E-Resource Services in Indian University Libraries

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Abstract

The types of e-resources and services are discussed about present era of library services. The availability of e-resources in Indian Universities was inrolled. The digital Library Services, use of web technology for library services and use of e-resources through consortia was discussed in the context of e-resources access and services to library users. e-resources services are discussed about university and research libraries.

The history of mankind has already witnessed three revolutions and emergence of internet is fourth revolution.

1. Language emerged

2. Advent of writing

3. Printing press: printed media of scholarly communication

4. Internet and its application: Worldwide web and electronic publications.

Keywords:E-resources,Web technology,Worldwide web.

Introduction

The emergence of internet and the world wide web (WWW) as a new media of information storage and delivery with greater speed and economy. The web based electronic information products not only eliminated paper physical storage and transportation cost, it also offers multimedia and hyper-link features to electronic documents.

E-information

The information which can be accessed or retrieved from the electronic resources such as e-text, e-journal, e-communication systems, e-mail, bulletin board, CD-ROMs, other multimedia products and internet are known as the electronic information (EI).

Advantages of E-resources

The reasons for actually embarking on the purchasing of electronic resources are generally accepted because of the ease of usability, readability , affordability and accessibility. The following are the advantages of e-resources over the print media.

1. *Multi-access:* Multiple simultaneous users

2. *Speed:* An electronic resource is lot quicker to browse or search to extract information

3. *Content:* The e-resources can contain a vast amount of information.

Apart from the above some other advantages of e-resources may include: international reach, unlimited capabilities, reduced cost, convenience, searchability and linking.

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Present Users Demand

1. Data, information, documents should be created quickly and

2. Resources should be available to users as soon as they are generated.

In present situation libraries are shifting to new media, namely electronic resources for their collection developments and the demands of users can be better fulfilled. The e-resources on magnetic and optical media have a vast impact on the collection of university libraries. These are more useful due to inherent capabilities for manipulation and searching, providing information access is cheaper to acquiring information resources, savings in storage and maintenance etc.

E-information Services

We are living in an era of electronics which plays the most important role in almost all the fields of our life such as education, research, industry, entertainment, health care, government and so on. Since information processing and communication are the lifeline activity and electronic systems are mainly used for information processing and communication. The present era has come to be called the era of IT. The information services provided through the usage of electronic systems, electronic publications, CD ROMS, LAN, WAN< internet, etc. are known as e-information services. The developments in IT systems have influenced libraries in all the functions like cataloguing classification, book circulations, acquisition, CAS, SDI, CD-ROM network, e-mail service, bulletin board service, digital library service, etc.

In recent developments of IT the number of fiber optic cable networks with integrated services, digital network (ISDN) capabilities of transmitting huge volumes of data in few seconds are increasing at tremendous speed daily in various countries including India. Optical digital disks (ODD) of higher and higher storage capacities will continue to come. Digital video discs (DVD) replace the CD ROMS with capacity of several times higher than the multimedia CD ROMS.

Types of E-resources and their Users

Several publishers have shown their interest in E-publishing as the pattern of information seeking organisation and behaviour of clientele have rapidly changed due to influence of Information Technology and Computer Technology with the applications of recently developed hardware and software. E-resources that are published by the publishers as under:

a) *CD-ROMs:* CD-ROMs are the chief E-resources available in the market and accepted as major E-resources for university libraries. A substantial amount of data is stored in it, which can be retrieved offline or online with user-friendly search software.

b) *E-journals:* E-journals are the electronic version of print journals, which are now available as electronic full-text online. These E-journals are available on subscription basis for the university libraries and easy to search by the library clientele.

c) *Abstracting and Indexing Databases:* Like abstracting and indexing journals, electronic abstracting and indexing databases are available for the library, which can be retrieved offline or online.

d) *E-reports:* Publishers are now publishing E-reports on scientific and technical innovations, which are available, online and act as reliable and essential resources for the scientists and researchers of any university library.

