

CHAPTER ONE

INFORMATION AND COMMUNICATION
TECHNOLOGY USE AND THE SUSTENANCE OF THE
CHANGE AGENDA IN NIGERIA

Bassey Ruth C.

Main Library,
The Federal Polytechnic Offa,
Kwara State.

Adio Emmanuel O.

Main Library,
The Federal Polytechnic Offa,
Kwara State.

Abstract

This paper discussed extensively on Information and Communication Technology, its application and utilization in all aspects of a modern nation. It identified Information and Communication Technologies as tools for information recovery in the new millennium. Reason is that it comprises of tools such as computer, telecommunication facilities and peripheral which are utilized to source for and deliver information. It also examined the provision of Information Communication Technology for Development (ICT4D) a special policy implemented by the Nigerian government to empower Nigerians to be IT compliance and to be able to participate in software and IT development, ensure that information communication technology are readily available for the promotion of an efficient national development. The writers went further to highlight the perceived benefits of ICTs for national development and in the field of librarianship. It also listed some challenges to the effective utilisation of ICTs for the sustenance of the change agenda.

Keywords: Use of ICT, National Development, Libraries.

Introduction

It has been commonly accepted and proven that Information and Communication Technology (ICT) is the engine of the 21st century and beyond, this is owing to the fact that it has landed the world into a new era known as the era of globalization, information society, knowledge economy and network society. Nowhere else can the description of the world as a global village been made more realisable than the potentialities inherent in Information and Communication Technology. The importance of information system and technology for national development has long been recognized by developing countries; but its adoption has faced a number

of problems; yet it was realized that the use of computers would play a significant role for countries to participate in the emerging knowledge economy as a result, its influence in the political, social, educational, economical and cultural development has transformed and altered perceived notions about the role of information and communication technology in national development. It is no longer news today, that Information and Communication Technology has brought unprecedented changes and transformation in every sector of human existence, because in a technology-driven society, sending and receiving of information at a faster speed is important for both the sender and the receiver of the messages. Ocholla and Adigun (2006) stated that there is so much euphoria about ICT and how it is making a difference in the world order. Its impact in modern society has been so intense and powerful that it has revolutionised communication and interchange of information across the globe.

According to Afullo (2000) he referred to this radical transformation as a revolution founded on "convergence of communications, information and media technologies." It is also worthy of note that the rapid pace of development in Information and Communication Technologies (ICTs) and the emergence of networked information services have prompted a comprehensive review of the library profession. There is therefore a fundamental change from manual ways of carrying out information services empowered by analogue data to electronic ways of accessing and retrieving information powered by electronic gadgets. Within a short time, ICT has become one of the basic building blocks of modern society. This is irrespective of the sector or segment of the society as it can be felt from the peasant to the elite, urban to rural communities, schools to farms and all over, ICT has far reaching influences. It must also be noted that these new technologies have powerful influence on all aspects of our society, from commerce and business to health and entertainment etc. The library obviously is not an exception.

An Overview of Information and Communication Technology

Information and Communication Technology (ICT) refers to the usage of computer to provide storage, processing, retrieval, transmission and display of information, which allow users to communicate and manipulate information electronically. Often used as an extended synonym for Information Technology (IT), it stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), computers, middle wave technology as well as software, storage and audio-visual systems which enable users to create, access, store, transmit and disseminate information. This concept of ICT has also brought a phenomenal change in the information collection, preservation and dissemination

scene of the world. Dakwa (2010), opines that "since the early 1980s, Information and Communication Technology has permitted people to participate in a world in which school, work and other activities have been increasingly enhanced by access to varied and developing technologies. ICT tools have helped people find, explore, analyze, exchange and present information without discrimination". ICT covers internet services, information technology equipments and services, media and broadcasting, libraries and documentation centres, commercial information providers, network based information services and other related information and communication activities.

