

FROM TABLET TO TABLET: INFORMATION,
MEDIA AND TECHNOLOGY ACCEPTANCE

AN INAUGURAL LECTURE,
2016/2017

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UNIVERSITY OF IBADAN

**FROM TABLET TO TABLET: INFORMATION,
MEDIA AND TECHNOLOGY ACCEPTANCE**

*An inaugural lecture delivered
at the University of Ibadan*

on Thursday, 20 April, 2017

By

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UNIVERSITY OF IBADAN

Ibadan University Press
Publishing House
University of Ibadan
Ibadan, Nigeria.

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Ibadan, Nigeria

First Published 2017

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ISBN: 978 - 978 - 8529 - 08 - 8

Printed by: Ibadan University Printery

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The Vice-Chancellor, Deputy Vice-Chancellor (Administration), Deputy Vice-Chancellor (Academic), Deputy Vice-Chancellor (Research, Innovation and Strategic Partnerships), Registrar, Librarian, Provost of the College of Medicine, Dean of the Faculty of Education, Dean of the Postgraduate School, Deans of other Faculties and of Students, Distinguished Ladies and Gentlemen.

Preamble

It is with great sense of humility that I thank the University Administration for giving me the opportunity to deliver this inaugural lecture on behalf of the Faculty of Education. Coming so close to my retirement from the University, it seems to be more of a valedictory than an inaugural lecture! This is the 40th lecture on behalf of the Faculty of Education and the eighth from the Department of Library, Archival and Information Studies.

My mentors and colleagues who gave inaugural lectures before have all emphasized the importance of information in national development. The first lecture by Professor Adetowun Ogunsheye (1975), titled, "The Records of Civilization", focused on the various media of communication and how they contributed to global development. Professor Bimpe Aboyade's lecture in 1981, titled, "The Making of an Informed Society", highlighted the importance of access to information in the transformation of the society. Professor W.O. Aiyepoku (1989), in his inaugural lecture titled, "Developing Information for Development Information", highlighted the value of information in national development. The lecture by Professor B.C. Nzotta was titled, "Information, Communication and Cultural Engineering". In 2003, Professor Phelomena Fayose presented an inaugural lecture titled, "Children, Teacher and Librarians: Developing Information Conscious Children". The next lecture by Professor G.O. Alegbeleye was titled, "Past Imperfect, Present Continuous, Future Perfect: The Challenges of

Preserving Recorded Information in Nigeria". Professor Morayo Atinmo (2012) titled her lecture, "Including the Excluded: Provision of Equitable Access to Information".

My teaching and research activities in the last 40 years have influenced the choice of a topic that focuses on information, media, communication, and technology adoption by selected groups of people and professionals in the society.

At the Beginning

Since the beginning of Creation, man has communicated. Humans were created with the unique ability to employ speech for communication (Lieberman 1998). From the Christian perspective, with which we are familiar, we can assume that Adam was the first human to communicate and that he probably did so with Eve. The Holy Bible states that God spoke to them from the very beginning of their existence in the Garden of Eden (Genesis 1: 28-30).

Communication has existed in various forms since man appeared on earth. One of the most well-known forms of primitive communication is cave paintings created around 130,000 B.C. Before writing began 30,000–40,000 years ago, men drew graffiti and paintings on rocks and walls of caves. Later on, clay tokens of different shapes were used to indicate agricultural products. These were referred to as cuneiform writing which were usually signs, sometimes on clay tablets. The Scribes engraved shapes of objects and signs by carving them on the tablets. Over the centuries, cuneiform writing spread throughout the areas occupied by the Sumerians, Babylonians and Assyrians. Hieroglyphic writing emerged, and much later, the alphabets. The Egyptians, Chinese, Greeks and the Italians contributed significantly to the history of writing. The real inventors of the alphabet, which we are familiar with today, remains unknown, but what is noteworthy is that it has revolutionized communication among humans.

Some examples of early writings are shown in figures 1–6. Some of the forms of writing are: petroglyphs, pictograms, cuneiforms, and alphabets.



Fig. 1: Clay tablet (From Wikipedia, the free encyclopedia).

