

Internet applications in libraries and information centers

Mohammed Thakir Shaamood^{1,*}

¹College of Arts, Al-Iraqia University, Baghdad, Iraq

*Corresponding Author: Mohammed Thakir Shaamood

DOI: <https://doi.org/10.52866/ijcsm.2020.01.02.003>

Received march 2020; Accepted May 2020; Available online July 2020

ABSTRACT: The world is witnessing a marked and rapid change in the use of the Internet in all areas of life and this is a natural development. Because the existence of the web has swelled and increased and became a lot in various magazines depend on it and greatly. Our topic today is about Internet applications in libraries and information centers. How has library performance developed in general? What are the challenges facing librarians? What is the benefit of the students and researchers?

Thanks to the presence of the Internet there has been a great revolution in the performance of libraries and traditional processes and developed many of them, for example, reference services, document delivery, resource sharing, and others.

Librarians and staff in information centers face significant challenges in developing their Web site. And this returned to all those who come to the library benefit, where there is a schedule of dates and official holidays, planning of buildings within the library, information center for easy access to the destination and organization of different memberships in different categories, circulation and acquisition, and easy to announce the activities of various periodicals and seminars and know all the details and special rules. This research tries to introduce the impact of the technology on the libraries in terms of librarian and library visitors and the resources in the libraries.

Keywords: Internet; Information; IT; Library; librarian; Social.

1. INTRODUCTION

Cost and rapid progress in technology makes the library faces the major challenge in progress [1]. The key issue of any type of progress and analysis is the information. It is an essential resource because it is necessary for the wired world and today's competitive. Information plays a great role in the cultural development and socioeconomic of any individual in the world [2]. Internet growth has a revolutionary impact on communities. Changing the obstacle of distance is one of the great effects of the internet since the internet holds different kinds of information resources and services as well as millions of databases, webpages and text information [3]. Mainly the library has multiple zones according to the type of resources equipped for the visitors, the zones are (Read-only, Read and Copy, and Borrow) [4]. Public libraries became centers of internet access because of the early embrace of providing the internet, in different Libraries aspects like communities, employers, society and patrons relying on the availability of the internet [5].

The internet has now entered into daily life and most practical and educational institutions, Libraries are one of these institutions that began to utilize the technology and use the internet in its facilities, whether in its management or the provision of scientific and educational sources. The great development that took place in the information technology (IT) revolution as a result of the development of computers and the existence of the Internet led to the use of libraries by the large use of IT applications in storage, information processing and arrangement, communication and automation. This

in turn led to great facilities for all library users. Information is the main factor for any research or scientific study and this leads to major developments in the various fields of medicine, engineering and development in general. Quoting the Kemp information is considered to be in fifth place of human needs after air, water, food and shelter. This research will discuss the entry of the internet into libraries and the change that can be made in them. It will deal with the use of various electronic programs and tools in managing resources and providing them to librarians.

1.1 The Aim of the Study

The study aimed to construct a general picture of overall and beneficial technology conditions within the libraries and the advantages and disadvantages of the technology in the libraries.

1.2 Literature Overview

In (K. Senkodi) the paper makes an attempt to debate the quick development of data Technology and its application within the library services. Today libraries are equipped to accomplish the new info Technology based mostly services [2].

In (Murugan, Kolwadkar) this paper has made to attempt to study an Application of Information and Communication Technology in Different Activities Libraries.

In (Darade Dattatrya) the paper discusses the present scenario of Library and Information Science (LIS) education in India

In (Mali, Brijwasi,) this paper discusses the different dimension of the ITs. Basically the paper explains various IT based services. How library services prompted with the use of technology like RFID Technology, CCTV etc.

In (Rahane, Shukla) this paper discusses the web based library services which can be provided by libraries [6].

