



**INFORMATION RESOURCES AND SERVICES IN ENGINEERING
AND MANAGEMENT INSTITUTES: A STUDY**

Sandeep D. Walunj¹ & Priyanka V. Hase²

¹Librarian, HRSPM's Arts, Commerce & Science College, Dehane, Pune.

²Rajarambapu Institute of Technology

Corresponding Author - Sandeep D. Walunj

Email-dbs.lib@unishivaji.ac.in

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Abstract:

This paper describes the information sources and services providing by engineering management college libraries and its users. The needs of the study were, Users of the engineering colleges expect better services from the libraries. Along with information explosion, format of information resources is changing very fast and getting published in multiple formats. The shift from print to digital resources added challenges to library professionals while acquiring resources. They need information services based on digital media and need based collection. National and International publishers publish their books as per the syllabus and the revision of syllabus of engineering takes place every three years, this is the challenge to the professionals. Librarian must procure new resources; even then certain demands of the users remain unsatisfied. So that there are needs to develop proper collection in the library and form library collection development policies to help librarian, evaluate strength and weakness of collection.

Keyword: Collection Development, Information Sources, RIT, Engineering Libraries.

Introduction:

The usefulness of information resources and services available in the library of any institution is evaluated through use by the users of that library. An assessment is a very effective tool in order to promote the utilization of library resources, to know users' information needs and to make users-oriented library resources and services. Libraries are an essential part of educational institutes to provide support for academic activities in the formal education system. The information world of engineering is unique, complex, and increasingly fragmented. In the age of the Internet, this information world is changing faster than

engineers can even deliver new technology to society. The creation of new technical knowledge and the applications of information delivery systems far outpace most people's abilities to stay current. Just like continuous production lines, newly created information and repackaged old information tumble out of the information factories at lightning speed. Not only is this information coming out of universities and research labs at a very rapid pace, but the amount of information continues to increase. Lord (2000, 1-8) pointed out those observers who track scientific and technical information trends suggest that this information doubles about every 10 to 12 years. Given the nature of this

information, it is critical to understand both the communities from which it comes and the environments in which it is used. which it comes and the environments in which it is used.

Review of Literature:

Tadasad and Talikoto(2000) conducted a survey on awareness and utilization of resources and services of city central library, Gulburga and they found that majority of users were satisfied with available information resources, majority of users visited library for borrow and return books and the result also found that many users were not aware about the library resources and services. Gunasekra(2010) conducted a study on usage of library at University of Peradeniya among 800 undergraduate students and result found that majority of students overall satisfied with the available resources and services.

Over 50 years ago, Bush (1945, 102) an engineer intrigued about the idea of devising a machine and manage and retrieve information, wrote, “The difficulty seems to be, not so much that we publish unduly in view of the extent and variety of present day interests, but rather that publication has been extended far beyond our present ability to make real use of the record.

In addition to the numerous discussions and conferences held over the years, there has recently been substantial research examining the role of information in engineering environments. An excellent example of this research is that conducted by Pinelli, et.al. (1997, 1-7) referred an instructional technology and distance learning officer in the Office of Education at the NASA Langley Research Center, and John M. Kennedy, a faculty member at Indiana University, Bloomington. During

the 1990s this research team conducted an in-depth examination of how information is acquired, managed, and shared in the aerospace industry. The term they used to describe this process is “knowledge diffusion.” The purpose of this research was to understand the critical role of the knowledge diffusion process in organizations that depend upon technological innovation for survival. Their research revealed that most of the new knowledge created in this industry comes from what they call “trial and error,” not from basic research. Engineers are acknowledged for the role they perform in engineering this new information. Pinelli’s research documents how this information is diffused throughout aerospace engineering organizations and has been critical for the success of the technological developments common to this industry over the years (Pinelli et al.1997, 1-7)

Information Sources in Engineering College Libraries:

Textbooks (University Syllabus Prescribed Titles):

Book specifically intended for the use of students who are enrolled in a course of study or preparing for an examination on a subject. University has recommended prescribed textbook and reference book for core engineering and allied science subjects which are more important to preparation for examination and also design for as per syllabus of respective university.

There are number of highly utilized textbook in engineering field but it is not possible to produce all textbook in this categories. Following important titles given for example

- *Kanetkar, T.P. and Kulkarni, S.V.(1998). Surveying and*

Levelling. Pune : Pune Vidyarthi GrihaPrakashan.

