


Subject: Library and Information Science

Production of Courseware

-Content for Post Graduate Courses



Paper No: 04 Information Sources, Systems and Services

Module : 10 Indexing and Abstracting Sources: Use and Evaluation



Development Team

Principal Investigator
&
Subject Coordinator

Dr. Jagdish Arora, Director
INFLIBNET Centre, Gandhinagar

Paper Coordinator

Mrs Renu Arora
Former Head, Education and Training, NISCAIR

Content Writer

Prof Vara Lakshmi Rudrabhatla
Retd Professor, Dept of Library and Information
Science Andhra University

Content Reviewer

Mrs Renu Arora
Former Head, Education and Training, NISCAIR

Module 10: Indexing & Abstracting Sources: use and evaluation

I. Objectives

The objective of the module is to

- Introduces the concept of secondary sources and their importance
- Describe different types of indexing and abstracting sources
- Identify distinct criteria for evaluation of indexes and abstracts

II. Learning Outcome

After learning this module, the students can

- Understand the concept of indexing and abstracting sources
- Understand the importance of these sources in information retrieval
- Distinguish different types of indexing and abstracting journals and their use
- Identify some of the important indexing and abstracting sources

III. Module Structure

1. Introduction

2. Indexing sources

2.1 Origin and development

2.2 Uses and functions

2.3 Types of indexing sources

3. Abstracting sources

3.1 Difference between index and abstract

3.2 Purpose and use of abstracting sources

3.3 Types of abstracting sources

4. Evaluation of indexing and abstracting sources

5. Summary

6. References

1. Introduction

In the previous Unit you might have been acquainted with the categorization of documentary information sources as primary, secondary and tertiary. A secondary source of information is one that was created based on the primary sources like journal articles, research reports, conference publications etc. The secondary sources are again conditioned by the nature of information they deal with and may vary.



- Reference information – Encyclopedias, geographical sources, directories, yearbooks, almanacs, handbooks, manuals etc.
- Bibliographic information – Catalogues / OPACs, union catalogues, Subject bibliographies / Webliographies
- Analyzed and surrogated/ consolidated - indexes, abstracts

Out of the three, the analysis and consolidation are value added as the original documents are scanned, analyzed for subject terms / key words and repackaged as indexes and abstracts. The popular name for such sources in the electronic environment is ‘aggregator’ type. They have an important role in dissemination of information; therefore let us have a detailed discussion on indexing and abstracting sources.

When we talk about indexes and abstracts little clarification is required as indexing abstracting are discussed in library science in the context of i) source and ii) service. Indexing is also important in third context i.e. iii) subject indexing. In special libraries the information is analyzed and consolidated customizing for institutional requirements and is called as indexing and abstracting service. Further while organizing the documents, more specifically micro documents (journal articles etc) the library and information system follows standard terminology called indexing language (e.g. L.C. List of Subject Headings, Classification Schemes, Thesaurus) that is referred to as subject indexing. However in this Unit the focus is on indexing and abstracting periodicals as sources i.e. the information sources that has indexed and or abstracted the primary sources thus providing a key to open the treasure of primary sources. Other aspects will be discussed at appropriate sections.

2. Indexing sources

The word index is derived from the Latin word ‘indicate’ that means to indicate or point out the information where it is available. It is a location tool.

The American National Standards Institute has defined as “systematic guide to items contained in or concepts derived from a collection. These items or derived concepts are represented by entries arranged in a known or stated searchable order.”

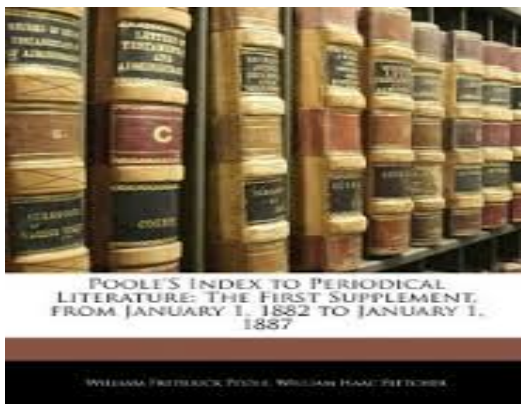
According to Krishna Kumaran **index** is “a systematic guide to the text of any reading matter or to the contents of other collected documentary material, comprising a series of entries, with headings arranged in alphabetical or other chosen order, & with references to show where each item indexed is located”.

