

Research Paper

# Amalgamation of Information Technologies with Libraries

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**Abstract:** - The different dimensions of ICT provide LIS services that are highly valuable for its users. The digitization of libraries has brought about vast changes in their services. Assimilated information made the library work fast, easy, affordable, accessible, and effective. Information overload is made as information retrieval through computerization. The computerizing of libraries enabled their access in remote areas and provided unlimited information to the users. Online libraries give access to millions of electronic files and different repositories. The ever-growing knowledge needs IT to improve the library services like giving quick and easy access to various books, archives, and images. Information literacy plays a vital role for Learners in the world of ICT by resolving problems, enhancing thinking ability, and contributing to effective communication skills. Thus digital libraries are becoming norms as they combine both technology and information resources to be accessed in any place without any physical barriers. This article focuses on the different library operations and their impact on libraries, library services, and their users' experiences.

**Keywords-** The Information Communication Technology (ICT), Library & Information Services (LIS), Library Services, Information Literacy, and Digital Era.

## 1. Introduction

In the 21st century, innovation in Information Communication Technology (ICT) changed our lives. The technological revolution resulted in the evolution of information and communication Technology. ICT has brought changes in every aspect of the modern era along with Libraries. Information is needed for study, research, career, healthcare, problem-solving, recreation, and lifelong learning. To meet the needs of library users, libraries provide a range of services such as Reference and Information Services. As the internet has a major impact on finding and accessing information transforming reading habits among its users. In this scenario, libraries are trying to cope with their services to these realities serving the needs of the patrons. Thus the main objective of the library services is to offer a free book reading facility, develop a healthy relationship with the reader, disseminate knowledge from different subjects, and topics, and preserving of the information. The information which is thus preserved, evaluated, organized, used, and

communicated in various formats transforms into information literacy. Digital libraries became significant with improved information sharing, wider access, and preservation. ICT has made it possible to access information such as e-books, e-journals, articles, conference papers, research reports, technical documents, statistical information.

### 1.1 The Information Communication Technology (ICT)

The concept of ICT includes digital tools such as computers, laptops, desktops, TV, mobile phone, the internet, Email, LAN, ISDN Video conference, data projectors, software programs, etc., ICT has brought distinctive changes and transformed libraries into information centers. Emerging of the internet changed the role of traditional libraries and their professionals. Today most of the libraries and information centers of India have started using computers in organizing their collection, housekeeping operations, processing, retrieval, and



dissemination of information to the users. This library automation covers all library services such as acquisition, serial control, cataloging, circulation, references, and administrative work in library and information science. An online library without a physical location can access millions of electronic files and new retrieval. In the mere future libraries will undergo a substantial transformation, becoming hardly recognizable, yet regarded as libraries. Instead, there will be intelligent machines of extreme quantum computing power containing all knowledge recorded forever.

## 1.2 Library and Information Services

Information needs of the library user are met, with provided services such as Library and information services. The impact of ICT has assisted Library and Information Science professionals to provide value-added services and give more access to the available resources. Library management services include classification, cataloging, indexing, and database creation. LMS software which was designed to manage all library housekeeping activities. Every library has three basic functions Section of Information, Collection of Information, and Organization of Information. And the different services rendered are

1. Library Management Instructions
2. Answering Queries
3. Adjuvant Works
4. Eulogize about Library

## 1.3 Library Automation Services:

Automation services are classified into two categories – organization of all library databases and all housekeeping operations of the library such as acquisition, cataloging, indexing, circulation, serial control, library administration, library management, and online public access catalog (OPAC), CD-ROM Database searches, resource sharing, network, and internet, etc., Automation makes work easy and saves time and manpower. The technology minimizes human intervention in their operation.

### 1.3.1 OPAC

ICT has made possible of Online Public Access Catalogue which is a computerized version of a library catalog used to locate the book, non-book material, and whether required information is available or not. It saves time, and space and is easy to access on the local intranet, extranet, or even the internet.

### 1.3.2. Acquisition

This is the process of selecting and acquiring selected materials, and maintaining library collections like print items, books periodicals, digital items-CD-ROMs, and DVDs... has become more simple and easy with ICT. Placing orders, duplication checking, price checking, etc., are done using ICT. Subscriptions of journals/magazines are placed through the internet, and downloading invoices from the websites have become faster and easier.

### 1.3.3. Circulation

Circulation is checking out library materials for the users. This control is an important function of any library. Library automation tracks registrations, members, issues, returns, renewals, and reservations of the documents. Librarians have brought about the following systems:

- Ledger System
- Permanent Slip
- Browne Charging System
- Newark Charging System
- Token Charging System
- Photographic Charging System
- Visual-Record Charging System
- Tab Charging System
- Computer-Based Charging System

### 1.3.4. Inter Library Loan

It's the process where the library borrows materials from or supplies materials to another library. All the libraries do not have a sufficient collection of books to satisfy their users. Libraries make an agreement with each other to share their resources on a reciprocal basis. Under this Inter-Library loans are given to the users.

