CHAPTER - I

INTRODUCTION

Advances in information technology, urge for information providers to repackage and generate alternate products, demand of users to have easy to search, browse, retrieve and reuse mode of feature rich non print information sources all lead to the present trend of hybrid libraries. In such libraries irrespective of the form and format, content is acquired, processed and serviced. It is difficult to think of even public libraries without some content in electronic format, be it the free CD-ROMs that accompany magazines or books. In the case of higher education and research libraries, the dependence on e-resources is increasing rapidly over the last few years.

1.1. E-resources

E-resources are resources in which information is stored electronically and which are accessible through electronic systems and networks. E-resources is a very broad term that includes a variety of different publishing models, including OPACs, CD-ROMs, online database, e-journals, e-books, internet resource, print – on – demand (POD), e-mail publishing, wireless publishing, electronic link and web publishing etc. In this context the term means “any electronic product that delivers collection of data be it in text, numerical, graphical, or time based, as a commercially available resource.”
1.2. Types of e-resources

Any information source available in electronic format which can be used to meet the information requirements of users is termed as e-resource. There are many types of e-resources, but the three major categories which are of importance in the context of higher education and research libraries are:

*E-Resources and Digital Services* e-journals or electronic journals which are electronic equivalents of print journals/serials.

e-books or electronic books which are nothing but monographs available for electronic access like e-journals but in many cases backed by a digital rights management system.

E-databases which are full text, bibliographic, numeric etc., databases holding a wide variety of information in one product/platform.

Libraries do have variations of these products before the advent of web but the web access of these resources further improved the functionality of each of these products in a variety of ways to make it more appealing to the information clientele of today.
1.3. Features of E-Resources

E-Resources are very useful to all institutions and individuals to get instant, relevant, comprehensive information at doorsteps. Keeping these factors in view, largely organizations are concentrating to build collections for their use. Some of the major features of e-resources are listed below:

- User can access electronic resources from any remote location to his/her desktop.
- Users can use the same e-resources @the same time@ any place.
- Electronic information obtains full networking capability.
- Effective searching can be possible to retrieve particular information.
- Easily copied, stored and disseminated
- Presentation of information through the digital resources can be done within a reasonable time with speed and easy.
- Access to information is instant.
- Easy to revise, manipulate and merge
- It develops a distributed learning environment by which all the users can be benefited at a time.
- Large volumes of data can be stored in the electronic resources and made accessible to the users.
• Addition of information to the collection of digital resources is faster,

• Cataloguing, editing, referring, indexing etc. can be done with ease and speed.

• Education and Training can be provided through digital resources effectively.

• Less bulky than paper

• Speedy delivery

• Add value to services

• The e-collections save user’s time

• Generate satisfaction among users

• Buying and selling of e-collections is available on WWW

• Promote Interaction with remote users

• On-line users tracking

• E-Collections enhance the R&D effectively and efficiently.

• Above all, the quality of information service can be improved and maintained through the digital/ electronic resources.

1.4. Selection of e-resources

Selection is not a new term to librarian and staff as they have been doing it since long back the libraries started acquiring printed material. However libraries are now focusing to adopt e-resources information
technology approaching towards the e-resources rather than printed materials as technology developed. In fact, the emergence of internet, particularly, the WWW has a triggered proliferation of web based full text online resources as a new media of information delivery. Librarians are trying to meet the needs of the user and identify new resources, such as online databases, web based resources, collection in digital library e-books, e-journals etc.

The selection process should be done in relevant with the demands of the users, committee focus group, user's recommendation etc. Apart from this, it should be taking into consideration the following steps.

- to identify library user needs and evaluation
- to identify quality content and scope of the e-resources
- to evaluate qualify of that particular resources and search capabilities
- to estimate budget
- to check either subscription and web based acquiring
- to evaluate maintenance, systems and technical support
- to review terms and condition of agreement
- to evaluate application software and system configuration

  to check educational support and training for user
1.5. **Acquiring e-resources**

There are different models to effectively acquire e-resources and sometimes institutions have to reinvent the wheel to satisfy local authorities, clients and needs. Two prevalent methods of acquiring e-resources are:

**Acquiring for your own library:** In the case of a specialized institute when the resource of interest is not available through any library consortia where you can become member, the only way out is to procure it alone. Here you can decide what to buy, how to buy etc. You may also get a chance to locally test the product and get it evaluated by local experts before proceeding with formal purchase. There also exists scope of negotiations regarding price, features and options, perpetual access of content for licensed period, etc.