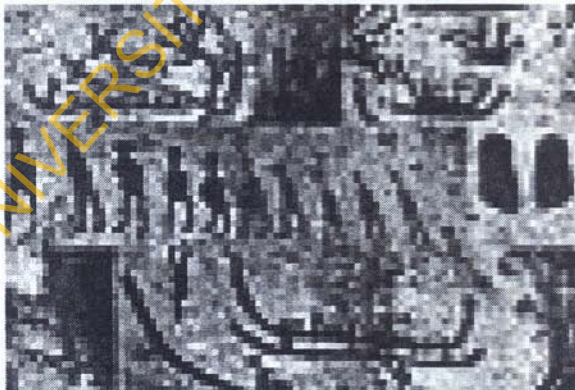


Fig. 2: Petroglyphs from Häljesta, Sweden. Nordic Bronze Age.

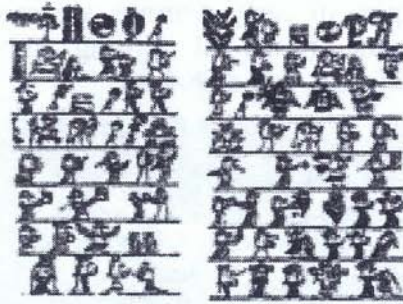


Fig. 3: Pictograms (Pictograph from 1510 telling a story of coming of missionaries to Hispaniola).

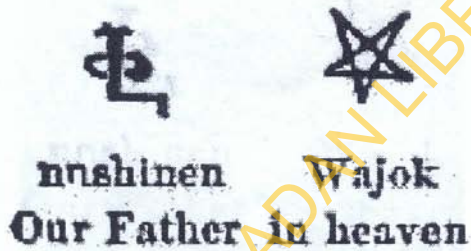


Fig. 4: Ideograms.



Fig. 5: 26th century BC Sumerian cuneiform script in Sumerian language, listing gifts to the high priestess of Adab on the occasion of her election.



Fig. 6: Alphabet: A *Specimen* of typeset fonts and languages, by William Caslon, letter founder: from the 1728 *Cyclopaedia*.

After the use of the clay tablets, there have been many significant changes in communication between people, and especially in writing. Over time, security of information became important to human survival and issues of privacy and confidentiality came to the fore. The tablets and other forms of writing previously described often contained records of valuable information which had to be securely kept for posterity and national development. For example, the Sumerians, Babylonians and Eblaites all had their own clay tablet libraries. We shall later in this lecture consider the role of libraries in information, knowledge and record keeping for posterity.

What is Information?

Marshall McLuhan, the communication theorist states: “In this electronic age, we see ourselves being translated more and more into the form of information, moving toward the technological extension of consciousness”(McLuhan 1994).

There is no widely accepted definition or theoretical conception of the word ‘information’. The concept, “information” is of great importance to all the information disciplines. Perhaps for that reason, it is a term that has been defined in countless ways, over many decades. Shera (1972) defined information as “that which is transmitted by the act or process of communication. It may be a message, signal or stimulus. It assures response in the receiving organism and therefore, possessed a response potential”.

McCreative and Rice (1999) reviewed concepts of information proposed over the years and summarized them thus:

- Information as a representation of knowledge (information is stored knowledge e.g. in books, electronics media etc);
- Information as data in the environment as it can be obtained from a range of environmental stimuli and phenomena;
- Information as part of the communication process;
- Information as a resource or a commodity which is transmitted in a message from sender to the receivers.

According to Aina (2004), the term could be viewed and defined from many perspectives, depending on the discipline: “the telecommunications engineers associate information with bits and data while librarians associate information with recorded knowledge.” The focus in this lecture will be more on information as perceived and used in the Library and Information Science (LIS) profession.

The value of access to timely and relevant information cannot be overemphasized at this electronic age. It depicts equivocally that Man not only needs information to survive but that in the interaction between individuals, information is

very important. Information is power. On obtaining information, the individual groups and organizations would have to make the appropriate use of it daily in decision making. This happens on a daily basis to the individual and to corporate organizations and the government. Everybody in the society has information needs and diverse methods of seeking the information. All professionals need information that is relevant to their professional practice. Extensive research has been undertaken globally to determine the types, sources and information behaviour of individuals and several groups of people, based on socio-economic and other factors.

Information and knowledge are inseparable twins in the field of library and information science. Evers and Gerke (2005) define knowledge as “information that is relevant, actionable and based, at least, partially on experience”. It has also been described as the driving force for innovation and development. Information and knowledge form the foundation of any nation’s development. They have to be shared through communication among humans.

