INFORMATION AND COMMUNICATION TECHNOLOGY IN LIBRARY IN INDIA

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Abstract

The library plays an important role in promoting education and research. A place for the reading, reference or lending of literary and artistic content, such as books, journal, pamphlets, prints, records and tapes. In the educational process, the College plays an important part. College education provides students who enter higher education with a radically different climate. In general there are a lot of students in the classrooms and, as opposed to school education, the teachers receive less attention from college students. Therefore, students must depend even more on themselves. The university library is thus the ultimate space for students to add to their classroom instruction. Somehow the university library can be used for classrooms as an alternative. The fundamental task of the library of the college is therefore to provide users with study materials and to fulfill students, teachers and researchers' requirements for reading, studies and research in an immediate way. Computerisation is an electronic work technology in which skilled materials are handled, stored, and planned. Computerisation of libraries is also known as automating libraries. "The technique for the development of a machinery, process or system is automated." In other words, the computer manipulates the data storage, selects, presents and records the data input or the data generated internally. Library house maintenance mechanization is primarily known as automated library operations by the Information Technology. Now, one day knowledge is regarded by capital, materials and workplace as the fourth source. Today the wealth of the country is not calculated by its economic circumstances, which are calculated in the amount of information it has and how it is being used for the production of ICT, the modes and methods of data storage, transmission and distribution have revolutionary changes.

*Keywords**: Information and Communication Technology, Library, India, educational process, ICT, the modes*

1. INTRODUCTION

The word 'Information and Communication Technology' was first developed in the mid-1980s. First, it was decided that all forms of electronic networks for media communication and telecommunications broadcasting, including: personal computers, video games, mobile phones , internet and electronic payment networks etc. IT evolves with developments in computer technology and communication. The computer technology operates in digital form for the storage and processing of information. On the other hand, communications technology enables digital information storage and storage. During this method, IT communication means various technical applications. Two words: information and technology was invented for the word IT. Awareness is the meaning of information and machine & communication is the meaning of technology. In other words, IT can be described as the 'combination and application of computer, networking and IT processing technologies' (Fatima and Riyasat, 2008) Information technologies cover a vast range of technologies such as computer technology, communications and telecommunications technology. With technological advances the components of IT are implemented in any organisation such as computer technology, computing and telecommunication technology. In the field of library and information science IT components are being added, also suggesting organisation of library automation, library software and Internet, network sharing and library digitalisation, for the creation of information and services resources. In the area of library and information science, all these elements should be implemented.

2. LIBRARY AUTOMATION

In libraries, programmes and tools provided by information technology have been used; library automation was the first major move. It brings revolution and saves unbelievable time for readers and library workers to disseminate and collect information. The library began to be automated in the middle of the 1950s until the 1980s. Automation tracks the use of computers and associated secondary media for home maintenance in libraries such as magnetic tapes, optical and disc drives etc. Provide the reader with information in a right, proper form in a personal manner and in a precise period, library automation is the fundamental goal of libraries. Library automation meets the criteria of libraries in order to deliver library performances easily , effectively, economically and successfully. IT made automation possible in the library. (Ahmad, 2009) Library creation depends on a good project in the automation of libraries. Strong quality control is the secret to the success of this project. It will be the responsibility of the individuals involved in this project and the trust of his / her staff that the librarian can understand and know. The automation of libraries is addressed to those it delivers services to and requires improvements in the way a library is running. Any work, such as its execution, requires change, management and planning, is not a simple enterprise. The structure of the organisation, service habits and the different functions in the business would change as a result of automation. The same challenges face any newly automated organisation management. The two management metrics are in this case Project management of the design or selection and implementation of automation arrangements and ongoing service procession management of an enterprise. A librarian may obtain valuable help from a few key individuals in an organisation during the preparation and implementation of a library automation system. However, it is important to talk inside a wide community. Any institute should create a community that represents the region where the system will be performed, managed and maintained with regard to automation. This form of set has many functions and can also be used for many years. The community will supply valuable information for the system on particular requirements. It may assess the comments of others regarding the need and viability of persuaded features. It also acts as a discussion board for the person who is responsible for the automation project. The manner in which the activities are carried out, the relationship between the external units and libraries and the function of the personnel are changed by the installation on any form of computer system in an organisation. Employees work regularly in the transmission system on the automation project. It operates and wants to know how it affects their lives that workers need to use the device once. Inside the company, workers conduct themselves. It is a multi-faceted mechanism in which users who need management may provide services.

3. NEED FOR LIBRARY AUTOMATION

To make possible access to a vast amount of data, information is designed. This kind of system may be computerised or manual. Over the manual system computer system are beneficial. In the dull processes of the libraries they decrease the energy and the time taken and reflect their holdings immediately. Due to physical limitations from different angles of search, it is not possible in the traditional systems. Approximately every walk of human lives there is importance in application of IT. At present the library arises to collect, retrieve and communicate information. In similarity with the social organizations human life is being affected by the new technology more.