**Acquiring through library consortium:** Consortium promises economy of scale that is tempting for many libraries interested in developing a rich collection of e-resources cost effectively. The price you get for a resource when you subscribe it alone is far higher than the price negotiated by a consortium backed up by the combined strength and collective business potential of many libraries. The consortium may also negotiate for user training, perpetual access, data backup, freebies like you get 1000 journals for the price of 100 (though no one considers many of those 900 have very few users in the institution) etc.
Both approaches have their own merits and limitations. There is no rule of thumb to say which one is better and which one should be adopted. It is always better to have an informed decision on a case to case basis.

1.6. **Steps in acquiring E-resources**

**Identifying potential e-resources:** Getting a preliminary recommendation from teachers, researchers, students and other members of the user community about any specific e-resource. Alternately, out of survey from other libraries and trade parties like aggregators or agents, identify e-resources of interest to the institution. Seeking recommendation for purchase based on free trial access of products available in the market is also another possibility when you are not very sure of the wide ranging user interests.

**Deciding to procure from whom:** Printed sources whether you procure it from publisher, distributor or reseller, you get the same content. This cannot be guaranteed with e-resources. To give allowances to exclusivity of current items followed by some publishers and embargo, it is always appropriate to license core resources through publisher and non-core ones/through aggregators for better pricing. Ensure about access of current issues and no embargo on content access especially for core e-resources.
Effecting a trial: Ideally, no e-resource should be procured without availing a trial or user evaluation: The pre-subscription free trial facility is normally honoured by most of the publishers, aggregators or trade partners, though some need persuasion on the part of library to comply. The trial serves essentially two purposes: helping the user community to make an informed decision on the use or otherwise of one or a set of e-resources and facilitating the librarian to monitor the interest in the resource by the user community apart from gauging the extent of its coverage and user friendliness of its search interface.

Subscribing or licensing: Library may proceed with the formalities of procuring the e-resource either alone or through consortium based on the constructive evaluation feedback provided by the user community during trial. There are different modes of procuring like onetime fee or through annual subscription. It is always pragmatic to choose a payment option which is cost effective. With specialisations constantly varying in many institutions, it is not advisable to opt for long term purchase options as you can still maintain your access live by paying a nominal fee annually. There should not be any denial of access of content for which the library paid once and later not renewed. Negotiations and licensing agreement should guarantee perpetual access and clearly spell out library's access options in the event of non-renewal of a resource. The providers should either guarantee access to content for which subscription was paid on charges of
nominal annual maintenance/authentication fee or data backup through offline storage. Library should consult other libraries, consortium authorities and finance experts before selecting a particular licensing/subscription option. Inclusion of administration and finance officers in the negotiation committees with trade parties help to eliminate violation of local procedures, include enough checks for advance payment as well as access commitment on the part of suppliers, and ensure faster processing of bills. Libraries are habituated with genuine concerns about meeting user satisfaction and hence would always like to own as many information resources as possible. Adopting a pragmatic course of action is however best feasible for present day academic libraries considering the diversity of specialisations, limited budgets, and cost as well as vastness of e-resources.

**Conducting user awareness and training programmes:** Many users may not participate in the pre-subscription awareness sessions. Library should devise a series of training sessions on each of the e-resource procured to reach out to different users at their convenience. Such sessions may be conducted by library staff, representatives or specialists of trade partners etc. There should also be easy to learn self-help training packages available for access on the library website to help any interested user who could not attend the training sessions.
Maintaining helplines: There should be professionals in the library who would be available for help and assistance in case any user faces difficulty in accessing the resources. These staff should also monitor the access facility of e-resources continuously. Changes in local network configurations should be gauged regularly and promptly communicated to publishers about IP / password changes, if any, for uninterrupted access of resources. Library staff should also interact with computer staff to keep the internet access and other library computing infrastructure functioning throughout the working hours (and even 24 hours in case of campuses where students stay) without creating any inconvenience to users.