So it is a method of document representation that tells a user quickly where an item is to be found and where it is filed.

It is very useful tool and helps to know the sources of information as well as its location. It facilitates the identification or selection of desired documents containing the required information after they have been stored or shelved in a library. It may be published separately or as a part of the work.

2.1 Origin and development

Indexing owes its origin to the traditional book index which has gradually seen considerable improvements and developed as bibliographic index/ subject index. Specific aspects of a subject are given in the form of subject headings or keywords. Later there was the growth of primary sources especially the periodicals. There aroused a need to have a bibliographical control apparatus that indexes all published periodical articles in a given subject. Pole’s Index to periodical Literature (1848) and Index Medicus (1879) were some of the earlier examples of indexing periodicals. However Index Medicus ceased its print version from 2004 and available as PubMed database. Now indexing periodicals in print or electronic databases are available in almost all subjects.



The coverage of an indexing periodical is generally restricted to subject, but rarely may cover geographical or specific material collections.

Structure of index: Basically the index is having two parts:

Searching part – keyword, subject, title, author that represents the original document and used a tool for search,

Citation – brief information of the document that facilitates identification of the original document.

2.2 Uses and functions

Uses

Libraries generally hold good collections of periodicals as they provide current information and form basis for research and academic pursuit. However their use is limited unless the contents of each journal are brought into notice of users. Further a library cannot subscribe all journals available in a subject but would like to know what is available and in which journal so that if necessary they can procure that information. For instance according to **Ulrichsweb** (www.ulrichsweb.com/ulrichsweb/analysis/), there are 107,765 active journal publications of which 94,687 are academic scholarly journals. It is almost impossible for any library to subscribe them all and for scientist or researcher to find relevant information out of the overload of information available. Through application of subject indexing, access to periodical literature has been tremendously increased. Therefore the primary uses of indexing sources are:

- Overviews of the subject – The periodicals are published in thousands. With such wider coverage of journals the indexing periodicals provide the users with an overview of the current developments and research trends in the respective subject.
- Access to information – A researcher / scientist or academician can access only those journals that are subscribed by the library in print or electronic. However access to major output of literature in his / her subject is possible through an indexing periodical. They can access more information than subscribed ones as indexing periodical has wider coverage. After going through the index for a particular topic, the reader can select items of interest and search for the primary source.
- Resolves language problem – The journals are being published from different countries in different languages. The general belief is that at least 40-50 percent of journals are published in other than English language. Because of this the scholarly community is deprived of accessing literature available in foreign languages. An indexing periodical provides entries in English language translating the original thus resolving the language problem.
- Resolves problem of information explosion – Exponential growth of literature is a common phenomena in every scientific subject. For example Chemical Abstracts indexes around 10,000 major scientific journals and patent documents from 63 patent authorities (Source: <https://www.cas.org/about-cas/cas-fact-sheets>). PubMed includes 5051 journal titles (Source: http://www.nlm.nih.gov/bsd/num_titles.html). A comparatively new subject like Library and Information Science has more than 440 journals (source: LISA). Thus the indexing periodicals are the bibliographical control apparatus that gathers information of all journal publications analyzes and consolidates information and publishes at regular periods. Thus they help in resolving the issues associated with proliferation of scientific literature.

- Explore content beyond library - They help to explore library contents beyond visible in the library catalogues or OPACs, i.e. in some services these link periodicals subscribed by the library. Online indexes & abstracting services have direct links to library collection – telling about library holdings. Create networks of links with many full text resources.
- Enhance retrospective coverage – The indexing sources generally prepare annual cumulations and arrange them in alphabetical and subject order. These cumulative indexes provide retrospective coverage that helps the user to search from the first issue of the index. Online indexing sources covers offers this facility as archives that connects the user to lot of discipline specific related links.

Functions

The indexes play a vital role in literature search and informing about availability and location of relevant documents in response to users request.

- It facilitates subject, author and title approach to seek information
- It provides information on contemporary or current issues
- It facilitates search through specific subject headings
- It also reveals trends in the growth of a subject.

Usually an index is arranged alphabetically but may sometimes be arrange chronologically, geographically, numerically, or in any other suitable manner, depending upon the requirement. Thus the primary function of an indexing periodical is

- compilation of title of articles under standard index terms;
- providing bibliographical details for identification of the item and
- arranging them in alphabetical order for easy retrieval.

Generally titles of new books, conference proceedings, pamphlets and etc. are also included in the indexes.

