

**ASSESSMENT OF ICT-BASED INFORMATION RESOURCES AND SERVICES IN
UNIVERSITIES LIBRARIES: THE PROSPECTS AND CHALLENGES**

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ABSTRACT

This study sought to assess ICT-based information resources and services in universities libraries: the prospects and challenges. The Internet is changing the way librarians view information sources. It is also true that the internet has become a part of the library environment today. The Internet has changed the ways and means of disseminating information. In the present scenario, the library and information centers at the global level are able to provide access to online databases across the country and worldwide. The paper reviewed the concept of libraries, the concept of university libraries, their prospects, roles, challenges, and types. It was on this basis that the study concluded that: The study concludes that the Internet has transformed the ways and means of providing information. Breaking the distance barrier, the internet has emerged as a boon to information seekers as well as libraries. It has become a popular, easy-to-use, and inexpensive teaching and research tool. The use of ICT for library operations avoids jobs and saves a considerable amount of time, resources, and labor. It also speeds up technical processing and information services. In fact, the Internet is changing the way librarians view information sources. Today, a variety of ICT-based information resources have made it possible for librarians to access information from anywhere in the world. It also facilitates not only the delivery of instruction but also the learning process itself. One of the recommendations made was that Internet resources should be provided in libraries to improve effective library services since the need for connectivity can no longer be ignored in this era of information and communication technology.

KEYWORDS: ICT, Information Resources, Services, Universities and Libraries.

Introduction

The library's users are intended to make use of the information resources it includes. Users of the library use it for reading, research, and personal growth. Utilization, according to Carlson (2013), is the capacity to use resources and services in an efficient and autonomous manner. This suggests that the documents must have the proper usage language and structure. According to Adebayo (2007), it also encompasses the regularity with which goods and services are used as well as the usefulness that is therefore received from the resources. In the twenty-first century, information has become the most valuable resource. ICT has a significant impact on conventional academic libraries. Due to financial shortages in particular, they are left with no choice but to adapt to new situations. As a result, information center networking is unavoidable. Pooling information resources and infrastructure related to information and sharing them are the library's main goals. Many libraries have reviewed their conventional practices and offerings during this process to address shortcomings through automation and computerization. When used for library operations, computers eliminate corresponding tasks and save a considerable amount of time, money, and labor. Additionally, it expedites information services and technological processing.

ICT has become a tool for delivering top-notch services. The sustainability of technology-based information services and the improvement of library capabilities will be ensured by systematic planning of their introduction and use (Jitandera, 2013). Currently, online databases from all over the world and full-text information sources with keyword searching are accessible through libraries and information centers on a global scale. The academic libraries in India have been establishing themselves as a platform for ICT-based information services on a corporate level. The Internet has changed the ways and means of disseminating information. The internet has become as useful to information seekers as libraries because it has broken down the barrier of distance. It has developed into a well-liked, simple, and affordable teaching and research tool (Hussain, 2013). In reality, the way librarians approach information sources is evolving due to the Internet. Email is considered the most quick, precise, and efficient method of communication between the academic, research, executive, and corporate communities by professional groups, research organizations, and publications. As a result, the use of the internet for information services comparable to the existing awareness service in the library is picking up speed and growing in popularity. It is also true that the modern library setting now includes the internet (Wikipedia, 2013).

Concept OF ICT

Information and communications technology (ICT) is an extensional term for information technology (IT) that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals) and computers, as well as necessary enterprise software, middleware, storage, and audiovisual, that enable users to access, store, transmit, understand, and manipulate information (Wikipedia, 2023). Nwachukwu (2004) explains that information and communication technologies (ICTs) are the application of computers and other technologies to the acquisition, organization, storage, retrieval, and dissemination of information. However, in this context, information and communication technology refers to the use of electronic devices such as computers, telephones, the internet, and satellite systems to store, retrieve, and disseminate information in the form of data, text, images, and others.