Monitoring usage: This is the most difficult part in e-resource handling for a library as in many cases they have to rely upon the reports sent by the publisher. There are more complaints to this report like it only provides the number of clicks and all clicks may not be readings. Some institutions thus assessed usage based on the log analysis for publishers IPs from the campus computing facility. Usage is done by users who are many and varied and for any external agency to assess usage has to bear with such limitations. In the case of print books also, we assess usage based on issue reports and books taken out from stacks for reading in the library and for those activities also we can doubt about whether the user actually used the book or not. Usage statistics offer the library some tangible inputs about the trends in usage and provide interesting insights for collection development. Sometimes vocal users raise unnecessary demands and that can be effectively countered with the aid of usage statistics.
1.7. Evaluation of e-resources

Evaluation of resources assumes a greater importance due to the large e-resources such as journals, database, e-text, etc. available on the net. Authority currency, intended audience, ease of use accuracy etc. are some responsible criteria for evaluation of resources. Moreover, extensiveness of the content, accessibility, quality of technical support, cost, conditions of licensing agreement are also other responsible factors which should taken into account.

With the evaluation of e-resources the following should be considered.

- To identify the retrospective data (as mostly e-resource do not include data prior to some year)
- To determine particular e-resources offer any special features which are not available in other print version.
- To check the content of e-resources with relevant to the users need
- To check whether periodic update the information
- To check determine price
- To identify the method of accessing available
- To check the staffing needs for training of recruiting with existing technology
- To verify any training program to the user for how to accessing
1.8. **Advantages of electronic resources**

Electronic resources offer a number of advantages not only to libraries but also to users, authors, editors, publishers, and archivists. The advantages are:

- Low cost of production compared to print documents.
- Cost of publication and distribution is less than the print versions.
- Saves enormous time by providing easy and instantaneous access without wasting time for processing, printing, binding and delivery.
- Eliminates printing, binding and postage costs.
- Allow interactive facility.
- Facilitate easy duplication into new media and distribution
- Integration of different media (Image, Sound, Video etc)
- Saves library storage space.
- Provide hyper links to related additional resources.
- Have potential to conserve fragile / precious original materials.
- Allow remote access from anywhere at any time.
- Enable simultaneous access to large number of users.
- Facilitate access to physically challenged persons.
• Are eco-friendly.

• The data can be easily manipulated at regular intervals and can be kept always up-to-date in electronic media.

• The electronic resources indifferent to environment hazards and if handled with care will show great durability which can not be achieved on paper based print media.

• To provide current awareness service to all users; faculty, research scholars and PG students.

• To access and retrieve relevant articles, a good number of search engines are available.

• Multiple access and through local networks become easy.

1.9. Disadvantages of electronic resources

The University libraries face enormous challenges and opportunities. The amount of information that libraries need to acquire continuously increase and the existing resources are insufficient.

There are many disadvantages as mentioned below:

• All e-resource devices require power.

• Require high cost for technology infrastructure.

• Need special equipment to access
• Lack of compatibility among different publishers.

• Hardware and software compatibility problem

• Copyright violation problem

• Current e-book format may not be readable by future e-book devices.

• Book reading devices are more expensive than most paper books.

• Lack of awareness on IT skills for usage of e-resource.

• Technological barriers.

• The initial cost is very high. As a result many publishers are forced to calculate the expected benefits before embracing on a publication product (economical barriers).

• Use of products according to the convenience of the user is not possible. It has certain technological restrictions.

• Lack of uniform standards in the retrieval of software products from different publishers creates problems in their usage.

• Since reading of e-resources requires skills, the users have to acquire certain skill before hand or take the help of intermediates like library professionals to help them in accessing the electronic documents. Even the library
professionals have to learn the skill, if they desire to serve the users effectively and efficiently.

- The libraries face a number of problems relating to the new media that are yet to be popular among their users.

1.10. Challenges faced with e-resources management

The adoption of e-resources has made great advantage over the library services. In fact, most of the users are satisfied with such facilities since they can easily retrieve their required information within a short period of time. However, libraries face no of challenges as they seek to continue offering the high level of services that users have come to expect. Some of the challenges facing with e-resources management are discuss below.

