

## EMERGING ICT'S IN ACADEMIC LIBRARIES

Prof. D. N. Kale,  
Librarian,  
Adv. V.H. College of Education,  
Nashik.

### Introduction :

In day-to-day life, we are experiencing the use of technologies and the libraries are not an exception for it. The main force that has brought revolutionary changes in functioning of the libraries is technology. In recent years, impact of technology has been tremendous on library systems. In academic environment, library is deemed as a place of intellectual stimulation and epicenter of knowledge. In 1980's and 90's the information seekers were greatly dependent on printed resources and libraries were unique places for providing such information. The past two decades have seen a great deal of change due to Information Communication Technologies resulting in a demand for new patterns of scholarly information. These technology advancements have made significant impact on growth of knowledge and in unlocking the human potential.

### Recent Technology Trends in Academic Libraries :

The past two decades have seen a great deal of change due to Information Communication Technologies (ICT) resulting in a demand for new patterns of scholarly information. These technology advancements have made significant impact on the growth of knowledge and in unlocking the human potential.

The following are the recent technological trends in Academic Libraries

- Automation
- Digitalization
- Internet
- Consortia
- RFID Technology
- Web Designing for Libraries
- E-Resources
- ICT in Libraries

- Creation of Institutional Repository
- Learning Resources
- Information literacy programs
- Library 2.0

### 1. Automation

Library automation involves creation of database of library holdings, information retrieval, establishing the computer network and telecommunication usage for information handling, needs careful and systematic planning.

#### Need for automation

- Increasing technical processing efficiency over a manual system.
- Realization of financial savings or containing costs in certain cases where cost savings has been brought through automation.
- Improvement of library services.
- Improving library administration and management.
- As a response to a breakdown of crisis in the existing manual system.
- Facilities of savings of resources.
- Provide wide access to resources within the libraries and elsewhere.

### 2. Digitization :

Digital Library is a library that contains material in a digitalized form. It can also be defined as the library that contains digital material. The digital library has materials stored in a computer system in a form that allows it to be manipulated and delivered in ways that the conventional version of the material cannot be.

#### Digital Conversions Process :

Document  $\Rightarrow$  Data capture  $\Rightarrow$  Data processing  $\Rightarrow$  Storage Indexing and  $\Rightarrow$  Processing  $\Rightarrow$  Retrieval and Display

#### Advantages of Digital Libraries :

- Helps in Resources sharing facilities.
- Saves the Library Manpower and funds.

- Helps in Inter-Library Loan (ILL).
- Helps to reach information of their users at faster rate through on-time communication.
- Minimizes the duplication of New Invention

### 3. Internet :

- The Internet is undoubtedly a medium between the Information Professionals and the Information. In present day, it is an essential requirement for the Librarians to ascertain how to access the facilities in this new technology. The internet has become an expert in searching to satisfy the user needs.
- Internet is the global information infrastructure which enables the professionals to access the information and communicate to the users easily and cost-effectively through the medium like text, voice, graphics and multimedia etc.

#### Advantages of Internet Based Services :

- The librarian can serve even the remote users sitting at his reference desk.
- The users can launch a reference query through e-mail.
- The users can browse the particular site for his need.
- The user's time can be saved to a great extent.
- Current and up to date information can be provided.

### 4. Consortia :

- The Consortia aims at providing material, information and services by different types of libraries to the needy users. These libraries may be in different jurisdictions but agree to serve one another on the same basis as each serves its own constituents. Computers and telecommunication may be among the tools used for facilitating communication among them.
- A consortium is a group of libraries that want to have a central place to store content in centralized manner and distribute to all associated libraries. Consortia is a generic term to indicate a group of libraries that are working together for a common goal to expand co-operation on traditional library services such as collection and development of electronic media. The aim of the consortia is to achieve what the

members of the group cannot achieve individually.

### **Consortia Initiative in India :**

Several library consortia have been setup over last few years to obtain licenses and to enable desktop internet access to scholarly electronic resources like e-journals and databases. Some of the major consortia formed in India over the years are :

- CSIR Consortia
- INDEST
- UGC-Infonet
- CeRA

### **Benefits of Consortia :**

- To support needs of users through cooperation, resource sharing and enhance access to electronic information.
- To develop suitable collection development and acquisition policy.
- To make use of the available latest information technology.
- To eliminate the different problems faced by the librarians in order to provide various services to the users.

### **5 . RFID Technology :**

RFID is the latest technology to be used in library for book identification, for self check out and for sorting and conveying of library books and also for theft detection. The aim of using RFID technology is to increase the efficiency, reduce data entry errors and free up staff to perform more value-added functions.

### **How does an RFID System Works**

An RFID system consists of a tag, which is made up of a microchip with an antenna, and an interrogator or reader. The reader sends out electromagnetic waves. The tag antenna is tuned to receive these waves. A passive RFID tag draws power from field created by the reader and uses it to power the microchip's circuits. The chip then modulates the waves that the tag sends back to the reader and the reader converts the new waves into digital data.

## 6. Web Designing For Libraries :

A website is a collection of web pages, images, videos and other digital assets hosted on a particular domain and sub domain on the World Wide Web. All publicly accessible websites are seen collectively as constituting the "world wide web" accessible. Website in our digital era has become a publicizing media to serve information to the users from different parts of the world. The growth rate of information technology is very fast compared to other developing technologies and knowledge.

Taking the advantages of advances in information technology, various sectors of economy can develop their web pages and regularly mount information, which can be accessed through the internet. Now, libraries and information centers are being transferred to the internet for fast access and retrieval of information. Internet has become the world's window to information and web pages serve as the information carrying documents. Almost all advanced libraries keep their own webpage as it is a media of publicizing the library functions, activities, programs, resources and services. Thus each library and information centre needs to establish its own website.