To sum up the basic characteristics of indexing sources are:

- These offer value added services, like enhanced retrospective coverage, etc.

2.3 Types of indexes

The information sources are generally categorized further based on the nature of information they contain. You might have already learnt that encyclopedias and dictionaries divided as general, special etc. Similarly, the indexes are categorized broadly into three types based on the nature of information they provide:

- General
- Subject
- Citation indexes

Majority of the indexes are now available in print and electronic form. The electronic versions of indexes are referred to as 'secondary databases'.

2.3.1 General

General indexes coverage is wider and may or may not be confined to a subject field.

- General indexes that lists periodical publications. e.g.
 - i. The Readers' Guide to Periodical Literature, Fortnightly/ Monthly, New York, H.W.Wilson, 1900-
Database: <http://www.ebscohost.com/academic/readers-guide-to-periodical-literature>
 - ii. Index India (Quarterly) Jaipur, Rajasthan University Library. 1967- 1997.
 - iii. Guide to Indian Periodical Literature. Quarterly. New Delhi, Indian Documentation Service 1964-
- General indexes for Table of Contents: These are the alert type of indexes that lists Title / content pages of different journals in offing.
Ex. Current Contents (weekly) Institute of Scientific Information, Philadelphia (Now part of Thomson Reuters)
Database: one of the databases on Web of Knowledge (Thomson Reuter)
<http://thomsonreuters.com/web-of-knowledge/>
- General indexes for literary works.
Play Index (H.W.Wilson) Content includes approximately 31,000 plays—published individually or in collections—dating from 1949 to present time. Available in print and online.
Database: <http://www.ebscohost.com/academic/play-index>
Short story index (Annual) – index to thousands of short stories – from classics to experimental fiction.
Database: <http://www.ebscohost.com/academic/short-story-index>
- Subject indexes – Coverage includes all subjects and all types of documents. E.g.
 - i. Library Literature. Bi Monthly. (Cumulated yearly). New York, H.W.Wilson, 1934-
Database: <http://www.ebscohost.com/public/library-literature-information-science-index>
 - ii. Biography Index Past and Present. Quarterly (Cumulated annually) New York, H.W.Wilson, 1946-
Database: <http://www.ebscohost.com/academic/biography-index-past-and-present>
- Indexes to single magazines, either at the end of a volume or as separately published works.
E.g. Scientific American Cumulative Index.
- Newspaper / Press indexes: There is a growing number of newspaper indexes in the world. Newspaper Indexes are reference tools for accessing retrospective information published in newspapers. They may vary in their coverage, i.e. it may be a compilation of articles of

single news paper or may be an index to more than one news papers. Whatever be the coverage, it makes the content accessible through subject approach. These are of immense use for researchers. The best known newspaper indexes are

New York Times Index (Print) (Weekly 1913-) New York, New York Times Company.

Database: www.nytimes.com/ref/membercenter/help/siteindex.html

Accessible from ProQuest as New York Times with Index (1851 onwards).

http://www.proquest.com/assets/literature/products/databases/HNP_NYT.pdf

ii. Index to the Times of India. Three times a year. Bombay, Times of India Reference Department, 1973-

E-Version: epaper.timesofindia.com/index.asp

- Translations: E.g. Index Translation. Annual. Paris, UNESCO, 1948-
http://portal.unesco.org/culture/en/ev.php-URL_ID=7810&URL_DO=DO_TOPIC&URL_SECTION=201.html

2.3.2 Subject

Subject indexes, covering not only several periodicals but also material found in other books, pamphlets, government documents and reports. The purpose is to index material in a narrow subject field. There are indexes to reports both published and unpublished, govt., documents, proceedings of conferences, and other materials which can be defined as serials i.e., any publication issued in parts over an indefinite period.

General:

- i. Conference Papers Index, Monthly. Bethesda, Cambridge Scientific Abstracts, 1973-.
- ii. Indian Science Index, Annual. New Delhi, Indian Documentation Service, 1975-
- iii. Index to Scientific and Technical Proceedings. Monthly. Philadelphia, Institute for Scientific Information. 1974-

Specific subject indexes:

- i. Current Papers in Physics. London, Institution of Electrical Engineers. 1966-. It indexes 65,000 papers annually from over 900 physics periodicals of the world.
- ii. Index Medicus, Monthly. Washington, National Library of Medicine, 1960-. It indexes about 5051 periodicals by author and subject giving a citation under each entry. It is cumulated annually. The subjects covered include veterinary medicine, sociology, zoology, biology, chemistry, psychology besides medicine and health. In the subject section, references are grouped according to the language of the articles, with English articles getting preference, followed by articles in other languages, all arranged alphabetically by language. Titles in foreign language are translated into English.