- Lack of professional skills: Due to lack of management and technical skills, the library professionals are not able to handle the e-resources. The professional staffs are required to constantly update their own knowledge and skill base so as to work in today's rapidly changing digital environment.

- Technical infrastructure: In a digital information service system, infrastructure such as software, hardware, internet facilities and other physical equipments are required to provide easier, faster and comprehensive access to information. Therefore, libraries in the
digital age need to enhance and upgrade current technical architecture to accommodate e-resources.

- **Preservation:** Though the e-resources are enabling information to be created, manipulated, disseminated and located with increasing ease, preserving ease preservation access to this information possess a great challenges. Unless preservation of digital information is actively taken, the information will become inaccessible due to changing technology platform and media instability.

- **Inadequate library fund:** Most of the libraries have inadequate fund for acquiring e-resources and so the users do not get their needy information at the time. Libraries are at a disadvantage when acting alone in this environment and there is need for cooperative purchasing through library consortia.

- **Lack of cooperation of staff members:** The support and cooperation of staff members, programmers and technical staff are very essential to provide effective service in a digital environment. As the library staff should not only be technically competent but should also user friendly approach.

1.11. **Consortia subscription to E-resources**

It is known that libraries and information centers are not able to procure, organize, and disseminate vast amount of information due to lack of adequate fund and budget. Nowadays consortia subscription to e-resources
through consortia of libraries is a viable solution to increase the access to e-resources at a lower cost. Library consortia refer to cooperation, co-ordination, and collaboration among the libraries or institution for the purpose for resource sharing. The libraries all over the world are forming consortia of all types and at all levels with an objective to take advantage of global network to promote network better, faster and most cost effective ways of providing e-resources to the information seekers. The collective strength of consortia members facilitates to get the benefit of wider range of access to electronic resources at affordable cost and at the best terms and condition.

1.12. Role of e-resources in dissemination of knowledge

The role of e-resources is disseminating knowledge with a certain aim. They excel in furnishing information of current value and interest to the user community. Today resources are considered as the most important components in information communication process. A strong e-book/e-journal base satisfies the requirements of maximum number of users. Efficiency in the management of the e-resources unit is of paramount importance without which utmost levels of benefits cannot be achieved. It is thus, desirable that the e-resources unit should be streamlined and managed more efficiently to improve the levels of benefits accruing from journals and research papers.
1.13. Impact of e-resources on higher education and research

In the 21st Century Information Technology (IT) had brought rapid changes in education. The conventional teaching and learning is gradually moving towards online. The concept of digital library, virtual library, and electronic library came into present situation. Electronic information resources have many advantages over traditional information resources. For teaching and learning, electronic resources are available in web enabled medium. A lot of developments are witnessed in the recent years in e-publishing. Publishers are interested in many issues like publishing costs, changing readership, changing user expectations, rights management and archiving. Many authors and corporate bodies are resorting for self publishing of various scholarly publications, and quality assurance. Researchers are interested to have easy access to full text publications and reference linking in a complex information space.

In the information technology era, academic libraries and information centers have radically changed the information environment. Higher education institutions started subscribing to electronic resources to meet the users’ requirements and expectations.

In view of the vital role being played by e-resources and Internet in higher education particularly in the field of Engineering and technology an attempt has been made in the present work to bringout use of e-resources by the students and teaching staff of Engineering colleges affiliated to North Maharashtra University, India.
1.14. Significance of the Study

The significance of the study is argued on the basis of the following points:

• The study aims to make aware the e-resources available in the Engineering College Libraries affiliated to North Maharashtra University.

• The study attempts to highlight the ICT infrastructure facilities available in the sample Engineering Colleges affiliated to North Maharashtra University.

• Simultaneously the study will project the use of e-resource by academic community of Engineering Colleges affiliated to North Maharashtra University.

• The study focuses on the skills of user in using e-resources available in the library.

• The study attempts to highlight the problems faced by the respondents while accessing e-resources and provides users’ opinion on level of satisfaction with e-resources.

