

Information and Communication Technology (ICT) Application in Library Services: a Comparative study of Two Nigerian Universities

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Abstract:

Purpose: This study investigates the ICT application in libraries services: a comparative study of two Nigerian University libraries.

Design/Methodology/Approach: Descriptive survey design was adopted for the study and the population consisted of 100 undergraduate students who used the ICT facilities in the library from University of Ibadan and University of Lagos respectively. Simple random sampling technique was employed to select 50 respondents each from University of Ibadan and University of Lagos. The questionnaire and interview checklist was the main instruments used for data collection. Data was analyzed using single percentage.

Findings: The findings revealed that Internet 33.0%, computers 40.0%, printers 20.0% were some of the ICT facilities available in both university libraries. The respondents also indicated that ICT have benefit with great extent in the way library services are discharged. The Internet facilities were used on daily basis 30.0%; computers 22.0% were used on weekly basis while multimedia projector 19.0% was used twice a week. Librarians interviewed lamented that ICT application has helped them immensely on the way their duties were discharge to library users, they also cemented that OPAC has help library users to search and retrieve information needed for their studies.

Implication: The study concluded that in other for any academic libraries to compete with counterpart globally, ICT must be employed and applied in every sphere of librarianship. Librarians in both university libraries lamented that ICT has replaced the way their duties were discharged to users

Originality/Value: Librarians should be given thorough training and re-training exercise on emerging trend in technologies, there should be technological infrastructure that will enhance library services.

Keywords: ICT, Library services, University.

Introduction

Libraries and information centers nowadays are moving their part from manual way of providing information resources to electronic, online and digital information resources. The use of computer technology has increased the trust on computer systems, fast value of the Internet and quality and quantity in the information overload which have overpower and subdue academic libraries to adopt emerging methods for storage, organize, retrieval and dissemination of information for better library services delivery.

Ebijuwa (2005) defined ICT as tools used for collection, processing, storage, transmission, and dissemination of information. The application of ICTs in libraries has helped to ease and improve library services as well as enhances information accessibility. ICT application is used interchangeably with automation in libraries and

information centres which have flooded the global information village. Library automation has facilitated easy access to information, preservation of vital information in the library as well as searching for information with less time.

One of the objectives of automation is to make information easy among academics, faculty members, researchers, students and other information professionals through e-mail, transfer of documents, computer, teleconferencing, video conferencing, etc. Also, ICT has brought numerous objectives to library and information centres, such as to form and bridge communication network that will link two or more libraries and information centres together, this is also refers to as consortium (Williams and Channaveeraiah, 2008).

The advancement in computer technologies, digital and electronics devices and information technology have extremely replaced the services rendered to user in the library. ICT application has drastically helped and changed the way librarians' rendered library services to their users particularly when storing and retrieving information which is rapidly shifting the libraries from retrospective conversion to automation.

Benefits of ICT application in libraries cannot be overemphasized; one of the major benefits is that it enhances creativity and innovation, easy access to information, access to many information at a time, cost effectiveness, users satisfaction, faster and quicker retrieval of information, ease information search etc.

Libraries and information centres has been regarded as the place where users get and make use of information to satisfy their needs. In selection of IT in libraries, librarian's must include all those technologies that are supposed to be used in the library routines and services like acquisition, processing, circulation, references, storage, retrieval and dissemination of information. The rapid advent in the information and communication technologies has bestowed almost every discipline of application including libraries and information centres. In libraries; ICT are good use in the following areas or systems: Library management, library automation, library network, audio-video technology and technical communication (Dabas, 2008).

Chuene (2001), opined that IT has eliminated much routine and increased speed in the acquisition of library materials, online access to library collections, the use of electronic resource databases, online literature search. ICT application has brought about tremendous improvement in library and information services delivery throughout the world. It has also added merit of taking possible services for both librarians and library users, which would have been done under traditional and manual operations.