According to Govind, (2014) the needs of the library automation are:

- Library collections development and the accessibility of information in different format like print, non-print, audiovisuals, graphics and electronic media.

- For development of library resources and services.

- Information retrieval, management and different needs of libraries.

- In house functions of libraries doubling-up of work and excess of repeating.

- With the development of technology IT is challenge before the librarians.

- Internet applications in libraries, resources sharing through networking, online databases search of national and international level.

- Library information systems is traditional and their limitations.

- Communication technologies impact and hope of society from libraries.

4. BENEFITS OF LIBRARY AUTOMATION

Library automation accomplishes the suggestions of Library Sciences Ranganathan five laws. Especially, theory of fourth law i.e. 'Save the time of reader'. According to Sharma (2015) following are the benefits of library automation:

- With the setting of fine rules automation software will present results automatically.

- Circulation, remaining to the automation saved a lot of time of users as well staff. It is one of the most affected areas of library services.

- They can effortlessly do the reservation of library resources.

- User can search information with facilitate of this system from anywhere at any time.

5. DATABASE CREATION

A set of data is a database that is connected to each other. Being arranged logically and absolute in its self, an encyclopedia or a dictionary may be taken as example of manual database. On account of the enormous speed, memory and accuracy of computer, the advantages of computerized databases are numerous over the manual ones as it store, process and deliver information in to the required sequences. (Amjad, 2011)

Types of Library Data: Data entry is the most critical phase of computerization. In removing and mounting the bibliographical data on a computer, the services of qualified professionals shall be required. In the case of conventional records, it must be ensured that the only documents physically or registered in the library are taken into account for the tasks. There are persuaded activities in the libraries to stop the circumstance of wasting time and uncertainty. The best practises in the library collections are improved; both the book and the record are arranged and properly compared. In libraries there are two major categories of data.

Current Data: Usually libraries must select a cut-off date for library automation. After that date, all new arrivals will be processed for such book entry from the acquisition section in the transformative environment and dealt with document collection, ordering and acquisition. The details shall be entered in the software packages only once as given. The same applies to the other related sections of the library, in compliance with their particular criteria, for a variety of functions.

Retrospective data: Retro-looking data demotes the paper records that has been already obtained in the library prior to the cut-off date. A significant volume of data belongs to this group concerning the active library collections. This amount of data must be increased on the systems as a requirement for automation. It can normally be done in two ways, i.e. by entering books and catalogue cards. Book entries are performed for new arrivals on a daily basis. The common practise is to retrospectively renew the catalogue cards. Traditional data conversion for higher education libraries is the big challenge. They usually maintain external organisations for their work. However, it depends primarily on the provision of funds. The prices are marginally higher for entry into books. Bibliological details are book entries that need to be selected. (The Bishops' Conference 2013)

6. INFORMATION SOURCES FOR DATABASE CREATION

For the creation of database there are various types of information sources. They are given below:

Documents: The easiest and most relevant source for data entry is the text. It gives as much detail as possible. The text will also confer on certain cases that are not available elsewhere in order to provide the details needed. Every library keeps records of documents in a standard format in order to facilitate inventory management. The two wide types of such documents are catalogue cards and accession registers. All possible information is copied in the accession register on a demanding document after purchase. The register format is agreed and further administrative exercises are needed. There is no column for main terms and topic headings. Even if the column for the same

column was provided, it does not have a class number. The accession register is not used for data entry due to these limitations. If the other sources do not include descriptions of a specific text, this register is of great help.

Bibliographical Records: Various catalogue categories are prepared by library such as author , title, topic, classified etc. Another card type is self card behind the scene. For automation it is most valuable that the library should be kept secretly in a confidential order and kept in the security zone. This record is commonly used for data entry for conventional conversion higher education libraries.

Online Databases: With the advancement in the software and hardware various methods of data entry have appeared. Technical developed libraries purchase pool of bibliographical data and also extract records of those documents that are added to the library. For transfer of the appropriate entries to the developing database of the interested libraries the catalogue Library of Congress may be acquired on online and CD-ROMs. It provides speed and exactness. So the existing data entered in a standardised format and it can be high level. The library which is bigger and more advantages and the method of data entry are economic.

Data Security: Data acts as a source in a computerised form as the last result of a long cycle of exercise for all library functions. Data on the computer system disc is still exposed to the dangers of viruses and other threats. There are several explanations for the loss of the entered data. In big libraries, the risk factor is higher, since many workers are trained computer experts and the system must be managed by many people. There are many mechanisms involved in data protection. It is most common to cope with floppies from time to time. CDs carried from or without the Internet connexion. The use of such materials is therefore as far removed as possible. In order to run anti-virus software, a normal exercise should be performed on the device to free the viruses of the disc.

