

Emerging ICT Trends in Library and Information Science

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Abstract: *The trending Technological development in the field of library and information science (LIS) is constantly changing with new trends and innovations. LIS professionals in keeping pace with the fast changing world are coming up with innovative methods to run the libraries efficiently.*

One of the latest trends in LIS is the adoption of digital technologies to manage right from library collections building and services, including the use of online reference services and digital archives. Technological like QR code for library collection development and resource promotion. LIS professionals are also becoming aware of plagiarism check software. Another important trend in LIS is the growing focus on data management, with libraries providing services such as data duration and analysis. User-centered services and personalized experiences are also becoming more prevalent in library services, and libraries are expanding their outreach efforts to engage with underserved communities through social media and other platforms. These latest trends in LIS demonstrate the field's continued evolution in response to changing user needs and technological advancements. Technology will keep on advancing and new trends will keep on emerging. LIS professional are ready to welcome impending new trends. The paper discusses recent trends in Librarianship with various latest technological tools and their uses in Library and Information science.

Keywords: Collection Management, Electronic resources management, Augmented Reality, Digital Displays, Library Trends, QR Code, E-resources, Plagiarism.

I. INTRODUCTION

Libraries is known to be 'SOUL' have been an important part of societies or institution for centuries, serving as repositories of knowledge and providing access to information and resources. With the advent of Information and Communication Technology (ICT), libraries have undergone significant changes in the way they operate and provide services. Libraries are now called "Information and knowledge resource centers. One of the most significant impacts of ICT on libraries is the digitization of information. With the widespread use of the internet and digital technologies, libraries have been able to digitize their collections and make them available online. This has increased access to information and resources, allowing users to access materials from anywhere in the world at any time. In addition, digital collections can be easily searched and organized, making it easier for users to find the information they need. ICT has also transformed the way libraries provide services to their users. Libraries now offer a range of online services, such as online catalogues, e-book lending, and online reference services. These services provide users with greater flexibility and convenience, allowing them to access library resources from their homes or workplaces.

This shift has brought many changes in the functioning of libraries. We would discuss here some of the recent trends in library and information systems.

II. OBJECTIVES OF THE STUDY

- To recognize use of latest technological tools in libraries
- To explore various types of recent technological tools such as Internet of Things, Federated Search.
- To understand the process of Electronic Resource Management in Libraries
- To discuss the role of libraries using technology and latest trends.

III. LATEST TRENDS IN LIBRARY AND INFORMATION SCIENCE

These are some of the latest trends in library and information science, and they are likely to continue to evolve as technology advances and user needs change.

3.1. Digital library: Digital library can be defined as one in which all the texts and spoken books are stored as digital files, which will take a long time to achieve. A digital or virtual library is the online access provided by other facilities or it may mean a website which offers links to various sites with a large store of information in a catalogue or archived form. The term may refer to all material related to any subject that is available on the Internet. A digital library generally is part of a network with linkages to other libraries. It is a library in which a significant proportion of 5 the resources are available in machine readable format (as opposed to print or microform), accessible by means of computers

3.2 Collection Management: Collection management refers to the process of acquiring, organizing, maintaining, and evaluating materials in a library or information center. Collection management is an essential function of library and information science as it ensures that the library's resources are relevant, upto-date, and meet the needs of its users. The following are some of the essential components of collection management:

3.3 Electronic Resource Management (ERM) in Libraries: Electronic resource management (ERM) is the process of acquiring, organizing, maintaining, and evaluating electronic resources, including e-journals, e-books, databases, and multimedia resources, in a library or information center. ERM is becoming increasingly important in libraries as electronic resources continue to grow in popularity and become essential tools for research and information access.

3.4 Cloud computing in Libraries: Cloud computing is the use of remote servers on the internet to store, manage, and process data instead of relying on a local server or personal computer. Cloud computing has become increasingly popular in libraries as it offers numerous benefits, including cost savings, flexibility, scalability, and accessibility

3.5 Federated search (FS): Federated search (FS) is a search technology that enables users to search multiple databases and resources simultaneously through a single search interface. FS allows users to search multiple resources from different publishers, vendors, and platforms at the same time, without the need to navigate each resource's interface separately. FS is becoming increasingly popular in libraries as it provides users with a more efficient and effective way to search for information. Federated search is a powerful search technology that allows users to search multiple resources simultaneously through a single search interface.

3.6 Internet-of-Things (IoT): The Internet of Things (IoT) refers to a network of devices, sensors, and machines that are connected to the internet and can communicate with each other. IoT enables the collection and exchange of data between devices, which can be used to automate processes, improve efficiency, and enhance user experiences. IoT has many applications in various industries, including healthcare, agriculture, transportation, and manufacturing. In libraries, IoT technology can be used to improve the user experience, enhance collections management, and streamline operations.

