

SIGNIFICANCE OF INFORMATION COMMUNICATION TECHNOLOGY AND THEIR APPLICATIONS IN LIBRARIES

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Abstract

The paper seek to highlight some significance of Information Communication Technology and their application in libraries. The key concepts of the paper such as library, information, communication technology were defined. The history of information communication technology was also examine in the paper. The paper also discussed how the ICT facilities employed in some sections of the library such as circulation, reference, serial etc. The virtual libraries or digital resources are technologically driven and require very large amount of digital information to be digitized in the country, the issue of specification, intellectual property, access management and construction of a network infrastructure are some of the major constraint usually encountered while going digital. The digital of library concept digital distribution of information. The paper enlighten some problems, recommendations and conclusion.

The objectives of any library is to collect, organize, preserve and disseminate information to their particular users is usually presented in form of printed text, graphics, sound, animation or still pictures. This presentation can be enhanced by the use of appropriate Information and Communication Technology (ICT). ICT has made it possible to handle information in a variety of forms Modern technologies in libraries create a new forum for global information access. The objective of this paper is to highlight the aspect of present day library operations where performance could be significantly enhanced through the application of appropriate information.

ICTs comprises all the electronic infrastructure and facilities employed by libraries to improve and provide efficient services. Such facilities in broad terms consist of hardware, software and communication links between the service outlets of the same library and similar outlets of different libraries to facilitate the sharing of common resources e.g library networking.

Definition of Terms

Library can be defined as a systematic selection, acquisition, organization, presentation and dissemination of information, education, culture, recreation of

resources materials for users. A library is virtually in repository of knowledge which has no physical existence but exists electronically where it is organized, preserved and disseminated to users by a professional staff. Library can also be said as professionally organize collection of graphic and non-graphic resources for the exploitation of users or patrons.

ICT is a combination ICT Materials which are used in the instruction or learning process to facilitated teaching and learning processes. ICT could also mean something that is related to sound and light. They include printed materials like (books, journals, manuscripts). Specimens bulletins board projected materials and equipment like (slide film strips, audio recording, video recording, transparencies, motion pictures film and relevant projectors).

Significance of ICTS and their Application in Libraries.

The issue of the application of ICT in Nigerian libraries services can be said to be a recent development if compared with the developed countries of the world. Computer application in library services has generated a lot of write-ups from a number of scholars. They have contributed a lot in highlighting the use of computer technology in library operations.

It is however, pertinent to trace the historical development of the application of such technologies in the library operations in Nigerian academic libraries. This application otherwise known a library automation dates back to the 1970s. At the initial stage university libraries started to use the advantage of their respective institutions' computer centres facilities, which was the era of mainframe computers. Early efforts were recorded when some Nigerians libraries started using computers to produce serials listings (Onyinloye, 2004).

The significance of ICTs in Nigerian libraries cannot be overemphasized. Although the application of the technologies can be said to be low if compared with what is obtained in the developed countries of the world (Adeyemi, 2001.) Yet Nigeria Libraries especially the academic ones are striving hard to apply especially the modern technology in their operations Adebisi (2004) concluded that

“The socio-economic, political and environmental demands placed of libraries worldwide call for alternative approach to manual process of rendering library services. The imperative for service delivery, which is “responsiveness” in current dispensation, can only be achieved through electronic services delivery mechanism” (85).

Also Osinulu (2003) observed that “ there is a growing evidence in the literature that for libraries to be relevant in the scheme of current trends, they need to put into use the new technologies” A lot has been said about the importance of ICTs in library operation. Such significance move around various aspects of library

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activities". Madu and Adeniran (2000) identified five different activities in libraries that constitute information technology, they included.

- a) Automation of the circulation system
- b) Automation of the cataloguing system
- c) Automation of the acquisition system
- d) Automation of the Bibliographic control and
- e) Dissemination of Information (p.7)

All of these services or activities are central to all kinds of libraries, which they use the advantage of these automated system to facilitate its activities by providing desired information at the right time and with ease. Thus, the issue of dissemination of information, which is one of the focus of library services, could be greatly enhanced.

In his contribution towards the use of ICTs in libraries, Henderson (1992) explained that the application of IT in Library operations could facilitate the following:-

- 1) Provision of speedy and easy access to information
- 2) Provision of round-the-clock access
- 3) Provision of access to unlimited information from difference sources
- 4) Provision of Information flexibility to be used by any individual, according to his/ her requirements.
- 5) Facilitating of reformatting and combining of data from different sources.

It is noted that the values of ICTs are endless. They do not only give the opportunity to have easy access to information from various sources but also facilitate resources sharing between and among various organizations apart from improving the status of the profession (Madu and Adeniran, 2000,).

From the above, the importance of ICTs in various aspects of today's business including the library activities can not be overemphasized. The phase at which the world is now moving in all spheres of human endeavor is so amazing as a result of the utilization of ICTs.

Application of ICTs

Information Technology according to Madu, et al (2000) is applied to the operation of libraries and information centres to ensure that information delivered is timely, accurate, precise and relevant.