The Cumulated Index Medicus was brought out by American Medical Association since 1960- to 2000 and was stopped after 41 volumes due to lack of demand. MEDLINE

(1965) is made available through OCLC (the online vendor) and now as PubMed. <http://www.ncbi.nlm.nih.gov/pubmed/>

iii. Index to Indian Agricultural Periodicals. Monthly, Pant Nagar (UP), G.B. Pant University of Agriculture and Technology. 1969-.

iv. British Education Index. Three issues per year (cumulated annually). London, Library Association, 1955- . It covers about 70 periodicals from UK on Education. It is compiled by librarians of the British University Institute of Education, Leeds. Index is in two parts: Author and subject, each arranged alphabetically. <http://www.leeds.ac.uk/bei/index.html>. Now the index is available through ProQuest Dialog

2.3.3 Citation Indexes

The citation indexing is based on two factors:

- A document giving citations of the previously published document indicates subject relationship between the current document and old document and
- The documents which cite the same publication have some subject relationship with each other.

A citation index has its own merits because in this type of indexing the relevance information is very high. Multi-disciplinary coverage, convenience and speed are the advantages. Its success depends on the efficiency of citation practice of authors. If the authors cite proper references then the relation between cited and citing documents will be reflected correct and citation index will function properly. Otherwise, citation index will lose its effectiveness. Best examples of citation indexes are

i. Science Citation Index: Quarterly. (Cumulated annually) Philadelphia, Institute for Scientific Information. 1963- . The Science Citation Index (SCI) provides access to current and retrospective bibliographic information, author abstracts, and cited references found in [3,700 of the world's leading scholarly science and technical journals](#) covering more than 100 disciplines. The [Science Citation Index Expanded](#) format, available through the [Web of Science](#) and the online version, SciSearch cover more than [5,800 journals](#). Database: <http://thomsonreuters.com/web-of-science/SCI> provides an integrated search system for a comprehensive coverage of the periodical literature of science. It consists of three separate but related indexes: Citation index, Source index, and Permuterm subject index. Each of these covers the same articles adopting different approaches to the information. SCI is based on the principle that scientists can determine much about the subject content of a new article by examining its reference citations to earlier articles. This index claims many advantages. It draws together related articles more effectively than any other system. And it is achieved without the logical inconsistencies of human indexers, without the use of indexing terms that may become obsolescent, and without delay as occur in other indexing methods.

Key Advantages & Capabilities:

- Allows researchers to conduct broad-based, comprehensive searches that uncover all the relevant information they need
- Provides cited reference searching, the unique ISI search and retrieval feature that lets users track the literature forward, backward, and through the database, breaking through disciplinary and geographic boundaries
- Enables users to conduct multidisciplinary searches to discover hidden subject relationships

Other important publications from the same publisher are **Social Science Citation Index; Arts and Humanities Citation Index.**

ii. Indian Citation Index: Indian Citation Index (ICI) is developed by "The Knowledge Foundation" (a registered society) with the required support of M/s DIVA ENTERPRISES Pvt. Ltd. **ICI** provides a multidisciplinary research platform covering about 1000 scholarly journals from India. The ICI database also produces other useful byproducts like Indian Science Citation Index (ISCI), Indian Social Science and Humanities Citation Index (ISSHCI), Indian Journals Citation Reports (IJCR), Indian Science and Technology Abstracts (ISTA), and Directory of Indian Journals (DOIJ). (Source: <http://www.indiancitationindex.com/ici.aspx>)

2.3.4 Indexes to Special type of materials:

Indexes to dissertations and theses—There are a number of indexes and databases available listing theses and dissertations. The coverage may vary from global, regional to national level. ProQuest Dissertations & Theses Database includes full text dissertations from around the world that are available for download. <http://www.proquest.com/en-US/catalogs/databases/detail/pqdt.shtml>

DART-Europe is a partnership of research libraries and library consortia who are working together to improve global access to European research theses. <http://www.dart-europe.eu/About/info.php>
Shodhganga – a repository of ETDs of Indian Universities. <http://shodhganga.inflibnet.ac.in/>
Indexes to Software and CD-ROMs –There are lists on software and CD ROMs that are reviewed and indexed.