Media as Information Communication Channels

Information has to be communicated from one person or group of persons to the other. On receiving a message, the receiver interprets it accordingly and makes the appropriate use of the information received. However, research has shown that the way information is communicated is important if the information is to be received and interpreted correctly. Each time information (message) is passed on to another person (receiver), how it is interpreted is dependent on the effectiveness of the selected channel of communication. Thus, the medium is a crucial factor in effective communication of information and knowledge transfer.

According to Dictionary.com, media are the collective outlets or tools that are used to store and deliver information or data to a large number of people. The types of media are: print media, electronic media, personal media or mass media (*BusinessDictionary.com.*, *Techopedia.com.*). The term ‘media’ in its modern application relating to communication

channels is often attributed to the communications theorist, McLuhan (1994), who emphasized that “the medium is the message”. The medium used is very crucial in terms of how the message is received and interpreted. Two theories will be described in this paper: The Media Richness Theory (MRT) and the Media Naturalness Theory (MNT).

The Media Richness Theory is used to rank and evaluate the richness of certain communication media such as: phone calls, video conferencing, and email. For example, a phone call cannot reproduce visual social cues such as gestures, which makes it a less rich communication medium than video conferencing, which affords the transmission of gestures and body language. The Media Richness Theory explains that richer, personal communication media are generally more effective for communicating equivocal issues than leaner, less rich media (Daft and Lengel 1986).

A primary driver in selecting a communication medium for a particular message is to reduce equivocation or possible misinterpretation of a message. If a message is equivocal, it is unclear and thus more difficult for the receiver to decode. The more equivocal a message, the more cues and data needed to interpret it correctly (Dennis et al. 1999).

In their 1988 article regarding Media Richness Theory, Daft and Lengel state that, “the more learning that can be pumped through a medium, the richer the medium”. According to them, media richness is a function of characteristics including the following:

- Ability to handle multiple information cues simultaneously;
- Ability to facilitate rapid feedback;
- Ability to establish a personal focus;
- Ability to utilize natural language.

The Media Naturalness Theory (MNT) was developed by Ned Kock. This theory is sometimes referred to as the psychobiological model, or Compensatory Adaptation Theory (Daft 1987). It has been used to understand human behaviour

toward technology in various contexts, such as: education, knowledge transfer, and communication in virtual environments (El-Shinnawy and Markus 1998). The Media Naturalness Theory argues that since our Stone Age hominid ancestors had communicated primarily face-to-face, evolutionary pressures have led to the development of a brain that is consequently designed for that form of communication (Sallnas, Rasmus-Grohn and Sjostrom 2000). Media Naturalness Theory places the face-to-face medium at the center of a one-dimensional scale of naturalness, where deviations to the left or right are associated with decreases in naturalness

The two media theories described have no doubt added credence to the link between information communication and the appropriateness of media communication channels in information and knowledge transfer among individuals and groups of people.

Multimedia Use in Communication

The term 'media' has achieved a broader meaning nowadays as compared to what obtained some decades ago. They include the mass media, media for small group and interpersonal communication. Mr. Vice-Chancellor Sir, please permit me in this lecture, to focus on media use for learning, teaching, research and community service. By the middle of the 20th Century and especially in the mid 1970s when I was employed and started lecturing in the University, the media resources that were emphasized in teaching and learning, and consequently for storage in the media sections of libraries were: graphics (e.g. maps, charts), pictures, realia, the radio, audio recordings, and projected media like, photographic slides, filmstrips, overhead projection transparencies, motion picture films, the opaque projection medium, television and computers to some extent. Some of the projectors that were used are shown in figures 7 and 8.

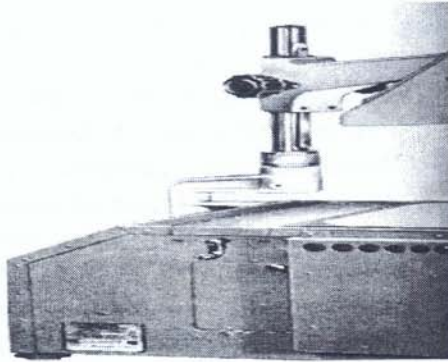


Fig. 7: The overhead projector.