- *Murthy, V.N.S. (2010). Textbook of Soil Mechanics and Foundation Engineering. New Delhi: CBS Publishers and Distributors Pvt.Ltd.*
- *Stallings, W. (1999). ISDN and Broadband ISDN with frame Relay and ATM. Delhi : Pearson Prentice Hall*
- *Tanenbaum, A. S. (2003). Computer Networks. Delhi : PHI*
- *Forouzan, B.A. (2007). Data Communications and Networking. New Delhi: Tata McGraw-Hill*
- *Mazidi, M.L. (2008). 8051 Microcontroller and Embedded Systems. Delhi : Pearson Prentice Hall*
- *Rajkamal, (2003). Embedded System Architecture Programming Design. New Delhi : Tata McGraw-Hill*
- *Prasad, K.V.K.K. (2011). Embedded/ Real Time System: Concepts, Design and Programming. New Delhi :Dreamtech*

Reference Sources:

General reference sources comprised directories, encyclopedias, yearbook, dictionaries, and glossaries. Although many of these resources are not considered primary for engineers, they are important information tools in engineering and technology. Directories are very useful in locating people, products, companies, statistics, specifications, and other types of discrete descriptions of concepts, events, and terminology.

In case of engineering, Lord (2000, 9-28) pointed out engineering handbooks, manuals, and tables are among the primary information resources used by students,

faculty and engineers. They can provide detailed information on specific topics to expand the engineer's expertise or provide background information in areas less familiar. These reference resources generally provide the reader with diagrams, statistics, charts, tables, and reference to additional reading. Handbooks and manuals for every aspect of engineering and technology activities. There are number of highly utilized reference books in engineering field but it is not possible to produce all reference books in this categories. Following important titles given for example

- *Encyclopedia of Science and Technology. New York: McGraw-Hill, 1998.*
- *Karassik, I. (2008). Pump Handbook. New York: McGraw-Hill.*
- *Maitra, G.M. and Prasad, L.V. Handbook of Mechanical Design. New Delhi: Tata McGraw-Hill.*

Information Access Tools:

Current awareness services, databases, indexes, Abstract and bibliographies are information tools that assist with accessing and organizing information. Information Access Tools includes selective examples of these resources. These types of resources are more thoroughly covered in other bibliographies or catalogs from database provides..

There are number of highly utilized "Information Access Tools" in engineering field but it is not possible to produce all "Information Access Tools" in this categories. Following important titles given for example

- *INSPEC. The Institution of Electrical Engineers. (<http://www.iee.org.uk/publish/inspec>.)*

- *EiCompendex*.
(http://www.ei.org/eivillage/village.serve_page=3811. (Accessed April 2, 2000))
- *Web of Science*.
(<http://www.isinet.com/products/citation/wos.html>)
- *Current Contents: Engineering, Computing and Technology (CC/EC&T)*. Philadelphia, PA: Institute for Scientific Information. ISSN10791450. Information Available:
<http://www.isinet.com/products/cc/cc.html>.
- *IEEE/IEE Electronic Library (IEL)*. Monthly. Institute of Electrical and Electronics Engineers (IEEE) and Institution of Electrical Engineers (IEE). (<http://www.ieee.org/products/online/iel>)
- *ACM Digital Library*.
<http://www.acm.org/dl>.

Scholarly Journals, Trade Journals, and Newsletters:

Journals are a critical component of the scholarly communication process. For students, faculty and engineers, both scholarly journals and trade journals are extremely important in furthering the communication of engineering research and practical knowledge.

There are number of professional societies like ASME, IEEE, ASCE, ACM and also few commercial publishers published as per reviewed articles in engineering field such as Elsevier Science etc.

1. Grey Literature: Conference, Research & Technical Reports:

Grey literature covers a very important source of information to students, faculty and engineers. This category of information includes conference literature, research, and

technical reports. Grey literature encompasses almost half of all science, engineering, and technology publications. Some definitions categorized grey literature as literature that is not directly accessible through the traditional methods of organizing and presenting information. The Internet has reduced some of the access difficulties associated with this literature. Access to technical and other research reports, government information, and patent information, all examples of gray literature, has greatly improved during the last few years. Other types of grey literature include engineering projects, catalogs, guide, and bibliographies.

2. Regulations, Standards, And Specifications:

Standards provide technical definitions and guidelines for designers and manufacturers.

- The American National Standards Institute (ANSI) describes ANSI-approved standards as documents. ANSI- A National Resources, available at http://web.ansi.org/public/ansi_info/ca.html.
- The International Standards Organization (ISO)
There are following few important grey literature sources in engineering field.
 - Indian Standard Catalogue. Bureau of Indian Standards. New Delhi. (<http://bis.org.in/>)
 - American National Standards Institute (ANSI). Scientific and Technical Reports- Elements, Organization, and Design (ANSI/NISO Z39.18-1995).38p. (National Information Standards Series). \$55.00. ISBN 1880124246.

