

Content available at: <https://www.ipinnovative.com/open-access-journals>

IP Indian Journal of Library Science and Information Technology

Journal homepage: <https://www.ijlsit.org/>

Original Research Article

Impact of ICT on academic libraries: Challenges for library professionals

Ranjeet Bhanudas Pagore^{1*}

¹MSP Mandal's R. B. Attal Art's, Science and Commerce College, Beed, Maharashtra, India



ARTICLE INFO

Article history:

Received 16-08-2024

Accepted 12-11-2024

Available online 04-12-2024

Keywords:

Computerized library service

Information services

Automation

Library services

ICT environment

ABSTRACT

The implementation of Information and Communication Technology (ICT) has significantly enhanced the efficiency and effectiveness of service delivery within libraries. The integration of ICT resources is crucial in academic libraries as it facilitates resource sharing, improves service delivery, saves time, provides marketing opportunities for services, and ensures quick and easy access to information while keeping stakeholders updated. With the assistance of ICT, various tasks in academic libraries, such as accessioning, cataloguing, periodical control, stock verification, and information retrieval, can be performed more efficiently using specialized library software. Library can provide communication services to user by means of Audio, Audio Visual, Tele textbook, Fax, Online hunt, E-mail networking, social spots, Search machines, Teleconferencing, Cellular phone, Voice correspondence. The role of ICT is pivotal in the advancement of academic libraries.

This is an Open Access (OA) journal, and articles are distributed under the terms of the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License](#), which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprint@ipinnovative.com

1. Introduction

In today's information and communication technology (ICT) environment, relevant data is extremely important for the advancement of society and libraries. Data and correspondence innovation are the programming, organization and media for assortment, Information Scientist handling transmission of data in text based, pictorial sight and sound designs. ICT is a term utilized in the library to allude to use of computer systems and different innovations to library practices like acquisition, stockpiling, association and spread of data. The world has turned into a worldwide town and with ICT, numerous library users presently approach tremendous data like an ocean, without wasting time or energy.^{1,2}

Information Communication Technology (ICT) is the mix of science and innovation and practice of sending data. In a particular sense, ICT implies correspondence

of data through innovation, in which data is sent through electronic contraptions and signs. In this process, the data or message like live speeches, photos, live streaming and sounds is first changed over into signs and afterward sent through electronic media. It supports the achievement of current period, and it give college with effective foundation libraries should have the option to profit from innovative advancement. To have the option to do as such, custodians must be instructed with hand with ICT foundation, ICT advancement lead to change in library work. ICT assumes a significant part as a connection among library and users. ICT contributes to practical development of library and their part in the shift towards information-based society.³

Dr. APJ Abdul Kalam, Ex-President of India have offered his viewpoint on the worth and force of information during address to the Nation on Republic Day in 2003 as Our society is emerging as knowledge society and efficient utilization of his existing knowledge can create comprehensive wealth of nation and also improve the quality of life whether a nation has arrived at the state

* Corresponding author.

E-mail address: pranjeet23@gmail.com (R. B. Pagore).

of knowledge society is judged by the way the country effectively deals with knowledge creation & development in all sectors like IT, industries, agriculture, health care etc.

The reallocation of tasks among librarians in a library system that uses ICTs will undoubtedly occur, and it will create new uncertainties at the start. Librarians' work is based on fulfilling their duty in accordance with society's expectations and specifically, the requirements of the library's patrons. Library services have undergone significant changes during the ICT era and it is evident that ICT has a direct impact on them. Librarians understand their role in libraries and strive to work with recent automated technology. Libraries are in a state of transformation and are re-engineering their services, re-training their staff and re-organizing their work space in line with changing information systems and better and more effective information communication channels (ICTs). Recently, efforts are being made to establish digital /electronic libraries around the world. Application of new emerging ICT and virtual libraries have made it possible for users to access knowledge with a click of a mouse. Thus, the basis of a librarians work lies in the pursuit of their duties in accordance with the known society in general and the needs of users in particulars. Librarians by their interventions direct the speed and direction of the society and the condensation role no longer applies. Therefore, library professionals must learn new areas of information technology (ICT), intellectual property right (IPR) and new subjects to maintain their identity as they are no longer just providers of information but catalysts for development.^{4,5}