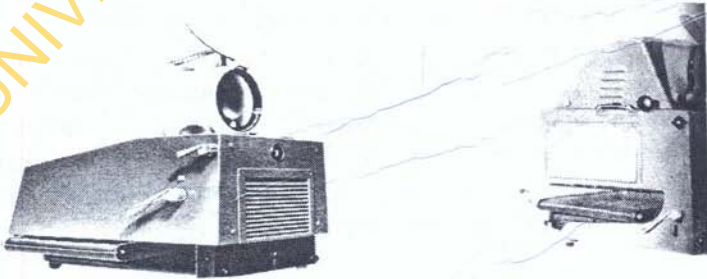


Fig. 8: Slide and opaque projector.

The media were effective in various ways as they made teaching and learning easier as objects were easier to observe, learning was more realistic, interesting and ambiguities were reduced in teaching in the cognitive, affective, and the psychomotor domains. Audiovisuals and other multimedia materials for information communication had to be managed, regularly revised and maintained while they were safely preserved like the tablets in the Ancient Times.

Information, Media and the Libraries

As Man recorded and transmitted information through the tablets in Ancient Times, so the desire to preserve information and knowledge increased. This undoubtedly gave rise to the development of libraries, the third of the tripod comprising information, knowledge and the library. This lecture will not be wholesome if the theme is not linked up with the role of the library as the gatekeeper and bridge between information, communication media, knowledge and technology. All human knowledge is expected to be preserved for posterity in the libraries. According to Gaiman (2016): "If you do not value libraries then you do not value information or culture or wisdom. You are silencing the voices of the past and you are damaging the future."

Libraries in whatever form have existed for centuries. The nature of library resources has also changed. Here are some examples of modern libraries. The Library of Congress is the national library of the United States of America. It was established by an Act of Congress in 1800. It was originally meant to provide reference service for the Congress (legislators). Today, the copyright law of the USA makes it mandatory for all publishers and copyright applicants to send to the Library of Congress, two copies of their work. The collections include more than 38 million books and other printed materials, 3.6 million recordings, 14 million photographs, 5.5 million maps, 8.1 million pieces of sheet music and 70 million manuscripts in 460 languages; more than 69 million manuscripts; the largest rare book collection

in North America; and the world's largest collection of legal materials, films, maps, sheet music and sound recordings. (<https://www.loc.gov/about/fascinating-facts>).



Fig. 9: The Library of Congress.



Fig. 10: The Interior of The Library of Congress, Washington, DC, USA.

Another notable repertoire of knowledge is the British Library, which is the national library of the United Kingdom and the second largest library in the world. The library has a collection of well over 150 million items from many countries. Items are in many languages and in many formats, both print and digital: books, manuscripts, journals, newspapers, magazines, sound and music recordings, videos, play-scripts, patents, databases, maps, stamps, prints, drawings. It has substantial holdings of manuscripts and historical items dating back as far as 2000 BC (https://en.wikipedia.org/wiki/British_Library).

Back home in Nigeria, the development of libraries started from the individual level with the collection of Henry Carr who had a collection of books totaling 18,000 at his home called 'The Haven' in Tinubu Square, Lagos Island. The National Library of Nigeria came into existence by the National Library Act passed in September, 1964. This Act was later replaced and substituted with the National Library Decree No. 29 of 1970. It is the giant memory of the nation, her intellectual storehouse and data bank for learning and remembering process. The collection of the National Library of Nigeria is estimated to be about 8 million volumes (National Library of Nigeria 2014). Part of the collections of the National Library is presently housed at the University of Ibadan.

Although the National Library of Nigeria Act expects all publishers to deposit three copies of their publications to the National Library and one of which is to be sent to the University of Ibadan Library, the provision is hardly observed and the law is not enforced. Mr. Vice-Chancellor Sir, it is an opportunity to draw the attention of this august body of learned people to live up to the expectations so that in future, Nigeria could have a rich depository multi-media and technology driven national library that can compare with others globally.

Other types of libraries, like the public, special, academic and school libraries are also knowledge repertoires which time would not allow us to give much attention to in this lecture. Some of them already have rich multi-media

collections with access to the Internet and electronic databases and other resources. University libraries are in the forefront in all respects. Some Nigerian university libraries are presented in figures 11-13.



Fig. 11: Obafemi Awolowo University Digital Library.

