Citation Analysis: Innovations in How Institutions View Their Publications

Patricia L. Thibodeau, Associate Dean for Library Services & Archives; Virginia R. M. Carden, Administrative Research Librarian, Duke University Medical Center Library.

Purpose: Compare the citation analysis capabilities of Web of Science and Scopus, identifying their strengths, weaknesses, and usefulness in reviewing institutional authors and publications.

Settings/subjects: Academic health centers are trying to find objective measures for evaluating the success of their faculty. One such measure is the publication patterns of their authors and departments as well as of the overall medical center. Duke University Medical Center Library has been working with administrators on how to use commercial citation databases to analyze institutional publications.

Methods: New citation analysis tools in two major commercial databases were used to explore how librarians and end-users can analyze citations. Searches were performed in Web of Science and Scopus using search strategies developed for identifying institutional authors. The overall coverage and search results were compared. The tools imbedded into the databases for further citation analysis were applied to selected author citations. Sample reports were generated that demonstrate the features of the database and provide a comparison of the specific citation tools.

Results/Outcome: Each citation analysis tool presents certain strengths and weaknesses. The search results vary between the databases due to differences in coverage and the structure of the citation analysis process. While the Scopus search interface provides an immediate analysis of the citations retrieved, the "citation overview" function is more limited in terms of type of analysis as well as the number of citations processed. Scopus is also limited by its single subject term for medicine. Web of Science requires additional steps to invoke the "citation analysis", but allows the manipulation of more citations and has more parameters for analyzing the search results. While the citation analysis results and capabilities may not be same, the data generated by both databases may be useful to faculty and administrators depending on their information needs.

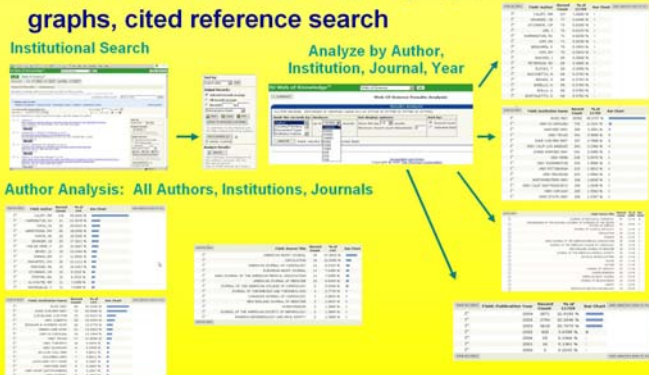# Citation Analysis: Innovations in How Institutions View Their Publications

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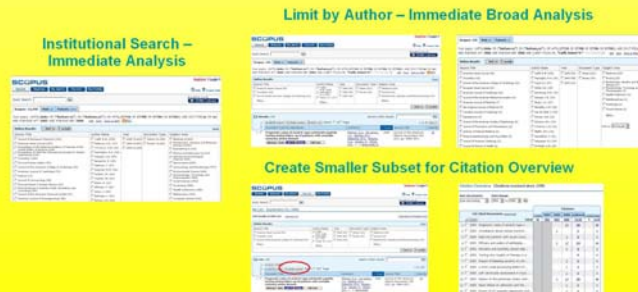
Web of Science
Analyze Results

- 8,700 science journals in SCI
- 36 million citations
- More complete and deeper coverage of years
- Analysis up to 100,000 citations
- Institutional search results: 11,759 citations
  - * AD=(duke or (durham same nc) or 27710 or 27708 or 27706 or 27705)
- Conduct search and then select analyze: subject category [department], author, years, journal title, document type
- Unique to WOS: institution, language, country, bar graphs, cited reference search

Institutional Search

Analyze by Author, Institution, Journal, Year

Author Analysis: All Authors, Institutions, Journals

Scopus
Citation Overview

- 5,900 life/health science journals – 100% Medline
- 28 million citations
- Broader European coverage; cited reference for 1996 forward; less coverage for older years
- Citation analysis limited to 1,000 citations [New!]
- Institutional search results: 13,590 citations
  - AFFIL (duke OR durham nc OR durham,nc OR 27710 OR 27708 OR 27706 OR 27705)
- Immediate analysis of ALL citations by author, journal, subject category, year, publication type
- "Medicine" narrowest category, no specialties
- Create smaller subset for detailed citation analysis

Institutional Search – Immediate Analysis

Limit by Author – Immediate Broad Analysis

Create Smaller Subset for Citation Overview

Comparison
Strength/Weakness

- Both useful for recent citation analysis
- WOS better for older citation analysis
- Scopus better for European literature
- Scopus provides immediate broad analysis
- WOS provides powerful detailed analysis
- Scopus limited detailed analysis – year and title
- Scopus author identifier (New feature May 2006!)
- WOS is better for analysis by subject category
  - ¤ Scopus limited to "Medicine" for medical specialties
- Similar citation results

Authors	WOS	Scopus
Lefkowitz	52	55
Califf	127	129
Heitman	64	67

Usefulness as Administrative Tool

- Scopus -- quick look at faculty productivity, publication record
- WOS -- detailed analysis about faculty co-authors and areas of focus
- WOS -- impact of work through analysis of cited reference search