

A study on information and communication technology in libraries

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Abstract

A library is a collection of sources, resources, services, and the structure in which it is housed; it is organized for use and maintained by a public body, an institution or a private individual. In the more traditional sense, a library is a collection of books. It can mean the collection, the building or room that houses such a collection or both. The term "library" has itself acquired a secondary meaning: "a collection of useful material for common use," and in this sense is used in fields such as computer science, mathematics, statistics, electronics and biology.

Public and institutional collections and services may be intended for use by people who choose not to or cannot afford to purchase an extensive collection themselves, who need material-no individual can reasonably be expected to have or who require professional assistance with their research.

Change is one reality with which individuals, groups and organizations must constantly cope in order to survive. The needs for progressive changes in people's attitudes and behaviors are essential for global acceptance. Nevertheless for Library and Information Science (LIS) professionals, a change is often linked with modern information technologies and management issues. Over the past few decades, the nature of library environment and mode of service has changed drastically. In addition to providing materials, libraries also provide the services of librarians who are experts at finding and organizing information and at interpreting information needs.

Keywords: Library, Information, Communication.

Introduction

The central mission of a library is to collect, organize, preserve and provide access to knowledge and information. In fulfilling this mission, libraries preserve a valuable record of culture that can be passed down to succeeding generations. Libraries are an essential link in this communication between the past, present and future. Whether the cultural record is contained in books or in electronic formats, libraries ensure that the record is preserved and made available for later use. Libraries provide people with access to the information they need to work, play, learn and govern.

People in many professions use library resources to assist them in their work. People also use library resources to get information about issues of personal interests or to obtain recreational materials such as films and novels. Students use libraries to supplement and enhance their classroom experiences, to learn skills in locating sources of information and to all cultural institutions, the library provides information and services that are essential to learning and progress.

Libraries must assure the status of information market permitting a free commerce of thought to users, the consumers of this commodity of information. Information is a precious resource that has a finite lifetime. All along we have clamored merely for the right to freedom of speech and expression. Now we must insist upon right to information access. Those promote empowerment of people.

There is a scarcity of resources, putting lot of pressure on library services. Today, we need sustainable librarianship. Sustainability means to be able to sustain with reduced resources, by adopting innovative practices leading to economies of different kinds. Students need to be ascertained and motivated for better reading. This is possible only when

there is a well-knit library attached to the college libraries and continues to perform traditional functions.

The information about libraries provides an overview of the different types of libraries and explains in detail their various collections, functions and services. It also profiles careers in library work, the educations of libraries and several professional organizations for librarians. Based on the objectives of the library, the libraries are classified into different categories like academic libraries, public libraries and special libraries etc.

Academic Libraries are the libraries established in academic institutions to support teaching and research activities of students, researchers and teachers. The real worth and potential of a library is realized when the students feel compelled to be driven from the classroom to the library to quench the thirst that is created in the classroom. Academic libraries must decide what focus they take in collecting materials since no single library can supply everything. When there are particular areas of specialization in academic libraries, these are often referred to as niche collections. Although the library is a collection of information, sources, resources and services, and the structure in which it is housed, there are many types of libraries with their own distinct features and functions. Located on the campuses of colleges and universities, academic libraries serve primarily the students, faculty, and researchers. Some academic libraries, especially those at public institutions, are accessible to members of the general public as well.

The academic libraries include libraries in schools, colleges and Universities. All these cater to the needs of the academic community for supplementing the study and research programs of the institutions and help to conserve and disseminate the knowledge.

Review Literature

Gopinath (2000) identified that the human beings are one of the important factors in library management. The problems or complications faced by librarians are more or less in any type of library. Increased access to knowledge is one of the issues that made the librarians to learn or improve the skills, particularly, information technology. The library professionals should act as a link between knowledge sources and knowledge seekers. To make the libraries user oriented, to satisfy potential users, to adopt with electronic media, to identify the services those can be offered at a price, etc. the library professionals should have training in traditional librarianship and I.T. oriented librarianship. The author noticed the developments in library profession such as generation of information in variety of forms, computer and communication technology, exchange of information, manipulation of information, etc. He suggested the following skills for professionals:

1. Knowledge of specialized reference sources.
2. Specialized analytical skills and techniques.
3. Collection Development
4. Library automation etc.

