

E-RESOURCES COLLECTION DEVELOPMENT IN ENGINEERING COLLEGE LIBRARIES: A CHALLENGE FOR KNOWLEDGE CENTRE MANAGERS

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ABSTRACT

Knowledge centers are the repositories of the intellect of ages stored in the form of recorded information for use of present and future generations to come. Digital technology has made it more easy, speedy and comfortable to apply the stored intellect. This collected information through the ages has to be used for further research, betterment and overall development of the society. This paper describes various facets in collection development in a digital environment in the engineering college libraries. The various changes that have occurred in acquisition, retrieval and storage of information processes due to technological developments have been discussed. Limitations, issues, challenges restrictions and problems being faced by library managers and clientele due to the same have also been highlighted. The way these developments have affected the academic environment in general and engineering college libraries in particular, and changed the role of librarian has also been focused.

1. INTRODUCTION

We are all aware of the information explosion that has revolutionized the globe in the last four decades. But the advent of Information and Communication Technologies, the Internet and particularly the World Wide Web has changed dramatically every thing on the earth. The Libraries and Information Centers have gained a lot. These technologies have been a boon. A job that before used to take hours together, is now just a mouse click away. The publishers did not remain behind; they took advantage of these applications to a considerable extent and tapped a treasure house of electronic and web resources. This has created a thought on actual possession of resources to actual access of the same, thus creating a change in; the collection development in the electronic environment. The knowledge centers acquire electronic resources to support the various activities of the parent institution be it instruction and research. Librarians are making low budget and appropriate purchase decisions balancing both individual and institutional needs. The information scenario is changing at a faster speed. The reasons for this change are many. Library users increasingly demand resources in Electronic format because of its associated advantages (such as their simultaneous presence, faster search ability, easy manipulability and accessibility). More and more library staff is now at ease with ICT and is happy and are ready to explore the functionalities of the software/ hardware to the maximum extent starting from the lower level, thanks to the rising rate of computer literacy. Library managers are also becoming active and creating alliances with the academics to design environments to integrate ICT into the new teaching and learning

methods. The library & computing services are going hand in hand to support users. The remote users who want to access E resources from their homes, work places and while on the move is on rise. Universities and other places of higher learning are slowly developing institutional repositories where the information generated by its members, is archived, using appropriate softwares and made freely available worldwide, as far as possible. Publishers, vendors and agents are more aware of the developing market for electronic resources and are eager to supply electronic resources / services along with print based materials. Further, the World Wide Web (www) is an important versatile platform for the delivery of needed information and provides a basis for the shift from ownership of physical collections to access on demand. Web being a real time information delivery channel has made CD-ROM based delivery a reality.

The shift is not only taking place within the knowledge centre but throughout the various facets of academics in a engineering college. This is because of the changes in syllabus structure, distance education provision and delivery of teaching through virtual classrooms, using the internet platform. However, current Library Management Systems adapted by our engineering college knowledge centers are not very helpful in the management of engineering electronic collections as they were primarily designed for print based resources and lack the capability to manage the vastly changing electronic resources. Dedicated Electronic Resources Access & Management Systems are now making their appearance in the market and some old all ready LMS' are also adding Electronic Resources Management modules to their systems for up gradation. These new generation systems will also help in the shift from printed to electronic resources. Hence, to demands of users, libraries are shifting towards new media - namely electronic resources for their collection development.

As huge amount of money is spent on electronic resources, it seems justified that as library managers we examine the process we use for selecting such resources. Collection development policies and ordering processes for print collections have found a place in many, if not all, engineering college libraries. As the transfer from paper to electronic resources occurs, especially in the acquisition of serial titles, we feel it necessary to examine the various process we in particular and other academic libraries in general use to select various electronic resources.

2. ENGINEERING EDUCATION IN INDIA

Today in India there are more than 3393 Technical institutions with more than 1485894 intakes as per 2011 statistics. The Internet is an inseparable part of today's engineering educational system. Engineering colleges invest a good deal of amount on providing this facility to both the teachers and students, who are the main stake holders.