e) *E-clippings:* E-clippings are basically news items with date, time and news source. E-clippings are available online and archaived by the news service providers. It is a very helpful E-resource for the social science researcher.

f) *E-content Pages:* Publishers now publish E-content pages of books, journals, reports, manuscripts, proceedings of seminars and conferences on their website. This online available item of E-resources helps the scientists and researchers to gather primary

information in their area of interest and may request librarians to procure the same.

g) *E-databases*: E-databases with bibliographical details and full-text

sources are produced to meet the growing need by the researchers. These E-databases are available for the library through the Web browser or through local network solutions. Some

Table 1: E-resources Website URLs, Subject and Content Coverage Available for Indian University and Other Research Institution Libraries

E-Publishers Website Title	E-Resource Contents / Items Covered	Subjects	Website
ACM Digital Library	Journals, Magazines, Conference Proceedings and Bibliographical Records & E-books	Computer Sciences	http://portal.acm.org/dl.cfm
IOP Journals	Journals	Physics and Physical Sciences	www.iop.org/journals/enquiries
ASCE Journals	Journals, Periodicals and Transactions	Civil Engineering and allied subjects	www.pubs.asce.org/journals/
Science Direct	Journals, Magazines, Bibliographical databases, Abstracts, Conference Proceedings with Citation Links.	Physical, Computer, Engineering and Technological Sc.	www.sciencedirect.com
Springer Link	Journals	Science subjects	www.sciencedirect.com
Sage Full-text Collections	Journals with Citation Links.	Sciences, Humanities.	www.sagepublications.com
Project MUSE (Gateway Portal/ Platform)	Journals with Citation Links and Archives of Journals, Magazines (few years back volumes)	Arts, Literature, Humanities, And Social Sciences	http://muse.jhu.edu/Journals
Oxford University Press	Journals, Transactions, Magazines, Conference Proceedings, E-books.	Humanities and Social Sciences	http://www.oup.com/online/
Blackwell Publishing	Journals, Abstracts, E-books.	Humanities and Social Sciences	http://www.blackwellpublishing.com/
JSTOR (Gateway Portal / Platform)	Archives of Journals, Magazines (few years back volumes); Bibliographical databases; Abstracts; Conference Proceedings ,with Citation Links.	Literature, Humanities and Social Sciences	http://www.jstor.org/
Informatics	Archives of Journals (few years back volumes); Bibliographical databases; Abstracts; CD-ROMs	Sciences, Humanities.	http://www.informindia.co.in/
Balani Infotech	Archives of Journals (few years back volumes); Bibliographical databases; Abstracts;	Science, Humanities.	http://www.balaniinfotech.com/

bibliographical E-databases are available on the Web which act as a helpful tool for the university librarian for acquisition of documents.

h) *E-books:* Electronic version of printed books has become a part of the E-publishing phenomenon of several publishers. Several E-books, almost on all subjects, are now available on the Web on payment basis. Some E-books are also available free of cost. It is now the hot topic of interest of Indian university librarians as one of the main E-resources for serving the need of library clientele.

Thus, one type of competition grows among the publishers, which is a great change. In the advent of the electronic communication system scientists and scholars have the scope to know which publisher publishes research articles within a short duration. They naturally want to expose their research invention to the world of learned people in the minimum time possible. This primary expectation of scientists and researchers has the natural impact on the publishers. Thus the scope of E-publications has developed and the number of E-publishers has increased steadily.

Several E-publishers are now offering different 'price packages' for the research institutions and also for university libraries. This is a changed tactic of E-publishers' marketing strategy. It would be quite natural that the pricing of E-journals have to be different, and the methods of subscription systems vary from publisher to publisher. In this changed situation university librarians need to take several exercises to procure E-resources.