Malinconico (2001) observed that the libraries and librarianship is rapidly influenced by modern and electronic technologies. The new technologies and services in libraries and information centers will be controlled and managed, whom we call Librarians. The new technologies empowered the library professionals to do things qualitatively and quantitatively. The changes appeared in information infrastructure such as computer, telecommunication networks, increased use of mainframe computers for local library systems, access to additional information, databases through online public catalogues etc. have significant influence on professionals and their attitudes to set, along with changes in the environment. Further, the developments in information technology that are influencing access to information and its management etc. were mentioned and suggested suitable training programs for the professionals. The creation of global village and the role of librarians in information handling were predicted. The urgency of learning computing and communication technology was rightly stressed.

Prem Singh (2001) expressed that change in any field is a continuous and inevitable phenomena, so also in library and information centers. The importance of Information Technology is rightly stressed consequently the traditional manpower requirement can be reduced. I.T. is an amalgamation of following technologies:

- (1) Computing Technology, (2) Data Communication Technology, (3) Document reproduction Technology. To solve many problems, such as information acquisition, information organization, information dissemination, space problems, etc. could be solved to large extent, if I.T. is applied in Libraries. Advantages through application of I.T. are listed as: (1) Redundancies of depth classification, (2) enhance the productivity (3) Enhance the efficiency (4) Provision of quality information services, (5) Provision exhaustive information, (6) Use of National and International bibliographic data bases through networks, (7) Use of optical discs/compact discs, read only memory for faster access to information and saving of space. The author concluded that, training in new Information Technology skills are necessary for library personnel.

Librarians are left with no option but to go for information technologies.

Haravu (2003) explained the library automation in India during the last ten years in which he discussed about the database development and information retrieval services in research libraries. A comparison was made on application of automation in academic, public and research libraries. He expressed that the automation in academic libraries is far from satisfaction and the situation in public libraries in India is still low. Most of the research libraries are under pressure to develop more efficient services and to provide better services. Main focus is given to the in-service training of library professionals at regular intervals, there by the quality of services can be improved.

The limitations of Indian software package are mentioned by comparing the software packages of the Western World. Most of the library professionals are becoming not only computer literate but quite familiar to system analysis, programming and the application of new tools and techniques for library management and information retrieval.

Research Work

With the advent of the Industrial Age and the ability to generate and to handle large amounts of power rendered possible by the invention of the steam engine, men passed from dependence on human labor and hand tools to large and complicated machinery: production of commodities passed from cottage workshops to factories. While inventive genius was called upon to devise new kinds of machines and to handle new types of processes, the craftsmen and artisans were called upon to put these designs into actual practice. They were asked to test and handle these machines and to repair them whenever necessary. The engineer was thus evolved from different streams, first from the artisans and craftsman on one side, who belonged to the lower orders of the less specialized society of the last century, and on the other side from the gentle class who had knowledge of sciences, and had acquired habits of disciplined and organized thinking. Sometimes the two types merged in the same person i.e., the craftsman taught himself sciences, and learnt to think and invent e.g. James Watt or the man with scientific education took to practices with appliances and machinery for the definite objective.

The impulse for creation of centers of technical training came from the British rulers of India, and it arose out the necessity for the training of overseers for construction and maintenance of public buildings, roads, canals, ports and for the training of artisans and craftsmen for the use of instruments and apparatus needed for the army, the navy and the survey departments. The superintending engineers were mostly recruited from Britain and this applied as well to foremen and artificers but this could not be done in the case of lower grades-craftsmen, artisans and sub-overseers who were recruited locally. As they were mostly illiterate, efficiency was low. The necessity to make them more efficient by giving them elementary lessons in reading, writing, arithmetic geometry and mechanics, led to the establishment of industrial schools attached to Ordnance Factories and other Engineering Establishments.

Engineering education, unlike other types of professional education, has not had a long history. Though the ancients and medieval had built large brick and stone houses, castles and huge temples had constructed long highways and aqueducts and dug canals, which show considerable knowledge of what are now called civil and hydraulic engineering and of properties of

building materials, this knowledge must have been derived empirically. Beginnings of mechanical engineering are to be found in the manufacture and use of tools means of transport, simple machinery like lathes and weapons of offence and defense.