ICT can also refer to the integration of computer networks, telephone networks, and video and audio networks through a single cabling or connection system. The use of a single, unified system for cabling, signal distribution, and management would allow the computer network system and telephone network system to be combined economically. ICT is a broad term that covers all forms of communication technology, including satellite systems, radio, television, cell phones, computers, and other hardware for networks, as well as the myriad services and tools that go along with them, such as video conferencing and distant learning. ICT also includes analog technology, such as paper communication, and any mode that transmits communication (Ozdamli & Ozdal, 2015). ICT is a broad subject, and the concepts are evolving. It covers any product that will store, retrieve, manipulate, transmit, or receive information electronically in a digital form (e.g., personal computers, including smartphones, digital television, email, or robots). The Skills Framework for the Information Age is one of many models for describing and managing competencies for ICT professionals in the 21st century.

Concept of University Library

The infrastructure of the university includes a library. It exists as a result of the goals of its parent company. Each library program must complement the overall university curriculum. The university library should seek to enhance the institution's operations (Lisbdnetwork, 2013). A university is a center for higher education and research that grants degrees in a variety of academic fields (the word "university" is derived from the Latin for "universities as a whole"). In general, universities provide both undergraduate and graduate degrees. As this type of legal organization was common in Western and Central Europe, where the institution first appeared, and from where it expanded over the world, the original Latin term applied to educational institutions that granted degrees (Wikipedia contributors, 2023). Sophisticated "associations of students and

teachers with collective legal rights usually secured by charters given by monarchs, prelates, or the cities in which they were located" came to be known by this broad word around the time of the development of urban town life and medieval guilds. They self-regulated and chose their own members' credentials, just like other guilds. With the earlier emphasis on its corporate organization thought to historically pertain to medieval universities, the term has come to signify "an institution of higher education offering tuition in largely non-vocational courses and typically having the capacity to issue degrees" in modern usage.

A university library's collection can include books, periodicals, newspapers, manuscripts, films, maps, prints, documents, microforms, CDs, cassettes, videotapes, DVDs, e-books, audiobooks, databases, and other formats. Libraries range in size from a few shelves of books to several million items. In Latin and Greek, the idea of a bookcase is represented by *bibliotheca* and *Bibliothēkē* (Greek: βιβλιοθήκη): derivatives of these mean library in many modern languages, e.g., French *bibliothèque*. The first libraries consisted of archives of the earliest form of writing: the clay tablets in cuneiform script discovered in Sumer, some dating back to 2600 BC. These written archives mark the end of prehistory and the start of history. The earliest discovered private archives were kept at Ugarit. There is also evidence of libraries at Nippur (about 1900 BC) and Nineveh (about 700 BC) showing a library classification system. Private or personal libraries made up of written books (as opposed to the state or institutional records kept in archives) appeared in classical Greece in the 5th century BC. In the 6th century, at the very close of the classical period, the great libraries of the Mediterranean world remained those of Constantinople and Alexandria (Amiri, 2018).

The universally recognized basic functions performed by a university library are:

- By procuring comprehensive range of documents including books, manuscripts, journals, magazines, newspaper etc. on various subjects.
- In order to organize huge collection of documents it keeps them in different sections on the basis of their categorization like text book section, reference section, journal section, thesis section.
- It provides facility of inter library loan to its users if document desired by user is not available in the library.
- A modern university library interacts with different information networks to give easy access to e-sources/ date to more users so that they could access the desired information even from their workplace. For example, in India university libraries use the facility of INFLIBNET for the same purpose.

- It also provides entertainment and healthy leisure to user by providing different newspapers, magazines, short story books, internet facility etc.
- It gives the user orientation training to new enrolled users to make them fell at home and to acquaint them with the library system so that they could make maximum use of library services.
- With the help of display of new arrivals, old book exhibitions, information bulletins about new library services etc. It keeps the users updated with the library activities.
- It provides reference service through reference section to establish a contact between the right reader and the right document in a personal way to attract more users.