2. INFORMATION & IT

Information technology (IT) represents the telecommunications hardware and software technologies for organizations and the computing of the organizations, which provides the automatic means of communicating and handling the information. IT can be divided into two divisions (Computer vs. Telecommunications, Hardware vs. Software) [7]. Representation of a wide variety of information is possible in IT whether this information numerical, textual, and visual [8]. The definition of information is that it is all ideas, facts, data and knowledge that are communicated in any form. Knowing the definition of information, one must understand where this information comes from or what its source is. There is an amazing vast impact of the IT on the knowledge work and the library. IT possesses numbers of advantages as listed below [9]:

- Ability to collect various library sources
- Ability to Collaboration & invention large number of Library network
- Excellent in avoiding time-consuming effort that done by the librarian
- Develops the area of services offered
- Shorter time spending
- Efficiency can be increased
- Easy & fast access to information
- Increases the quality of library service
- Improvements in the experience & knowledge
- Integration inside the company
- Development in the state of libraries
- Increase in the communication tools
- Remote access by users
- 24x 7 service can be offered
- Access to infinite information from different sources
- More up to date information
- The flexibility of Information to the users
- Workload reduction of library staff
- Linking data from various sources

Despite these good advantages, there are some disadvantages:

- Lack of trained library and information science (LIS) skilled to handle IT devices;
- Establishment cost;
- Other recurring payment;

- Lack of infrastructure and above all;
- Rapid increase and development of IT devices and their implementation within the machine-controlled setting [9].

Research in this topic is great and has no specific answer but the primary source of information is the search. Therefore, countries that are fully aware of the importance of scientific research spend a lot of money on information centers, libraries and research centers to provide researchers and development workers all possible facilities.

As for IT, it is the storage, acquisition, and processing of data of various kinds if the voice or image or texts or numerical information in a way that is easily accessible through the use of certain applications on computers [10].

We also mentioned that information technology is a generic term that encompasses all applications used in different technologies. The components of IT depicted below in Figure 1 [9]:

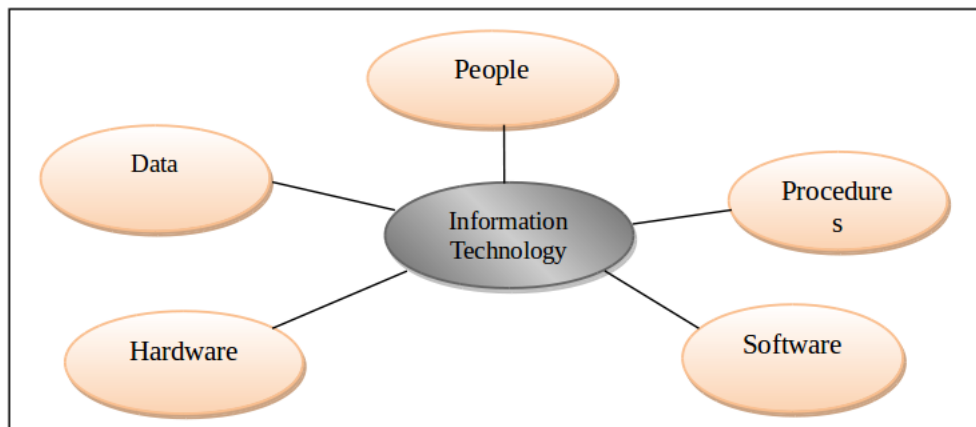


FIGURE 1. IT Component

The most important characteristics of the Internet [11]:

- Allows all users around the world access to information regardless of time and place.
- Point to point communication.
- Provide a large number of databases.
- The presence of Hyper Linux, which facilitates the transition between different pages and save time to get the desired information.
- Create a global interactive community regardless of location.

The Internet plays a large and effective role in the way we view the library, its services and the resources available within it. The Internet provides quick links to all the different sites within the library, and each site is dedicated to a topic and this is for easy access in any part of the world. Library websites facilitate students and researchers. For example, students in Turkey can borrow books from a library in the United States. Thus, the library provides all the sources of information from books, scientific journals, reports, documentaries and others for immediate access to those who need it. The Internet has created a range of services for users of libraries including:

- Through the creation of websites for libraries, a large number of information can be accessed and librarians can expand their work through the correct use of technology.
- Libraries can advertise their services, resources, events and seminars (Media Journal of the Library).
- Provide reference services faster and in less time.
- Ordering books and others via the Internet, and using technical processing of documents without much effort.
- Use e-mail to communicate between those interested in the same field and share resources among themselves.
- Use E-SDI services.
- Easy access to databases and OPAC for all libraries [11].