E-resources Available for Indian University Libraries

In case of creation of websites some of the E-publishers have created their websites in their original name. But some have created in different names such as Elsevier Publishing and Springer; they have used their website names as 'Science Direct' and 'Springer Link' respectively. Not all the E-publishers cover the same type of E-resources in their websites. The 'Science Direct' covers the maximum E-resource items such as: Journals, Magazines, Bibliographical databases, Abstracts, Conference Proceedings with Citation Links. Websites have been created by E-publishers on different subjects. 'Science Direct' covers the large area of Science and Technology. On the other hand, 'Project MUSE' covers the major areas of Arts, Literature, Humanities, and Social Sciences. All these details including website URLs have been revealed in Table 1.

From the above table it is realised that E-publishers are now publishing a variety of E-resources in different subjects. In case of pricing they are offering different price packages for the library. We may discuss here the various pricing packages offered for the E-journals, the mostly used E-resources now by the E-publishers for Indian libraries. Before going into details, we should discuss the pricing policy of E-journals.

Kinds of Information Services in Networked Environment

IT applications in libraries from online bibliographic databases and OPAC to low-end electronic publications available as ASCII files are searchable. Graphically viewable full text systems (digital libraries) are searchable on world wide web sites.

Following are some of the information services which can be provided on networked environment.

1. OPAC (online public access catalogue)
2. Online circulation transaction.
3. CAS (Current awareness service)
4. SDI (Selective dissemination of information)
5. CD-ROM network service
6. E-mail service
7. Bulletin board service
8. Internet service
9. Digital library service

OPAC

The machine readable catalogue of the library can be made available through internal web or LAN. It is a database composed of bibliographic records describe the books and other reading material available in a library.

Online Circulation Transaction

The output file generated for daily transaction is published on web to provide the timely information about the status of the document. This enables the user to watch the status of the document from his workplace and to reserve the particular document if required through networking service.

Current Awareness Service (CAS)

A list of latest additions of books, journals, CD-ROMS and other documents to the library can be displayed virtually on LAN/WAN for users attention. Specialised current awareness bulletins like recent conferences held with list of papers, theses submitted to various universities, institutions or individual oriented information, etc. can be easily generated and disseminated.

SDI

Users e-mail requests may be collected and matched against the latest documents and the matched ones can be sent back to the required user through network. In this case as per the requirement of users selected matched documents with requirement can be provided through CD-ROM databases, online databases or network.

CD-ROM Network Service

CD-ROM is one of the best optical information storage systems of electronic publishing, which influenced very much in the field of library and information science around the world because of its durability, capability to hold large volumes of data, compatibility and its affordability. So libraries can provide CD-ROM service through LAN or WAN so that number of users will be benefited at a time and they can retrieve information relevant to their needs within time from any of the CD-ROMs provided in the CD-ROM tower. Indexing, abstracting services also can be provided through CD-ROM network service.

E-mail Service

E-mail is the lifeblood of the network based e-information service, the internet in particular. It is as useful as a form of communication as the telephone. Libraries can include a huge amount of specific information in the e-mail system. Also unlike the telephone, with e-mail we can write message and edit it first before we send it.

Bulletin Board Service

A bulletin board is a public discussion area where people can post messages electronically without sending them to anyone's e-mail address, which can be viewed by anyone who enters the area. On the internet the equivalent areas are called newsgroups.

Using the above EI technology library and information centres can provide by which separate noticeboard option can be created through e-mail facility and the latest information of the daily news, job opportunities, admission notices, entrance examinations, scholarships and fellowships, new courses, list of new arrivals of books and journals to the library and other circulars and notices to the users can be posted and made available for the users through this bulletin board service.

Internet Service

Internet is a boon to the user group. It is a world wide web of interconnected universities, business and science networks and is a network of computer networks. It is made up of little Local Area Networks (LANs), city wide Metropolitan Area Networks (MANs) and huge Wide Area Networks (WANs) connecting computers for organisations all over the world. These networks are hooked together with

everything from regular dial-up phone lines to high speed dedicated-based lines, satellites. Using this e-information facility, services such as e-mail, bulletin board, mailing list, directory enquiry, Usenet news and the internet tools such as archie, gopher, WAIS, veronica, CompuServe, WWW, etc., can be provided by the libraries which bring people closer on the internet and make EI on the network easier to locate and use. The digital library services can be provided through internet.