A. House Keeping Functions

Oketunji (2001-4) classified library house keeping function into four (4) subsystems namely:- Acquisition, Cataloguing, Circulation and Serials.

i) Acquisition

This section is concerned with the selection and acquisition of books and other materials by purchase, gift exchange and other means. Most of the functions of acquisition section of the library are repetitive, the result is that there could be repetition in the ordering of same materials or multiple pay for the same thing.

ii) Cataloging

One of the most important library operations is cataloguing it is the traditionally most time consuming technical operations in the libraries. The end products of cataloguing provide the much-needed access to library collections. According to Oketunji (2001) automating the cataloguing section can facilitate the following:-

- Establishment and maintenance of catalogue database, names authority files, and subjects file, and local authority lists.
- Online public access catalogue (OPAC)
- Inventory control, establishment of shelf list control record, added copy and inventory statistics.

One of the most important benefits of the application of computers to cataloguing that directly affects library use is the Online Public Access (OPAC). The machine readable catalogue (MARC) which libraries started using since 1968 has enhanced the automation of cataloguing process. Using MARC standard of cataloguing enable libraries to make use of commercially available library automation system to manage library operations, it also allows libraries to replace one system with another with the assurance that their data will still be compatible.

(iii) Circulation

The use of computer in the circulation section of the library helps to eliminate some of the repetitive of manual works, which involves:-

- Charging and discharging of books
- Writing of overdue notice
- Reservation of books and compilation of accession list of new arrivals.
- Recording of fines and keeping statistics of use of the libraries with the use of computer, these jobs are performed faster, neater and with high level of accuracy.

(iv) Serials

The serial section handle publication issued in successive parts at regular and irregular intervals, maintaining the operation of this section in a manual system or environment includes the following.

- Subscription control

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- Information storage and retrieval which entails selection Dissemination of information (SDI)
- Services
- Management functions, which might cover areas like management of work performance or user services.

B) User Service

Service is at the heart of library operations. In technology has played and is still playing and will continue to play a major role in the delivery of quality service to the users some of such services which has been revolutionized through the IT are:

1. Book Borrowing

To the users the changes occur in the library because of automation become evident when a book in which borrowings are recorded, showing date of borrowing, name and class of borrower and details of the book borrowed which are now stored in a data base not a file drawer.

2. Library Services in the Home

Rapid advancement in technology has made the provision of home services a pleasant reality to the user. Patrons with a terminal and modem in their home or place of business are able to search the on-line catalogue for a book, place a book on hold or reserve, and request an inter-library loan. It provides in-home service across the nation, which allowing telephone access to regional libraries from any equipped home.

(C) CD-Rom Searching

The compact disc-read only memory (CD-ROM) is an information technology with great potential for libraries in general. Its potential lies in storage capacity. Compactness portability reduced shelf space and durability. The CD-ROM has been found useful in storing information that does not change over a substantial period of time. CD-ROM combines text, graphics audio and moving images and these can accessed using multimedia facilities. And they the ability to play a wide repertoire of materials such as book, journal directories, moving games, video and educational materials. Database on CD-ROM are durable, have huge storage capacity and retrieval is easy browsable and fast.

(D) Networks

A network is ways of connecting computers so that can communicate with each other and share resource like printer and storage space. The internet is the biggest global computer network. The internet offers a wide range of services which can enhance libraries operation these include electronic mail, electronic commerce,

electronic banking, file transfer, remote logging world wide web (www), bibliographic service etc.

1. **Electronic Mail (e-mail)**

Electronic mail is a simple way of sending text message to other people who have to internet access. It is a fast easy and inexpensive way to communicate with other internet users round the world. E mail is an important tools in the library. Inter-library loan service can be provide with it.

2. **E-Commerce**

Goods and services are advertised or purchase through the internet. Libraries are supposed to provide this service to their clients. Acquisition of library materials can be done on the internet.

3. **E- Banking**

Money can be sent and received at the internet speed all over the world. This will definitely enhance the payment of material purchased overseas.

4. **Bibliography Services**

These are also known as information utilities and are essentially libraries on disk. Unlike the public libraries which may be located some distance away and open only on a certain number of hours per week, bibliography services are available virtually round the clock from any place where there is a computer with a modern through bibliography services hundreds of client can use the same materials at the same time.

5. **Wide Area Information Services (WAIS)**

The internet wide area information service comprises standard data base where users can retrieve full text or multi-media document. It is information typically or bibliographies, textbooks, abstract, indexes and library catalogues.

6. **Telnet**

Telnet is a powerful internet tool that enable remote login to another computer it was developed for the purpose of long distance. Computer scientists located at any remote location can have access to library information anywhere in the world. Libraries that has access to the Telnet function of internet can search and view “display” versions of record from LCS MARC files as well as from a number of other files, through the Library of congress information system (LOCIS). This is available over the internet at no charge.

7. **File Transfer Protocol (FTP)**

The whole purpose of the internet is to transfer files from one machine to another no matter where in the globe FTP is enable FTP users to be able to receive file from the net. It provides a giant electronic libraries of computer files. There are serves that can log onto, to use the FTP software to request for file which FTP site would then send to them.

