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COMPARISON BETWEEN SCOPUS & ISI WEB OF SCIENCE

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ABSTRACT

The evolution of the electronic agethe world's scientific community has been publishing an enormous number of papers in different scientific fields. In such environment, it is essential to know which databases are equally efficient and objective for literature searches. It seems that two most extensive databases are Web of Science and Scopus. Besides searching the literature, these two databases used to rank journals in terms of their productivity and the total citations received to indicate the journals impact, prestige or influence. This article attempts to provide a comprehensive comparison of these databases to answer frequent questions which researchers ask, such as: How Web of Science and Scopus are different? In which aspects these two databases are similar? Or, if the researchers are forced to choose one of them, which one should they prefer? For answering these questions, these two databases will be compared based on their qualitative and quantitative characteristics.[3]

INTRODUCTION –

Web of Science (WOS) and Scopus are the most widespread databases on different scientific fields which are frequently used for searching the literature (Guz & Rushchitsky, 2009). WOS from Thomson Reuters (ISI) was the only citation database and publication which covers all domains of science for many years. However, Elsevier Science introduced the database Scopus in 2004 and it is rapidly become a good alternative (Vieira & Gomes, 2009). Scopus database is the largest searchable citation and abstract source of searching literature which is continually expanded and updated (Rew, 2009). WOS is challenged by the release of Scopus, an academic literature database which is built on a similar breadth and scale. WOS and Scopus are expensive products and it may not be feasible to obtain both of them. Therefore, by surfacing the new citation database, Scopus, scientific libraries have to decide about which citation database can best meet the requests of the consumers? The competition between WOS and Scopus databases is intense. This competition has led to improvements in the services offered by them. Recently, various papers have compared the coverage, features and citation analysis capabilities of WOS and Scopus .These comparative studies of WOS and Scopus conclude that these two databases are permanently improving. They also conclude that the significant advantage of choosing one of these two sources depends on the particular subject's area. Some researchers propose undertaking subject's specific analysis to find out which database work best for specific fields or time period.[9]

In this article, we will briefly analyse the journal evaluation capabilities of WOS and Scopus databases.

SCOPUS

Scopus is a huge multidisciplinary database with citations and abstracts from peer-reviewed journal literature, trade journals, books, patent records, and conference publications. It provides tools for tracking, analysing, and visualizing search results. Scopus launched in November 2004. It is the largest abstract and citation database With over 21,500 titles from more than 5,000 international publishers, Scopus delivers the most comprehensive overview of the world's research output in the fields of science, technology, medicine, social science and arts and humanities.{7}

FEATURES OF SCOPUS

Coverage

- Over 21,500 titles
- Over 21,500 peer-reviewed journals (including 4,200 full open access journals)
- 360 trade publications
- Over 530 book series
- Over 7.2 million conference papers from over 83,000 worldwide events
- "Articles-in-Press" from over 5,000 journals
- More than 116,000 books with 120,000 expected by early 2016 and 10,000 added each year thereafter
- Over 60 million records • 38+ million records with references back to 1996 of which 84% include references
- 22+ million records pre-1996 which go back as far as 1823
- Patents:
- More than 27 million patent records from five patent offices [8]

Coverage of source types

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The source types covered in Scopus are either serial publications that have an ISSN (International Standard Serial Number) such as journals, book series and some conference series or non-serial publications that have an ISBN (International Standard Book Number) like one-off book publications or one-off conferences. To ensure that coverage, discoverability, profiles and impact measurement for research in all subject fields is accounted for, Scopus covers different source types.

Publication categories

Active trade journals	1%	Active book series	1.5%
Active journals	61.9%	Inactive journals,	35.5%

Book series, Trade journals

1. Serial source types
2. Non-serial sources
3. Secondary documents
4. Patents

3.1 Document types

Document types covered in Scopus

Scopus coverage focuses on primary document types from serial publications.
.Article, Book, Chapter, Conference, Editorial, Erratum, Letter, Note, Review, Short survey

Document types not covered in Scopus

The Scopus editorial team is responsible for the classification of records. This document type policy is not valid for trade Book reviews Conference meeting

3.2 Abstracts

Over 44 million records in Scopus contain an abstract in order to provide users with as much information as possible about the research presented in the database. Where available from the publisher, some records go back as far as 1823.The increased availability of abstracts in Scopus helps to ensure that users find all relevant results for their search across title, abstract and keywords.