In India, first technical education was in the form of survey school and it was around 1794. Later diploma programs were started in 20th century. In India, before Independence there were 38 institutions with an intake of 3670 at the diploma level. Today in India there are 4950 technical institutions at degree level with an intake of 24, 75,000. These include regular engineering colleges, polytechnics, Indian Institute of Technologies (IITs), Regional Engineering Colleges and other institutions.

Hypotheses

The following are the hypotheses formulated in the present study:

1. There are differences in the availability of IC technology and network infrastructure in the engineering colleges among the three districts.
2. There are differences in the availability of IC technology and network infrastructure in the NBA accredited and non-accredited engineering colleges.
3. The attitude and opinion of the library professionals vary among the males and females.
4. The attitude and opinion of the library professionals vary with the age group.

Objectives of the Study

The following are the main objectives of the present study:

1. To understand the IC technology and network infrastructure available in the engineering colleges.
2. To understand the levels of knowledge and use of the library professionals on various aspects of IT like computer technology, network infrastructure, communication media technology, audio-video technology, printing and publication technology and electronic resources.
3. To identify the training needs of these library professionals in the area of Information Communication Technology.
4. To understand the opinion and attitude of library professionals towards IT and related aspects.
5. To examine the differentials in the opinions and attitudes of the library professionals with regard to some selected aspects of IT, by selected background variables.
6. To find out the difference in the opinion and attitude of professionals working in NBA accredited and non-accredited engineering college libraries.
7. To find out the difference in the knowledge, use, opinion and attitude of professionals working in engineering college libraries located in the three districts.

Analysis

Data obtained were entered into a personal computer and were analyzed using SPSS 15.0 v software. The study is designed to be mainly narrative or descriptive and this does not require elaborate statistical treatment of the data. The analysis is mainly focused on bringing out comparison between the three districts, accredited and non-accredited colleges, gender and age of the professional. The comparisons are made mostly by frequencies expressed in terms of percentages and where ever required chi-square and t- tests are applied. The observations are

supplemented by graphical presentations wherever possible for a better understanding of the observations made.

Scope of the Study

The libraries attached to the Engineering colleges are intended to serve the academic staff and students at the graduate level and play an important role in teaching and career development of the students. The resources of these libraries must be adequately developed and efficiently organized to ensure their maximum utilization. The dissemination of information through a variety of services based on the particular needs or requirements of the users should be the main objective of the libraries.

Libraries' Commitment to Information and Communication Technologies (ICTs) has traditionally been led by two complementary beliefs: first, that once new technologies are adopted, services to patrons will be improved; second, that after implementation is completed and the potential of a new ICTs has been achieved, the anticipated fiscal benefits and those associated with efficiency and productivity will begin to be realized.

Technological innovations are introduced to the library with the intention of providing better library service and increasing efficiency of library work. Implementing information communication technology (ICT) in the library depends largely on librarians' attitudes towards it. The application of ICT has caused significant changes in libraries: automated cataloguing, circulation, information retrieval, electronic document delivery, and CD-ROM databases.

The advent of the Internet, digitization, and the ability to access library and research materials from remote locations created dramatic changes by the end of the twentieth century. The start of the new millennium has brought in tremendous change in the library environment through expert systems, wireless networks, virtual collections, interactive web interfaces, virtual reference services and personal web portals. There have been fast and significant changes in librarianship, where digital and electronic libraries complement, and in some cases replace, traditional libraries.

Conclusion

Change is inevitable and the need for progressive changes is essential for Library and Information Science (LIS) professionals, a change is often linked with modern information technologies and management issues. Over the past few decades, the nature of library environment and mode of service has changed drastically. The modern libraries are increasingly being redefined as places to get unrestricted access to information in many formats and from many sources. They are understood as extending beyond the physical walls of a building by including material accessible by electronic means and by providing the assistance of librarians in navigating and analyzing tremendous amounts of knowledge with a variety of digital tools. There is a scarcity of resources, putting lot of pressure on library services.

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