

Paradigm Shift in Library Management with Special reference to Computerization of Libraries

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Abstract: Espousal of the Internet and computing technologies by the entire globe proceeds on a faster pace and has made it an inevitable part of our day to day life and work. The implementation of information technology on a faster pace in all areas of life, including libraries, has led to the analysis on how information technology impacts the nature and service quality of work. The application of computer-based systems in libraries and information units is now a trend. The era of manual system in library operations is becoming extinct. The current developments in information arena tend towards a system named as information communication technology (ICT). The article depicts a clear picture on the shift in Library management with the aid of computerization in Libraries, the impact the automated system on quality of working life , role of computers in the fundamental operations of libraries , resource sharing , database management and role of internet in libraries.

Keywords: Computerization of Libraries, Library Automation, ICT, information technology in Libraries.

I. INTRODUCTION

Computing technologies, communication technologies, Data base management systems, Mass storage technologies , cloud computing are some of the areas of continuous development (*Kaizen*) trends which reshape the library access system, retrieval, storage, circulation systems and user management systems . ICT has impacted every sphere of academic library activities especially in the arena of library collection development strategies, Retrieval Systems and resources sharing. Information and Communication Technology (ICT) has brought significant changes and transformation to academic library and information services. Conventional Library information systems like OPAC, user services, reference service, bibliographic services, document delivery, resource sharing, audio visual services, and customer relations can be provided more efficiently and effectively using ICT.

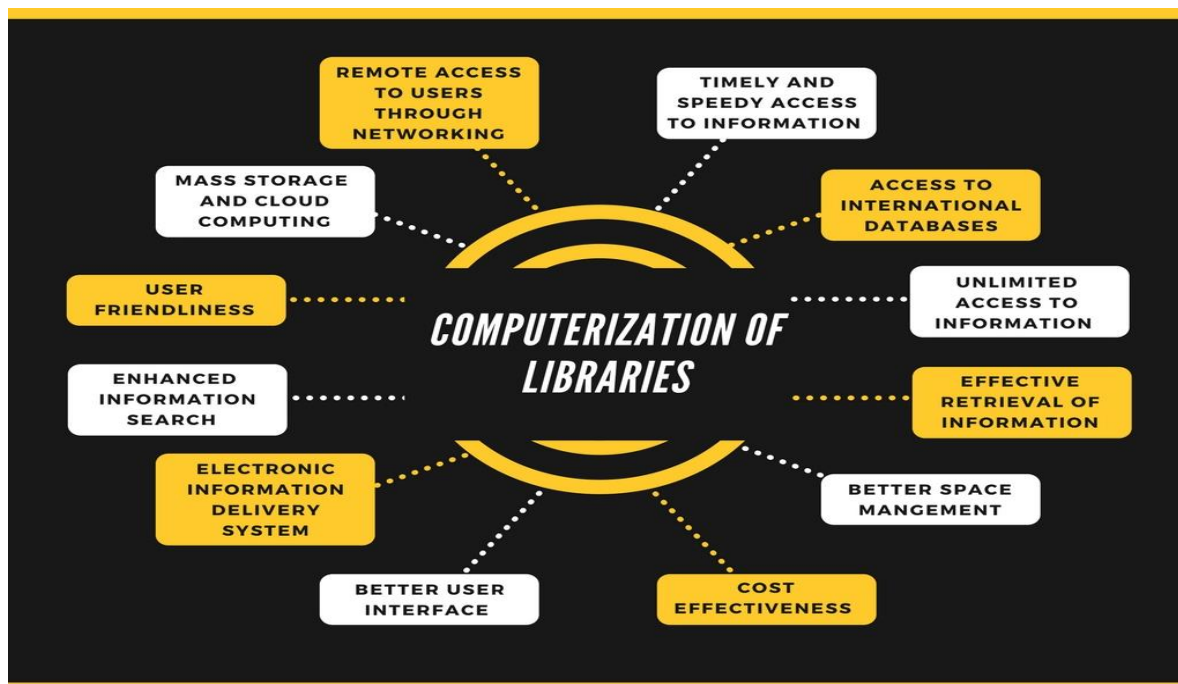
ICT provides convenience of place, Time and cost effectiveness, rapid pace and updation of current information and an effective end user satisfaction. The impact of ICT on service quality can be observed in the method of dissemination, Content clarity and prompt delivery of information services. Emergence of the Internet as the largest repository of information and knowledge has tremendously changed the role of library and information science professionals from liaison role to the role as a facilitator, shift from physical to virtual services . Libraries plan and procure books in a systematic way, preserve, retrieve and disseminate information to satisfy the user needs. The modern era of Information technology has paved way for universal access to information. This is an impact of application of computers to all facets of library operations (Igbinoso&Idiodi 2005). Computer as an information handling system has been viewed as a vital ingredient to curtail delay in information retrieval.