3.3 Keywords and index terms

Scopus manually adds index terms for 80% of the titles included in Scopus. These index terms are derived from thesauri that Elsevier owns or licenses and are added to improve search recall. A team of professional indexers assigns index terms to records according to the following controlled vocabularies:

- Ei Thesaurus (engineering, technology, physical sciences)
- Emtree medical terms (life sciences, health sciences)
- MeSH (life sciences, health sciences)

- GEOBASE Subject Index (geology, geography, earth and environmental sciences)
- FLX terms, WTA terms (fluid sciences, textile sciences)
- Regional Index (geology, geography, earth and environmental sciences)
- Species Index (biology, life sciences)

3.4 Cited references

Cited references in Scopus go back to 1970. Scopus announced the launch of the Scopus Cited References Expansion project in March 2014. Over the course of the project, Scopus has been adding cited references for pre-1996 content, going back to 1970. As of December 2015, Scopus has added over 93 million pre-1996 cited references to nearly 5 million articles. It is estimated that approximately 12 million articles will have undergone this process by the end of2016, possibly adding approximately 240 million pre-1996 cited references.

3.5 Affiliation data

It is possible to search Scopus based on affiliation data. The Scopus Affiliation Identifier automatically identifies and matches an organization with all of its research output. This tool is particularly relevant for deans, faculty heads and librarians in the academic market; researchers, project leaders and those involved in competitive intelligence in the corporate market; and funding bodies in the government market.

3.6 Author profiles

It is possible to search Scopus based on author data. The Scopus Author Identifier automatically identifies and matches an author with all of his/her research output. This tool is particularly relevant for analyzing citation metrics for authors, as well as specific articles by an author. .The Scopus Author Identifier uses an algorithm that matches author names based on their affiliation, address, subject area, source title, dates of publication citations and co-authors.

3.7 ORCID integration

ORCID (Open Researcher and Contributor Identifier) is a non-profit organization dedicated to solving the name ambiguity problem in scholarly research by assigning a unique identifier to each author. From their Scopus Author Profile, authors can import their list of publications in Scopus and their Scopus Author Identifier into ORCID.

3.8 Other metadata

Pub Med ID, Funding data, Open access

More than 4,200 journal titles are full open access (OA) journals. OA refers to journals in which all peer-reviewed scholarly articles are online available without any restrictions. In Scopus, journals are registered as being OA journals only if they are registered as Gold OA or Subsidized OA at one or both of the following sources:

• Directory of Open Access Journals: https://doaj.org/
• Directory of Open Access Scholarly Resources: http://road.issn.org/

4.4 Subject area coverage

Scopus offers the broadest, most integrated coverage of peer-reviewed literature and quality web sources acrossthe sciences, technology, medicine (STM), as well as social sciences and arts & humanities (A&H)

Life sciences 15%Physical sciences 29%
Health sciences 32%Social sciences 24%

Scopus publications per subject area

Social sciences	Health sciences	Physical sciences	Life sciences
9,810	**12,912**	**11,725**	**6,318**
Psychology	100% MEDLINE	Chemistry	Neuroscience
Economics	Nursing	Physics	Pharmacology
Business	Dentistry	Engineering	Biology
A&H			

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WEB OF SCIENCE

Search approximately 11,400 journals from over 45 different languages across the sciences, social sciences, and arts and humanities to find the high quality research most relevant to your area of interest. Link between relevant records using the cited references and exploit the subject connections between articles that are established by the expert researchers working in your field.

Search

1. Search by Topic, Author, Group Author, Source Title, Publication Year, and Address. Use the drop down menu for each search box to choose the area of your search. You can limit your search by original language of publication or document type.

2. Use the drop down menu to change the relationship between each search field to AND, OR, or NOT.

3. Add additional fields for a more complex search.

4. Change the time frame and data limits of your search.

Cited reference search

All cited references from each article are indexed and searchable. Search by Cited Author, Cited Work, and Cited Year. Remember: Secondary Cited Authors are automatically searched in *Web of Science* source records within your subscription.

Full record

1. **Titles**

The full title is indexed and searched in a Topic search. Foreign language titles are translated into English.

2. Authors

All authors are indexed. Search using last name and up to five initials. Click an author's name to find all the articles by that author name.

3. Source

Source titles are searchable. Search using the full title or use the Search Aid on the General Search page to select a title.

4. Abstract

All author abstracts are indexed and searched in a Topic search.

5. Author keywords

All author keywords are indexed and searched in a Topic search.

6. Keywords plus

Keywords Plus® are unique to *Web of Science* and consist of words and phrases harvested from the titles of the cited articles. Keywords Plus are searched in a Topic search.

7. Addresses

All author addresses are indexed and searchable. Reprint authors are identified and their e-mail addresses are provided when available.

Cited references

All cited references are searchable via the Cited Reference Search interface. References that appear in blue serve as links to other *Web of Science* source records. These links are limited by your subscription. References appearing in plain black text may be:

• References to books or other types of documents not indexed in Web of Science
• References to articles outside of your subscription limits
• Cited reference variants or works that were cited incorrectly by the source publication

1. **Cited author**

Only the first cited author is indexed and displays with the reference. Secondary cited authors are searchable, but only for those records that are source records within your subscription limits

2. Cited work

All Cited Works are indexed. The full work title and article title will display for citations that refer to source records in *Web of Science*.

3. Cited year

The cited year is indexed and searchable.

4. Cited volume

The cited volume is indexed to four characters.