Digital library services are discussed as follows:

Digital Library

Digital libraries (DL) are now emerging as a crucial component of global infrastructure, adopting the latest information and communication technology. Digital libraries are networked collections of digital text, documents, images, sounds, data, software, etc.

Content creation, preservation, search access, and delivery are its essential components. Digital libraries use and provide information in digital format. A digital library would largely contain digitized information along with print publications. Virtual library is a library without walls, spread across the globe, from where one is able to retrieve the whole world of information through a properly networked workstation.

Digital library include infrastructure, acceptability, access restrictions, variability, standardization, authentication, preservation, copyright, user interface, etc. Digital libraries bring the library to the user, overcoming all geographical barriers.

Characteristics of Digital Libraries

Three main characteristics of digital libraries are:

a) Storage of information in digital form

b) Usage of communication networks to access and obtain information

c) Copying by either downloading or online/off line printing from a master file.

Accessing Information

Electronic publishing has changed accessing of information by end-users to some extent. Unlike printed publications, electronic publications provide access mostly through intermediaries, though direct access by individuals is possible to a limited extent.

The information services provided through the usage of electronic and digital systems, electronic publications, CD-ROMs, LAN, WAN, internet, etc., are known as digital information services.

Use of Web Technology for Library Services

The librarian is the best person to know the matching requirements of the library clients and the contents and services of the library, which has to included in the web page. A good meaningful web page of library reflects the contents and services offered by the library to their users. Librarians and information professionals contribute to the internet community by making library catalogues and local databases available on the network. Creating a logical and well-organised web page, and mounting it on a web server that provides graphical user interfaces for browsing the resources on the internet is a service for the global community.

Impact of web technology is depended on following features of a web site.

• Unique and valuable content with aesthetics.

• Useful link/higher links to other sites.

• Judicious, limited use of graphics.

• E-mail links to content developers for open feed back and questions from users.

Use of E-resources through Consortia

The library environment is currently undergoing a rapid and dynamic revolution

leading to new generation of libraries with the emphasis on e-resources. A lot of efforts have been taken in past few years to overcome this problem of financial crunch by resource sharing through, consortia for university libraries. UGC-INFONET and INDEST-AICTE, Consortium are two major initiatives for universality library users. These revolutionary steps are providing scholarly resources including peer reviewed journals, databases, abstracts proceedings etc.

Indian Library Consortia Scenario for E-resources

Library consortium is a group of two or more libraries which have agreed to co-operate with one another in order to fulfill certain similar needs, usually resource sharing. It usually, refers to co-operation, Co-ordination and collaboration between, and amongst libraries for the purpose of sharing information. Consortia are basically, evolving a form of cooperation among the libraries which come together to share resources electronically. It has gained momentum even in developing countries like India.

Some of the successful library consortia setup so far in India are:

1. UGC-INFONETE-Journalconsortium, http://www.ugc.ac.ln/newjnltlitivii/* infonet.html

2. Indian National Digital Library in Engineering Sciences and Technology (INDEST) Consortium. http:// www.paniit. iitd. ac. in/indest

3. Inter University Centres (IUC-DAEF Consortia) (Atomic Energy)

http://brahma. iuc. res. in/-iuc_cc/ iuc_loc.html

4. Health Sciences Library and Information Network (HELINET)

http://www. rguhs. ac. in/hn/ne whell. html

5. Forum for Resource Sharing in Astronomy and Astrophysics (FORSA)

http://www. iiap. res. inAibrary/forsa. html ,

6. Council of Scientific and Industrial Research (CSIR e-journal consortium).

7. Consortium for education and research in agriculture (ICAR e-Journal consortium), cera.jccc.in

Among the above all consortia, UGC-INFONET and INDEST-AICTE Consortium are proving to be a boon for the academic users. These revolutionary steps are providing scholarly resources including peer reviewed journals, databases, abstracts, proceedings etc. These efforts will definitely boost the higher education system of our country.

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