The United Nations Education, Scientific and Cultural Organization (UNESCO 2006) however sees it differently, as it defines Information and Communication Technology as forms of technology that are used to transmit, store, create, share or exchange information which include the analogue technology like radio, fixed telephone lines as well as the new technology which include computer, internet hardware as well as the equipment and services associated with these technology such as conferencing, electronic mail, on-line banking, electronic business transaction and more. Rouso (2012) agrees with UNESCO as she holds that Information and Communication Technology is an umbrella term that includes any communication device or application encompassing radio, television, cellular phones, computers and network hardware and software, satellite systems as well as the various services and applications associated with them such as video conferencing and distance learning. ICT has both the supply and demand and user side. The supply side includes computer hardware and software, while the demand or user consist of information applications in economic and social sectors and its application to electronic publication, information services industry.

Igwe (2013), however argues that Information and Communication Technologies are changing the landscapes of science and technology, revolutionising traditional approach to distance learning, directing libraries towards automation and globalization of information resources, challenging media practitioners to adopt digital broadcasting, encouraging office automation and information management in establishments, enhancing the activities of entrepreneurs as well as facilitating knowledge management practices of corporate organizations in virtually all strategic segments of the society. In addition, they are seen as essential tools for accelerating national development especially when strategically utilized. And when efficiently used, Igwe adds that ICTs can provide quick access to ideas and experiences from a wide range of people, communities and culture. On the part of

Redid (2010), he defines the concept as technologies that provide access to information through telecommunication. Marcelle (1998) argues that the ICT sector is a heterogeneous collection of industry and service activities including information technology equipment and service, telecommunication equipments and services, media and broadcast, internet service provision, libraries, commercial service providers, networked based information services and related professional specialised services. From the view of Ndukwe (2002), he assert that ICTs have been the basis for human existence from time immemorial and this has driven man to continuously seek ways to improve the processing of information and communicating such information to one another irrespective of distance and on a real-time basis.

In another view, Fagbemi and Ogunjobi (2009) saw Information and Communication Technology to encompass medium to record information (magnetic disk, tape, optical disk (CD/DVD) flash, and paper record) technology for communicating through voices and or images, microphones, camera, loudspeakers, telephones or cellular phones. According to them it also includes the wide variety of computing laptops, servers, mainframes, networked storage etc. This entails that ICT satisfies human beings in different diversities be it on record of information, broadcasting information and communication. Also, in the view of Daniel and Mathew (2000), they defined Information and Communication Technology as a tool for information recovery in the new millennium. Reason is that it comprises of tools as computer, telecommunication facilities and peripheral which are utilized to source for and deliver information. Meanwhile, Ekoja (2007) defined Information and Communication Technology as a kit or equipment used for computing, processing, storing, transmitting and accessing information.

The application of Information and Communication Technology in libraries has tremendously helped to revolutionise library system especially academic libraries and the speed by which services are rendered. This is owing to the fact that machines (ICT tools) are used to carry out library activities and they operate faster than humans, as such it offers provision of better storage facilities, easy location and quick retrieval of information and its dissemination to users. Uhebgu (2007) observed that the value of Information and Communication Technology has affected tremendously the perception/image of both the library and the librarian and at the same time, encouraged greater appreciation of the worth and relevance of the library and information services especially in developing countries like Nigeria. The availability of ICT facilities are very important in libraries irrespective of their type

and size of collections. This is because they are very effective in the issues of acquisition, processing, organization, storage, retrieval and dissemination of information. Okorie stated that ICT enables information to be stored, retrieved, communicated and broadcasted electronically in enormous quantities and at phenomenal speed. It also improves quality of life. Anyaoku (2003) pointed out that ICT is used for measuring effectiveness, trend analysis, resources allocation, personnel decision and strategic planning etc. Adeniran (2005) however concluded that the value of ICT as better access to information, encourages possibilities for co-operation, encourages resource sharing, promote efficient and effective delivery of services, provides access to international database, encourages improved productivity, generation and dissemination of better management reporting, produces up-to-date information and improves the status of the information profession, enables centre institutions etc to contribute to universal bibliographic control or services and allows librarians and information centres to generate revenue.

