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Study of Bibliographical Databases

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ABSTRACT

Bibliographic database reflects database of bibliographic records, organized digital collection of references to published literature, includes journal & newspaper articles, conference proceedings, reports, government and legal publications, patents, books, etc. Large proportion of the bibliographic records in bibliographic databases give description of articles, conference papers, etc. and include very rich subject descriptions in the form of keywords, subject classification terms, or abstracts. This paper reflects study of Bibliographical databases.

1. Bibliographical Databases

The research related to bibliographic databases: comparison between databases, coverage, retrieval techniques and database specifications have been discussed here.

Bar-Ilan reviewed that the most important data source for informetric research is the ISI (Thomson) Citation Databases. Until the fall of 2004, these databases (i.e., the Science Citation Index Expanded, the Social Science Citation Index and the Arts and Humanities Index) when searched together (e.g. using the Web of Science) were the only comprehensive sources of citation data. In the fall of 2004 two new citation databases appeared – Elsevier's Scopus and Google Scholar. Scopus provides full citation data from 1996 and onwards. The coverage both in terms of time and journals of Google Scholar is much fuzzier – this information is not disclosed by Google. Google Scholar employs automatic techniques to extract information from electronic files that look like scholarly publications from publisher sites, conference sites and other sites (even homepages of individuals). It extracts information (title, authors, references, etc.) from the collected items automatically, thus it contains errors, but on the other hand it is a free tool.

Both Scopus and Google Scholar were reviewed and compared (mostly with WOS) in a number of papers. For example Jacsó [and Wleklinski described Google Scholar's features; Noruzi compared the results of WOS and Google Scholar for articles in the field of webometrics. Jacsó and Bauer and Bakkalbasi compared the three citation databases. Jacsó considered the coverage in general and citation counts for the most cited items in the journal Current Science, while Bauer and Bakkalbasi compared the citations counts for papers published in JASIST in 2000.

Glänzel and Persson calculated the h-index of Price medal winners based on WOS and Bar-Ilan based on Google Scholar. Jacsó discussed the Bauer and Bakalbassi results on JASIST citation counts. Bakkalbasi compared the three databases (WOS, Scopus and Scholar) using eleven journal titles in oncology and condensed matter physics and reached the conclusion that the "study did not identify any one of these three resources as the answer to all citation needs".

The new citation databases were compared with other databases as well, for example Henderson compared the coverage of Google Scholar on medical topics with MEDLINE; Gardner and Eng compared Google Scholar with several social science databases and Neuhaus, Asher and Wrede compared the content of Google Scholar with that of 47 other databases. All these comparisons discuss current weaknesses of Google Scholar, while emphasizing its potential. Bar-Ilan used three citation databases, WOS, Cite seer and Google Scholar to gather data on publications and citations for an ego-centered citation analysis.

Cite seer (also called Research Index, http://citeseer.ist.psu.edu/) is an autonomous citation database of computer science literature items to be indexed are gathered and parsed and references are extracted automatically. In addition to displaying citing items, the citing context is displayed as well. Because of the heuristics involved, the system is not error proof. It is highly appreciated by computer science researchers, mainly because the proceedings literature not covered by the Science Citation Index is of utmost importance in this field.

Goodrum, McCain, Lawrence, and Giles compared Cite seer with ISI's SCISEARCH. Zhao and Logan compared the Research Index with the Science Citation Index in a specific area: XML research. One of the problems with the Research Index data was duplicates, which had to be removed manually. Research Index is not selective and it indexes proceedings papers as well. These are probably the major reasons for the different results obtained from the two result sets. The authors conclude that in spite of these shortcomings, using Research Index is a valid method for evaluating scholarly contributions. In a more recent paper, Zhao (2005) compared Cite seer and the Science Citation Index again in the area of XML research—Cite seer included more than four times more items on XML research than ISI.

Moed studied China's research performance based on the ISI Science Citation Index and on the Chinese Science Citation Database. He reached the conclusion that the ISI Citation Index reflects China's international scientific position, while the Chinese database is best for assessing Chinese research from the national perspective. Liang, Wu and Li investigated the differences between the Science Citation Index, the Chinese Scientific and Technical Papers and Citations and the Chinese Science Citation Database for studying the structures of Chinese medical universities.

Glänzel, Schlemmer, Schubert, and Thijs discussed the importance of proceedings literature for studying scholarly communication of the ISI Proceedings database as an additional source for bibliometric studies. Techniques and issues related to retrieving data from online databases are explored in. Butler and Visser showed how to extend citation analysis to non-source items using the ISI databases. The coverage of the databases and the need to use more than one database are discussed in several papers. Ruiz-Pérez, López-Cózar, and Jiménez-Contreras explored how different bibliographic databases handle Spanish names, where the most frequent Spanish name structure consist of first name, middle name patronymic surname and matronymic surname. For more than 50% of the examined cases several variations occurred even in the same database. Buchanan studied data entry errors during indexing in SciFinder and in the Science Citation Index and found that error rates ranged between 1.2 and 6.9%. Archambault, Vignola-Gagné, Côte, Larivière, and Gingras analyzed the country and language distribution of journals covered by the ISI databases and compared them with the peer reviewed journals indexed by Ulrich.