Prospects of ICT-Based Information Resources

In recent years, ICT and the Internet have developed into dependable means of communication. Contrary to broadcast media, the Internet can make it simpler for those on the periphery to engage in a dialogue that is eminently democratic, which can be uplifting. And if properly implemented, everyone can now access quality concerns that were previously only accessible to the haves due to economic and power factors (Collis & Jung, 2003). Despite not being a panacea for all educational problems, information and communication technology (ICT) is now an essential component of teaching and learning (Capper (Ed.), 2011). Modern advances in cutting-edge information and communication technology (ICT) have opened up new career opportunities for those in the teaching profession, but they have also increased the demands on teachers to become proficient in the use of these new ICTs in the classroom (Robinson & Latchem, 2003). ICT may be able to give modern teachers more adaptable and efficient means of lifetime professional development, according to a growing body of research. The organization, content, and delivery methods of traditional initial teacher training programs as well as in-service continuous training institutes worldwide are rapidly changing as a result of the Internet's and other ICTs' rapid development. However, combining new technologies with effective pedagogy has become a daunting task for both initial teacher training and in-service training institutions.

The delivery of teaching as well as the actual learning process can both be facilitated by a range of ICTs nowadays (Teacher Education Guidelines: Using Open and Distance Learning, 2002). Additionally, ICT can encourage global networking and collaboration in education and professional growth. A variety of ICT choices, including video conferencing, multimedia distribution, and websites, can be used to address the issues that teachers currently face. The many ICT-based approaches to training future educators can alter the way teachers

educate, and they are particularly helpful in fostering more collaborative learning environments, higher-order skill development, and student-centered methods of instruction (Haddad, 2003). There are numerous ways to train ICT educators.

Challenges of ICT-Based Information Resources

Limited/Restricted access to users: It could be said that public libraries are not effectively implementing the application of information technology to their services. Users of the library are restricted to the use of ICT facilities in the library because they are at risk of damaging the equipment. 24 hours a day, 7 days a week, the computer system and other information users to the manual form of library servicers.

Poor maintenance culture: Most of the equipment procured for information technology was purchased from foreign countries as a result of the nation's backwardness. In the use of ICT facilities, they lack information and experienced personnel to effect repairs on the system when it breaks down. Also, when complaints are passed to higher quarters or the government for consideration, they go through a long bureaucratic process (Oghenetega, 2014).

Poor networking: When facilities are reluctantly switched on, the rate of downloading information are normally slow and in most case foil, when information is being shared from a far network.

Lack of trained personnel: Nigerian public libraries that have managed to tap into information technology resources lack trained information technology experts. This fact has left the information technology services of the library performing little or none of their functions.

Erratic power supply: The effective utilization of information and communication technology depends largely on an effective and constant power supply. This is so because it cannot function effectively. It is therefore necessary that the institution or external system that wishes to operate these technologies make adequate provision for constant electricity supply since the electricity corporation (NEPA), now known as PHCN, has become soepileptic. A generating set should be made available to supplement the PHCNs irregular supply.

Illiteracy: There is no gain in saying that illiteracy affects the effective utilization of information and communication technology (ICT). This is evident in the fact that many students in the academic institute have little or no idea about these modern technologies or electronic wonders, and because of their lack of awareness, they tend to discard their use on the ground that while these technologies can be done electronically, they can also be done manually. It is therefore imperative that this group of people be taught how to operate and use these technologies (Umeji, 2014).

Poverty (Cost): It is true that finance is the lifeblood of any organization, and as such, the effective utilization of information and communication technology depends to a great extent on the financial position of the institution.

Lack of adequate infrastructure: The effective utilization of information technology can be hindered where there are no good roads, a good telephone communication network, a good power supply, etc. It is therefore imperative that the institution make adequate provision for these infrastructure facilities to enhance the effective utilization of technology, especially in public institutions, in order to enhance their effectiveness.

