assessed. Web of Science has indexing coverage from the year 1900 to the present with 90 million records.

[https://en.m.wikipedia.org/wiki/ Web_of_Science. (accessed on 12.11.18)]

Different disciplines covered by WoS are agriculture, biological sciences, engineering, medical and life sciences, physical and chemical sciences, anthropology, law, library sciences, architecture, dance, music, film, and theatre an dall these are published in different peer reviewed journals, original research articles, reviews, editorials, chronologies, abstracts, as well as other areas.

5.3. Citation Databases

The different databases of WoS are as follows:

- *Science Citation Index Expanded*: It covers more than 7,100 notable journals encompassing 150 disciplines. Coverage is from the year 1900 to the present day.
The six citation indices listed above contain references which have been cited by other articles. One may use such citations to undertake cited reference searching, that is, locating articles that cite an earlier, or current publication. One may also search citation databases by topic, by author, by source title, and by address. Two chemical databases, Index Chemicus and Current Chemical Reactions allow for the creation of structure drawings, thus enabling users to locate chemical compounds and reactions.

Institutions such as universities and the research departments of large corporations generally access the Web of Science from the Web of Knowledge index.

WoS is a subscription based citation index which covers different disciplines of Science, Social Science and Arts and Humanities.

5.4. Scope & Coverage of WoS

The multidisciplinary coverage encompasses 11,261 journals (September 5, 2018) selected on the basis of impact evaluations. This selection includes open-access journals and over 12,000 conferences each year (2018), spanning multiple academic disciplines. Coverage includes the
sciences, social sciences, arts, and humanities, and across disciplines. Web of Science does not cover all journals, and its coverage in some fields is less complete than in others.

Furthermore, as of September, 2018 the total file size for Web of Science is around 47 million records, which includes 727,549,189 cited references. These database records 65 million citations are attributed to its contents, per year. Finally, it is described as the largest accessible citation database. Titles of foreign-language publications are translated into English and so cannot be found by searches in the original language.

Web of Science (WoS) is the destination where all the reliable and integrated citations across the universe is available which was launched in 1997. Earlier it was maintained by Thomson Reuters but from 2017 it is maintained by Clarivate Analytics. Clarivate Analytics is owned by private equity firm Onex Corporation. WoS provides access to world class research literature through meticulously captured metadata and citations connections. WoS provides the data with proper quality and assure about neutrality. It is the most comprehensive resource. The way which applied by WoS is it connects publications and researchers through citations and controlled indexing in curated database spanning every database. WoS is providing 59 million records and backfiles from 1898. It offers regional database covering Latin Amerika, China, Korea and Russia.

5.5. Product Access

For product access in WoS there are three options:

a. Web of Science
b. Researcher ID
c. EndNote

Direct search through Web of Science provides the facilities of individual user log in along with institutional log in facility. For individual log in the user has to sign up with his valid Email address. The process through WoS connects the entire search of citations are as:

i. Premier Multidisciplinary Content
ii. Emerging trends
iii. Subject Specified content
iv. Regional Content
v. Research Data &
vi. Analysis Tool

Product Research ID is a unique identifier for the researcher to manage their publication lists, can track cited counts and h-index. They can also identify potential collaborators and can avoid author misidentification. To create Researcher ID, First Name of the researcher, Last Name along with Email ID is required. Then a link will be sent via Email ID of the researcher and by going through the account can be opened. While creating the ID the researcher must put his/her keywords of interest search area. There is a facility of displaying top keywords through which one can find researcher based on the area of interest which helps in sharing knowledge.

Product access via EndNote is similar to that of Researcher ID. One has to log in by putting email address and specific password. Along with sign in using facebook and linkedIn is also allowed here. There is an option for trial EndNote Desktop for 30 days for free. It can be availed easily by putting the right information in the online form. The upcoming version of EndNote is EndNote X8 which will help the researchers to share the entire EndNote Library including References, PDFs and annotations with maximum 100 numbers of people. It will help in keeping track of changes made by anyone on researcher’s shared library. The new EndNote can be used for sharing, unlimited storing in cloud free of charge. But the trial version is limited to share with maximum number of 14 people.

5.6. Most Popular Search in WoS

The most popular search in WoS is as follows:

Web of Science Core Collection: It is the largest citation database available with more than 1 billion cited references. Those are indexed from books, proceedings and different peer-reviewed journals. WoS core collections provide regular, systematic and scientific indexing for authors, addresses, funding acknowledgements and cited references. There is a Master Journal List of Journals where all the journals are listed in alphabetical orders covered by WoS.
It serves subject specific 100 million records from 33,000 journals of which 19.9 million records are in current contents creations, 4 million records of Zoological content, 32.8 million records in Derwent Innovations Index, 25.7 million records from Biosis Citation Index and Medline is having 26.4 million records (as on November, 2018).

Apart from the science records, WoS core collections cover 5200 Social Science Publicaions across 55 disciplines. It includes 3200 journals which covers 8.5 million records. The Arts and Humanities Citation Index covers 2500 journals which contain 4.6 million records providing from 1975 till date. Among the total citation index 60% are from Social Science and Humanities. (as on November, 2018). [https://en.m.wikipedia.org/wiki/Thomson_Reuters (accessed on 22.11.18)].