3.7 Digital Displays: Digital displays refer to electronic screens that can display images, videos, and other digital content. In libraries, digital displays are used to communicate information to users, promote library services and events, and provide access to digital collections.

3.8 Gamification/Augmented Reality: Gamification refers to the use of game elements, such as points, badges, and leader boards, in non-game contexts to motivate and engage users. In libraries, gamification can be used to promote library resources and services, encourage reading and learning, and create a fun and engaging user experience.

3.9 Institutional Repositories (IR): IR defined by Library of Congress as 'Software and associated rules used to capture, structure, provide access to, and preserve digital materials produced by an organization or community.' (Congress 2005) IR is becoming a good showcase of the quality of research work carried out. IR consists of born digital objects as well as print material converted into digital objects. Creating an IR should be done meticulously by properly planning all the strategies. There are Open source softwares e.g. D-Space, Greenstone, Fedora, Service centred softwares e.g. Eprints Services, Open Repository or depress and commercial softwares. Each category has its own advantages and disadvantages. After accessing the technical, financial as well as human resources that an Institute has, institutes choose the softwares as per their needs. This has enabled the institutes to exhibit or present their research outcome or precious possessions to the world outside of their Institution. Thesis, Dissertations, Research papers which

are an integral part of library collection has received its appropriate abode. It increases the usage & impact of the research done in the institute.

The Ministry of human Resource Development, India has initiated a very effective platform, which is called “National Digital Library of India” to integrate several national and international digital libraries in one single web-portal in May 2016. (Wikipedia n.d.) As of today 16,400,975 items are hosted in NDL India.

3.10 Acquisition of e-resources: Modern information resources are in digital format. Today, only print resources are not sufficient to provide all-round knowledge. Therefore it has become inevitable to acquire resources in electronic/digital format. Digital/electronic resources has its advantages:

- Remote access
- Simultaneous access
- No wear & tear

Although e-resources are expensive, but looking at the advantage they provide it is the need of the hour. There should be a selection criteria for acquisition of e-resources which covers following points:

Content — Quality, uniqueness, relevance, overlapping, relation to print collection, frequency of updating, target audience.

Licence conditions: Access to view, print, and download documents, no of simultaneous users, perpetual right to information that has been paid for.

User friendliness, Exportable capability to such bibliographic management systems as Ref Works, Endnote etc., web version is preferred compared to .exe based, global access, all browsers and all devices compatibility, prompt customer support, usage statistics.

It is observed that LIS professionals are learning to handle the database vendors effectively taking into consideration all the above points.

The Ministry of human Resource Development, India has initiated a project called “eShodhSindhu” where negotiations are done at national level with the database vendors. Institutions all over India have benefited from this initiative. This is a great support from Govt. as database vendors now cannot exploit the Institutions.

3.11 E-Books: Earlier acquisition of e-resources majorly comprised of e-journals. But today e-books procurement has also increased tremendously, due to increase of books published in digital format. Even books in regional languages are now available in digital form. There are various commercial portals that provide e-books at the same time there are quite a few free e-books providers. Some e-books are readable online and some require e-book reader. There is a trend of providing e-book reader with pre-loaded e-books (mainly textbooks) in academic Institutes.

While procuring e-books sometimes vendors create a business model. The books that are there in the model must be purchased even though some of the book might not be relevant. Handpicked books sometimes carry more cost than print books. LIS professionals have to skilfully handle this matter. One must admit here that, even though there is a modern trend of reading e-books, print books have still not lost their sheen. Therefore, libraries have to balance between e-books & print books. The N-LIST program of INFLIBNET provide about one lakh e-books at very low cost. Govt. affiliated Institutes are making use of this facility for their users.

3.12 Digital Reference Service (DRS):Reference librarian always played a very crucial role. In today’s environment they have even greater role to play. In yester years, information that any library has was limited to that particular library. At the most they used to provide added information from some other Institutions as per the need. But today information has no boundaries. Almost everything is available on the web. Hence the area of responsibility of a Reference librarian has also expanded. Searching any information from the ocean of information on the internet requires specific technical as well as logical skills. Not every user possess that quality. Besides there are some technical requirements in order to access a particular information that is known only to the library staff. I would say Reference service today plays a very crucial role, he is the navigator of an Institute to show the path of the right information to the users. With the help of technology, reference services can be provided remotely by instant messaging, e-mail based service, ask librarian or chat reference service on library portal etc. This new aspect leads to the next trend in libraries and that is...