There are many dimensions to Information and Communication Technology in the contemporary society which includes various telecommunication gadgets, computer multimedia, the internet, the automated teller machines and so on. There have been tremendous developments in the fields of ICT over the past few years. In the words of Ifere, Ukwu and Nwakpa (2010) they maintained that in response to the increasing competition in their own industries, telecommunications companies, computer manufacturers and software developers have been investing heavily in research and development of both human and technical aspects of their various firms. In May 2000, Nigeria came up with a National Telecommunications Policy which recognizes that an efficient, reliable and affordable telecommunication system is a key factor in the overall development of any nation and that such a system must be universally accessible and cost-effective. Also in May 18th 2010, Nigeria launched her Information Communication Technology for Development Agency (ICT4D) plan document in Abuja. The Nigerian Information Communication Technology Development Agency (NITDA) in collaboration with the United Nations Economic Commission for Africa (UNECA) coordinated the development of the ICT4D strategic action plan. The strategic action plan provides concrete implementation strategies for a period of 5 years for key sectors such as health, education, infrastructure, human resources development, agriculture, security, legal/regulations, private sector/industry, media, community development or any other aspect of human development.

The basic hypothesis behind the plan is that more and better information and communication furthers the development of the society. Because of the capability of ICTs to facilitate access to information and communication, the United Nations actively promotes its development by member states in a special project named ICT 4 Development (ICT4D). Although, Nigeria implemented her ICT policy in April 2001 after the Federal Executive Council approved it. The Nigeria ICT4D is objectively meant among other things to:

- (i) Ensure that Information Communication Technology resources are readily available to promote efficient national development,
- (ii) Create IT awareness and ensuring universal access in order to promote IT diffusion in all sectors of our national life,
- (iii) Guarantee that the country benefits maximally and contribute meaningfully by providing the global solutions to the challenges of the information age,
- (iv) Improve access to public information for all citizens, bringing transparency to government processes,
- (v) Empower Nigerians to participate in software and IT development,
- (vi) Establish and develop IT infrastructures and maximize its use nationwide etc.

The mandate of NITDA is quite comprehensive and laudable and if brought into fruition can give the quantum leap that puts the country among the top leagues of nations. Specifically, it can also serve as a powerful tool for the sustenance of the change agenda of the present administration. However, it is reported by the organization itself on its website that 'the Federal Republic of Nigeria has no specific policy for ICT in education', and that erratic power supply and a generally poor infrastructure prevent a smooth running and implementation of the provisions of the NITDA Act. (2009).

Roles of ICTs and the Sustenance of Change Agenda

The role of Information and Communication Technology for the sustenance of the change agenda cannot be overemphasised. According to The Revised Illustrated Oxford Dictionary (2003), Sustenance is referred to as support for a long period. There is therefore need for the government to embrace the new global tool for information generation, processing, storage and dissemination to the general populace. Presently, there is the need to bear in mind that technological changes are sweeping across the world affecting societies, business at speed rate and to a degree that certainly is without any precedent in history. Uwaje (2012) argues that the speed and passion at which data, information and images are being conceptualised, generated, contextualised, processed, transmitted, retrieved and manipulated

through the application of Information Technology infrastructure has greatly transformed and continues to influence all known aspects of human life (and) these complex digital transformation process will undoubtedly, ultimately lead us to the global knowledge. Through the driving force of knowledge, the role if ICTs has virtually made all kinds of information available to seekers of knowledge.

Benefits of ICTs

The use of Information and Communication Technologies has become extremely beneficial in all facets of human endeavours. Its utilization has made it possible for one to access a variety of information and knowledge sources in a manner that would be simple, easy, and independent of time, place, subject and discipline. As it is well known that ICTs has been instrumental to the performing of trans-global surgical operations, it has saved human life by enabling a person in distress to make contact and get help; in the field of academics, it has help to increase knowledge, researching and even teaching; amongst students of higher learning, it has made teaching/learning multidimensional as it positively affect both students and staff of higher institutions in Nigeria, it has also provide students with skills to enable them perform efficiently in the global digital information-based future that is currently being faced. In librarianship, the librarian can make the selection of books required in their institutions and order them without going from one bookshop or publisher to another. Some perceived benefits of Information and Communication Technology as viewed by Alasa and Kenechukwu (1998) are as follows:

- Quick and convenient information exchange,
- Access to experienced and expert individuals in thousand fields,
- Enhancement of team work across geographical distance,
- As a reference tool, it provides wealth of up-to-date resources unavailable in bond volumes,
- It enables librarians to reach out to themselves with messages and documents independent of the constraints of mails, telegraphs or even fax.
- One can collect news and facts which can be stored in one's computer for later use in reference,
- Transfer of data between machines and provides a great platform to have fun and be entertained, amongst others.