### 1.3.5. Reference Services

According to right contact means, contact between the right reader and the right book at the right time and in the right personal way. Reference service establishes contact between the reader and the book. Reference services are personal assistance given to the user seeking information. It includes 3 major services Information services, Instructional services to find the required materials, and Guidance in finding the appropriate information. Electronic information service has made queries answered through telephone for the service provider to the users. The major services to be provided are:

- Instruction in the use of the library
- Providing general and specific information.
- Literature search
  - Reader's advisory service
- Complications of bibliographies, preparation of indexing and abstracting services...

### 1.3.6. Networking

Innovation of ICT in Libraries, helps to access information through online databases, E-Journals, E-Books, and publications through a networking system.

### 1.3.7. Bibliographic Service

It is the gamut of documents arranged in a logical way to meet the needs of the users. Oxford university defines it as the systematic description and history of books, their authorship, printing, and publishing editions. It covers records of the book with citations which can be updated at regular intervals. Enormous bibliographies are distinguished in character and function like

- Subject-oriented bibliography
- History-based bibliography

- Universal and comprehensive type of bibliography etc.

### 1.3.8. Abstracting services

Modern era is Christened the digital era as it is generating a quantum of information. In order to organize this quantum of information Abstracting services are selected to be organized into the quality and knowledgeable services. Abstracting services intend to facilitate summarizing the topical areas of interest. The other kinds of abstracts are author abstract, locative abstract, telegraphic, and auto abstract.

### 1.3.9. Indexing Services

An Index is a well-organized tool that aids in the acceptance of sizeable improvement in quality required between the information source and the user. Among many services, a few indexing services are listed below-

- Book indexes
- Collection indexes
- Magazine indexes
- Journal indexes
- Citation indexes

### 1.3.10. Current Awareness Services (CAS)

Germane information is made available in Journals, Newsletters, Micro documents News articles, which are extensively used by research scholars, Faculty, and Learners to cope with the challenges in the cutthroat environment.

## 2. Information Literacy

The information literacy movement has arisen in the last fifteen years as a field of academic review and focusing on professional practice in the stir of notions where information society, rapidly moved from print to digital; from local to global; from secure to uncertainty; from shortage to overload; and from service to self-service. Information literacy is the set of cohesive abilities encompassing the reflective discovery of information, the consideration of how information is fashioned and valued, and the use of information in creating new knowledge and participating ethically in terms of communicative learning. The notion of "Information Literacy" was first used by Paul Zurkowski (2020). The components of Information Literacy- Knowledge, Identifying, Finding, Evaluating, and Applying. Information Literacy is the skill to think critically and make composed judgments about any information which can be found and used. It empowers citizens to reach out and express a well-versed view. Information Literacy is the collective term used to cover several literacies like computer, digital, media, multiple, network, oral, and visual literacies. In this regard, the 17th and 18th centuries were known as the Golden age of libraries when many important libraries came into existence in Europe. The 18th century witnessed the switch from parochial libraries to leading

libraries. For instance, Trigg's library had over 350 books which are enriched with both Catholic and Protestant resources.

At the onset of the 19th century, Britain Chetham's Library in Manchester was the primary publicly accessible library in a full-fledged manner. Secular literature played a key role in the spreading of libraries. It possessed a plethora of history, philosophy, theology, biography, and their expedition apart from works of fiction and novels. Information literacy separates the core information into literacy concepts, identifies common information, and the different challenges that a student will face and equip himself. These literacies need to be enhanced and maintained throughout life, not only by the librarians but also by the information users and information workers. Information literacy is a self-referential and comprehensive framework which provides the higher-order thinking required to engross multiple document types through various media formats in collective environments. In addition, information societies are gradually demanding information in online and digital formats. Information literacy is a basic requirement of life. Its value lies in its communication and uses like

- Information revolution led to rapid growth in information acquisition.
- Advent of information and communication.
- Information sources have become vast oceans
- Libraries are emulated
- Information dispersal
- Identifying the information gap.
- Search for an alternative to fill the gap
- To find and retrieve information gap
- To store the information for future reference

### 2.2 Benefits of Information Literacy

- Expands knowledge
- Synthesis of the data into information
- Application of the information in problem-solving
- Enhancing critical thinking
- Helps in self-learning

### 2.3 Skills followed in Information Literacy

- Task definition
- Information-seeking strategies
- Location and access
- Use of information
- Synthesis
- Evaluation

Thus it is the ability to identify what information is needed, locate it, evaluate and use information in solving problems, and compose discourse.