3. ROLE OF INTERNET IN LIBRARIES:

In addition, libraries benefit greatly from the impact of information technology and the Internet, and this benefit is divided into:

- **Library Management:** this section includes library management, resource management and information, such as cataloging, database creation & indexing and classification.

- Library Automation: it means reducing the interference of the human element in the services provided by the library and ensuring that the user reaches his destination without hesitation or wasting time.
- Library Networking: this service is mainly aimed at improving the efficiency of the library, where libraries and information centers with common designs are linked to exchange and availability of information.
- Audio-Video Technology: it includes all audio and video parts of scientific films, optical discs, printing, tapes, microfilm and so on.
- Technical Communication: it includes writing, editing, desktop publishing and so on [12].

4. IMPACT OF INTERNET IN LIBRARY:

The activities within the library have witnessed rapid, noticeable and useful development once the Internet is used inside it. This table shows some old services and what they add to the use of Internet and information technology [9]:

Table 1. Old Services in Libraries

No.	INFORMATION ACTIVITY	CONVENTIONAL METHOD	NEW TECHNOLOGY
1	Generate, Originate	Writing, Typing	Word Processing, Text Editing, Character Recognition, Voice Recognition
2	Preserve, Store	Manuscript, Paper-Print Media	Electronic Publishing, Magnetic Storage, Videotext, Tele-Text. Computer disk, ROM
3	Process	Classification, Cataloguing, Indexing	Electronic Data Processing, Artificial Intelligent/Expert Systems
4	Retrieval	Cataloguing, Indexes	Database management System, Information retrieval off-line, On-line
5	Disseminate/ Communicate	Lists, Bibliographies, Abstract, Hard Copies	Electronic mail, Electronic document delivery, Computer conferencing

5. APPLICATIONS OF INTERNET IN LIBRARIES:

With the increase in information published and reaching 18% per month, new methods have to be used in library functions. Here, the role of the Internet and new applications in technology, which aims to preserve this large amount of information with ease of access and to make it available to users.

Today, users can use library services from registration of membership to receipt of documents and borrowing books through the Internet, specifically through the official website created by the library and be familiar with all details, resources and information within the library.

Some of the library services that can be done through the use of the Internet application are:

5.1 Acquisition of Documents:

The internet provides (purchase) a large number of documents and sources of information. A large number of commercial databases are available to librarians as like Medline, Agricola, CAB abstracts, Agris, etc. [12].

Most publishers and the role of the site have online sites. There are those who offer courses online such as some publishers in IEEE (USA) and Elsevier Science. The IDRC in Canada also offers many different books through scientific research and development available on its website. IDRC publishes its best development report and follows its link <http://www.idrc.ca>. Recently, A range of communities have been published by CAB in order to meet the needs of researchers and librarians. Each community will carry its own data and archival that may revert to 25 years ago to the present. There are some important links currently available on the web, including:

- Association of learned and professional society publishers <http://www.alsp.org.uk/member.html>
- Amazon books <http://www.amazon.com> and it have an application mobile.
- Britannica Online <http://www.eb.com/>
- Ingentia journals <http://www.ingentia.com> [11].

5.2 Cataloging and technical:

classification/processing Because of the existence of the internet, it's easy to prepare a standard catalog, this catalog can be checked by the librarian to confirm the required information. For the purposes of downloading and verification of

the bibliographical information from multiple institutions, the professionals of the library must access the internet. A most popular source of bibliographical information is the OPACs, and the libraries use the OPACs to organize knowledge by acquiring the needed information. A comprehensive source of information is a bibliographic database which will be more utilized in the future. By using a catalog of the journal articles the libraries will have added value because of the advance information retrieval.