Ashwin (2001) in his book Information Technology and Management emphasized that “the rapidly accelerating advent of information technology is highly powerful, novel, widespread, and influential. Nowadays, electronic communications have become commonplace and indispensable; computers have proliferated becoming increasingly fast, powerful, small and cheap so that now there is scarcely any human activity in which they are not found, bearing an increasing share of the burden of repetitive information processing”.

According to Adams (1986), computer application in the library services had its first origin in the United States of America in 1950. By 1960, computerization of libraries have run when mainframe computer in large organizations were used to facilitate database development, management and information retrieval. Lawal and Abi (2007) quote that “the productive or the benefit of library computerization ranges from improved quality to task services and resource sharing among others.” Awake (2005) pointed that “computerization of library has provided the unprecedented access to mankind’s storehouse of knowledge as never before; the quality of information available to the public is exploding. “The same innovation that abstracts work and increases its intellectual content, thus enhancing the learning of lower level employees, can also, within the context of the choices by which it is adapted, be experienced as a new source of divisiveness and control.” (Zuboff, 1988, p. 389). Zuboff (1988) describes this dichotomy as the ability of information technology to informate or automate the workplace. The capacity of information technology to generate vast amounts of information about the underlying processes of production and administration, allows employers to inform their work force so that employees can do their jobs better. Anaeme (2004) emphasized the significance of library automation as “provision of up-to-date and readily available information and services to users, provision of effective inventory system and reduction of time and effort required to obtain information among others”. Computerization enables the libraries to have universal access to libraries across the nations and the role of internet has removed the boundaries across the globe .Computers have aided Library performance to a greater extent and existing in an era of information explosion, no library can effectively give maximum satisfaction to the user demands unless it adapts to information technology. Major world libraries have installed online public access catalogues (OPACs) since the late 1960s. The ability to search online databases half a world away has also been available to libraries since the mid-1970s; and during the 1980s libraries introduced microcomputers and compact disk technology. The development of fourth and fifth generation computers in the mid-1980s and the subsequent availability the modern computers with user friendliness have facilitated the automation of major aspects of library systems.

II. SINGIFICANCE OF COMPUTERIZATION OF LIBRARIES

It would be a tougher task to handle huge volumes of information with traditional library techniques manual Bibliographies, manual catalogues, Traditional circulation process, etc. Computerization has become essential for bringing a paradigm shift from the traditional library system to a modern computerized system.



To ensure accuracy and a faster pace in transferring data, computerization is essential. Resource sharing is possible only with computerization of libraries. Access to International databases like EBSCO, DIALOG, PROQUEST , MEDLARS, INIS, AGRIS, would be possible only through computerization and networking .Computerization would enable more number of users , user friendliness in library services , online retrieval of information , Effective Space

management, effective procurement of information resources and online access to eBooks and billions of journals. Library Automation is an important application of Computerization and Information technology. Computerization has facilitated in-house activities of libraries like Procurement and acquisition, Indexing and Cataloguing, circulation, inventory and serial control systems to a greater extent. Computerization would result in increased efficiency of library professionals, increased user friendliness, enhanced service quality, faster service, and wide access to information, enhanced resource sharing and improved productivity. Digital library service has evolved as a significant component of modern libraries and information centres. Information technology has significantly impacted the nature and characteristics of information services being offered by libraries. Computerization provides quick access to information to its users round the clock.

III. IMPACT OF INTERNET IN LIBRARIES

Internet has become a significant feature and best described as the conquest of geographical boundaries. With network Connectivity, the capability of retrieving information resources, collection and service has shifted from local to global. Collection development is the prime most function of a library. But with the advent of Internet resources, the future of Acquisition and collection development will have a paradigm shift. This would enable library personnel to satisfy the customer demands on a faster pace.

