

CHALLENGES OF APPLYING INFORMATION COMMUNICATION TECHNOLOGY (ICT) IN THE USE OF ACADEMIC LIBRARIES IN NIGERIA

Benson Dele; Anthony Uniobokhai and Eunice N. Nwadioha

Abstract

This study looked at the application of information communication technology in academic libraries in Nigeria. The concept of ICT was examined while the challenges ICT poses on libraries and librarians were discussed. The problems and prospects the application ICT on libraries were also examined. This paper concluded with the solutions to the problems associated with the application of ICT in Nigeria academic libraries, and also recommended among other things that, government should intensify efforts to provide information communication technology (ICT) and training and re-training opportunities should be made available for librarians.

Introduction

The world is presently undergoing an information revolution, a period when developing economic of the world have accepted information as a valuable resource equitable to other natural resources such as gold, petroleum, cocoa. From time immemorial, information and how to collect, process, stores, communicate and disseminate it have attracted man's attention. Ononogho (1990) states that the technologies for recording information range from clay tablets in ancient Mesopotamia through papyrus and parchment to wax and paper. It means information and technology for collection; processing, storing and disseminating it are probably as old as man himself. Thus, when today people talk about information and communication technology (ICT) they are referring to the modern concept of the subject.

Information technology has changed the way people live and work, in teaching and learning to research, management, industry, libraries, business national economy, international affairs to mention a few. Our educational system needs a thorough re-examination and an X-ray. The education we need in this 21st Century is an education that will provide answer to the nation's problems, economically and technologically. If we continue to sleep educationally, then we may pay a very costly price. With the global explosion of knowledge, the quality of education in the nation is not catching up with the tremendous changes imposed by technological world and economic globalization. From ages, information and how to collect, process, store, communicate and disseminate it have attracted man's attention. The direct consequence of globalization and the information age in which the global community finds itself calls for conscious re-examination and redirection of libraries, like their counterparts which are faced with challenges of globalization.

Librarianship and library under the influence of the information and communication technology has witnessed transformation, while libraries services now cut across geographical boundaries with the emergence of the virtual libraries system in the redefining and extending the traditional definition of library and has rendered the definition of a library with respect to a particular institution or geographical region inappropriate. Libraries must therefore overcome the prevailing perspective of locality in libraries organization because libraries have a key role to play in providing people with the right information in the context of the global village.

Traditionally libraries are information service institutions with the advent of information and communication technology (ICT) which brought about the revolutionary journey from traditional to digital or virtual services, information providers are the facilitators of these process.

The shift from traditional libraries with site-specific collection to digital or virtual where information and knowledge sources have no geographical boundaries seems to expand the services of libraries and information professionals in various organizations.

Library collections have almost always contained a variety of materials, contemporary libraries maintain collections that include not only printed materials such as manuscripts, books, magazine, newspapers, journals, bulletins, but also art productions, films, sound and video recording,

maps, photographs, microfilms, microfiches, CD-ROMs, computer software's, online database and other media. In addition to maintaining collections within library buildings, modern libraries often feature telecommunication links that provide users with access to information at remote sites.

The modern world, library inclusive is undergoing a fundamental transformation as the industrial society of the twentieth century rapidly given way to the information society of the 21st century. This dynamic process promises a fundamental change in all aspects of our lives, including knowledge information dissemination, social interaction, business practices, political engagement, education, health leisure and entertainment etc. The central mission of a library is to collect, organize, preserve and provide access to knowledge and information. In fulfilling this mission libraries preserve a valuable record of culture that can be passed down to succeeding generations libraries are essential link in this communication between the past, present, and future. Whether the cultural record is contained in book or in electronic formats, libraries ensure that the record is preserved and made available for future use.

Concept of Information Communication Technology (ICT)

Information technology (IT) refers to all forms of technology applied to the processing, storing and transmitting information in electronic form. The physical equipment used for this purpose includes computers, communication equipment and networks; fax machines and even electronics pocket calculators. Information technology can be traced to Ancient Civilizations from when writing systems were invented and used in recording the traditions and cultures of these civilizations. Throughout these ancient civilizations, the method of recording these knowledge and information was basically by hand, using the various writing system like the cuneiform in Mesopotamia, Hieroglyphics in Egypt and Greek and Roman Alphabets had become the norm.