The foundation of libraries is based on the pursuit of this responsibility, as per the recognized beliefs for society as a whole and the specific needs of the library's patrons. In the current information and communication technology (ICT) era, library services have undergone significant transformations, and we have witnessed the immediate impact of ICT on these services. librarians are also realized their role in libraries and they try to match with these ICT based technology and library staff play vital role in transferring the traditional library services into modern ICT based services. Because technology provides many options & possibilities to enhanced, convenient, value-added and on-demand library services.^{6,7}

2. Computerised (ICT Based) Library Services

ICT play significant role to provide document delivery services in academic libraries. Computer, Internet Library Automation Software, Digital Repositories and online databases are most important to provide ICT based services in any libraries. Then the library gives ICT based service to the users according to their needs. These services are,^{3,8,9}

1. OPAC Service
2. Internet Service / Networking Service

3. Online Reference Service
4. Multimedia files
5. Library Consortia
6. Online Reservation Service
7. Online / Offline Databases
8. Electronic Mail Services
9. E-Publication (E-book, E-journals, E-newspapers)
10. INFLIBNET N-List Consortia
11. News Clipping/Scanning Service
12. Social Networking
13. Information Literacy
14. Current awareness service & SDI
15. Abstracting & Indexing Services
16. Short Message Service

In this way, ICT can provide better services to users and connect with them like never before.

Academic libraries use information and communication technologies to provide quality services to the users.

3. Impact of ICT-Change the Role of Library Professionals

The role of writers has changed with the impact of information and communication technology. Librarians have basic and soft skills. Important skills librarians have such as attitude, behaviour, dress, body language, time management, problem solving, patience, adaptability and confidence, teamwork. ICT has had a revolutionary effect on library collection management, changing how libraries gather, arrange, store, and make resources available. Digital preservation, improved organization and metadata, digital acquisition and access, and data analytics have all helped to make collection management procedures more effective and user-focused. The breadth and depth of library collections have also been increased through the integration of open-access resources and enhanced resource-sharing capabilities. Libraries need to be flexible and open to new ICT solutions as technology develops further in order to keep their collections current, varied, and user-friendly in the quickly changing digital environment.^{10,11}

4. Advantages of ICT in Libraries

1. Information and communication technology makes the work of libraries easier, faster, cheaper and more efficient.
2. It helps to manage data and can be retrieved more easily from computer systems
3. Remote access is enabled through network systems
4. The main purpose of digitization is to save space and time
5. The best part of ICT work is that it saves time of users and library Staff.

5. Challenges of using ICT to Deliver Library Services

Libraries must have sufficient capacity to maintain modern ICT equipment, such as computers, servers, scanners, copiers, and software, and to balance e-library services such as e-journals, e-books, and digital libraries with traditional library services. It is recognised that the adoption and use of information and communication technology (ICT) in libraries can provide many benefits, but there are also many problems that need to be resolved.¹²

Few of the Challenges are as follows:

1. **Limited Financial Resources:** The securing and support of the important gear relies upon the accessibility of asset. Generally, there is lack of assets in numerous libraries accordingly, prompting failure to gain, the fundamental ICTs that would empower them interface with the web, make membership to different internet-based data set and get programming licenses.
2. **ICT Facilities and ICT Skills :** The computers are utilized to get and store huge volumes of data. In like manner, the web openness is made conceivable using PC, they are utilized to get to Online Public Access Catalogue (OPAC) and furthermore to perform numerous other routine exercises in the library.
3. **Lack of ICT Policies:** There is absence of efficient ICT strategy in emerging nations and it blocks the arrangement of ICT. Libraries operating in an information and communication technology (ICT) environment collect and store confidential information, including customer records and financial information, which makes them vulnerable to cybercriminals. Libraries must take the necessary steps to protect their digital assets from malicious software, viruses, and malicious hacking attempts. They must also ensure the security and privacy of their patrons' information.
4. **Inadequate maintenance of ICT equipment:** Most libraries do not have sufficient space and resources to store ICT equipment. In addition, most ICT equipment in many libraries is not adequately maintained as maintenance costs are often high. Also, there is no maintenance culture.^{13,14}

5.1. Power supply

The operation and performance of ICT equipment depends on the power supply. Electricity is said to be the lifeblood of electronic libraries worldwide. Therefore, high-speed electronic equipment will help Academic libraries in the 21st century to provide quality electronic resources.^{7,15}

6. Various challenges face by the library professionals

1. Insufficient bandwidth
2. Rapid Technological Change
3. Library staff need ongoing training to effectively use of new technologies

4. Managing and maintaining multiple systems and platforms can strain resources and require specialized technical support
5. Making digital resources accessible to users with disabilities requires careful consideration and adaptation of technologies and resources
6. Physical space of the library with the increasing demand for digital resources can lead to challenges in resource allocation and space utilization
7. Developing and maintaining partnerships with technology vendors, academic departments, and other libraries can be challenging but is essential for effective ICT integration.
8. Securing adequate funding for ICT infrastructure, training, and support can be difficult, especially in times of financial constraints.