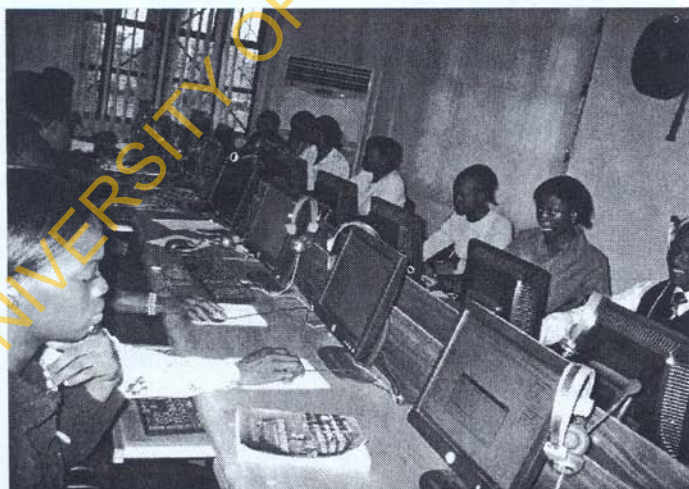


Fig. 12: Covenant University Electronic Library.



Fig. 13: E-Classroom, Kenneth Dike Library, University of Ibadan.

Information, Media and Technology

In the Modern Age, technology has been integrated into the communication process such that all information resources are available in printed and electronic forms. Thus, in the modern library, the library and information professional has performed roles of the information specialist, information scientist, knowledge manager, 'documentalist', media specialist, publisher, archivist, etc. There is no doubt that, globally, technology is now a part of human day-to-day existence. We are indeed in the Technological Age. Technology is pervasive in all spheres of life and daily existence. It is adopted generously in medical practice, health, governance, socials, worship and in the classrooms at all levels of education.

The term ICT is used to express the hardware and software usability for information transportation and conducting communications linked by a vast array of technological protocols. It also covers internet service provision, information technology equipment and services, media and broadcasting, library and documentation centers, network based information services and other related communication activities (Annie and Achugbue 2009). The tablet is one of the ICT tools commonly used today. The modern tablet could be defined as a 'wireless touch screen

personal computer that is smaller than a notebook but larger than a smartphone'. Modern tablets are built with wireless internet or local area networks and a variety of software applications, including business applications, web browsers and games (Technopedia 2017). According to Webopedia (2017), a tablet is a type of notebook computer that has a screen on which the user can write using finger and swipe actions or by using a special-purpose pen, or stylus. Examples are displayed in figure 14.



Fig. 14: Images of a tablet.

Source: <http://www.pcmag.com/encyclopedia/term/52520/tablet-computer>

Access to the Internet is a major gain from the ICT era of this age. Internet access has become one of the greatest advancements in information and communication technology with changes in the mode of information gathering, storage, retrieval and dissemination (Akintunde 2006). The emergence of e-publications, digital libraries, web tools applications for libraries, consortium practices and lately, cloud computing has further led to developments in the practice of the library profession.

Mr. Vice-Chancellor Sir, are the technologies being accepted by most people in teaching, learning, service, and consequently in library management? What are the global perceptions on application of IT and how have we adapted to the global trends in Nigeria? There are many theories on

acceptance and use of technology. They aim to prove that there are factors that could promote use or non-use of new technologies or innovations. I will give a few examples.

The Diffusion of Innovations Theory

Everett Rogers (1931–2004) was well known for the book titled, *Diffusion of Innovation* (1962) in which he explains the theory of how innovations and ideas spread across the populations. He says, in a social system, the innovation is communicated by the process of diffusion. *Diffusion* is the process by which an innovation is communicated through certain channels over time among the members of a social system (Everett Roger 1961). An *Innovation* is an idea, practice, or object perceived as new by an individual or other unit of adoption (Rogers 2003). Diffusion of innovations is a theory that seeks to explain how, why, and at what rate new ideas and technology spread through cultures. The graphic representation of the contribution of Rogers (1962) on Diffusion of Innovation is as presented in figure 15.