The thirst for more information and knowledge, led to the invention of the pointing press by Johan Gutenberg in Dresden 1474 which revolutionaries the printing and dissemination of information and knowledge for all times. Till date printing though having undergone a lot of technological improvement still remains the major means of information dissemination all over the world. The direct impact of this was the increase in the production of written (printed) documents, which led to the blooming of learning. Consequently the invention of telegraph in the 18th century went a long way to change the manner in which information could be disseminated from place to place, this was the basis of the modern information and communication technology revolution.

Following the industrial revolution in the 19th century, which virtually most human economic production routines mechanized the next step come with the invention of the so called computer by Charles Babbage in 1834 who gave it the name Analytical engine. The prototype of the computer as we know it now however was developed by the Americans in the 1940's beginning with UNIVARC project. Then came the third and forth generations and finally the personal computer (PC), which has been at the forefront of the information revolution and what has come to be known as the new information and communication technologies.

The information society is an evolving concept that has reached different levels across the world reflecting the different stages of development. The force fuelling this rapid transformation of remote and isolated information units into global interconnected super highways is information and communication technology. Relying on advances in the development of the micro clip and the development revolution has completely re-structured the global social-economic equations and let to the transformation of the transformation of the world into a global village.

Before the emergence of the computer, telephone services were commonly used all over the world for communication purposes. The fax, telex, and many others came in by the advent of the computer and its capacity for networking, which brought about internet. The fusion has given rise to Information and Communication Technology (ICT). Hawkins (2002) notes that knowledge and information have become the most important currency for productivity, competitiveness and increase wealth and productivity.

Akintunde (2004) opined that information and communication technology emphasized the use of the computer and other technology such as telephone to process, transport and transfer voice and other data singularly or mixed with at least interference or dissertation of content. Information and communication technology is therefore a short hand for the computers, software, networks, satellites

links and related systems that allows people to access, analyze, create exchange and use data, information and knowledge which until recently were almost unimaginable.

What is Internet?

Internet is an international network. It is not a single network but a collection of computers world wide through a system of interconnection. The network consists of computers of varied size, make and number. Computers in countries and regions of the world are linked through telecommunications system. It revolves around connectivity, interactivity or communication compatibility among the subsystems of the network system. This high level of connectivity fosters unparalleled degree of communication, collaboration, resources sharing and information access (Oketunji 1999).

McBride (1997) opined that Internet is a veritable tool for global online services. Availability of the internet technology have paved the way for some associated services in respect of serials, such as browsing, E-mail, online system and information management. Librarians use internet and its multimedia component, the world wide web, to answer reference queries and to provide access to materials not previously available to their patrons. In some tertiary institutions of higher learning investments in personal computers and high-speed local area network (LANs) provided the students and staff with the ability to access vast sources of information via the Internet. This system helps in interconnecting computers within a singly location using very high speed private telecommunication infrastructure.

The Wide Area Network (WAN) in its own case helps computers within a geographically dispersed area or city to interconnect and share information.

With the emergence of these networks, effective information transfer can be affected. It is possible to access information in other libraries outside a user's domicile, which is highly convenient, time and cost saving.

It is equally possible for library users to concurrently share the same information. With these developments, the traditional library is being phased out and replaced by a virtual, digital (electronically created or imagine) library. As a result, libraries can now extend their traditional roles of facilitating self-education and individual enrichment by providing low-cost of force computer access to online resources. What can be achieved in information generation, acquisition, collection, processing, display and dissemination, was very exciting and intoxicating, and resulted in futuristic dreams. The advances in the fields of telecommunications, computer technology, and satellite communications have revolutionized information delivery services in advanced countries.

Akpan (2001) asserted that information can be delivered across countries into houses and offices instantly. Such sharing of information has given rise to the concept of globalization.

Computerization of libraries though relatively new being a little above a decade as expressed by Nancy Schiller (1992) defined it as a process in which computer and telecommunication technologies make access to a wide range of information resources possible. It is referred to as E-library "Virtual library" or "Digital library" or a "library without wall" this is so because the users are able to enjoys the euphoria of being able to access collections in distant libraries and yet he or she has not physically moved. It is an experience of virtual reality.