Policy structure of the government: The growth of any communication technology in a society and hence its applicability for distance education depend to a very great extent on the degree to which policymakers recognize the importance of ICT in promoting a knowledge-based society.

Political factors: The perceptions and attitudes of a political system greatly affect the acceptance and growth of technology in any society. The political system is conscious of the payoff of ICT for the enhancement of the educational profile of a country and will frame appropriate policies for the adoption and dissemination of ICT throughout the length and breadth of the country.

Economic factors: Developing countries often lack the growth of communication technology, the initial allocation, and a matching fund to make a feasible investment in ICT. Many countries often acquire costly technology without making provisions for bonding sufficient infrastructure to run it.

Cultural factors: Language is one of the major factors that hinder the easy assimilation of ICTs in many developing countries. This hinders the transfer of technology. The radio and TV programs, computer software, and printed texts produced in different countries bear different cultural backgrounds.

Technological factors: Technology becomes the determining factor in the growth of ICT in any society. With regards to the acceptance of a popular technology, factors such as access cost, teaching functions, interactivity and user friendliness, organizational issues, and the speed afforded to change are important issues. Another major problem Nigerian society is facing is access. How many people really have access to the telephone and the internet? Many Nigerians who quickly acquired mobile cell phones at the introduction of GSM projects in Nigeria are presently unable to afford the cost of recharging their phones to make vital calls. Internet access is a particularly good measure of the availability of digital technology. It is all in Nigeria because it requires the integration of individual components like computers, telecommunications, and skills. The proliferation of internet cafes is still largely restricted to cities and urban areas. Even when the majority of city dwellers still do not know how to use a computer, the few can still find it hard to afford the increasing cost of internet use because of the

instability of electricity and the large dependence on gasoline-powered generators. Of course, many of the computers available in these internet cafes and government offices in Nigeria are old and antiquated, either donated by humanitarian agencies or refurbished at the Ikeja computer village in the suburb of Lagos.

The Roles of ICT-Based Information Resources

Information and communication technology (ICT) continues to be a driving force behind societal growth. Like power, information is essentially an endless resource and a key tool for the growth of every sector in any country. Therefore, it is essential that their use in libraries would significantly contribute to meeting the citizens' information demands (Adebayo, 2018). It is important to mention that the development of ICT has had a significant impact on the caliber of material offered by libraries. Additionally, it makes it possible to offer competent and sufficient library services to customers from different academic fields. It is impossible to overstate how important ICT has become to library operations in the twenty-first century. In order to offer better and quicker services to the end customers, many library routines and operations that were formerly carried out manually are now being transformed to automated procedures. Without working libraries and information hubs, a country might not have access to the knowledge necessary for sustainable growth. Information in this age of globalization and connectivity gets power through long-term archiving and widespread dissemination, both of which might be accomplished by ICT.

According to Janakiraman and Subramaniam (2015), we are currently living in a digital age where ICT has altered expectations for library performance as well as professional promotion opportunities. The responsibilities of the librarian have altered in the ICT-influenced scenario. The librarian will function as an information broker, navigator, market negotiator, and information technology expert. For instance, the services that the librarian will provide in the future will compel them to adopt new techniques for categorizing and cataloging online resources, using search engines that only specialize in particular subject areas, and linking every piece of information that is relevant to anything else in the universe of knowledge.

Roles of ICT on Library

Information communication technology has affected and impacted the library services in many ways.

Collection Development: ICT has made it possible to acquire information from sources such as books, journals, newspapers, etc. easily and quickly. Most publishers have their websites on the internet, and their catalogues can be searched from the library for new publications. Librarians can place their order online and clarify any doubts, if any, through e-mail easily. Some of the reputed publishers also provide online Librarian can place their order online and clarify doubts if any through e-mail easily. Some of the reputed publishers also provide online access to their publications.

Circulation: Due to new technology, users can check their documents easily. If the documents are available, they can be issued to users. If it is not available, then it may be reserved. The document can be issued electronically by making use of barcode strips pasted externally on the documents.