A study by Read comparing the Dialog versions of Information Science Abstracts (ISA), LISA, and Library Literature considered coverage and overlap in subject areas of concern to LIS professionals comes with conclusion that Library Literature led the three in terms of overall retrieval, with ISA running third, but that of the three, LISA had the largest back file (from 1969) and that furthermore, overlap between two top databases was never more than 21%. For comprehensive coverage, they concluded, librarians must expect to search more than one resource. However, there are real concerns with regard to finding published 'best evidence' within our field, both because it is so sparse, and because a number of barriers exist to its retrieval. Addressing the issue of journal coverage in LIS databases, Jonathan Eldredge claims that "the library and informatics literature poses several unexpected challenges for the searcher. […] Coverage of any journal by one of these databases might suggest that the database with the most complete coverage represents the better choice. Yet, discrepancies across different years […] plus inconsistent coverage of any one journal within a single databases makes it difficult to recommend any one database to the busy practitioner".

Steig mentioned problems associated with examining the published output of LIS professionals extend beyond the lack of awareness, support, skills in research, and the presence of practice environments that do not always value, reward, or act on research. Access and retrieval barriers due to inconsistent indexing are recognized as transcending any single resource due to the lack of disciplinary boundaries, especially the practice of obtaining literature from many other areas of study. Those who have compared the coverage of major LIS resources remark that for the four largest and most commonly used (LISA, the Education Resources Information Center database (ERIC), LISTA and Library Literature), each has a separate vocabulary, and that there appear to be few overlaps in thesauri between them – unlike the more precise structure of Medical Subject Headings (MeSH) and Cinahl subject headings. In fact, note the authors, the lack of a common vocabulary for indexing is one "inherent in the nature of librarianship". Identifying the top journals in LIS appears to also be problematic, due to lack of agreement among researchers on methods for doing so. Williams and Winston conducted a study of citation patterns in LIS research, selecting the top five journals identified by the Institute for Scientific Information (ISI) journal citation reports for 2002 (*College & Research Libraries, Library Quarterly, Library Resources and Technical Services, Library Trends,* and *Library & Information Science Research*). To do so, they discarded information science titles and focused solely on library science. The choice of ISI as a means by which top LIS titles might be identified seems questionable given the number of LIS journals not indexed in that resource: 15 of the top 30 journals identified in a study were missing from their coverage.

2. Database For LIS Research

The primary abstracting database service for locating LIS literature are Library and Information Science Abstracts (LISA), Library and Information Science & Technology Abstract (LISTA) Library Literature and Information Science (LLIS, formerly Library Literature). There is much overlap in materials between them, but each has its own strengths and weaknesses.

In order to evaluate the validity and reliability of LIS publication count rankings, Meho and Spurgin examined all the databases used in these rankings, including: Education Resources Information Center (ERIC), Information Science & Technology Abstracts (ISTA, formerly Information Science Abstracts), LISA, LLIS, PASCAL, Social Sciences Citation Index (SSCI), and World Cat. Meho and Spurgin concluded that the study concurs with earlier research that LIS literature is highly scattered and is not limited to standard LIS databases. What was not known or verified before, however, is that a significant amount of this literature is indexed in the interdisciplinary or multidisciplinary databases.

Though there are thousands of journals published in LIS around the world each year and indexed in various databases and it is impractical to study all the journals in which many of them are published from unrecognized bodies or sources and are not indexed in any of abstracting database. Therefore, only those journals that are indexed in any international databases can make the study more meaningful and for that reason all the major three core LIS indexing databases are evaluated with the viewpoint of their subject coverage and availability.

2.1 LISA - (Library And Information Science Abstract)

LISA is an international abstracting and indexing service designed for library professionals and other information specialists. LISA provides bibliographic information about past and present developments in librarianship, information science, online retrieval, and publishing and information technology. LISA currently abstracts over 440 periodicals from more than68 countries and in more than 20 different languages. Subject coverage includes all aspects of librarianship, library users, information retrieval and more. These details are provided by the Proquest-CSA website.

Broad Subject Coverage of LISA:

Artificial intelligence, Book reviews, CD-ROMs, Computer science applications, Information centers, Information management, Information science, Information storage, Information technology, Internet technology, Knowledge management, Librarianship, Libraries and archives, Library

management, Library technology, Library use and users, Medical information, Online information retrieval, Publishing and bookselling, Records management, Telecommunications, Technical services and World Wide Web.

After the merger of two companies Proquest with CSA Illumina in 2007 the 20 broad subject coverage categories are clubbed into 10 new categories.