In the field of librarianship, Omekwu and Echezona (2008), specified some benefits as follows:

- Libraries are now situated in cyberspace;
- Library services are no longer constrained to time of opening and closing hours;
- Library users can access services in libraries beyond their own, beyond their country and continent, and
- The virtuality of information resources means that millions of users can access one resource at the same time.

Constraints to Effective Utilisation of ICTs for the Sustenance of Change Agenda

The integration of Information and Communication Technologies in the performance of certain task has made life much easier. However, literatures shown have listed some problems that pose as challenges to the effective use of ICT for the sustenance of the change agenda and they include the following;

- **Funding:** Inadequate funding is a major impediment to the acquisition and application of Information and Communication Technologies. The neglect with regards to budgetary allocation and fund disbursement allowed infrastructure and facilities for knowledge creation and dissemination to degenerate. For most libraries in Nigeria, regular sources of fund is required to enable them acquire modern ICT facilities as well as paying for online and offline services such as e-journals and digital libraries. The absence of regular funding will make libraries unable to discharge their duties/obligations to their patrons in a most effective and efficient manner.
- **Erratic Power Supply:** the general low supply of power especially in most part of Nigeria is seen as another setback to the complete application and utilisation of ICTs. This poor level of power supply has however put the populace under pressure to provide electricity for most of their activities through the use of alternative power generators. Also, the lack of this infrastructure has in turn affected the ability and capacity of most libraries to put and to retrieve information from the World Wide Web (www).
- **Lukewarm Attitude of the Nigerian Government:** The lukewarm attitude of the Nigerian government to the provision of ICT infrastructure and facilities at the level comparable to international standards has been generally lamented by Okiy, (1998) and Adedoyin (2001). Some important steps required to be taken by government in this regard are not only the

formulation but also the visible implementation of an ICT policy for the nation. For in the opinion of the United Nations Economic Commission for Africa, (2001), ICT policies and strategies are essential tools to define Africa's response to the challenges of globalization and to nurture the emergence of an African information society. This is especially important, given the rapidly growing international focus on ICTs and its development. Be that as it may, "policy implementation remains one of the key issues in many developing countries in Africa particularly given the fact that while many countries have a national ICT policy in place very little progress has been achieved in most cases in policy implementation. Sarker De (2005), identifies the problems associated with the adequate implementation of ICT policies particularly in developing countries (including African countries) as follows:

- (a) The government identified ICT as tool for development but most of the policies result in sectoral development of ICT in software rather than focusing on social induced developments;
- (b) Most countries do not have definite national development master plan;
- (c) There is a lack of availability as well as unbalanced distribution of information and communication infrastructure in most of the countries;
- (d) Various studies have revealed that people's awareness and knowledge of the benefits of ICT is very low and needs to be enhanced;
- (e) Inability of the countries to keep pace with the continuous and rapid speed of ICT innovation and development;
 - **Lack of Technical Skills:** Information and Communication Technologies are still relatively new in developing countries, hence not enough people have been trained to handle the technologies;
 - **Connectivity Problem:** The problem of connectivity is a serious challenge to ICT in Nigeria. It is however disheartening to note that up till today the government pays lip service or no attention connectivity issue.
 - **Cable and Facility Vandalization:** Our country Nigeria is one where public facilities are vandalized. This has made private service operators and providers of ICT services to encounter risk especially in densely populated areas.

- **Poor Access to ICT in Rural Areas:** About 70% of people live in rural areas where they do not feel the impact of ICT, in a situation where they are available they reception is very low.