3.13 Information Literacy: Not only the Reference librarian, but the entire staff need to know the basic information regarding availability of the resources in the library. Earlier whatever information that was there in libraries was in

physical format and so it can be seen and therefore was known to all. Today orientation programmes of users as well as staff is equally essential. Every member of the library staff should have the basic knowledge of the resources that are subscribed by library.

Information Literacy programs for users and staff is must. It is seen that library professional are becoming aware of this fact and initiating actions. The importance of information literacy program is so much that, if you consider library resources as an entity, information literacy program is oxygen. Without it the investment in the resources is dead investment.

3.14 Presence on Social Media: The collection of libraries is worth when it reaches its users. Promotion of library resources is very much required. Social media has the potential to carry out this function extremely effectively. Today the libraries are making their way on social media platforms, like Facebook, twitter, Instagram, Pintrest, YouTube, Flickr, Linked-in etc. Mostly shared topics are event information & pictures, services, collections, new arrivals, reference service, local interest issues. (Molly 2017) Innovative means like quiz, contests should be initiated as to engage the users. Social media should be considered as boon and used aptly by library professionals.

3.15 Evidence based librarianship: Librarian is a dynamic support for the teaching learning and research work in an Institute. In order to provide quality guidance, librarian himself should understand the process of research. Most of the library professionals are taking up this seriously and publishing papers in renowned journals, thus being abreast with all the factors associated with the research work. Hence now they are better equipped with the knowledge of data collection, repository guidelines, publishing issues etc.

3.16 Plagiarism Check: Due to the burst of digital information, there is also a surge in research work. In a way it's good. But at the same time the quality of the research work published should not suffer. Librarian has to take up this responsibility to guide and facilitate the researcher to carry out plagiarism check. Plagiarism refers to the reproduction of content or ideas that are not original without sufficiently attributing the same to the original source. Plagiarism is considered as one of the most serious academic offences. (Gasparyan AY 2017)

The draft regulations, named as the "UGC (Promotion of Academic Integrity and Prevention of Plagiarism in HET) Regulations, 2017 (UGC) rightly mandate the requirement of an infrastructure to help educate scholars about the evils of plagiarism as well as establish a system to help identify plagiarism in academic writing.

Commercial software for plagiarism check like, Turnitin, iThenticate are costly but their reports carry more weightage. There are numerous free softwares available on the internet, users should be made aware of those softwares. LIS professionals are performing a crucial role in this area of educating scholars in this regard.

3.17 QR codes: Tech savvy generation of today needs everything on their fingertips. QR (Quick Response) code is machine readable code typically used for storing URLs. It can be called as advanced version of bar-code technology. QR codes are two-dimensional images which are likely to completely change and improve library services in terms of delivering instruction, marketing their services, connecting customers/financial supporters to inform about library materials. (Lambodara Parabhoi 2017) QR codes can be easily created through free software's. It has to be scanned by a camera on a smartphone. It requires internet access. There are several ways to use the QR code in Library environment.

- * To give directions to the user
- * To provide brief information to user
- * To inform of required documents
- * To promote the library services
- * To create link to all the resources available in the library
- * To create link to virtual tour of library sections
- * To use in library exhibitions like Videos, Audios, and websites
- * QR code is used to provide text messages for reference service and contact information of library staff as well as library patrons (LambodaraParabhoi 2017)

IV. CONCLUSION

The ever changing Libraries are increasingly adopting a user-centered approach to service delivery, which emphasizes the importance of understanding and meeting the needs of library users. The trending issues and emerging technologies poses challenges not only to the library and information professionals but to the users, patrons and scholars and the

publishing community. ICT and library science has led to new and interesting areas for LIS professionals which require different skills like, communication, designing, content writing. Today LIS profession has become dynamic like never before.

This approach involves actively engaging with patrons, feedback, and tailoring services to meet specific user needs. Emerging web technology which will automatically brings new areas of skill acquisition for librarians in order to bridge the gap. Libraries use latest technologies for effective services such as Effective collection management ensures that the library's resources are relevant, up-to-date, and meet the needs of its users. ERM ensures that electronic resources are accessible, discoverable, and meet the library's mission and objectives. Libraries can use cloud computing for storage, library management systems, digital preservation, virtual reference and collaboration tools, data analysis and visualization, and other functions. IT technology helps libraries improve the user experience, enhance collections management, and streamline operations. Digital displays are a versatile tool that can be used to promote library services, communicate information to users, and enhance the user experience.

Hence technology will continue to be an important part of future libraries and the libraries have a scope to get modernized with latest trends and achieve its goals of user satisfaction in efficient and effective ways.

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