By access to the internet via OPACs of other libraries, the librarian will provide the data of bibliographic. Through the network, the electronic documents are provided to the users when they demand it. The use of the Internet has influenced the traditional classification of libraries.

Many of the Cyber Dewey Decimal Classification libraries choose to classify and organize different resources and information [11].

5.3 Circulation:

Making the Internet the circulation is easier than before. After the technical processing of documents and information sources are placed in the OPAC and readers can call the Internet in their homes or universities or offices to browse new books and booking in less time and very quickly [11].

5.4 Reference and Information Service:

The use of online reference work has gained great popularity in libraries. Reference librarians use a set of ready-made references that are already available online. Therefore, the Internet can be used efficiently to obtain a distinct reference service through specialized sites that contain most sources of primary and secondary information.

Despite the enormous potential of the Internet to provide reference resources, there are times when it takes a great deal of time to reach the desired goal, so librarians must retain additional useful sources of information.

However, the role of the Internet is great in obtaining accurate information in many areas such as statistics, social and geographic data and daily exchange rates and so on. It should be noted that there may be some inaccurate or misleading information, so before producing the needed information to users the librarians must correct and checked the information [11].

5.5 Communication:

Communication in the Internet age has become much easier than before. E-mail has become one of the most important means of communication in the world and saves a lot of time and effort. Libraries can also use online communication to connect publishers, publishers and book vendors with librarians all over the world [11].

5.6 Resource Sharing and the internet:

Accessing the libraries online now from any part of the world is possible because of the advent of the internet so that the librarians can connect with the universities and its colleges through access to the libraries catalog. As a result of increasing the disciplines documents cost in recent years, the libraries try to limit the access to its research literature through their in-house collection. Information professionals and librarians seeking an alternative means of providing access to the journals because of the financial constraints. The development of electronic alternatives to print journals is a result of problems in the concomitant development of computers and communication technologies and print journals [12].

6. IT CLASSIFICATION BASED SERVICE :

Services based on information technology can be divided into 3 parts including [13]:

- Apparatus and Amenities
- Customer Services.
- Electronic Sources.

7. AMENITIES AND DEVICES

Includes equipment and facilities available within the library and is based on the use of the Internet and serve the user and include [13]:

- Computers: Library efficiency depends largely on the quality of the equipment in which it is located. Computers located within the library are connected to the full resources of research and information through the use of the Internet.
- OPAC: It is a shortcut to the Online Public Access Catalog. It aims to search the user for the book he wants and displays the results about the location of the book within the library.
- Union Catalogue: it is a joint catalog of a number of libraries. The catalog has been created in a variety of media, including electronic databases, book format and microfilm. These catalogs are very useful for librarians because they make it easier for them to locate materials from other libraries and request them through loan service between libraries.
- CD-ROM: This disk is available in academic libraries and provides a recent review of CD-ROM applications in libraries. This disc has a significant impact on the function of the libraries and the targeted services provided by the users.
- Scanner: Converting printed texts, images, and handwritten texts by the process to digital images is mainly done by scans. Scanners do this by connecting the internet.
- RFID: work of RFID similar to bar codes. It is used to select individual items automatically by radio waves. The method of storing a serial number of a particular product on a microchip that number refers to the product and its information.
- Tele text: It is a retrieval of television information and includes national, political, sports and weather news. Presented as text information.
- Facsimile: It is a copy of any map element, or an old or old manuscript with a historical value that goes back to the original source. It is different from other cloning tools because it maintains the scale, colors and material qualities as accurately as possible.
- Photocopy: It is a machine that makes paper copies of different documents and characterized by low cost and speed in performance. Some machines currently use xerography which defines as a dry process using heat.
- Printing technology: A printer is a machine that is used to print text, documents and images from a computer to a hard copy (confirm soft copy to hard copy)
- Barcode: It is like as a scanner that reads the codes used in the indexing process and analyzes its data to extract all information related to it.