Internet connectivity enables every individual to act as an author as well as a writer and publisher. Information can be delivered across the world within few seconds by the use of Internet. The flow of information from the author and the user has been done at a faster pace. Orders and Acquisitions are made online, the library professional has to choose publisher, choose materials and resources in the cart and make order and when the payment is made, and the invoice is ready for download. The advantages include availability of more number of vendors, billions of resources across the globe, ease in payments, read reviews, compare prices and negotiate prices. Compared to the traditional methods, this is cost effective, less time consuming, ease to procure by sitting at the library.

Libraries used to collect printed materials and with the advent of Internet, Digital libraries have significantly evolved as a must have for the libraries. Millions of online books, digital copies of books saved in computers are ready for access any time. The important aspect is retrieval of data or information. Even if information is lost, it can be retrieved using software.

Information Search has been simple and user friendly and Google has been the forerunner in online search. Plenty of search engines are available in internet to facilitate online search of books, articles, census and any kind of information. Information is available as documents, texts, pictures and in video formats. Information exchange has become significant as information seekers have access to all available resources across the globe and have the opportunity to seek clarifications in the respective forums, through mail etc. Database maintenance, cloud computing, free data storage, free email, file compression to send big files through online mode have been observed as vital components of Internet. Hence it is inevitable to have Internet facility in every library.

IV. ROLE OF INFLIBNET IN LIBRARIES

INFLIBNET has played major role in introducing a culture of Information Technology by establishing IT infrastructure across Indian Universities. It is involved in computerization and automation of university libraries in India. The primary objectives of INFLIBNET as envisaged in Memorandum of Association are "To promote and establish communication facilities to improve capability in information transfer and access that provide support to scholarship, learning, research and academic pursuit through cooperation and involvement of agencies concerned. Secondary objectives are to establish Information and Library Network (INFLIBNET) a computer communication network for linking libraries and information centres in universities, deemed to be universities, colleges, UGC information centres, institutions of national importance and R & D institutions, etc. avoiding duplication of efforts. To promote and implement computerization of operations and services in the libraries and information centres of the country, following a uniform standard; to evolve standards and uniform guidelines in techniques, methods, procedures, computer hardware and software, services and promote their adoption in actual practice by all libraries, in order to facilitate pooling, sharing and exchange of information towards optimal use of resources and facilities: to evolve a national network interconnecting various libraries and information centres in the country and to improve capability in information handling and service; to provide reliable

access to document collection of libraries by creating on-line union catalogue of serials, theses/ dissertations, books, monographs and non-book materials (manuscripts, audio-visuals, computer data, multimedia, etc.) in various libraries in India; to provide access to bibliographic information sources with citations, abstracts, etc. through indigenously created databases of the Sectoral Information Centres of NISSAT, UGC Information Centres, City Networks and such others and by establishing gateways for on-line accessing of national and international databases held by national and international information networks and centres respectively; to develop new methods and techniques for archival of valuable information available as manuscripts and information documents in different Indian languages, in the form of digital images using high density storage media; to optimize information resource utilization through shared cataloguing, inter-library loan service, catalogue production, collection development and thus avoiding duplication in acquisition to the extent possible; to enable the users dispersed all over the country, irrespective of location and distance, to have access to information regarding serials, theses/dissertation, books, monographic and non-book materials by locating the sources wherefrom available and to obtain it through the facilities of INFLIBNET and union catalogue of documents; to create databases of projects, institutions, specialists, etc. for providing on-line information service; to encourage co-operation among libraries, documentation centres and information centres in the country, so that the resources can be pooled for the benefit of helping the weaker resource centres by stronger ones; and to train and develop human resources in the field of computerized library operations and networking to establish, manage and sustain INFLIBNET; To facilitate academic communication amongst scientist, engineers, social scientists, academics, faculties, researchers and students through electronic mail, file transfer, computer/audio/video conferencing, etc; To undertake system design and studies in the field of communications, computer networking, information handling and data management; To establish appropriate control and monitoring system for the communication network and organize maintenance ;To collaborate with institutions, libraries, information centres and other organizations in India and abroad in the field relevant to the objectives of the Centre;to promote R&D and develop necessary facilities and create technical positions for realizing the objectives of the Centre; To generate revenue by providing consultancies and information services; and To do all other such things as may be necessary, incidental or conducive to the attainment of all or any of the above objectives.” The role of INFLIBNET is significant in Indian libraries and has emphasized the need for computerization of Libraries.