7. LIBRARY SOFTWARE

The recent production of IT has provided the libraries with great opportunities. This helps them to perform their tasks by providing timely and current knowledge to ensure that scholarly communications are accessible to the public worldwide, providing a forum by reducing the barriers to access, technological, economic and legal. The libraries must use those resources best in research and teaching in order to defend their position. Libraries should train their workers for the creation of emerging information communications technologies. They have to recognise changing vitality in the communication of academic literature in the interconnected and interactive information world. (Ngozi, 2014) The resources of each library are mutually dependent. The efficient use of the machine depends on the quality of software used on computers in the various works of the library. Through making good use of library software, we may adjust the great power of computer hardware and library resources and employee capacity. Some academic library institutes faced many kinds of problems in 1970. The software vendor did not produce software according to the library's specifications due to the high costs which took too many months to create. There are several different kinds of library specifications and management. Sensitivity is most important in software selection. A successful library software package is currently compulsory for the growth of library services. Many software forms are now eagerly available. (Sabitri Dev, 2007) It is a very challenging job for library employees and other trained computer workers to create software. If the software is just designed to see current needs, many problems may arise in the future. There are several forms of companies currently preparing library applications, but they are very expensive. The programme rate can be reduced with the rising demand. Tech companies are concerned with designing software systems for libraries according to the needs of consumers. It's easy to buy, but a comparative analysis of its use involves a range of software library. The librarian can also see the demonstration before it is purchased. Currently, the industry has various forms of library applications. The selection of applications depends on the library's requirements. Before deciding the software there are following three possibilities, which should be investigated:

- Library software development by the library professionals

- Before selecting study of the readily available software

 - Contact with agency developing software

8. INTERNET APPLICATION IN LIBRARY MANAGEMENT

All library functions taking place behind the sight as well as with the readers of the library includes in library management. The following important functions are given below:

Acquisition

 In acquisition process some are the following functions:

- Educational materials and selection of books.

- From the different heads of departments receipt of approval

- Library budget's operation

- Books and material orders creation on computer

- After creation order of library materials

- Bibliographical details verification

- After verification bills payment

- Complete activity of acquisition

- Documents details transfer for classification and cataloguing

Related to the acquisition Internet also helps in the given functions:

- On Internet order of books can be drifted

- Before order checking of duplication

- Order for books can be send through the web and e-mail

- To help in selection and purchase of library materials address of booksellers distributors and publishers and their catalogues available on Internet.

- Through Internet user can get the e-books and information about the possible availability of the desired print and non-print materials.

- The information available on the Web can be sent to the library through Internet describing to acquisition of books or for comments.

Technical Processing

- According to the standardized schemes classification of documents

- According to the standard code of cataloguing, documents cataloguing

- Subject headings assignment

- Books, cards preparation used in circulation

- Cataloguing details and feeding of class numbers in computers

- New arrivals display in the library

Serials Control

 For the following functions, periodicals section is responsible:

- Budget journals allotment

- On annual basis the list of journals approval

- Action on the heads of departments and suggestions of library committee

- For subscription selection of latest journals

- Through the list of publishers confirmation of the cost and other details of journals

- Procedure of order and payment

- Subscribed journal's receipt

- The subscribed journals available on OPAC

- For the unsupplied issues of journals send remainders

- On weekly basis display the titles of journals

The internet is used to fulfil the above demands in the following way:

- On the Internet communication support for journals

- Implement order web based

- Through the list of publishers selections of journals and their catalogues available on the Web

- Through the Web access to journals by users

- Through Internet access received journal's list

- Union catalogue of journals accessible

- Full text journals observation

Reference and Information Service

To answer the question of the readers Internet is also used in the library. It plays the very important role in the establishment of research these days. Relating to the reference services in the library the main activities are:

- Awareness about electronic resources and the available print

- To answer a question identification of the proper source of information

- Current resources of information knowledge

- Reference tools recognition

- Available on Internet and CD-ROMs right to use electronic databases

- Selective dissemination information make available

In the above activities Internet can help by the following means:

- According to the requirements of the users reference sources identification

- Answering the questions and search of subject directories on Internet

- To facilitate them to search the desired information on their own guiding users to the reference sources

- Available sources recognition and there list for future use

- Available freely on the Web identification of the full-text journals

Library Management

 Under the library administration the given functions are covered:

- For the services of library make policies

- Strengthening CD-ROM, library automation, online services and networking

- Among the different section of the library keeping coordination

- Expenditure's statement

- For journals, books and the other educational materials stipulation of budget

- For the staff of library work details

- Library publications distribution

- For the library employees arrangements of training

- For better services of library deciding standards

 Through the internet the above given exercises can be carried out successfully.