Ex. Software and CD-ROM Reviews on file (formerly software reviews on file) New York, Facts on File, Inc., (c1996-). It is monthly publication available in print.

3. Abstracting sources

The abstracting sources are important links in the chain of communication between the originator of information and the user. It represents or surrogates the original information as brief summary. You might know about annotated bibliography that is prepared for macro thought i.e. books. Similarly for journal articles i.e. micro thought abstracts are prepared.

There are various definitions of an abstract. An abstract is the “presentation in the author’s own language, of all the points made in the same order as in the primary documentary information – that can be a book, a research report, a periodical article, a speech, the proceedings of a conference, an interview, etc.” (Robert L Collinson)

According to Librarian's Glossary, it is "a form of current bibliography in which sometimes books, but mainly contributions to periodicals are summarized. They are accompanied by adequate bibliographical descriptions to enable the publications or articles to be traced and are frequently arranged in classified order."

According to Maizell "An abstract, simply defined is a condensation that presents succinctly, the objectives, scope and findings of a document. This information is usually conveyed together with an indexing system, which further helps to identify document content. An abstract as a rule, is aimed at a specific group of users who either may not have easy access to the original document."

In simple words, an abstract is a summary of document along with adequate bibliographical details so that one can trace the document. The concerned document may be a book, an article from a periodical or some other form of recorded knowledge, but mainly the contributions to periodicals are listed. The abstracts are arranged in some systematic order, mostly in classified order.

Like other bibliographies, the abstracts may be selective or comprehensive, and may be prepared by an individual or an organization or it may be a project some commercial organization supplied regularly against subscription., Often, the special libraries prepare abstracts in limited field for use of its own clientele, to keep them aware of current progress in their subject of interest, These are brought out in mimeographed form as 'Abstract Bulletin', though it is rather a costly affair and its scope is limited to the range of periodicals subscribed by the library. On the other hand, a comprehensive abstracting journal covers the maximum number of periodicals on the subject and its allied fields, irrespective of language.

Structure of abstract: Basically the abstract is having three parts:

Searching mechanism – keyword, subject, title, author that represents the original document and used a tool for search

Citation – brief information of the document that facilitates identification of the original document

Abstract – a brief summary of the original article

3.1. Difference between Indexing and abstracting sources

Indexing and abstracting periodicals provide modern research libraries with ample facilities to collect and disseminate information or articles published in a wide range of periodicals, all of which can never be possessed by a library. This has led to the development of indexing and abstracting periodicals that are available in thousands at present in both print and online.

An index is only a key to find out where a specific data or information is located in various types of documents with focus on periodicals.

Abstracting sources are an extension of indexes. They perform the same function in locating and recording the contents of periodicals, books and various types of documents; they differ from indexes in that

- By definition, they include a summary of the material indexed; they tend to be confined to relatively narrow subject areas;
- The abstract covers the main points of a piece of writing that follows the same language and terminology as used in the original. Indeed it is a brief representation of the original. The added value helps the user to determine the usefulness of the full article.

3.2 Uses of abstracting sources

By now you might have guessed that abstracts are more advantageous than indexes as they are providing a brief summary of the original in addition to the information details provided in an index. In other words the abstract is a surrogate to the original and the reader can get an overview of the original article information. The uses of abstracting journals can be summarized as follows:

- They serve those users who either may not read or may not have an easy access to original document with an outline for reading.
- It helps the reader to decide whether to read the entire article or not i.e. the contents of the article are suitable or not.
- It overcomes the language barrier and to prevent duplication.
- It gives up-to-date information and is useful for current and retrospective literature search. One can select papers for study and it is a time saving device.