## 3. Digital Era

The digital era is driven by ICT innovation which is associated with computer-based technologies geared toward the collection, generation, communication, recording, re-management, and exploitation of information. The use of information and communication technologies (ICTs) has become a major driving force in transforming education worldwide<sup>3</sup> Hawkrige has rightly

stated that ICT is a revolution that has penetrated almost all fields of human activity, transforming economics and social life. Since the 1950s ICT has transformed traditional libraries into digital libraries or eras. Digital education is the panacea for the anathema of education all around the world. The transformation has changed it from close access to hybrid, digital, and virtual libraries. This also transformed Librarians from storekeepers to information officers, navigators, and cybrarians. During the last few decades, there has been an increased impact of ICT on libraries. ICT has become the part and parcel of all aspects of the library. ICT has the prospect to play a gradually imperative role in education be it in a classroom, administration and online instruction, or other activities. According to the Indian Association Glossary "ICT is the application of computers and other technologies to the acquisition, organization, storage, retrieval, and dissemination of information." ICT has brought about changes in the library and information services globally.

Digital media has evoked a revolution in the information society and information provisions through ICT. Nevertheless, according to Asif and Singh (2020), traditional libraries have been rolled into smart libraries as a result of technological advancement and developments. In today's pandemic scenario, libraries have an eclectic variety of digital libraries, e-resources, e-services, and so on. Shrewd libraries of the forthcoming could utilize data and expertise, as well as dispense information in e-formats, to meet the information desires of modern library operators.

In the digital era librarians and information professionals should be able to accomplish the Digital Information System as this comprehends the overall competencies (knowledge, know-how, skills, and attitudes) needed to create, store, analyze, organize, retrieve, and circulate digital information (text, images, sounds) in digital libraries or any nature of the information. The most vital element is Digital mindful leadership, which emphasizes human capacity construction and up-skilling library professionals through their knowledge, experience, training, and education. In the digital era, the emerging role of ICT has created a new term in library and information science as E-Library. These libraries depend on information recorded in digital format only. Many Libraries are developing their websites, google sites, and blogs through webpages.

#### 4. Conclusion

In order to cope with the fluctuating dimensions of the digital milieu, the explosion of information and information products is ever-increasing and has become incompetent to deal with the delinquent information burden. The fundamental goal of the library is to provide the right information to the right users at right time and to fulfill this goal it is necessary for library professionals to keep pace with the changing need & prerequisites of users

in the present digital and market-oriented environment. Technology will continue to change, and libraries and library professionals have to use the changing technology to provide the best access to resources and services to their users. Certainly, the electronic information environment creates challenges for the library community and moves it away from the traditional paper-and-print format to an insubstantial world of circuits and connectivity that is Information and Communication Technology (ICT). The library is no longer defined simply as a building or a physical repository that houses information. The benefits of Information and Communication Technology ICT facilitate easy and rapid access to information. It delivers opportunities for libraries and information centers to broaden the possibility of their resources and services and upsurge their implication within their organization. The cumulative availability of information in machine-readable form allows being satisfied with the diminished involvement of libraries and librarians. As Libraries and LIS Professionals are attempting to keep up with the rapid digital transformation that is

Occurring in every field of life, the balance between traditional services and modern technologies should be maintained seeking improvement in library services. The shift towards digital libraries, services, and resource management is changing the face of LIS Professionals, Library and Information Sciences, and the user experience. As ICT has knitted itself into the library through artificial intelligence practices, social media, big data management, electronic marketing schemes, etc., Libraries must create ways to collaborate and partner with the community, faculty, students, and other libraries to maintain and update knowledge on the best practices to the needs of the users. Applications and use of the technology are not just for disseminating information; it is more of aligning our libraries and LIS Professionals with the activities and achievements of users. It is already known that educational content is getting enriched by locally maintained digital repositories, thereby creating a network of contributors in the field. Now technologies are enabling library users to reuse and enrich the content. Libraries are known for aggregating and repackaging content, keeping users as their priority. The research support systems have come out with many tools, techniques, methods, and services to support researchers. Many LIS Professionals are in need to undergo training in the basic use of digital technology. The government should make adequate financial support to facilitate the provision of relevant and up-to-date information technologies infrastructure to meet best global practices. A good IT infrastructure supported by adequate bandwidth and necessary infrastructures plays a crucial role in achieving the targets. Hence, Library mavens have accepted this encounter of the digital age and transformed their role from the custodian of knowledge to knowledge managers for their survival and sustainability.

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