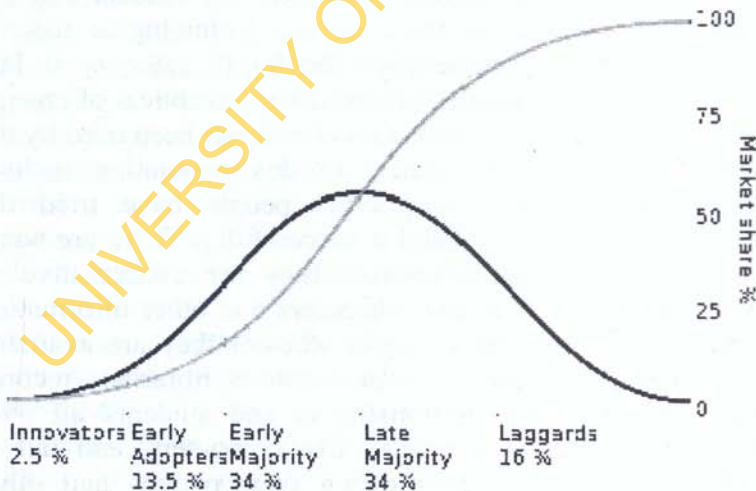


Fig. 15: Diffusion of innovation.

According to the author, there are five main categories of adoption/adopters. They are:

- Innovators,
- Early adopters,
- Early majority,
- Late majority, and
- Laggards.

In a detailed explanation of categories of users of technologies, the first category of Diffusion of Innovation Theory explains that there are some users who are cosmopolitan in look and will always be willing to invent ideas or technologies to teach, transact business, maintain records or provide information services. It also explains that there are some that could be classified as early adopters who are already aware of the need to change and so are very comfortable adopting new ideas. A typical example of this is my profession where the libraries and library schools have accepted the use of technologies to teach, process books, and journals, as well as rendering library services.

The third group of adopters of technology could be classified into early majority who are rare leaders and the strategies to appeal to them to use technologies include success stories and evidences. The fourth category is late majority. They are people that are always skeptical of change and will only adopt an innovation after it has been tried by the majority. Strategies to appeal to this population include information on how many other people have tried the innovation and have adopted it successfully. There are some classified into laggards because they are conservative in nature and they fear to use computers and other information and communication technologies whether they are available or not. Today there are still some lecturers, librarians, records managers, archivists, administrators and students all over Nigeria, who cannot use ICTs like computers, and fail to exploit most of the facilities on their phones and other technologies.

The Technology Acceptance Model 1 was proposed by Davis in 1989. The Technology Acceptance Model (TAM 1) (fig. 16) describes how users have come to accept and use information technology/system. The proponent of the model argued that when users are presented with technology (ies) a number of factors could influence their use or lack of use of the technology. The identified factors include the user's perceived usefulness (PU) and perceived-ease-of-use (PEOU).

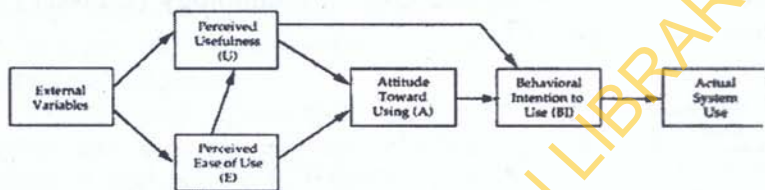


Fig. 16: The technology acceptance Model -1. (Source: Davis, F. 1989).

Perceived usefulness describes the degree to which a user perceives that using information technology will enable him/her to achieve gain (or desired result) in a given task. The perceived ease-of-use explains the degree to which a user perceives that the technologies are very easy to use as a means of achieving the desire results. A typical example of this is the introduction of electronic/smart board to enhance teaching and learning in the classroom situation. The lecturer must perceive the electronic/smart board to be useful in teaching a large audience, easy to use because it does not involve more than availability of electricity and prepared slides to teach. On a social platform, many professionals (librarians, teachers, traders, lecturers, students, engineers and others) have often embraced the use of social media such as WhatsApp, Facebook, YouTube, LinkedIn, among others, to communicate, entertain and share ideas because of the perceived ease of use and usefulness to them.

Apart from TAM1, there are TAM 2 and TAM 3 with focus on the influence of the following on technology acceptance: social influence, cognitive instructional factors, anchors and adjustment factors. The last in the series is the

Unified Theory of Acceptance and Use of Technology (UTAUT) which emphasizes that individual's use of technologies could not be due to perceived usefulness and perceived ease of use alone. Rather, other factors like availability of technologies and other infrastructure, such as constant power supply (electricity), internet facilities, high bandwidth, employer and stakeholder or government support, finance, among other factors, could affect the use of information and communication technology. The Unified Theory of Acceptance and Use of Technology (UTAUT) is presented in figure 17.