Products of WoS:

WoS provides scientific, high-quality information in a very short span of time. WoS provides links of some other databases which are relevant to researchers. The complete indexes of database in WoS are:

i. Biological Abstracts
ii. BIOSIS Citation Index
iii. BIOSIS Previews
iv. CAB Abstracts
v. CAB global Health
vi. Chinese Science Citation Database
vii. Current Contents Connect
viii. Data Citation Index
ix. Derwent Innovations Index
x. Emerging Sources Citation Index
xi. EndNote
xii. Essential Science Indicators
xiii. FSTA- Food Science and Technology Abstracts
xiv. INSPEC
xv. Journal Citation Reports
Following is an introduction to the different database and services in WoS:

i) Biological Abstracts: It is the full collection of life sciences content and tools available in WoS.

ii) BIOSIS Citation Index: It covers all important areas of Life Science like Molecular and Cell Biology, Pharmacology, Endocrinology, Genetics, Neurosciences, Infectious Diseases, Ecology & Organismal Biology. More than 5,300 journals are indexed here.

iii) BIOSIS Previews: It combines journal content from Biological Abstracts with supplemental, non-journal coverage from Biological Abstracts.

iv) CAB Abstracts: CAB data abstracts helps in simultaneous search of all other WoS resources all together.

v) CAB global Health: It Is an international public Health database from CABI. Here, 100,000 records are added annually. It is maintained from 1910 till date.

vi) Chinese Science Citation Database: Clarivate Analytics partnered with the Chinese Academy of Science to host Chinese Science Citation Database on WoS. It covers 1,200 scholarly journals from China with nearly 2 million total records.

vii) Current Contents Connect: It is a Current Awareness database gathering data from more than 7000 relevant and evaluated websites.

viii) Data Citation Index: Here, data from different repositories are gathered and linked content and summery of formation.

ix) Derwent Innovations Index: from 1963 onwards it is serving as comprehensive data from all the WoS resources.

x) Emerging Sources Citation Index: It expands the citation universe and reflects the growing patterns of science literature and scholarly activities. Here, coverage begins with current year’s content.
xi) EndNote: it acts more than a reference manager. Helps in the whole research process to search, organize, write, publish and share. There are 3 different categories for EndNote: EndNoteX8, EndNote for iPad and EndNote basic.

xii) Essential Science Indicators:

xiii) FSTA- Food Science and Technology Abstracts: It offers the research articles related to food science, food technology, human nutrition etc. FSTA is a comprehensive food science centric information centre created by IFIS. It offers 1 million records from 4,600 serial publications.

xiv) INSPEC: It is a comprehensive index to literature in Physics, Electrical/ Electronic Technology, computing control engineering, information technology etc. INSPEC is produced by The Institution of DEngineering and Technology. It provides 14 million bibliographic records including 5000 journals.

xv) Journal Citation Reports: It helps to evaluate different journals for its research influence and impact which shows the relationship between cited and citing journals. It includes 11,000+ indexed journals of almost 250 disciplines.

xvi) KCI Korean Journal Database: It provides a comprehensive snapshot of the works of the researchers from South Korea. There is a collaboration with National Research Foundation of Korea which provides approximately 2,000 scholarly journals among which some are open access journals.

xvii) MEDLINE: It is the bibliographic database of National Library of Medicine (NLM) of U.S. MEDLINE is covering content from over 4,900 journals in 30 different languages. Over 500,000 records are added annually in MEDLINE.

xviii) Researcher ID: This is the facility for every researcher to create his/her own profile. One unique identifier is allocated to every researcher which helps to clear avenue to the needed data.

xix) SciELO Citation Index: SciELO denotes for Scientific Electronic Library Online, which is a programme of the Sao Paulo Research Foundation for the cooperative publishing of open access journals on the internet. It is supported by the National Council of Scientific and Technological Development. SciELO includes journals from Latin America and the Caribbean as well as titles from Spain, Portugal and
South Africa. SciELO Citation Index covers approximately 650 journal titles along with 4 million cited references.

xx) Web of Science Core Collection: WoS core collection is coverage of multidisciplinary 100% reliable data with 20,000 + journals covering 1.4 billion cited references. It provides direct connection to Google Scholar.

xxi) Zoological Record: It is the world’s oldest database for animal biology. It started its services back from 1864 and acted as world’s unofficial register for animal names. It covers almost 5,000 serials along with many other biological records.

5.7. Benefits of WoS

WoS is termed as the ‘gold discovery’ due to its tremendous service towards research discovery and analytics. It connects publications and researchers through citations and controlled indexing of every discipline. Since 1898 till date WoS is covering more than 90 million records in a scientific and systematic way. New contents are added in WoS in quarterly basis. Benefits of WoS are:

1. It helps in getting cover to cover indexing with objective evaluation processes to meet the highest standards.
2. It provides comprehensive and relevant coverage from a trusted standard in research coverage.
3. WoS helps in identifying hidden patterns, gaining insight into emerging research trends.
4. Most important benefit of WoS is Citation alert. Citation alert notifies a researcher through e-mail that the record chosen by him/her has been cited by others or it has been added to database.

The functionalities in WoS are observed to have moved to a very convenient and robustness since the Clarivate Analytics has started maintaining the system. INFLIBNET Centre, Gandhinagar has been subscribing to the database and providing access to the Indian universities under its umbrella. However, INFLIBNET Centre is not subscribing to all the databases and services of the WoS.