Addressing these challenges requires a proactive approach, ongoing professional development, strategic planning, and collaboration with stakeholders to ensure that academic libraries can effectively leverage ICT to enhance their services and support their users.¹³

7. Conclusion

Information service skills are extremely important to make the information in the library more accessible in any form and therefore students should undergo relevant training such as computer education, information literacy education to effectively use the resources of the academic library. The development of ICT has changed the mode of information storage and retrieval as well as dissemination of information to library users. The advent of ICT has significantly transformed the information landscape. Librarians need to acquire the necessary knowledge, skills, and tools to manage digital information effectively, which is crucial for the library's success in serving as an essential information support system for the community. The effectiveness of both the library and its professionals hinges on the quality of the services provided. ICT represents a new paradigm that enhances library operations and services, making it essential for library professionals to stay current with technological advancements to remain relevant and effective in their roles.

8. Source of Funding

None.

9. Conflict of Interest


None.

References

1. Babu T, Ashok. Vision of Future Library and Information Systems. New Delhi: Viva Books; 2007. p. 288.

2. Gulati A. Use of information and communication technology in libraries and information centres: an Indian scenario. *The Elect Libr.* 2004;22(4):335–50.
3. Cardina C, Wicks D. The changing roles of academic reference librarians over a ten-year period. *Ref User Serv Quart.* 2004;44(2):133–75.
4. Kumar B. INDEST Consortium: Revolutionizing Academic Libraries in India; 2006. Available from: <https://icolc.net/participating-consortia/indest-aicte-consortium-merged-e-shodh-sindhu>.
5. Sastry HG, Reddy LC. Digital Repository Software Packages: An extended architecture for image handling in open-source packages. *Int J Inf.* 2010;2(2):115–21.
6. Ademodi DT, Adepoju EO. Computer skills set of librarians in Nigeria: Confronting the stereotype. *Ann Libr Inf Stud.* 2009;59(2):128–34.
7. Vinitha K. Impact of Information and Communication Technology on Library and its services; 2006. p. 1–7.
8. Adebayo OA, Olayinka AY, Adeniran RT. The role of ICT in provision of library services: a panacea for sustainable development in Nigeria. Available from: <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=5305&context=libphilprac#:~:text=ICT%20which%20remains%20an%20enabling>.
9. Pagore R. Marathwada Shikshan Prasarak Mandal's college library automation: A study. *IP Indian J Libr Sci Inf Technol.* 2018;3(1):56–60.
10. Braun LW. New roles: a Librarian by any name. *Libr J.* 2002;127(2):46–9.
11. Mishra L, Mishra J. ICT resources and services in university libraries. *Int J Digit Libr Serv.* 2014;4(3):243–50.
12. Patil PG. Impact of Information Communication Technology (ICT) on Academic Library Services. *Int J Sci Res Multidiscip Stud.* 2018;4(1):24–7.
13. Guha N. ICT for continuing professional education for LIS professionals; 2006. Available from: https://drtc.isibang.ac.in/bitstream/handle/1849/222/paperO_nabonita.pdf?sequence=1.
14. Kumar S, Biradar BT. Use of ICT in college libraries in Karnataka, India: a survey. *J Prog.* 2010;3:271–82.
15. Anjali W, Vinchurkar AW, Vaishali C. Library Professionals' Computer Literacy and Use of information Technology Application in College Libraries of Amaravati City. *IASLIC Bull.* 2005;50(3):131–72.

Author's biography

Ranjeet Bhanudas Pagore, Librarian  <https://orcid.org/0000-0003-1604-6479>

Cite this article: Pagore RB. Impact of ICT on academic libraries: Challenges for library professionals. *IP Indian J Libr Sci Inf Technol* 2024;9(2):128–131.