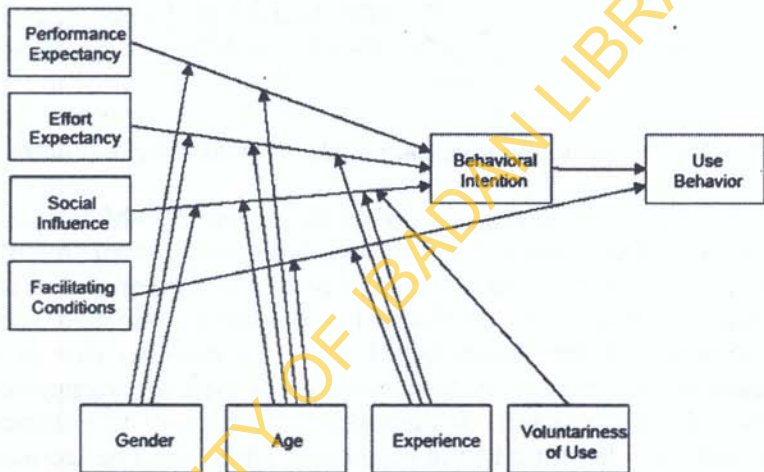


Fig. 17: Unified Theory of Acceptance and Use of Technology (UTAUT)
 Source: Venkatesh et al. 2003.

State of Technology Acceptance in Nigeria

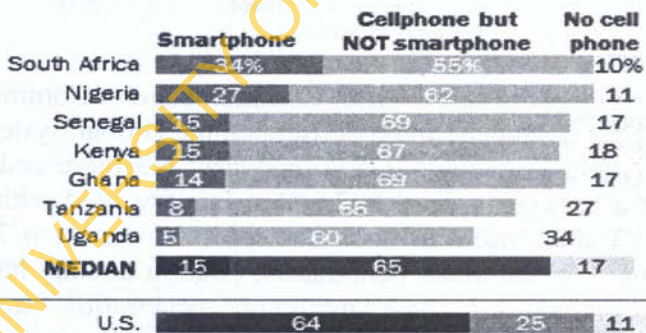
Mr. Vice-Chancellor Sir, over the centuries, the world has advanced in the technology of recording information from the clay tablet, through the graphic, printed, projected still and motion media to the electronic media of recording knowledge, and now to the Information and Communication Technologies which have encapsulated all the former methods of information and knowledge documentation processes.

About twenty five years after Tim Berners-Lee made the World Wide Web available to the public, the Internet has almost become an integral part of the daily life of many all over the world. Today, an obvious aspect of technology acceptance globally is the pervasive use of mobile technologies, especially the cell phone, many of which have facilities for internet access and the social media. Access to the Internet and use by many across socio-economic strata is also an evidence of increasing use of information and communications technology. Figures 18 and 19 show the rate of Internet and social media use globally and especially in Africa and Nigeria.

The internet penetration in Africa is 28.7% which is below the world's average penetration. This shows that Africa is still behind in internet penetration. Africa which is 16.2% of the world's population only consists of 9.3% of the world's internet users. There is still a long way to go.

Few Own Smartphones in Africa, But Cell Phones Common

Do you own a cell phone? Is it a smartphone?



Note: Percentages based on total sample. U.S. data from December 2014 Pew Research Center surveys. Median percentage excludes the U.S.

Source: Spring 2014 Global Attitudes survey, Q68 & Q69.

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Fig. 18: Cellphone Ownership in Africa Internet Use in Africa.

Africa Top 10 Countries in Internet June 2016

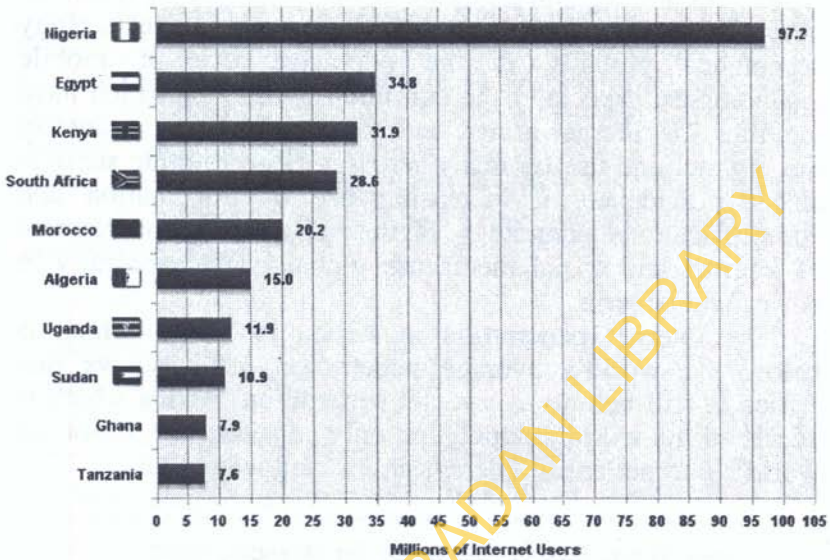


Fig. 19: Internet users in Africa.