IT has resulted from a convergence of computing technology and communication technology. The term information technology includes all the different ways of representing facts, events and concepts within a computer based system. The author further explained, that in this usage, it involve structured data

technology consist of electronic technologies for retrieving, collecting, storing, processing and communicating information. The two main types, the first is processing information, such as personal computer and the second are disseminate information such as telecommunication system. Major growths in the use of ICT in libraries have been notable in university and research libraries of particular significance are computerized cataloguing systems, which enable the creation, and use of centrally produced bibliographic records. In Nigeria, the success story of application of ICT to libraries and information centres was reported by Lawani, Azubuike and Ibekwe (1992). They reported that at the international Institute of Tropical Agricultural, (IITA) automation has made many operations, including orders; circulation, bibliographic compilation and literature search easier and more efficient thereby increasing the Job performance of librarians.

ICT has been considered as one the agent of development in the world, China economy was reinstated with ICT thereby makes them the second largest economy in the world. Presently, China is one of the countries that produce technology to developed country like Nigeria with less cost particularly mobile technology.

Kenneth Dike Library, University of Ibadan was established along with the institution in 1948, the library was established to cater and support teaching, learning and research of users. The automation in the library is on a Network with over 100 users accessing Noval 4.15 in a star topology. The network activities are being monitored and administered through the network server located in the systems units of the library.

The library was first used CDSISIS library management software donated by UNESCO, because of the expansion in volume of the library collection, it was replaced by TINLIB. The TINLIB is comprehensive library management software with the following module: Catalogue, Circulation, Acquisition and Serial module. TINLIB was also replaced by ALICE FOR WINDOW. Presently, the library uses VIRTUA library management software, the software was bought from the United State with the following module, Catalogue, Circulation, Acquisition, Serials and Reference module. The software is compactable with the LC cataloguing and classification scheme which the library uses to process newly purchased books.

University of Lagos Library was established in 1962, shortly before the oil boom in the country. The library automation section from inception was to ease the users in searching and retrieving information. The automation section was created and charged specifically to identify problems militating to effective services delivery in the library.

The library first used TINLIB library management software and later migrated to GLAS. The GLAS system has been successfully installed with over 55,000 entries.

Statement of the problem

Nigerian University libraries have weakened up to the reality of the importance of information technology in facilitating services in libraries and information centers. In the application and integration of information technology system, the expectation is that the mission of libraries would be transformed from routine acquisition of information, organizing information, making it available and preserving it, to one of facilitation of access to all forms of information that meet “users” needs. It will also provide the assurance of continuous improvement of resources and provision of prompt services. Many studies have been carried out on the role of information technology in the libraries such as Idowu and Mabawonku, (1999), Adeyemi, (2002), Chuene, (2001). All these studies aforementioned above have major problems encountered in the computerization of libraries services, such as inaccurate costing of the computerization projects, wrong selection of software and low capacity NetWare system. In the light of the above statement the study will attempt to investigate the application of information technology (IT) in enhancing effective and efficient libraries services.

Objectives of the study

The objectives of the study are to achieve the following:

1. find out the types of information technology facilities available in both University libraries.
2. find out frequency of use of ICT facilities in both University libraries.
3. investigate the extent at which ICT facilities has enhance library services in the University libraries.

Research Methodology

The study adopted a descriptive survey research design of the ex-post facto type and the population consisted of library personnel from

Kenneth Dike Library, University of Ibadan and University of Lagos Library, Akoka, Lagos. The population consisted of library users who use the ICT facilities in the library. Simple random sampling technique was adopted to sample 50 respondents who use the ICT facilities in the library each from the both University libraries studied giving a total of 100 respondents. The questionnaire and interview checklist with librarian was also employed to compliment and validate the information got from the questionnaire as method of data collection. Data was analyzed using simple percentage method.

Review of Literature

Information Technology has introduced a technological revolution all over the world and has permeated every aspect of life. Information Technology (IT) is revolutionizing how we live, work and even think. The future of the global economy will depend on the ability to use Information Technology (IT) facilities to transfer and process large amounts of information (Akudolu, 2002). In this summation, every nation is trying to succeed in the use of Information Technology (IT) in a bid to gain competitive advantage.