8. CUSTOMER SERVICES

- Document delivery services: It is a service related to providing books, multiple copies of articles, and periodicals from the joint libraries. This is ultimately in the interest of the user who ensures that he has the required information.
- Interlibrary loan: It is an inter-library collaboration that allows each library to borrow as many resources as you need. This process is done very easily through the web.
- Indexing and abstracting services: It is a method of retrieving information in the form of a table in memory. Abstracts are prepared in an area by individuals or organization. Abstracts are provided to subscribers.
- Chat services: Online chat means that both sender and receiver can see messages sent at the same time without delay. It is possible for a group of people who are interested in the same domain to share and share documents and resources between each other.
- CAS: The service responsible for informing the users of the library on a permanent and continuous basis of what is inside the library and what additions have been added recently. Some libraries produce lists of what is new within the library so that it can be viewed by users.
- SDI: Hans peter described selective dissemination as materials and tools that used to maintaining the fields information.
- Scanned copies: It is a service aimed at the availability of copies of sources and information not found electronically. These copies are located within the library that users can view. Users must know that their owners have copyright rights.
- Electronic services and e- resources:
- Bulletin board services
- Digital library [14]

9. ELECTRONIC SOURCES

- Audiovisual materials.
- Library website.

- Database [13].

10. APPLICATION OF ICT IN DIFFERENT ACTIVITIES LIBRARIES

1. CD - ROM Searching: The books that come to the library are accompanied by CDs to assign accession numbers. All the CDs kept in a section in the library to be issued to the users to acquire the needed information, for online access the libraries subscribed to the CDs database.
2. On-line Networking: - Networking is one of the most effective ways of serving the users' needs comprehensively. Networked access to databases would help get newly published information to library users.
3. Online Information Service: services that considered responsive and anticipatory, that make uses of library materials promotable and make the materials of the library available to users that's suffice the requirements of the users.
4. On-line Information Service: -Online Information Services are anticipatory or responsive. Both these services promote the use of library materials, make available library materials to users and thus meet user requirements.
5. News Clipping Scanning service: - An important information source is the newspapers because it holds the newest information in different forms like updating, daily, and news.
6. Reservation Online: Reserving library materials such as books and journals by the online service, the orders processed by order by the library
7. Database Searching Service: Depending on the user's interest profile and by this service, the experts constantly provide the users with the needed information from their collection of international and national databases.
8. Audio-visual Service: - Audiovisual materials are important sources of information, education and entertainment. Many libraries, particularly multimedia repositories and large academic and public libraries hold audiovisual material such as DVD, films, pictures and photographs.
9. The Access to Internet: Libraries keep pace with the development of the internet which is growing rapidly, as a result, the libraries provides free access to emails and the internet.
10. E-Query Services: is a service that characterized by (web-enabled). modern source that presented to the library registered members in order to respond to the received queries
11. Photocopying: A big impact on the document delivery system is mainly accomplished by reprography. The libraries equipped with machines that make the reprography process for any document [6].

11. LIBRARIES' SOCIAL ROLE

"RECENTLY, THE NEW YORK TIMES ASKED WHETHER WE STILL NEED LIBRARIES" the answer to that question is "yes we still need and used the libraries". In spite of the needs of the libraries but the role of the libraries in society is evolving. The main goal of the library is traditionally storing the society information, accessing the information of the library is done with the help of the librarian. The internet advent makes the web has assumed the traditional libraries role and web search engines became the librarian [15]. The role of the libraries have been revolutionized because of rapid advances in IT, that makes the libraries face multiple challenges considering the demands, competitors, and expectation [16] Librarians, since the beginning of the advent of the Internet, have struggled to limit the use of the Internet in libraries and determine its use in traditional roles. Thus, many authors have proposed new ways to change the roles of libraries and the use of the Internet in them. There are many new roles in libraries in the development stage. Screen monitors and emergency responders are some of the suggested new library roles, while assistance and providing training are considered extensions to the library's traditional roles [14]. Some of the modern libraries roles listed below:

- Information Broker: They are responsible for gathering and repackaging information from different sources and provide it to the users as the needs,
- Information Manager they responsible for providing the information needs by the user and delivering and managing the required information by utilizing the services of the library
- Librarians are responsible for a variety of things rather than being administrators. They care about the quality of information and work as technical therapists.
- Information instructor/adviser: they are responsible for ensuring the accessibility of the staff or users of the library to the information sources.