Traditional library resources are insufficient to meet current requirements of users. The increasing online environment has resulted in users, who are more technology savvy and are demanding and expecting more from the library. The potential of delivering information anytime (24X7) anyplace challenges libraries to re-examine how space is organized and used. It is necessary to create new modes to deliver services to the user

desktops even outside the campuses using the WWW platform. As more resources are created via the web, issues arise related to search & access the same. Users would like to see their library on the internet, able to meet their all information needs not only on demand but also in anticipation of demand. Besides this they would also expect to get comprehensive information on broader range of disciplines while a engineering college library could have good collection only in their specific discipline. Again it would be a big cause of users' dissatisfaction. But to overcome this problem engineering college libraries may have to have more & more electronic resources which shall help to offer new and more qualitative services to their users.

3. E-RESOURCES

What are E-Resources?

Are electronic products that deliver a collection of data, be it text referring to full text databases, e-journals, e-books image collections, other multimedia products and numerical, graphical or time based, as commercially available title that has been published with an sole aim to being marketed and for information dissemination. These may be delivered on any optical media or via the Internet.

Why to procure E-Resources?

We would apt for procuring e-resources because of

- easy usability,
- readability,
- budgetary aspects
- and speedy accessibility
- easy back file access and in addition to these,

The following are the added advantages of e-resources over the print media.

- Multi-access: A networked product can provide multiple points of access (in the campus) at multiple points in time (24X7X365) and to multiple simultaneous users.
- Speedy retrieval: An e-resource is lot quicker to browse, to extract, and to integrate the information into other material and to cross refer between various publications.
- Functional aspects: E-resources will allow the users to approach the publication in order to analyze its content in various new ways and techniques by click of the mouse on search button.

- Content analysis: The E-resources contain a vast amount of information, but more importantly in a mixed format mode i.e. images, video, audio and animation which could not be replicated in print.
- Consortia mode: The E-resources can be subscribed in a consortia format too thus cutting down the costs but reaping the same benefits. Eg. INDEST Consortia for Engineering College Libraries
- Interactivity: Articles/issues/chapters can be read, commented by the readers, amended quickly and greater feedback can be given through the web
- Hypertext: format can be used and links to related articles, or other web sites, & URLs for individual articles and email alerts when latest issue/edition is uploaded can be got
- Virtual reality: Advantages taken on the web is to add value by using animation, virtual reality and interactive physical & mathematical charts.
- Flexibility: resources an evolved quickly i.e. they are not bound to any format, printer, and distribution network

Special Features of e-resources

E-resources have some distinct features which differentiate them from traditional resources. E-resources on the Internet are further distinct by the nature of the information on the net itself. The features of 21st century information and media are (Satija, 2003):

- (a) High compact storage;
- (b) Ease of reproduction, multiplication and manipulation and transmutation;
- (c) Contents can be very easily detached from its media or container;
- (d) Ease of migration of contents from one medium to another;
- (e) Ease of transmission, communication and storage;
- (f) Hypertext and multimedia;
- (g) Seamless integration of print and electronic resources;
- (h) Sophisticated and multipronged searches through keywords, free text, Boolean operators, lass numbers and natural languages processing;
- (i) Wall less libraries leading to the vision of multimedia global virtual library (MGVL) inaugurating an era of “Death of distance”; and
- (j) Convergence of technology, which is getting more powerful each day

Traditional resources

v/s

Web based electronic resources

Very well coordinated	Not very well coordinated
Substantial Authority	Not always systematically evaluated
Regular presentation	Structured presentation
More permanent	Versatile
Represented in secondary information services also	Not indicated in secondary information services

Compatible to information processing tools	Diverse nature makes it difficult for information Processing
Contains mostly textual and static images	Contains multimedia and interactive presentations
Time lag between generation and publishing is very high	Time lag is very minimum
Back file access very tough and tedious	Back file access very reliable and speedy

Procurement trends for e resources

Below are the new catching trends in acquiring e-resources:

- a. E Books are electronic versions of printed books that can be viewed on PC connected to the internet (available as print on microform, audio tape, video tapes, CD-ROM and internet-based interface)
- b. E Journals are electronic versions of print journals that can be viewed via the computer (they are available as online subscriptions, print + online subscription)
- c. E-books - available as "chapter-by-chapter" basis that can be purchased based on the need
- d. E-journals – available as "article-by-article" purchase, also based on the need
- e. Available in formats like: Adobe PDF, Microsoft reader,
- f. E readers are becoming the talk of the day with students being able to read them on their tablets, the govt. initiative namely the AKASH TABLET being supplied to the students at a nominal price is commendable and will surely boost the usage and procurement of e-resources

Criteria for selection for e resources

The following important issues should be taken into consideration while selecting an e-resource:

- Various number of databases offered,
- Search and retrieval facilities,
- Searchable graphic interfaces (simple and advanced user interface),
- Record formats,
- Cost factor ,
- Cross reference queries
- Service & solutions in case of problem,
- Support & training services
- Additional facilities such as current awareness services, Selective dissemination of information
- Varied type of usage reports

4.COLLECTION DEVELOPMENT

Collection development is the selection, acquisition and processing of library materials in varied formats, meant for users' current needs and their future requirements.

What is E Resource collection Development?

The process of planning, selecting, acquiring a balanced collection of Library materials in a variety of electronic formats such as e-books, e journals, media and online resources.

Steps of E Resource Collection Development

- Selection and Deselection of current and retrospective e resources based on user needs
- Planning strategies for continuing acquisition of e resources looking into financial constraints and their usage
- Evaluation of e resources collections to determine how it serves users need

The transition from printed information to electronic publishing has greater impact on the following functions of a knowledge centre:

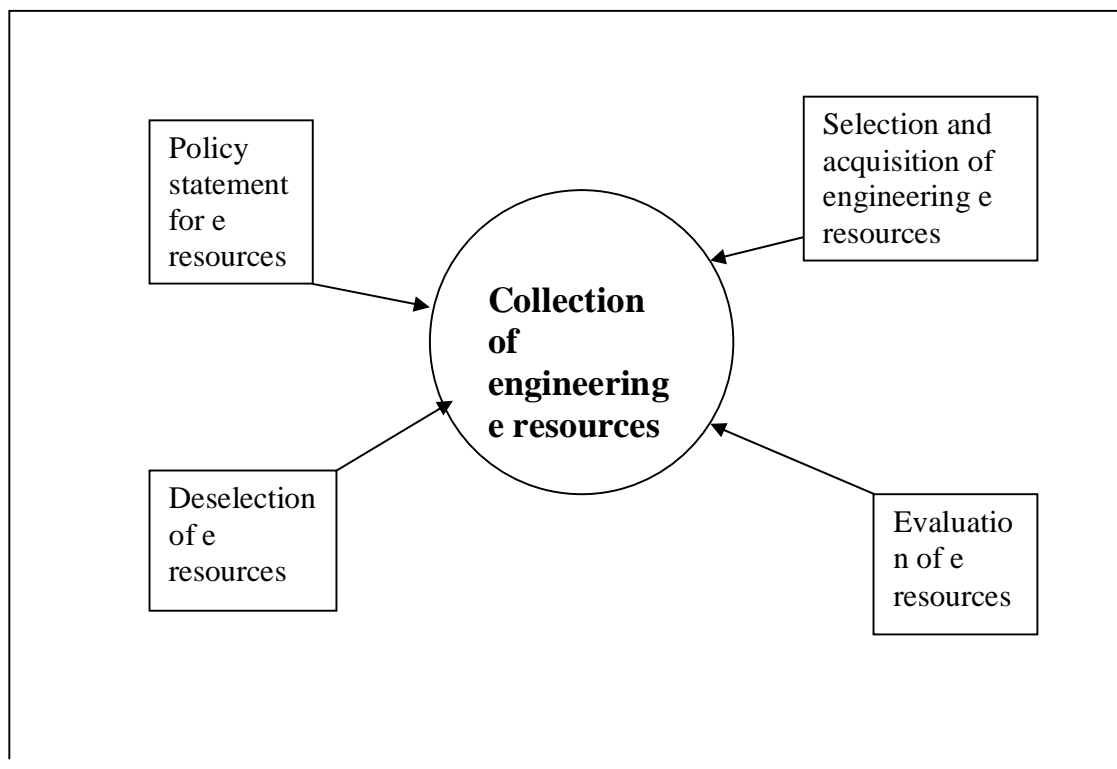
- Selection and maintenance of a common set of e resources for users
- Provision of convenient and intelligent access to subscribed e-resources.
- Maintenance of access to the e resource archives.