The “IT revolution”, as it is called today, has been brought about by the convergence of various technologies, i.e. computer technology, mobile technology, electronics and telecommunications technology. These have been made possible because of a number of reasons, which have their roots in technological advance in various disciplines of computer, electronic and telecommunications. According to Akudolu (2002), development in information technology (IT) has turned the world into a global village. Information technology has broken all national and international barriers and removed all problems of distance as well as make information available to everybody anywhere and at any time.

The ability to network computer in various locations has eased the transfer and retrieval of information. Information Technology (IT) is thus, generally as all the means and methods used in collection, processing and of information. The computer and telecommunication facilities major components of Information Technology (IT), the computer power for processing and storage while the telecommunication facilities provides the means of transferring the information from one place to another.

Library automation has come a long way, and unpredictable path, since the 1930 when a few libraries began, to incorporate IBM record equipment into their circulation procedure. The introduction of technology into libraries has often been rather abrupt, characterized by landmark developments that usher in a new phase of activity or mode of application.

Library automation is the application of ICTs to library, routines, operations and services. The units, sections and department that may be automated in libraries are the following: acquisition, cataloguing, public access (OPAC), circulation, serials management, and reference (Unesco, nd.)

Eguavoen (1999) pointed out that automation of library services would be inconclusive without the conversion of the back log of library materials, which had hitherto been manually processed. Information technology (IT), especially the never forms based on computer systems and telecommunication has revolutionized library operations and services and this has become a growing emphasis in library and information science education. Yet while continuing to stress the importance and possibilities of digitalized information, it has long been realized that installation of information technology (IT) is not an end itself. Montviloff (1995) and reported by Makondo and Katun, (2004) “the application of Information and Communication Technology (ICT) alone does not automatically provide the whole solution to the library information system problem of providing the content of and access to information”.

In academic library, information technology has transformed working practices across the whole spectrum of library operations over the last 12 years (Madu, 2004). This suggests that IT creates advantages by leveraging or exploiting pre-existing complementary human and business resources.

Idowu and Mabawonku’s, (1999) admitted that there are diverse applications and uses of the microcomputer to information managements. It is also true that research and university libraries are at the forefront in the application of information technologies in Nigeria.

Tiamiyu, (2000) defined information technology in terms of tools as “Computer, Micro-electronics and telecommunication equipment used to produce, obtain and send information”. ICT has been defined by Webster’s New Encyclopaedia as the collective term for various technologies involved in the processing and transmission of Information they include computing telecommunications and microelectronics (Devarajan, 2005).

Blake, (2001) found out that advances in research and development in microelectronics have given rise to important area such as informatics, scientometrics, webometrics, bibliometric and telematics as well as discipline related to computer sciences and computer technology. The author added that the advances have given birth to what is now referred to as modern information and communication technologies (ICT) which can be applied to library services such as Acquisition, circulation, Reference, cataloguing, selected dissemination of information (SDI) service.

The variation and adjustment of any emerging technology demand good infrastructure which acquires, learn and successfully apply the information and communication technology. This involves adequate personnel and human resources, well structured, designed and developed telecommunication networks, research and development capabilities and capital for investments (Ashraf, 2004).

Analysis and Discussion of Results

This chapter deals with the analysis of data collected for this research. The data are presented in tables below.

Table 1: Response Rate

Institution	Respondents	Percentage (%)
University of Ibadan	50	50.0
University of Lagos	50	50.0
Total	100	100

Table 2: Technology facilities available from both University libraries

IT Facilities	Frequency	Percentage (%)
Internet	33	33.0
Computers	40	40.0
Multimedia Projector	03	03.0
Printer	20	20.0
Scanner	04	04.0
Total	100	100.0

Table 2 showed that computer 40(40.0%) and the Internet 33(33.0%) were the available information technology in both University libraries. While multimedia projector 3(3.0%) and scanner 4(4.0%) was the least available information technology facilities in both university libraries. This findings concur with of

(Etebu, 2010) who indicated that computers, UPS, scanner, projector and Internet connectivity were some of ICT facilities available in the Niger Delta University main Library and Niger Delta College of Health Sciences Library.