Subject Coverage of LISA

- Information management
- Information technology
- Internet technology
- Knowledge management
- Librarianship
- Libraries and archives
- Library management
- Library technology
- Library use and users
- Online information retrieval

2.2 LISTA – (Library and Information Science & Technology Abstract)

LISTA is another international abstracting database that covers the Library and Information Science publications along with publications related to technology. LISTA's coverage begins in the 1960s and indexes more than 560 core journals, nearly 50 priority journals, and nearly 125 selective journals; plus, books, research reports and proceedings. Subject coverage includes librarianship, classification, cataloging, bibliometrics, online information retrieval, information management and more.

In order to get a better view for the subject coverage of LISTA three different searches are made in LISTA database with three different key terms “Library”, “Information Science” and “Technology”, the result does not give the comprehensive view, but indicates the areas that are generally covered in LISTA:

Subject Coverage of LISTA:

- Communication & Technology
- Computers in Education
- Educational Technology
- Information Resources
- Information Resources Management
- Information Retrieval
- Information Science
- Information Services
- Information Technology
- Internet Searching
- Libraries
- Library Science
- Library Users

2.3 Library Literature And Information Science

Library Literature and Information Science is a bibliographic database that indexes more than 229 key library and information science periodicals along with books, chapters within books, library school theses, and pamphlets. Types of periodical materials covered are feature articles, obituaries, interviews, notices of appointments and awards, regularly appearing columns, special theme issues, editorials (of reference value), letters to the editor (of reference value), and book reviews. Library Literature and Information Science helps users keep up with the latest concepts, trends, opinions, theories, and methodologies in the areas of library and information science.

Subject coverage of LLIS:

- Automation
- Cataloging
- Censorship, Children's Literature
- Circulation Procedures
- Classification
- Copyright Legislation
- Education For Librarianship
- Government Funding
- Information Brokers Library Architecture & Building
- Library Associations & Conferences
- Library Equipment & Supplies
- Library Schools
- Online Searching
- Personnel Management
- Preservation of Materials
- Public Relations
- Publishing
- Rare Book Librarianship
- School Libraries.

The coverage of these online indexes overlaps, but isn’t identical. Their search interfaces, although different in appearance, offer standard options for formulating basic and complex searches, combining search terms, displaying results, and saving, printing and emailing results. Therefore a comparative chart is made for all the three major LIS abstracting databases (i.e. LISA vs LISTA vs LLIS) on the following Table:

Criteria	Library & Information Science Abstracts (LISA)	Library, Information Science & Technology Abstracts (LISTA)	Library Literature & Information Science (LLIS)
Geographic Scope	Emphasis on English-language publications, but with strong selection of publications in other languages.	Emphasis on English-language publications, but with strong selection of publications in other languages	Emphasis on English- language, American publications, with some foreign publications
Subject Coverage	Strong coverage of both librarianship and information science and related fields.	Loose coverage on Librarianship and good coverage of Information science with slanted towards Technology and	Strong coverage of librarianship, but has added more information science in recent years.

		related fields	
Time Coverage	Indexing back to 1969	Indexing back to mid-1960's	Indexing back to 1984 in main database, and back to 1905 in Library Lit Retrospective
Number of Periodicals Indexed	Indexes over 440 periodicals	Indexes over 560 periodicals, some cover- to-cover and others selectively	The Library Lit Full Text database indexes around 400 periodicals, and the Retrospective database over 1,500
Types of Publications	Includes scholarly journals, professional magazines, and technical journals	Includes both scholarly journals and professional magazines, along with technical journals, conference proceedings, books and research reports	Includes both scholarly journals, professional magazines, books, chapters, and library school thesis
Types of Content - Articles, etc.	Emphasizes feature articles and book reviews	Includes feature articles, short news articles, books, book reviews, and more	Includes feature articles, short news articles, books, book reviews, and more
Full Text	Contains no full-text articles as part of the database, but does include links to full-text in other electronic resources	The database contains full text for more than 240 journals	Contains some full-text articles from around 155 periodicals, as part of the database since 1997
Abstracts	Includes abstracts for all citations	Includes abstracts for all citations	Includes some abstracts in newer citations
Thesaurus	Searchable thesaurus of subject terms	Searchable thesaurus of subject terms	Searchable thesaurus of subject terms
Special Features and Research Tools	In the search results, peer reviewed articles are displayed separately You can create "alerts" and be notified by email or RSS feed when new content of interest to you is added to the database Save search option Includes scholar profiles	Searches can be limited upfront to peer-reviewed articles only You can search for cited references "Visual Search" displays results as mapped topical clusters Includes author profiles Search results can be saved to "folders" and shared with others	Links to web sites cited in articles Displays recent search history on the results page Searches can be limited upfront to peer-reviewed articles only You can create "alerts" and be notified by email or RSS feed when new content of interest to you is added to the database

Table : *Comparative Chart of three LIS abstracting databases*

3. Conclusion:

LISA is suitable over LISTA and Library Literature and Information Science Database mainly because of its stronger subject coverage in librarianship and information science and related fields and is better choice for LIS any study over other two databases as their coverage is slanting towards information science and technology in the recent years.

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