- Auger, Charles P. Information Sources in Grey Literature. New Providence, NJ: Bowker-saur, 1998. 177p. \$72.95. ISBN 1857391942.
- Index to Scientific and Technical Proceedings (ISTP). Philadelphia: Institute for Scientific Information. Information Available: <http://www.isinet.com/cp/istp>.

3. Buyer's Guide, Databooks, And Catalogs:

- American Machine and Tool Company Business Center (AMT). 1999. Available: <http://www.industry.net/c/mn/0> 82pg. With free registration, users of this source are able to access the AMT Directory and other information resources.
- CMOS LOGIC DATABOOK (1988). California: National Semiconductor
- Xicor *DATA BOOK*. (1987) California: Xicor
- Small-Signal Transistors. (1995) Mumbai: Philips Semiconductor
- Liner Circuits Data Acquisition and Conversion (1989). Texas: Texas Instruments Inc.
- LITEON Optoelectronics Data Book. (1994-1995) Taiwan: Taiwan LITON Electronic Co. Ltd

4. Digital Information Sources (Internet Sources):

Now information resources are made available By AICTE-INDEST Consortium covers a broad range of Digital information resources arranged by engineering disciplines to provide desktop access to available electronic version of journals and books etc like ASME, IEEE, ASCE, Science direct, ASTM digital

library and McGraw hill reference books etc.

5. Government Resources :

- Brief History of Water Resources in India by Krishnan
- India 2011 by Research, Reference and Training Division
- General Information Concerning Patents 1999. Washington, DC: U.S. Government Printing Office (C21.262:992-2). ISSN 0160454166.
- National Science Foundation (NSF). 1999. <http://www.nsf.gov>. The National Science Foundation is a government agency responsible for promoting science and engineering.

6. Professional And Trade Associations, Organizations, And Societies:

- All India Council of Technical Education (AICTE). <http://www.aicte.org>
- American Society of Civil Engineers (ASCE). 1999. Available: <http://www.asce.org>.
- Association for Computer Machinery (ACM). 1999. Available: <http://www.acm.org>.
- Institute of Electrical and Electronics Engineers (IEEE) Available <http://www.ieee.org>
- American Society of Mechanical Engineers (ASCE). 1999. Available: <http://www.asme.org>.

7. Education And Career Resources:

Selective information resources have been organized around the topic of education and career resources. This

particular category is designed to provide another approach to the literature for further research and/or development of information services such as career information center. One group of materials underrepresented in this section is the numerous EIT (engineering in training) and FE (fundamentals of engineering) titles.

- Malhotra, A.M. (2002) Careers Guide CBSE All India Engineering Entrance Examination. (AIEEE). Delhi: Bright Careers Institutes.
- KAPLAN GMAT (2002).New York : Kaplan Publishing.
- Gupta, D. (2005) Guide for IES Engineering Service Examination. Roorkee : G.K. Publishers. □ GATE Engineering (2012). Noida : G.K. Publishers.
- 1996-97 Employment and Salaries of Recent Doctoral Graduates in Engineering: Comprehensive Findings. Washington, DC: American Society for Engineering Education, 1998.. ISBN 0878231730.

Role of the Library In Terms of Services:

Dahibhate et.al.(2009,240-247)The libraries, information centers and the knowledge centers are acting as the service providers and the more demand from the users is to provide them the nascent, updated and analyzed information speedily. The services provided from the libraries are grouped in to the following broad groups

- Traditional Services:
- IT based services:
- Electronic Resource based services:
- Internet based services:
- Intranet based services:.

- Online databases search services:
- Digital Library based services:
- Web based Services:
- Consortium based services:
- Expertise and value added information services:

Conclusion:

There are number of information sources regularly published in engineering sciences however it is not possible to acquire each and every information sources (Print and Digital resources) to library. To solve this problem AICTE has established INDEST Consortium especially for engineering colleges in India in a very concession rates and these resources are made available to the member of consortia. Apart from AICTE-INDEST, DELNET, a network providing document delivery services to engineering colleges all over the country. The role of the library system is to provide effective and efficient Library and Information services to the users, based on their needs. Information Technology assist the library professionals to serve better to users by providing users needed services to perform various research activities. The basic role of the library professionals is to match the information seekers with the information resources and get the desired information for the users. To provide the users centric services library professionals have to face many challenges. However there is a need to provide the proper information services to fulfill the need of the users.The technology can be used to provide more effective user centric services including induction to users, training with multimedia applications; it also provides teaching and learning support to users, self ordering documents, electronic publication, Remote log in, FAQ services etc.

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