Table 3: Frequency of use of the ICT facilities in both University libraries

IT Facilities	No of times	Frequency	Percentage (%)
Internet	Daily	30	30.0
Computer	Weekly	22	22.0
Multimedia Projector	Twice a week	19	19.0
Printer	Monthly	10	10.0
Scanner	Rarely	19	19.0
Total		100	100.0

Majority of the respondents from both university libraries use the Internet facilities on daily basis 30(30.0%). The table also revealed that 22(22.0%) respondents use computer facilities on weekly basis while the least respondents 10(10.0%) respondents use the printer facilities on monthly basis, while 19(19.0%) respondents

rarely use scanner facilities in both university libraries. The above statement corroborates that of (Kumar, 2012) who found that 72.34% of the students use the Internet at least daily, whereas 17.2% of the students use the Internet on weekly basis.

Table 4: Extent at which you have benefited from ICT for library services in both university libraries.

Response	Frequency	Percentage (%)
Great Extent	21	21.0
Considerable Extent	21	21.0
Small Extent	29	29.0
Undecided	29	29.0
Total	100	100.0

Majority of the respondents 29(29.0%) have benefited at small extent on the use of ICT for library services from both university libraries. Also, the table revealed that 29(29.0%) are undecided on the use of ICT in both university libraries. 21(21.0%) respondents agreed that they have benefited at great extent and considerable extent on the use of ICT for library services in both university libraries.

In other to compliment the result from the questionnaire, interview checklist was also used to validate the result of the study. Face to face interview was done with librarian from both university libraries, here are their taught on ICT application in academic libraries:

The librarians revealed that application of ICT in libraries has provided them an easy routine in every part of librarianship. ICT has also helped

them to satisfy users' information needs as well as dissemination of information with less effort and little time.

In the area of acquisition of library materials, ICT has replaced the manual way in which books are purchased in the library, before, librarians has to take their order to the publisher's office which equally stressful and time consuming. With ICT, orders are placed online for the books to be purchased, all you have to do is to visit the publisher's website and place your order. This can be done online right in the office, its fast and less stress.

The librarians interviewed also submit that ICT in the library has increased the patronage of users to an appreciable extent, owing to the numerous benefits and merits to library users. It allows users to exhibit the technological skills especially when searching and retrieving information in the library with the Online Public Access Catalogue (OPAC) and the Internet.

The librarians also concluded that, they prefer ICT application and use in the library than the conventional way because there is flexibility advantages like faster services delivery, remote access to the library resources, multiple access to information in the library etc.

Conclusion

Basically, from the findings in the study, it would be more appropriate that information technology should be readily present in our institutions of learning so as to allow the users and the librarians to catch up with the present trend of information technology (IT); since the world economic and social order is increasingly being driven by knowledge and the rapid exchange of information.

The study also concluded that ICT facilities that are available in both university libraries are the Internet, computers, and printers. In addition, the Internet facilities were frequently used on daily basis, computers were used on weekly basis, and multimedia projectors were used twice a week. It can also be deduced from the study that ICT facilities has benefited at great extend for library services in both university libraries.

Librarians interviewed also indicated that ICT application in the libraries has provided them easy routine in every sphere of librarianship and also helped in information dissemination with effort and little time. ICT applications in libraries have also increase in the patronage of

users owing to the numerous benefits to library users, it helps library users to search and retrieve information in the library with the use of Online Public Access Catalogue (OPAC).

Recommendations

Basically on the findings in the study, the following recommendations are as follows:

- ❖ University authorities in Nigeria should make it a point of duty on their part to encourage information technology programmes which will hasten development.
- ❖ Librarians should be given thorough training and re-training exercise on emerging trend in technologies.
- ❖ There should be technological infrastructure that will enhance the library services.