8. **The World Wide Web (WWW)**

The www is today what is drawing the internet. It allows all kind of documents containing texts, videos sound and dynamic graphics of pictures to be hyper linked together. The entire collection of these document stored in computer system called web sites round the world is what is known as the www. The effect of www access on libraries is enormous.

9. **Teleconferencing**

When a group of people wishes to meet without all coming to the same location, they can do so by teleconferencing it is done electronically, by voice over radio or telephone conference call by one-way or two-way television or by computers. It is also relatively in expensive. There are no travel cost and time away from office, conference attendance is kept to a minimum.

10. **Video Conferencing**

Video conferencing is another innovation provided by information technology, A video conference can enhance the quality and intensity of communication, engender a sense of responsibility and involvement among individual who could not otherwise meet with each other and lead to articulation of policy, goals and objectives through consensual decision making. It can also enhance remote collaboration. Which has traditionally been limited by voice only (telephone) or text only (e-mail interactions). The advantages associated with the incorporation of videoconferencing in libraries are numerous e.g (1) reduce traveling expenses (2) Effective use of time (3) Flexible communication (4) Application sharing etc.

Problems of the ICTs Application

(1) The Nigerian libraries were asked to indicate the nature of problems they encountered as a result of the application of the ICTs in information services in their respective libraries. Some of the problems identified or indicated include.

1. Insufficient ICT literacy of the library staff
2. Erratic power supply
3. Maintenance problem
4. Frequent breakdown of ICTs
5. Erratic nature of telecommunication services
6. Cost of replacing broken down hardware and software is high
7. Cost of maintaining telecommunication services is high
8. Inefficiency of internet service providers
9. Indifferent attitude of users.
10. Indifferent attitudes of library management to provide effective support to ICT based on reference services delivery
11. Insufficient accommodation for using the facilities.

A library is virtually in repository of knowledge which has no physical existence but exist electronically where it is organized preserver and disseminated to users by a professional staff.

However, According to Madu and Adeniran as cited by Umar Garba Gama (2008) has summarized the problems of ICTs in the libraries.

The findings revealed that erratic power supply and the high cost of replacing broken down hardware and software facilities were the common problems affecting the application of the facilities in all the libraries. For the fact most of these facilities required the use of electricity, any slight interruption of the supply could be easily noticed especially if the facilities were on use when the interruption occurred. Nigeria has for long been experiencing excessive shortage of electricity, which affects the smooth running of various activities in the country. The high cost of replacing constant operation of generators by the libraries through their parent organizations may not be conveniently afforded. This create serious problem in using ICTs to deliver services. The other problem of high cost of replacing broken down software and hardware facilities could probably be associated with either insufficient funding of the libraries or low priority attached to ICT facilities in the libraries.

Other significant problem discovered in the Nigerian libraries includes maintenance, frequent breakdown of ICTs, cost of maintaining telecommunication services and indifferent attitude of users. However, the cost of maintaining some of the facilities like the internet and telephone was discovered to be centrally settled in Nigeria. There are numbers of other problems such as limited number of computers, insufficient fund for ICT development, bandwidth, and software production and shorted of ICT specialists in the library were identified as problems being experienced by the library in the application of ICTs.

Conclusion

This paper is in significance of ICT and their application in libraries. It gives the definition of a library and ICTs and then discussed the significance of ICTs and their applications in Library. Conclusively, the paper analyses the ICT facilities employed in some sections of the library such as circulation, reference, serials etc. A library is virtually in repository of knowledge which where preserve and disseminated to users by a professional staff.

Recommendations

The paper shows that there are adequate provisions of ICT resources in Nigerian libraries.

To enhance the application of ICT in the Nigerian libraries, the following recommendation are made.

- The Nigerian libraries should provide ICT facilities in the libraries.
- Power holding company of Nigeria (PHCN) should improve their service to the nation.
- Libraries should provide standby generators particularly in the libraries to power ICT facilities as soon as the public power supply goes off.
- The ICT section of the library should install inverters or solar system to power the station especially when there is no diesel to operate the generators. This will also encourage the utilization of ICT by academic staffs and users.
- Users of the ICT unit of the university library should learn and improve themselves on the skills to use ICT.
- They should be encourage to register for part time tutorial by private computer training schools for self development.
- The reduction of high tariffs on the importance of ICTs and there peripherals into the country will help to reduce the cost of ICTs equipment and the peripherals and make them affordable to students and other users.
- Private telecommunication operators should be urged to render effective and efficient services for the benefit of all the sectors that use their services by this it will help to reduce the problem of communication in the country.
- Users (both students, staff and researchers) should create out-time from their crowded schedules to use ICT which in fact provides ready information in virtually all subject areas for their academic activities it has been said that the use of ICTs provide the most readily and most current information resources compared to what is available in conventional libraries with print material.
- It is therefore advised that users ICTs Nigerian Libraries should embrace the use of ICT to remain current in their various disciplines.

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