Computerization of library services is a child of necessity arising from the need to use technologies in accessing the world's information overload, or information explosion for human survival and development. It is mandatory for all libraries especially academic libraries to embrace it in its entirety. Information is power. And how a nation accesses and uses this power will soon become more important than how it uses its coal, oil, gas and other natural resources. The right to access information and ideas is vital for any society. If the citizens are to participate and make informed choices, they must have access to political, social, scientific and economic information and cultural expression, freedom, prosperity and development of society depend on education as well as an unrestricted access to knowledge through, culture and information. This right to intellectual freedom is essential to the creation and development of a democratic society.

Challenges of Information Communication Technology (ICT) on Librarians and Libraries

Librarians and information professionals of the future must be equipped with a wide range of

personal and transferable skills in order to manage the changing environment in which he or she works. The importance of transferable skill over information technology is highlighted here”.

Management and Interpersonal Skill will make Librarians to be

- (a) More effective managers of net worked resources and services.
- (b) Possess expert knowledge of the content of information resources, including the ability to critically evaluate and filter them;
- (c) Provide excellent instruction and support for library and information services users;
- (d) Use appropriate information technology to acquire, organize and disseminate information and
- (e) Analyze the professional domain and where it is heading.

Hashim and Mokhtar (2005), asserts that the new era librarian will become the guardian of digital information and will be the vehicle to preserve democratic access to information. The digital librarian's role will be increasingly towards offering consultancy to the users in their efforts in providing digital reference services, electronic information services, navigating, search and retrieval of digital information through web document that span the universal digital library or the global digital library. The new era librarian will be an embodiment of digital information professional or digital knowledge worker who will ensure that the digital libraries are use effectively and with ease.

The libraries and librarians are ever more now required to conform to international standard in order to fit into and participate in the current global economy. This fact in itself poses great challenges before the librarian. It is obvious to the librarian that he has to undergo a mental re-orientation. His outlook, posturing and beliefs have to curve or change to accommodate the new world. The change of outlook is what positions him mentally to begin to seek out ways for training and retraining to acquire the required skills for his job. Acquiring these skills is a challenge of which he must be ready to acquire Computer literacy skills to navigate cyberspace, skills for creation and evolution of web sites, skills in information management and access, skills to maintain profession alliances and skills in simple maintenance of equipment all these skills he/she need in addition to those he already had on the job.

Problems of Information Communication Technology in Academic Libraries

- (i) Fear of adverse impact on employment. It is generally believed that computer can do a lot of task of library operations thereby relieving staff of their positions, resulting to lose of jobs.
- (ii) Apprehensions that the new technology could be too expensive. There is expectations that the technology both hardware and software could be expensive and unaffordable.
- (iii) Lack of qualified personnel to handle the task.
- (iv) Lack of support from management as a result of budget constraints i.e. lack of fund.
- (v) Problem of retrospective conversion of data from manual to a digital system.
- (vi) Lack of adequate power supply. There is always power outage in Nigeria; computerization of libraries required twenty-four hours power supply.
- (vii) Lack of maintenance culture. Maintenance cultures is absence in our country one thing is to install something and another thing is to maintain them as most people believe that government property is no body's property.

Prospects of Information Communication Technology in Academic Libraries.

The search for information now is assuming a dimension whereby an information user is increasingly becoming conscious of an individualized approach. In this regards, he wants a personalized access to information without assistance from library and librarians. This approach can easily be made available; the use of computer can facilitate an integrated information environment (Ubogu 2000).

Saule (1990) asserts that computerization offers faster retrieval of a greater range of materials than the traditions method. The implication of this is, is that the user has the opportunity to search with the use of a more dynamic and varied search tools.

Tedd (1984) gave the benefits of computerization of libraries which encompasses all libraries as follows.