The form of documents received has changed from hard copy to electronic forms.

Electronic form of documents may include those in machine-readable form, CDs, and more popularly today, web based documents. The scope of these e collections being procured should therefore include the following factors:

- subject content
- exposition level
- document form
- resource type
- accessibility

5. PROPOSED MODEL FOR COLLECTION OF ENGINEERING RESOURCES



6. SOME ISSUES

Culture Change:

Knowledge center managers have become more aware of technology and technical issues, while the technical personnel have developed better service orientation. Although academicians now have the facility to read their required content in the privacy of their own offices, on their own desktops, they still resist canceling print subscriptions. This is the case even with the regulatory bodies. They too insist on hard copies making them almost mandatory.

Organizational Structure:

The delivery of e-resources depends on the network infrastructure, hardware, software expertise, internet speed as well as the information management softwares to provide the best service. To bring all this under one umbrella, computing and library services have been restructured several times to ensure they provide speedy and timely service.

Access:

One of the major issues with regards to e-resources is the nature of user interfaces they use and the diversity of resource formats (e-books, e-journals, databases, blogs etc). This

has required library managers to develop their skills in traditional and technical ways to provide integrated access to resources through the library catalogue and develop HTML skills to provide access through the subject web pages as well as perform their traditional routine duties which is a burden on them. As well they have to train their staff for this purpose or keep separate staff for this purpose, but in his absence the work will be hindered.

Administration and Management:

Unlike the print versions which are static, e-resources are dynamic in nature and require more maintenance. The traditional Library Management Softwares (LMS) are unable to deal with the e-resources. Further e-resources, particularly e-journals require high maintenance along with their archival. Changes occur to the journal packages or the package interfaces on a regular basis and while we are trying to control the situation somehow these changes are sometimes missed. This constant change of urls, user guides and holdings information is extremely time consuming for staff to update. Publishers generally limit access to e-resources by password or Internet Protocol (IP). But the IP access presents problems for home users where as separate passwords for each product becomes unmanageable.

Archiving:

Uncertainty prevailing regarding the availability of information after termination of subscription termination, may be due to financial constraints or non usage of the resources, is the biggest drawback to build e-resources collection. Therefore, we have no option but to continue subscription to hybrid formats both print & electronic thus adding to the shrinking budgets. The users are also not ready to move to e-journals and cancellation of print version, the reasons for which are not known. Although library managers strongly prefer e-journals with back files, but the choice is very limited with regard to the users. Archiving issues appear to be a major problem their as what to archive and what not to archive.

Concerns and issues on SELECTION of e-resources

Selection becomes complicated because of some special problems such as:

- i. Administrative & operational costs.
- ii. Vendor reliability
- iii. Hardware and software requirements.

Issues to consider not associated with printed formats:

- Differences in different modes of access (like networked access, remote access, campus access, stand-alone access, etc.)
- Cost options (subscription costs, hardware & software costs, etc.)
- Authorization to remote loggers (by IP address, password based, etc.).
- Maintenance and up gradation of resources can be expensive.
- More Service support needed in areas of staff and user training, documentation, and troubleshooting, especially with remote services.

7.THE CHALLENGES

The challenges of integrating e-resources and technologies into the process of collection development in an Engineering college Knowledge Centre are many, varied, and multi-faceted. Beyond considering the selection process itself, there are many issues to consider such as budget constraints, collection development policy, well trained staff, and ever-changing versatile technology. Most common being shrinking budgets and increasing operating costs. Collection budgets are at special risk because they are not directly connected to the number of staff positions or level of user services (Otero-Boisvert, 1993). Academic libraries have been affected by the impact of electronic technologies on research, such as increasing demands for electronic searching capabilities, demands for access to machine-readable scholarly texts, and use of network discussion groups for scholarly communication (Shreeves, 1992).