### Need for Designing Website :

- Provide access to the shared library online catalogue.
- Provide access to online periodical indexes and databases.
- Provide access to online reference materials.
- Provide access to Web resources and Web search engines.
- Offer information about the library and its services and policies.
- Provide support through tutorials, context sensitive help and e-mail.
- Create a usable interface that will help users identify what they need.

## 7. ICT in Libraries :

Information Communication Technology is a generic term used for a group of technologies. ICT refers to the devices and tools used in the generation, gathering, processing, storage, retrieval, communication and delivery of information. It is the convergence of computers, communication and micro-electronic base technologies. In recent years, IT has expanded so rapidly to include a wide array of devices, information

products and services that transformed the role of a library into a gateway of accessing global information resources.

### **Impact of ICT on Library and Information Services :**

Libraries are experiencing a significant impact of IT on information processing, sources and services. ICT has become integral part of all library operations and information services. This movement of using ICT in libraries has dramatically changed the ways by which data acquisition, processing and access has been carried out and the libraries have provided information services. As this technology provides librarians with new choices, new opportunities and new challenges, there has been a phenomenal progress in the use of ICT applications in library operations and information services. ICT usage in Indian Libraries has also gained considerable momentum in recent years, which is going to increase at much faster rate in future.

### **Benefits of using ICT in Library in Academic Libraries :**

- Improve efficiency of library operations.
- Improve quality of existing services.
- Introduce new services.
- Increase ability to share resources.
- Eliminate duplication of efforts.
- Facilitate effective utilization of funds.
- Perform tasks not possible by the manual system.
- Improve users satisfaction.
- Improve uniformity and standardization.
- Improve collection management.

### **8. Creation of Institutional Repositories :**

Institutional Repositories are digital archives that capture, organize, preserve and disseminate the intellectual assets of a single institution or a group of institutions by forming a global system of distributed and interoperable digital libraries. The basic objective of institutional repositories is to promote wider use of intellectual output of particular

institution or a group of institution. An institutional archive should follow international technical standard to ensure the open access to its contents.

### **9. E-Learning :**

E-learning can be defined as learning anywhere and anytime through internet. It is delivery of information, training or education programs via electronic media. E-learning includes a wide range of electronic communication like Internet, Intranet, Satellite broadcast, interactive television, CD-ROM, DVD, audio & video tapes etc. Effective e-learning depends on the web usability, communication, relationship and knowledge management tools.

### **Use of E-Learning :**

With an increase in the traditional academic institutions distance education departments and distance delivery methods such as correspondence, satellite broadcast, video conferencing, video-tape, CD-ROM, DVD delivery system etc. E-learning increased with the internet access to desktop computers and improved bandwidth for data transmission.

### **10. Information Literacy Programs :**

- The word "Literacy" has been linked with cultural literacy information literacy, library literacy and technology literacy, and also digital literacy and multimedia literacy. Traditionally, literacy as a basic concept has been defined as the ability to read and write. Information literacy is the ability to identify, evaluate and use the information judiciously. Information literacy is a conception of those abilities of an information user which include :
- Locating needed information.
- Determining relevance and adequacy of the information, and
- Applying information in problem solving and decision making situations.

### **Library 2.0 :**

With Library 2.0 library services are constantly updated and reevaluated to best serve library users. It also attempts to harness the library user in the design and implementation of library services by encouraging feed back and participation

"Library 2.0 is the application of interactive, collaborative and multi media web based technologies to web based library services and collection"

The basic idea of Library 2.0 is to transform library service by making them more personalize, more interactive, collaborative, more web-based, driven by community needs

A very different communication environment for providing more personalized services to users making librarians more competent.

### **Components of Library 2.0**

- Wiki
- Blog
- RSS
- Podcasting
- Instant Messaging
- SMS
- MMS
- Social networking

### **Components of Library 2.0 :**

A collaborative website whose content can be edited by any one who has access to it. It is a web application that allows users to add content, as on an Internet forum, but also refers to the collaborative software used to create such a website.

### **Blog :**

A blog (WEBLOG) is a website that contains dated entries in reverse chronological order (most recent first) about a particular topic. One person or groups of contributors can write them. Entries containing commentaries and links to other websites, images contributed by one person or group of people. Some times search facility may also be included.

### **Really simple Syndication :**

RSS is a family of web feed formats used to publish frequently updated content such as blog entries, news headlines and podcasts. An RSS document (which is called a



'feed' or 'web feed' or 'channel') contain either a summary of content from an associated website or the full text, RSS makes it possible for people to keep up with websites in a special programme or filtered displays.

#### **Podcast :**

A portmanteau of Apple's "iPod" and "broadcasting" is a method of publishing files to the Internet allowing users to subscribe to a feed and receive new files automatically by subscription, usually at no cost. It first became popular in late 2004, used largely for audio files.

#### **Social Networking :**

Social Networking service uses software to build online social networks for communities of people who share interest and activities or who are interested in exploring the interests and activities of others.

Most services are primarily web-based and provide a collection of various ways for users to interact, such as chat, messaging, e-mail, video, voice chat, file sharing, blogging, discussion groups and so on.

#### **Conclusion :**

Academic libraries are facing the challenging tasks of satisfying the increasing complex and diverse information needs of the clientele. College libraries can use today a wide variety of technology options that exist now. Fruitful results can, however, be obtained only when we make the best use of the technologies. Use of modern technology has assumed greater relevance in the context of fourth law of library science : "Save the time of the reader/staff" wherein Raganathan had underlined the need for internal efficiency of the library.