Challenges of Applying Information Communication Technology (ICT) in the Use of Academic Libraries in Nigeria

- (i) To provide a better service at a lesser or no great a cost and
- (ii) To give added benefit at lesser cost. Computerization of library system is of immense benefits both to the user and the library staff.
- (iii) The provision of the online access (by users and staff) to a library catalogue.
- (iv) The ability to access much more information through online search services than would have been to produce easily management information such as the average cost to new books, number of books on loan to specific group's e.t.c.
- (v) Saving present cost and curtails the cost of future expansion.
- (vi) Accurate completion of tasks.
- (vii) Time saving in performance of tasks.
- (viii) Increase control of library activity that are repetitive in nature.
- (ix) Permit the acquisition and use of literature on CD-ROM thereby saving the even increasing cost of acquisition to important serial and other publication for higher education and research.
- (x) Save shelving space for the libraries as a significant proportion of serial and reference collection can be on CD-ROM.
- (xi) Reduce the incidence of mutilation, defacing of library materials. The CD-ROM for example is search resistance and can more easily be secured from diligent users than printed materials in the open shelves.
- (xii) Improve the image and efficiency of the libraries and librarians both of which are important in securing the confidence and patronage of users.

Conclusion

The emergence of Information Communication Technology (ICT) and the application of computers technology to library operations have served to blend and expand information services, operations and dissemination of information.

Libraries have no other option than to join the global information economy else they will be isolated, because the world is undergoing a global information revolution in which the library cannot afford not to be an actor. The importance of information lies in its value as a resource and in its strategic value in decision making and planning. The ability to harness information from all facets of the economy will add value to decision making and information dissemination to users.

Recommendations

- (i) Government should intensity efforts to provide the infrastructural facilities for information. Communication technology (ICT). Attention should be geared by the authorities for proper funding of libraries.
- (ii) Proper training and re-training opportunities should be made available for librarians.
- (iii) Priority should be given to storage of multi-volume materials in machine readable format
- (iv) Federal Government should address the problems of power more pragmatically.
- (v) Sub-departments of ICT should be established in schools.
- (vi) All imported ICT equipment should be tax-force or subsidized.
- (vii) Networks and resources sharing should be undertaken by academic libraries.
- (viii) Staff and students of the various institutions should be re-orientated on maintenance culture of ICT equipments.
- (ix) Nigeria academic institution should be ICT compliance in order to survive the rather competition information world.

References

- Akintunde, F. (2004) Positioning vocational and technical education in alleviating poverty, proceedings of NATT 14th Annual conference held at Umunze.
- Akpan, B. B. (2001) Framework of educational practice in Nigeria Durand Publishers and Information Science Education (NALISE) University of Ibadan 4th – 7th August.

- Atkinson, J. Et---al (2000). *Treasures construction and Use: A practical manual* 4th ed. London: ASLIB.
- Daniels, H. (2002) *Management India*: Academic Press.
- Ebijuwa, A. S. (2005) Information and communication technology in University libraries. The Nigeria experience. Doughert & Richard, M. (1995). Balancing technology with professional value. *American Libraries* 26 (7).
- Fluckiger, F. (1995) *Understand networks multimedia applications technology* Hendeli Hempstead: Prentice Hall 217. Hawkins J. D. and catalano R. F, (2006) Broadening the vision of education: School of health promoting environments. *Journal of School of Health* 60 (4) 178.
- Ifidon S. E. (2003) Information superhighway access to research resources in Nigerian state Universities, *Social and Management Science Review* ITC 120.
- Jimba, Samuel, W. (1999). Information technology and underdevelopment in the third world library review 48 (2), 79.
- Mcbride, P. K. (1997) *Internet for windows 95 made simple* 2nd ed. Oxford: Butterworth. Heinemann.
- Oketunji, I. 1999 Application of information technologies in Nigerian libraries: problems and prospects paper presented at the 10th Biennial Conference of the National Association of Libraries.
- Ononogbo, R. U. (1990). *Information and technology for its communication*. Enugu: ABIC Books and equipments.
- Saule, M. R. (1990) *Teaching for library technology: Practical guide* UK: MacDonald
- Ugboma, M. U. (2005). The law librarian and globalization: Prospects challenges in communicate: *Journal of library and information science* vol. (7) 1 and 2.
- Tedd, L. (1984) *An introduction to computer based library system* 2nd ed. Chichester; John Wiley.