The E-resource collection development areas that seem to be the most problematic are

- Selection of the e resources,
- Acquisition of e resources,
- And inter-institutional cooperation.

Two issues in the discussion in this context are:

1. the shift in library philosophy from ownership of locally stored resources to provision of access to electronically stored resources;
2. And the need for rethinking collection development policy, both to support the new philosophy and to better deal with new types of resources on a timely basis.

Librarians are confronted with the following issues too with reference to E resources:

- Quality of the product
- Technological obsolescence
- Access (licensing)
- Copyright issues
- Trained manpower
- Data migration
- Ownership
- Archiving problems

Problems of E resource Collection Development

- (1)Problems of user-friendly environment
- (2)Problems of user training
- (3) Problems of Digital Divide
- (4)Problem of library Classifications

- (5) Problem of Staff Development Approach.
- (6) Problem of Complicated procurement and preservation system
- (7) Problems regarding Technological Up gradation
- (8) Problems regarding financial constraints for collection development
- (9) Problems regarding IT skill Manpower
- (10) Problems of user service

E resource Cost factor:

E-resources costs come under three varied categories:

1) **Equipment and network infrastructure costs:** requirements for equipment (PC, printers) and network infrastructure have evolved over the years. So some knowledge centers have introduced three year PC replacement cycle and installed high speed (Gigabit) network to meet growing demand. A considerable amount of funds have to be devoted to implement new technologies as and when they become available.

2) **Staffing, training & development:** Since e-resources are complex to manage, dedicated and well trained staff has to be assigned. Developments in the e-resources market & technology are happening so fast, that there is a need for continuous staff training & professional development among librarians and computing specialists. The head Institution & Library has to invest considerable funds in staff development. However, there are some savings on staff time by moving to e resources.

3) **Costs of Subscriptions:** E-resources are often costlier than their print equivalents because in some countries like UK, libraries also have to pay 17.5% VAT in excess of journal prices.

8. SOME SUGGESTIONS

Be Proactive

Librarians need to be proactive in making Engineering e-collection decisions.

Develop an E-Collections CD Policy

A collection development policy is highly recommend for developing Engineering e-collections

Get Input from All Stakeholders

Engineering College Students and Faculty are to be engaged in the process as they are the ultimate users of there Resources.

Develop Criteria

We need to develop specific criteria for adding and canceling Engineering e-resources

9. CONCLUSION

Long term predictions are difficult to make due to dynamic nature of e-resources market and due to the advent of Open Access Movement. As the world of information continues its march towards the electronic format, librarians need to be more careful in how we are handling our e resource collections. Librarians would never consider adding a significant collection of Engineering printed books or journals without a thorough review process. Yet it appears that we often add electronic content without a rigorous review process, in the process we are adding some unwanted information also which may never be used but still will be in the server thus occupying space and money This will have to change. Librarians need to treat selected Engineering e-content like printed content by developing a set of standards to manage Engineering e-collections.

Electronic resources are creating a revolution in engineering college libraries. Many librarians believe that these resources have changed the principles of selection radically; some believe that they will virtually eliminate selection. Although, it is true that the art of selection is undergoing profound change, the selection of resources is still crucial for libraries & Knowledge Centers. The four basic criteria for selection - quality, library relevancy, aesthetic and technical aspects, and cost remain the same in the digital era of information. What they mean and how they are used has changed. Though the electronic resources offer ease of use, wider access, more rapid updating, cost saving over local maintenance and storage, the librarians are finding it difficult to define issues related to policy of Collection Development and Archiving of these Electronic Resources. The electronic resources require continuing management to a far greater degree than print resources do is an accepted fact.

Engineering E Resource Collection Development includes everything that goes into acquiring materials, including selection, ordering, and payment. It is a chain of events that includes planning, administration, and control. Engineering E Resource Collection development serves as a foundation upon which other library services are built. Librarians at present are more concerned with collection management than collection development. They are acting increasingly as interpreters of information, rather than as selectors. They have to act as “E Resource knowledge managers” rather than “collection managers”.

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