V. COMPUTERIZATION AND SERVICE QUALITY IN LIBRARIES

Service quality in the context of a library system and management may be defined as the gap between Perception on service performance and user expectations .Information technology has played a significant role on the progress and development of human Civilization. The advancement in science and technology has made a tremendous impact and has brought a paradigm shift in the functioning of society. Ramana (2004) brings out the impact and revolution of information technology in increasing the demand, consumption, and significance of information in the current scenario. Librarians face a massive task in managing huge volume of information in storing, processing, retrieving, and dissemination of Information in Libraries. Tremendous advancement in Information Technology in the past few decades have introduced revolutionary changes in the functioning and management of library and information systems across the globe. Information technology has facilitated information explosion in an effective manner. Information Technology not only affected the internal technical services of libraries but also the service delivered to the user. In recent days libraries have been exploring new technologies for enhancing the service quality of libraries to ensure efficient flow of information from the library to the user. Information technology has facilitated faster access to information, especially the use of Internet search engines. Cholin (2005) Observes that Information technology has paved way for greater efficiency in service delivery and productivity of library professionals. In libraries, quality of service is identified in terms of prompt delivery or non delivery of library services. Quality may also be inferred as the fitness of information for the purpose sought. Service Quality must be in conformity to the requirement of the user. Computerizations of libraries have created a positive impact among library professionals. Acquisition of library books and journals have been quicker than ever before through online procurement and the user is given access to the book he requires within a shorter span of time . This has tremendously reduced time consumed in procurement. Hence the service quality in procurement of books and journals has improved through computerization. Inventory control and retrieval of information has been done at ease after computerization of libraries. Books available in the Libraries have been easily traced out by the computer inventory software which highly facilitates the user in searching the information the user has sought for .Computerization has facilitated Inventory control and information retrieval in libraries to a greater extent .Circulation systems in libraries have been computerized and library professionals gain access to the information pertaining to the availability of books,

circulation and return of books , fine management , dues management etc. Storage of online books, soft copies of books have tremendously impacted space management in libraries and effectively ensured service quality of libraries. Computerization is an effective tool in enhancing service quality of library professionals.

VI. COMPUTERIZATION AND RESOURCE SHARING

Resource Sharing is possible by networking computers. Specialized libraries, information centres, Universities, Research centres and academic institutions convert their collection of bibliographies catalogues in machine readable format to facilitate computer aided information services to users. Library Computerization plays a significant role in resource sharing by the following ways;

- Promoting resource sharing between libraries in India by developing and disseminating information and by offering computerized services to the users.
- Libraries, research centres , institutions and information centres covert their catalogues and bibliographies in a machine readable form to provide computer aided information services to users and promoting automation of the functions in their libraries such as cataloguing, circulation, preparation of bibliographies, union catalogue, etc.
- Adapting to a networking system to support library functions like acquisition, cataloguing, classification, inventory control, serial control, circulation and making the data available in the central port.
- Computerization optimizes the utilization of information resources in the form of shared cataloguing, interlibrary loan facilities, collection development , union catalogue production etc
- National Informatics Centre has promoted non-bibliographic databases in India which has enabled institutions to perfect computer and networking technology.
- Resource sharing involves in providing technical assistance to participating libraries in the creation of bibliographic databases also expert panel should provide assistance to libraries. A central host machine should be installed for creating a union catalogue from the participating libraries.
- Resource sharing network should promote inter-library service and courier or postal service should be established to support the sharing of resources.
- All serials should also be published in e-format in online or in CD-ROM.
- Databases should offer abstracting and indexing services which me be retrieved online.

VII. BOTTLENECKS IN COMPUTERIZATION OF LIBRARIES

Following bottle necks have been identified in computerization of libraries

- Non Availability of Adequate funds for computerization to enable IT Infrastructure
- Internet connectivity and low bandwidth problems
- Lack of Computer knowledge among library professionals
- Hindrances due to Copyright and Intellectual property rights

VIII. CONCLUSION

The modern world cannot exist without computers and information technology. Library services have improved a lot by the application of Information technology. Library services have become faster, efficient and cost effective. Service quality in library has undergone a paradigm shift to the next higher level. In-house functions of Libraries viz., collection development, acquisition, cataloguing, inventory control, circulation and resources sharing have seen a dramatic change on the positive side. Library professionals should be given adequate training in handling computerized library operations. Networking of libraries has enabled resource sharing and the information across the globe has been made available at your finger tips .Computerization of libraries would be viewed as a boon to the society at large in the days to come.

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