• The study emphasizes on the need of user education and training programme offered by the library to use e-resources based on the users responses.

• The study will help to the authority of the engineering colleges regarding to promote the infrastructure facilities in the library.
as well as to provide a training programme based on the needs of the users for the optimum utilization of the e-resources.

1.15. Statement of the Problem

Information technology has thrown a new challenge to the libraries. The technology has shown a great impact on the services of the libraries. The access to information through internet has changed the role of libraries. Libraries now have both printed document as well as electronic documents can be stored, accessed and delivered as and when required, therefore the services of the libraries are not confined within the four walls but one integrated into local, regional, national and international networks. Engineering college libraries too are now becoming hybrid libraries.

Due to information explosion, more and more publication are becoming web-concerned. Most of the engineering college libraries have changed the contemporary outlook towards functions and services.

The environment is changing to an electronic one. The engineering college libraries had ongoing efforts to optimize the use of library resources including web-based e-resources. The engineering college libraries conduct orientations for students regularly including web-based e-resources, and bibliographic instruction classes at the beginning of every intake to new faculty members and freshmen. But at the same time it is necessary to evaluate the effectiveness of this user education programme and assess the
user attitudes towards e-resources and services of libraries. There has been no study conducted so far to measure the use of these e-resources in the engineering college libraries in North Maharashtra University and to assess factors that may influence the usage of these resources. In the view of the above the researcher intended to undertake this topic “User Attitudes towards E-Resources and Services of Libraries: A Study with Special Reference to Engineering Colleges Affiliated to North Maharashtra University, Jalgaon”.

1.16. Objectives of the Study

In order to pursue this study, the following objectives are framed, in accordance with the scope of this investigation.

1. To find out availability of ICT infrastructure facilities and bibliographic database e-resources in the sample Engineering College Libraries affiliated to North Maharashtra University.

2. To find out respondent’s opinion on frequency of use of web browser and their computer literacy in Engineering Colleges affiliated to North Maharashtra University.

3. To know respondent’s opinion on frequency of time spend in use and importance of different electronic resources in Engineering Colleges affiliated to North Maharashtra University.
4. To find out respondent’s opinion on the purpose of using e-resources and level of satisfaction with e-resources in Engineering Colleges affiliated to North Maharashtra University.

5. To find out respondent’s opinion on use of bibliographic database and browsing behaviour to journal articles in Engineering Colleges affiliated to North Maharashtra University.

6. To find out the respondent’s opinion on need of training to access e-resources and existing ICT infrastructure facilities in Engineering Colleges affiliated to North Maharashtra University.

7. To know the respondent’s opinion on user friendliness factors and constraints in use of e-resources in Engineering Colleges affiliated to North Maharashtra University.

8. To suggest some measure to improve the existing facilities in Engineering Colleges affiliated to North Maharashtra University.

1.17. Hypotheses of the Study

In order to study the above mentioned objectives, the following hypothesis were formulated and tested with appropriate statistical tools:

1. There is no significant difference among the respondent’s opinion of frequency of use of web browser and their computer literacy in Engineering Colleges affiliated to North Maharashtra University with respect to district and gender.
2. There is no significant difference among the respondent’s opinion on frequency of time spend to use and level of importance of difference e-resources in Engineering Colleges affiliated to North Maharashtra University with respect to district and gender.

3. There is no significant difference among the respondent’s opinion on purpose of use of e-resources in Engineering Colleges affiliated to North Maharashtra University with respect to district and gender.

4. There is no significant difference among the respondent’s opinion on use of Bibliographic database and browsing behaviours to Journal articles in Engineering Colleges affiliated to North Maharashtra University with respect to district and gender.

5. There is no significant difference among the respondent’s opinion on user frequency factors and constraints in use to e-resources in Engineering Colleges affiliated to North Maharashtra University with respect to district and gender.

1.18. Limitations

- The findings of this study are applicable to the engineering colleges only affiliated to North Maharashtra University, Jalgaon, India.
- Among the affiliated engineering colleges of North Maharashtra University the researcher selected only the 6 colleges from 3 districts.
- The teaching staff and students are the respondents of the study and non-teaching staff and others are not included in this study.
REFERENCES