Conclusion and Recommendations

The ever growing information needs of users in this present technological dispensation has necessitated the need for the utilization of ICTs for the sustenance of the change agenda. The benefits of this technologies far outweighs its challenges as it cut across all facets of human endeavour. In the field of librarianship, its integration will go a long way by enabling librarians to provide effective and efficient services to their user irrespective of distance/place. The following recommendations therefore are needed in curtailing the difficulties;

- (a) The Nigerian government should massively inject funds that will guarantee the application and utilization of ICTs consumption by the general populace, the library also should be encouraged to seek external grants from donor agencies like Carnegie Foundations, Ford Foundation etc,
- (b) The government of the day should vigorously involve in providing regular and constant power supply for the benefit of the general public thereby lessen the economic hardship faced by citizens, likewise the library should try to explore alternative source of power supply such as solar energy,
- (c) Moreover, the government at both state and federal levels should develop a more pro-active and progressive attitude to the implementation of the national policy of information infrastructure and facilities,
- (d) Nigerian government should engage in the training of personnel in order to cope with the advancement of technology.
- (e) Awareness programmes should be instituted at all levels on the benefits of ICT technologies in order to eliminate its resistance to change.
- (f) Similarly, there is need for government to create a community of knowledge management on the use of ICTs across the state of the federation. This is where the librarian play their roles by acquiring, processing, documenting and disseminating information to members of the society as this will guarantee the sustenance of the change agenda.

References

- Adedoyin, A.T. (2000). Information and Communication Technologies and the Information Professionals in the Information Age: The Nigerian Perspectives. A Compendium of Papers Presented at the Annual National

- Conference and AGM of the Nigerian Library Association, Owerri June, 2004. 72-82.
- Afullo, T.J. (2000). Global Information and Africa: The Telecommunication Infrastructure for Cyberspace. *Library Management*. 21(4) 205-213.
- Alasa, M, and Kelechukwu, I. (1998). Internet and Academic Library Services Development in Nigeria. *Nigerian Libraries*, 33(1): 17-29.
- Dakwa, K.D (2010) 'Information and Communication Technology in Nigeria: Prospects and Challenges for Development' in *Africa Today*, Vol.56 No. 4, pg 95-96.
- Ekoja, I.I. (2007) Information and Communication Technologies (ICT) Librarians Knowledge, Use and Skills in Nigerian University Libraries. *The Communication Journal of Library and Information Science*. 9 (1): 1-16. <http://www.nitda.gov/docs/policy/ngitpolicy.pdf>. Retrieved from
- Ifere, C. O; Ukwa, C.N. & Nwakpa, M.N (2010) Basics of Computer Science. Abakaliki: De Oasis Communications and Publishers.
- Igwe, K.N (2003) 'Acquisition of ICT Skills for Competitive Advantage in Global Opportunities': A Paper Presentation at NACITS, The Federal Polytechnic Offa, Kwara State, Nigeria.
- Ndukwe, E (2002) *Application of Information Technology*. The Pointer, 28 October, pg.16.
- Nkeruewem, E.E (1996) The Utilization of Aid Organizations in the Development of Information Technology in Developing countries. *Library Management*, 17 (5): 25- 30.
- Ocholla, D. N. & Adigun, M. (2006). The Feasibility of ICTs Diffusion and Use Amongst Rural Women in South Africa. *South Africa Journal of Library and Information Science*, 72 (2): 108-118.
- Okiy, R.B. (2003). Towards Improving The Relevance of Nigerian Academic Libraries and Librarians In The Knowledge Age. *The Academic Forum*. Vol. 4 (3), 63-68.
- Okorie, A. M (2005) The Challenges of Information and Communication Technology for Nigerian Academic Libraries. *Global Review of Library and Information Science*, 1 (1): 84.
- Sarkar, D. S. (2005). ICT Policy. Retrieved Sept. 15, 2017, from <http://www.14donline.net/june05/ictpolicy.fully.asp>
- Uwaje, C. (2010). *e-Knowledge: Time is Running Out*. Connect Technologies.