E-mail (Electronic mail): In order to communicate with readers and colleagues librarians use e-mail. With other librarians they share experience, ideas and also participate in electronic discussion group, and to their readers they create and monitor discussion group of interest.

Telnet: To connect to distant computer resources librarian can use Telnet. They share the resources of campus-wide community free nets and information system and also discover other library catalogues, noncommercial database services and access commercial services.

File Transfer Protocol (FTP): In order to obtain software programs, images, sound files from the net and text file transfer protocol enable the librarian and also offer them to their readers. By making library catalogue and local databases, librarian and information professionals add to the internet community which is available on network.

9. INDIAN LIBRARY NETWORK

Higher education Information and Library Network (INFLIBNET) is recognised as a landmark within the information scenario. It was founded and operational in 1991 in 1988 and was recognised as an independent entity in 1996. INFLIBNET is now India's Inter-University Hub. It is the most important national programme initiated by UGC with its headquarters in Ahmadabad. INFLIBNET began as an IUCAA initiative and is engaged with the upgrading of university libraries in India. It links them and information centres with state-of-the-art technology to allow the best possible use of information. INFLIBNET is a leading player in India to promote academic communication among researchers and academics. (Jagdish, 2011) INFLIBNET's key activities and services include the automation of academic libraries and information centres, supporting resource sharing among academic libraries, creating syndicate bases of academia, supporting academic research, information transfer and access, learning and research. These centres serve as the nodal agency in India to promote academic communication to network libraries and knowledge centres in higher academic institutions. As a driving force, technology has taken up a vast number of services for the learning community in the contemporary education system on behalf of UGC. These schemes

include programmes for access to e-resources from higher education to contact for academic substances between professional education institutes, national libraries as well as information services.

10. LIBRARY ROLE IN DIGITAL ENVIRONMENT

IT resources in digital libraries are important to enhance the management of information. Digital libraries act as a framework, support information and access management with advanced technology. It is also known as virtual and electronic libraries. internet application and extraordinary development with high bandwidth access, with low cost memory and processor and the upcoming and quick use of digital content by digital libraries. (Chahal, 2011) The librarian's task is to mediate the needs of users through high-quality information system, products and services in the IT-influenced contemporary society. All information is available through the internet. The librarian's specifications have information about computer networking, digital outlets, various websites and IT internet browsing techniques. Users' criteria are to master the automated information retrieval technique. In the new setting, the librarian would find it very difficult to determine who to refer, how to arrange the collection and how to arrange it. Both librarians and users need thorough knowledge in order for this new environment to be addressed, such as knowledge of electronic information sources, digitalisation, computers, value judgments, translation, editing and transcription skills and the knowledge of patent and copyright laws. A professional must be able to link digital library to the community and make it easy to use, and be energised with appropriate information. It is most important to pick the right person and train him or her in order to gain an information perspective on technology. In particular, a librarian should have experienced the entire digitalization process.

11. CONCLUSION

Information technology application in library and information field has made remarkable progress in the world. Information Technology not only affects the technical services of libraries but also shapes the library services that are being offered to the public. Worldwide libraries have been exploring new technologies for providing better and faster access to vast information resources and efficient information services to their users. Information Technology has offered better solutions to achieve greater level of efficiency, productivity and excellence services in libraries. Similarly, the advances in the sciences and in the application of Information and Communication Technologies (ICTs), particularly the Internet, Intranet and other network technologies have continued to impact positively on the methodologies of library and information service delivery, education and training of information professionals as well as in the area of information seeking behaviour and use. Thus, ICTs have now become common features in all fields. Library and Information Science (LIS) education in this changing society where changes occur due to the emergence and advancement in Information and Communications Technologies (ICTs), requires the LIS professionals to acquire new IT skills for survival, Nigerian LIS schools are expected to brace up for this challenging situation. The influence of Information and Communication Technologies (ICTs) is now manifested in every sphere of human endeavor including the LIS field which is considered as pervasive. The inclusion of ICTs into many professions has led to today's society been addressed as the Information Society. Many tertiary institutions' libraries in Nigeria are not computerized, and are not internet connected, and where some ICT facilities exist they are zealously guarded. The fact that the application of ICTs in Nigerian tertiary Institutions shows consciousness of the significant role ICT can play in delivering library services, even though ICT is not fully embraced by most of the higher education libraries in the country. The problem of plagiarizing other people's work and the sheer volume of information available also makes selection of the most suitable information technology a complex task. ICT offers veritable solution in this regard. It could be concluded that organization of knowledge represent an important intellectual pillar on which the practice of the library profession rests. They constitute the scientific base for the librarian's claim to professionalism. The shorter the entry, the better for automated catalogue records. Adequate and availability of ICT facilities and peripherals have the impact of reducing distance, increasing the volume and scope of information that can be handled or processed within a given time and increasing the ease of searching by patrons.

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