3.3 Types of Abstracts: There are various types of abstracts on the basis of information supplied by them. These are

- i. **Title only Abstract:** The title of a document is used without amplification to describe the contents of a document. Thus, it usually states subject and not findings.
- ii. **Annotated Abstract:** A clause or a sentence is added to amplify the title of an article. Annotated and indicative abstracts differ only in length.
- iii. **Indicative or Descriptive Abstract:** It displays a general statement of the nature and scope of a document. It does not serve as a substitute for reading the original document. The primary purpose is to give the user several clues to the information contained in the source document and help him to judge whether it is same that he is sought after. Generally these abstracts include procedures, findings and information about the illustrations, tables etc.
- iv. **Informative or Comprehensive Abstract:** It provides details of the significant contributions to knowledge contained in a document like problem, methodology, major findings and conclusions. However on many occasions it serves as an adequate substitute for the original information and sometimes users rely on informative abstract alone for the purpose of obtaining a specific item of information. For example Dissertation Abstracts International provides informative abstracts.
- v. **Slanted Abstract:** Information or description reported in a document is oriented to a specific discipline to which the abstracting service is devoted

vi. Auto-Abstract: It is produced by a computer analysis of the frequency of use of significant use words in a document and of the frequency with which these high-use words appear in the same sentence. The high frequency words are then traced back to the sentence in which they occurred and their position noted. A score is then assigned to each sentence based on the number and position of the high frequency words it contains. The resultant auto-abstract is a collection of typical sentences forms the original document.

vii. Telegraphic Abstract: It is a detailed index to a graphic record, which is composed of

- Significant words selected from the document.
- Coded symbols called role indicators which supply a context for the selected words, and
- Punctuation symbols which separate and group the words and role indicators into various units in somewhat the same fashion as conventional punctuation does. e.g. a portion of telegraphic abstract might have this appearance: “Propenoyl Chloride; preparation; reaction; use.”

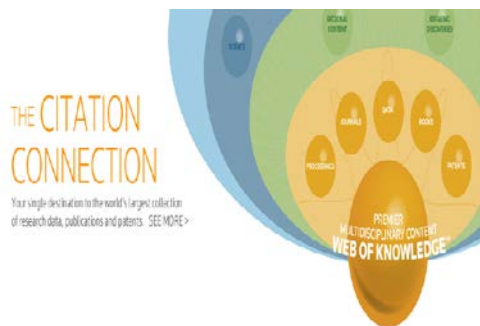
8. Graphic Abstract: In the field of Chemistry where a precise language of communication is available, a new type of abstract has been introduced by the “current abstracts of chemistry and index chemicus” make full use of this language. This has been named graphic abstract. Instead of naming the substances and compounds and their treatments a graphic abstract indicates them by molecular and structural formulae. A chemist finds it easier to get the essence from such an abstract.

Technically, two types of abstracting methods are more popular - indicative and informative.

The “indicative abstract” indicates the type of article and the authors approach and treatment, but does not usually include specific data.

The “informative abstract” summarizes enough of the data finding to relieve the reader of the necessity of always reading the article. In neither case does the abstract, make any critical assessment.”

Examples of abstracting sources



Biological Abstracts provides the latest information in every life science discipline, and contains more than 13.2 million archival records from as far back as 1969, with more than 370,000 citations added each year. Most of the

records include informative abstracts written by the author. This database is produced by Thomson Scientific, Inc. Now Biological abstracts is accessible through Thomson Reuters Web of knowledge platform Source: <http://thomsonreuters.com/web-of-knowledge/>



A division of the American Chemical Society

Chemical Abstracts Service (CAS), a division of the American Chemical Society, is the world's authority for chemical information. CAS is the only organization in the world whose objective is to find, collect and organize all publicly disclosed chemical substance information. A team of scientists worldwide curates and controls the quality of our databases, which are recognized as the most comprehensive and authoritative by chemical and pharmaceutical companies, universities, government organizations and patent offices around the world. By combining these databases with advanced search and analysis technologies (SciFinder[®] and STN[®]), CAS delivers the most current, complete, secure and interlinked digital information environment for scientific discovery. Source: <https://www.cas.org/>

Library and Information Science Abstracts, Bi-monthly. London, Library Association, 1950-. LISA, an international abstracting and indexing tool designed for library professionals and information specialists covers such subjects as library science, information science, publishing, book selling, and reprography. About 440 periodicals, conference papers, books and pamphlets from more than 68 countries and 20 different languages are scanned for this. The references are arranged in a classified order according to CRG's classification of library science. Under the class number and subject the entries are arranged by title, author, host document, volume, issue, year, and pages. These are followed by abstracts. Each entry has its serial number. Author and subject indexes are given for each issue. Both of these indexes are cumulated on an annual basis.