12. CONCLUSION

As ultimate remarks, it is reminded that libraries are operating in a quickly changing situation, they should be aware of the latest technologies to continue and maintain the importance of the service offerings. Utilization info Technology in present libraries is optimistic to realize the right information at the correct time within the right place and at the correct value. Information Technology helps to progress the rank of the library and it condenses the work stack of the library professions.

REFERENCES

- [1] M. Ashiq, S. U. Rehman, and G. Mujtaba, "Future challenges and emerging role of academic libraries in Pakistan: A phenomenology approach," *Information Development*, 2020. 0266666919897410.
- [2] K. Senkodi, "IMPACT OF INFORMATION TECHNOLOGY IN LIBRARIES," *Global Journal For Research Analysis*, vol. 8, no. 3, 2019.
- [3] B. N. H. Kumar, S. Bhat, B. Borphukan, and B. Fakrudin, "Association analysis of charcoal rot disease component traits in sorghum minicore germplasm with EST-SSR markers," *Indian Journal of Genetics and Plant Breeding (The)*, vol. 77, no. 1, pp. 74–74, 2017.
- [4] J. C. Bertot, P. T. Jaeger, E. E. Wahl, and K. I. Sigler, "Public libraries and the Internet," *Library Technology Reports*, vol. 47, no. 6, pp. 7–18, 2011.
- [5] E. Herrera-Viedma and J. Lopez-Gijon, "Libraries' Social Role in the Information Age," *Science*, vol. 339, no. 6126, pp. 1382–1382, 2013.
- [6] S. Bhavsar and S. Patil, "Innovative Library Services in ICT Era," 2019.
- [7] S. S. Muhamad and A. M. Darwesh, "Smart University Library Management System Based on Internet of Things," *UHD Journal of Science and Technology*, vol. 4, no. 2, pp. 63–63, 2020.
- [8] A. Masood, "Literature in Information Technology in Library and Information Science (1997-2000)-An Informetric Study (Doctoral dissertation, Aligarh Muslim University)," 2001.
- [9] A. Babu and T, "Modern Information technologies: Their impact on Library Services", *Library Information Technology in modern era: Libraries and Librarians in New Millennium*, New Delhi; Commonwealth, pp. 65–72, 1999.
- [10] S. O. Uwaifo and A. C. Kabadi, "The Role of Information Technology in Local Government Administration in Delta State Nigeria: A Case Study of Aniocha North and Aniocha South Local Government Areas," *Library Hi Tech News*, vol. 23, no. 2, pp. 17–21, 2006.
- [11] N. Singh, "Internet: Importance and usage for library and information professionals," *DESIDOC Journal of Library & Information Technology*, vol. 21, no. 3, 2001.
- [12] T. Ashraf, "Library services in electronic environment: Changes, Challenges issues and strategies," 2004. New Delhi: Kaveri Books, p 130.
- [13] B. Kannappanawar, "Problems and prospects of Information technology in R&D Libraries," *Dr. P.S.G Kumar festschrift Library and Information Profession in India*, vol. 1, pp. 612–617, 2004. Part-2, Delhi; B.R. Publishing Corporation.
- [14] H. T. C. Works, "Information Agencies and Their Environments," 2012.
- [15] E. Herrera-Viedma and J. Lopez-Gijon, "Libraries' Social Role in the Information Age," *Science*, vol. 339, no. 6126, pp. 1382–1382, 2013.
- [16] B. J. Bamgbade, B. A. Akintola, D. O. Agbenu, C. O. Ayeni, O. O. Fagbami, and H. O. Abubakar, "Comparative analysis and benefits of digital library over traditional library," *World Scientific News*, vol. 24, pp. 1–7, 2015.