Reference and Information Services: The reference section is the backbone of any library. A well-organized library will always provide reference service with promptness and accuracy. Large numbers of primary and secondary information sources are also available on the internet, which can be used to provide information to users.

Resource sharing: Due to the increasing cost of the documents and the non-availability of enough funds, libraries are unable to provide each and every piece of material to their users. But the ICT library solved this problem. The user himself or herself can search the OPAC of other libraries, or he or she may ask the librarian to provide the desired document. Once he or she is able to search for it, he or she can request that the library give the document on inter-library loan.

E-Journals: Because of modern technology, libraries can provide recent information within a short period of time, as it is easier to update the issue of a journal on the internet as soon as it is published.

Periodical Control: Electronic mail is becoming the most useful way of communicating. This service can be used to send and receive messages easily and quickly.

Other Services: A modern library provides internet and CD-ROM facilities, document supply, CAS and SDI services, telecommunication technologies, telephone, video text, facsimile or fax, library networks, online retrieval services, etc. In short, information and communication technology will help to remove barriers of distance, time, and the drudgery of repeated manual efforts in library routines. The advancement in technology will continue to improve the effectiveness of libraries and is indispensable for handling messages between libraries and library users.

Information and communication technology is not only a technology but also manages library objectives. With the adoption of ICT, libraries can face the

new and modern information techniques. ICT has greatly affected the information environment. Librarians must have the knowledge, skills, and tools to handle digital information, and that will be the key success factor in enabling the library to perform its role as an information support system for society (Khiste, 2011).

Types of ICT-Based Information Resources

Some library users are adopting electronic habits and making increasing use of the new ICT, including computers, the Internet, the Web, the intranet, the extranet, and other technologies. As a result, library users are placing new demands on their libraries. They require access to the latest information, updated information resources, and ICT facilities that they could use in their work.

Web-based Online Public Access Catalogues (Web-OPAC): The internet and web-based technologies have made it possible for libraries to provide access to their catalogs globally. It helps library users access information from anywhere in the world when OPAC is available on the internet. Library users also find it easier to learn and use the OPACs from different library systems. Web-based OPAC allows for linking to other information resources such as tables of content, full-text documents, author, title, publisher, publication year, etc. The Internet and Web-based technologies have made it possible for libraries to provide access to their catalogs on local intranets, extranets, and sometimes via the Internet. This arrangement, especially when the OPAC is available on the Internet, makes it possible for library users to access the facilities from anywhere in the world, 24 hours a day, 7 days a week. This is possible because most library software systems now include web-based interfaces to OPACs as opposed to telnet-based access systems. Library users also find it easier to learn and use the OPACs from different library systems since they only have to know how to use one universal access client, the Web browser. Web-based OPACs also allow for linking to other information resources such as tables of content, full-text documents, and works or titles by the same author.

Digital Library Service: The digital library provides a variety of digital information sources. It reduces the physical space, the user can access information remotely, and it also provides access to distributed information resources. Its advantage is that it has the ability to handle multilingual content. Using ICTs, librarians are creating digital libraries, that is, libraries where some or all of the holdings are available in electronic form, and the services of the library are also made available electronically, frequently over the Internet, so that users can access them remotely (Rosenberg 2005). Digital libraries are made up of digital collections, including document surrogates like bibliographic records and indexes in addition to full-text documents, videos, and images, some of which cannot be represented or distributed in printed formats. These digital

works include both internal and external resources. In an academic environment, a digital library can provide students with access to educational materials, i.e., solved and unsolved problem sets, courseware modules (drills, simulations, models, virtual lab benches, and class presentation materials), while in a national library environment, digital libraries open up the information resources for access by library users located across the country.

Electronic Document Delivery Service: The libraries are implementing ICT-based inter-library lending (ILL) using networks to deliver copies of journal articles and other documents in digital format like PDF (Portable Document Format) to the users' desktops. It helps the users access information that is not available in their respective libraries. It is one of the most useful services for users, specifically researchers in remote areas.