5. Cited page

The cited page is indexed to five spaces.

Refine and analyse

1**. Refine your results**

Use Refine to mine a set of up to 100,000 results to find the top 100 Subject Categories, Source Titles, Document Types, Authors, Publication Years, Countries, Institutions, and Languages.

2. Sort results

Sort up to 100,000 records by

- Latest Date (default)
- Times Cited
- Relevance
- Publication Year
- Source Title
- First Author

3. Analyse results

Like Refine, with Analyse you can mine a set of up to 100,000 results. With Analyse you can output the results to Microsoft® Excel to create your own graphs.

4. Output records or save to endnote web

Output records, add to your Marked List, or save to EndNote Web. Quickly print, e-mail or save to a temporary marked list (500 records maximum), or save permanently to EndNote Web (10,000 max). Click "more options" to save a range of records, adjust your saved fields, or export directly to Research Soft reference software (EndNote, Reference Manager, and ProCite) you have installed on your desktop.

5. Create citation report

Click Create Citation Report for a graphical overview of the articles in a set of search results.

Personalize

1. Create personal profile

Any Web of Science user can create a personal Web of Knowledge profile to take advantage of powerful personalization options. Creating a personal profile allows you to save:

- Unlimited saved searches and search alerts
- Unlimited citation alerts
- An Endnote Web library of up to 10,000 references

2. Save searches and create search alerts

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Click Search History to view your search sets and create set combinations. Save up to 20 sets as a Search History or an Alert. Alerts will be based on the last search statement in your history. Alerts will remain active for 24 weeks but can be renewed at any time. Click "My Saved Searches" and "My Citation Alerts" to manage and renew your alerts. If an alert expires, it will remain as a saved search strategy in your personal profile until you delete it. Searches can also be saved as RSS feeds; simply click the icon after clicking Save History.[15]

Scopus vs. Web of Science		
Features	**Scopus**	**Web of Science**
Number of journals	>20,000	>13,000
Content	Biomedical sciences, natural sciences, engineering, social sciences, arts & humanities. Strongest coverage of biomedical & natural sciences and engineering.	Natural sciences, biomedical sciences, engineering, social sciences, arts & humanities. Strongest coverage of natural sciences & engineering.
Databases covered	100% of Medline and Embase - plus other content	Science Citation Index, Social Sciences Citation Index, Arts & Humanities
Time period covered	Initially covered 1996-present. Now includes substantial content prior to 1996, with some back to 1823.	Science component: 1990- Social science component: 1975- Arts & humanities component: 1975-
Updating frequency	Daily	Weekly
Publisher	Elsevier	Thomson Reuters
Citation analysis	Yes, including citation tracking, citation counts, and author h-index calculations	Yes, including citation tracking, citation counts, and author h-index calculations
Controlled vocabulary	No Scopus-specific controlled vocabulary. Keyword field includes indexing terms for references taken from other databases, such as PubMed and Embase	No.

Scopus vs. Web of Science		
Features	**Scopus**	**Web of Science**
Export feature for references	Yes	Yes
Alerts feature	Yes	Yes
Relative strengths	• More versatile search and refine options, including ability to search for "first author" • Tools for analyzing search results by author, affiliation, country, journal title, and broad subject categories. • Scopus Author Identifiers are broadly assigned; useful for distinguishing among publications from authors with similar names • Growing book chapter coverage, especially for social sciences and arts & humanities • Can search using controlled vocabulary terms	• More thorough coverage of older literature • Ability to analyze search results by author, affiliation, country, journal/book title, and broad subject categories. • Can sort search results according to how frequently the articles have been cited.

Source: http://guides.lib.uw.edu/c.php?g=99232&p=642081

Conclusion

Until 2004, the Web of Science (WOS) was the only international and multidisciplinary database available toobtain the literature of technology, science, medicine and other fields. However, Elsevier introduced Scopuswhich is become a good replacement (Vieira & Gomes, 2009). The information provide by these databasesspecify the active journals in covering current and relevant research as well as prominent in shaping potentialresearch fields. The intense competition between these databases motivated researchers to compare them toidentify their similarities and differences. A numerous researches compare these databases from different aspects.In this article, WOS and

Scopus databases are compared based on qualitative and quantitative characteristicssuch as provenance, citations, searching and special features by reviewing prior studies.The comparison of WOS and Scopus discovers that WOS has strong coverage which goes back to 1990 and mostof its journals written in English. However, Scopus covers a superior number of journals but with lower impactand limited to recent articles. Both databases allow searching and sorting the results by expected parameters suchas first author, citation, institution and etc. regarding impact factor and h-index, different results obtained from
prior studies. Although there is a high association between both databases, researchers interested to know whyauthors prefer one database over the other one. For further studies, it is suggested to investigate the perceptions ofauthors and researchers on both databases to find the reasons which make them to use one database more than theother one. It could be helped databases to improve their features to provide better facilities.

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