The online version of LISA is hosted by ProQuest CSA at <http://www.csa.com/factsheets/lisa-set-c.php>

4. Evaluation of indexing and abstracting sources

The check list for an evaluation of indexes and abstracting services should consist of

- Authority
- Scope
- Duplication and gaps
- Depth of indexing
- Currency
- Format
- Subject heading
- Description

i. Authority (The Publisher): The Librarian should check out the authenticity and trustworthiness of publishers, preferably by talking to subject experts and to other librarian who may have knowledge of the field and by reading reviews.

ii. Scope: The indexing and abstracting periodicals should adequately cover the periodicals and other materials in the field of interest and the related areas.

- iii. **Accuracy:** Accuracy of information as well as the bibliographical details is an important criteria for evaluating indexing and abstracting sources
- iv. **Arrangement:** There should be uniformity in presentation of entries following standard pattern. GENERALLY they are arranged in classified (subject) order. There should be different indexes to the content like subject, author, and title. The use of maximum number of subject headings should also be seen.
- v. **Retrieval efficiency:** The indexes and abstract are basically information retrieval tools hence they are expected to retrieve information with highest recall and precision ratio.
- vi. **Currency:** The frequency of publication is a fair indication of the currency of service. However the time lag between the publication and its inclusion in the index / abstract indicates the currency, hence the librarian has to check for the date of original publication and date of its inclusion in the secondary source.
- vii. **Format:** The abstract must be checked for its ease of use of entries and readability. Readability of format, accuracy, and completeness of biographical information, printing, and font size are other considerations to be kept in view.
- viii. **Subject Headings:** The type, number, and form of subject headings used in an index / abstract are important. The subject headings generally derived from a standard list like Sears, Library of Congress; in case of electronic databases they follow keyword indexing technique. Some may have developed their own lists like MeSH of Index Medicus/ Medline. In any case subject headings should be standardized and the plan of organization has to be suitable to the material indexed / abstracted. . There should be adequate 'see' and 'see also' references.
- ix. **Description:** It is also required to check whether the index / abstract adequately describes the document and whether it has been judiciously edited.

The best evaluation summary has been suggested by users' attitudes towards indexes and abstracts as under:

- Accuracy;
- Ease of use;
- Layout and presentation;
- Choice of subject index-headings;
- Optimum use of cross references;
- Overall effectiveness in practical use;
- Minimum amount of "noise".

Louis Shores has suggested the following check lists for study and evolution of indexes:

- i. **Period covered:** 1. Date 2. Frequency 3. Cumulations
- ii. **Material indexed:** 4. Number-in terms of volumes, periodicals, or articles 5. Kinds-books, periodicals, newspapers, documents. 6. Subject-general or special. 7. Style-popular or scholarly. 8. Country.

- iii. **Form:** 9. Complete or selective indexing (if latter, note basis of selection). 10. Arrangement-dictionary, classified, author, title, subject. 11. Entry fullness-author, title, source, collation, date, etc. 12. Annotation- Information given.
- iv. **Special features:** 13. Distinctiveness-- anything characteristic of the index.

Now the indexing and abstracting sources are available as electronic databases on the Web. Therefore additional criteria to be considered include

- Accuracy and authoritativeness of information content
- Regular updating of information and its reliability
- Check for the ownership of domain
- Error-free information
- Useful links to other Web Pages.

5. Summary

Indexing and abstracting have an important role in dissemination of information hidden in micro documents more specifically periodicals. This module focused on indexing and abstracting journals that are keys to access the store house of primary journals in every subject. With a modest start as back of the book index today indexing journals like Index Medicus, Citation indexes etc. became an inevitable source in libraries both in print and electronic environments. Abstracting periodicals further enhances the dissemination with a brief summary of each article that helps to overcome language barrier also. The abstracting periodicals, like Chemical Abstracts, Biological abstracts etc., with the added value helps users to assess the usefulness of the primary source. The advent of databases, such as STN, Web of Knowledge made these sources easily accessible without time lag.

6. References

1. Balakrishnan, Shyama&Paliwal, P.K. Abstracting practices in Libraries. Delhi, Anmol, 2001
2. Guha, B.: Documentation and Information, 2nd Ed., Calcutta, World Press, 1982.
3. Katz, A: Introduction to Reference Work, Vol. I Basic Information Sources, New York, McGraw Hill, 1982;
4. Krishan Kumar: Reference service, 3rdRev.Ed., New Delhi, Vikas Pub., 1987.
5. Rowley, J.E: Abstracting and Indexing. London, Clive Bingley, 1982.
6. Seetharama, S. Information Consolidation and Repacking: Framework, Methodology, Planning. New Delhi, EssEss Pub, 1997