Online User Education: Libraries are using ICTs, especially the Web, to implement online-based bibliographic or library use (library literacy) programs targeting their clients. Among others, these programs include online or CD-ROM-based tutorials on searching online resources and virtual tours of library collections, which are mainly accessed on intranets, extranets, or the Internet. The use of ICTs enables libraries to avoid problems associated with lecture-based approaches or library orientation programs. Problems such as dealing with large numbers of students, having a shortage of staff to deliver the programs, or having too little time to deliver so much information to students. In addition, ICTs offer students the opportunity to follow the programs at their own pace and in their own time.

Readers' Advisory and E-Reference Services: ICTs offer libraries the opportunity to provide Web-based versions of readers' advisory and reference services. These include services such as informing users via the Web about new releases or additions to the library collection, selective dissemination of information (SDI), announcements, and facilities for readers to interact with the reference staff (virtual reference desks), etc. In academic institutions offering courses via distance learning, libraries are able to support their students through ICT-based advisory services.

Online Chat Services: Online chat may refer to any kind of communication over the Internet that offers instantaneous transmission of text-based messages from sender to receiver. In libraries, it can be used for online reference services and real-time consulting services. Online chat may address point-to-point communications as well as multicast communications from one sender to many receivers.

Electronic Books Service: The elements that are considered imports for the use of e-books in an academic library are the content, software and hardware standards, protocols, digital rights management, access, archiving, privacy, market, pricing, and features. Electronic books (e-books) are one way to enhance

the digital library with global 24X7 access to authoritative information, and they enable users to quickly retrieve and access specific research material easily, quickly, and effectively.

Electronic Journals: Service An electronic journal may be defined broadly as any journal, magazine, newsletter, or type of electronic serial publication that is available over the internet and can be accessed using different technologies such as the World Wide Web, Gopher, FTP, telnet, e-mail, or listserv. Many publishers who offer subscriptions to print journals sometimes also offer a subscription to the electronic version of the journal free of charge. Some of the publishers that are providing e-journals include Emerald, Elsevier, Sage, Springer, EBSCO, J-Gate, John Wiley, etc.

Electronic Mail (E-mail) Service: E-mail can be used as a tool to communicate with the users and to serve them by providing EDDS (Electronic Document Delivery Service). It is an excellent web-based medium and probably the most popular medium. And we, the library professionals, can use this web medium for various purposes, especially for delivering some web-based services. It helps to contact the publisher, vendor, etc.

Internet Service: As a source of serious subjects in the universe of knowledge, it has become an information superhighway and opened the floodgates for scholarly communication. The Internet is a truncated version of inter-networking, which refers to interconnecting two or more computer networks. LISBDNETWORK, (2022) The Internet is described as a worldwide network of computers and people. It is an important tool for global online services. The emergence of the Internet offers very high bandwidth, which will widen the scope for information processing and dissemination like never before. The Internet connects universities, colleges, schools, and other educational institutions for information sharing and exchange. Access to information through the Internet has changed the total scenario of librarianship.

Conclusion

The study concludes that the Internet has transformed the ways and means of providing information. Breaking the distance barrier, the internet has emerged as a boon to information seekers as well as libraries. It has become a popular, easy-to-use, and inexpensive teaching and research tool. The use of ICT for library operations avoids jobs and saves a considerable amount of time, resources, and labor. It also speeds up technical processing and information services. In fact, the Internet is changing the way librarians view information sources. Today, a variety of ICT-based information resources have made it possible for librarians to access information from anywhere in the world. It also facilitates not only the delivery of instruction but also the learning process itself.

Recommendations

1. Internet resources should be provided in libraries to improve effective library services since the need for connectivity can no longer be ignored in this era of information and communication technology.
2. The government should make sure that adequate facilities are provided in universities library to enhance effective library services.
3. Proper training and awareness should be made to emphasize the importance of ICT based information resources in the library.

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