Suggestions for further studies

There is need for further research work to cover a wider scope by other interested researcher since the present study was carried out in a restricted setting.

Furthermore, there is need for the university authorities to lay more emphasis on the need to improve information technology (IT) and library facilities so as to enhance development of knowledge in the society. It will also become necessary for interested researchers in this field to throw more lights on the need for users to improve their learning skills or habits by searching and accessing information technology for current and relevant information.

References

- Adeyemi, B. M. (2002). Problems and Challenges of Automating Cataloguing process at Kenneth Dike Library, University of Ibadan. *African Journal of Library, Archival and Information Science*, Vol. 12 (2), pp.213-222.
- Akudolu, L. R. (2002). Information and Communication Technology (ICT) Centered Education: A Necessity for National Development. *Nigerian Journal of Computer Science*, Vol.3 (1), pp.15-24.
- Ashraf, T. (2004). "Library services in electronic environment: Changes, Challenges Issues and strategies", New Delhi: Kaveri Books , p130.

- Blake, C. (2001). 'The New Communication and Information Technologies and African Cultural Renaissance.' *African Journal of Library, Archives and Information Science*, 2, no. 2, pp. 93-98.
- Chuene, M. M. (2001). The Effect of Information Technology on Library Acquisitions: Experience at the University of North South Africa. *African Journal of Library, Archival and Information Science*, Vol.11(1), pp. 25-38.
- Dabas, C. (2008). "IT applications for TQM and Library marketing", New Delhi: Ess Ess Publications, p 40-42.
- Ebijuwa, A.A. (2005). Information and Communication Technology in university libraries: The Nigeria experience. *Journal of Library and Information Science*, 7(1&2):23-30.
- Eguaveon, O. E. L. (1999). Retrospective Conversion in Academic Libraries: The case of Kenneth Dike Library, University of Ibadan. *African Journal of Cross-Cultural Psychology and Sport Facilitation*, Vol. 1(1).
- Etebu, A.T. (2010). ICT Availability in Niger Delta University Libraries. *Library Philosophy and Practice*.
- Forester, T. (1997). *High-Tech Society*. UK Basil Blackwell Ltd.
- Idowu, A. O. and Mabawonku, I. (1999). Information Technology Facilities and Applications in some Nigerian Research and University Libraries. *African Journal of Library, Archival and Information Science*, Vol. 9(1), pp. 27-35.
- Kumar, P. (2012). Application of information and communication technology (ICT) by medical students: A study of Government Medical College, Chandigarh, India. *International Journal of Library and Information Science*, Vol. 4(3), pp. 45-51.
- Lawani, S. M., Azubuike, A. A. and Ibekwe, G. O. (1992). Large-Scale Library Automation: An African Success Story. International Institute of Tropical Agriculture. *African Journal of Library, Archival and Information Science*, Vol.2(1), pp. 1-16.
- Madu, E. C. (2004). Automation and Service Provision in Libraries and Information Centres in Developing Countries. In Everest C. Madu (ed). *Technology for Information Management and Service: Modern Libraries and Information Centres in Developing Countries*, pp. 1-15. Ibadan: Evi-Coleman Publication.
- Makondo, F. N. S. and S. Katuu (2004). "An assessment of the sustainability of information technology at the University of Zambia Library." *African Journal of Library, Archives and Information Science* 14(2): 109-123.
- Tiamiyu, M. A. (2000). Information Technology in Nigeria Federal Agencies: Problem, Impact and Strategies. *Journal of Information Science*, Vol. 26(4), pp. 227-237.
- Unesco (nd.). Module 2: Introduction to Library Automation. Assessed 5/6/2015. Retrieved from http://www2.unescobkk.org/elib/publications/ICTEIP/MODULE2/EIPICT_MOD2_ppt/EIPICT_MOD2_L1.pdf
- Williams, T. And Channaveeriah, L. (2008). From Automation to Transformation: Impact of ICT in LIS: Major Shifts & Practices. 6th International CALIBER - 2008, University of Allahabad, Allahabad, February 28-29 & March 1.