Source: Internet World Stats – www.internetworldstats.com/stats1.htm
 340,783,342 Internet Users in Africa estimated for June 30, 2016
 Copyright © 2016, Miniwatts Marketing Group

According to the Nigerian Communications Commission (NCC), the number of internet users on the Global System for Mobile communications (GSM) networks has increased from 76,322,802 in 2014 to 81,892,840 in January 2015 with 45% of their mobile users using Whatsapp (*techweez.com* 2016). In terms of smartphone penetration, Nigeria already has one of the continent's highest smartphone penetration rates and that number will get even higher as smartphone subscriptions are expected to reach 95 million by 2019. The graphical penetration of smartphone was produced by Pew Research Centre. Also, the statistics of the most popular social networks worldwide gives a clear picture with Facebook reigning supreme with over 1,590 million active users; it

holds an 18% market share, 7% more than its closest competitor, WhatsApp.

Nigerians have continued to partake in the global technological advancement. In the health sector and particularly in hospitals, ICTs are deployed for diagnosis, surgery, training, teaching and research. E-governance is fast becoming the norm globally. In the economic sector, ICTs drive the service and product promotion. Coming closer to the education sector, there has been an appreciable level of technology acceptance among students at all levels and many of the teachers. The social media are some of the more popular technologies in use today. Some of the more popular are: Facebook, Twitter, Whatsapp and virtual worlds.

Social media are the computer-mediated tools which allow people or companies to create, share, or exchange information, career interests, ideas, pictures/videos in virtual communities and networks. Social media differ from traditional media in terms of quality, reach, frequency, usability, immediacy and permanence. Baruah (2012) described social media as the web-based and mobile technologies adopted in turning the communication into an interactive dialogue. They are used socially and to transact business among people who have presence on the respective platforms.

According to Cable News Network (CNN) (2014), 100 million people were using Facebook each month across Africa and over 80% of them accessed the platform via mobile technology and that figure has now jumped to over 120 million. Specifically, 4.5 million of Facebook users are based in Kenya, 15 million in Nigeria, and 12 million in South Africa. Overall, around 9% of Africans use social media, with South Africans among the world leaders in time spent on social networks with an average of 3.2 hours a day, compared to a global average of 2.4 hours.

Research findings have shown that most of those who use the social media do not use them for academic, research, teaching, learning and professional functions. Many use the

media for socials as the name implies. Coinciding with the Social Media Week (SMW) Lagos 2016, NOIPolls released a report which sought to gauge the perception of Nigerians on social media usage and the prevalence of online dating in the country. According to the survey, Facebook is the leading online dating platform in Nigeria with 72 percent usage, followed by WhatsApp (15 percent), 2go (8 percent) and Badoo (5 percent). <http://venturesafrica.com/facebook-is-the-top-social-media-and-online-dating-platform-in-nigeria/>

Majority of Nigerians on social media Facebook and Whatsapp are in all the six geopolitical zones. While the youths are more active on Facebook, adults above 61 tend to go for WhatsApp. The use of professional platforms like LinkedIn is very low and age group 26-35 years which are more active on this platform, are likely the professionals (NOIPolls 2016). A major characteristic of social media is the advantage of communicating instantly with a large number of people across the world through any of the chains. A revolution can be catalyzed covertly through the social media. Many have also employed advanced technology in photography to create visuals and circulate quotes of doubtful authenticity/integrity just to pass on some messages.

Do lecturers at the tertiary institutions apply ICTs in the mandatory teaching, research and service functions? Do librarians deploy technologies in performing their routine tasks and rendering service to their clients?

Social Media Use for Teaching, learning and Research

Among lecturers in higher institutions of learning, the Internet has been found to play a very vital role in research and teaching (Kaur 2006; Oliver 2002). It is evident from the literature that many lecturers in the higher institutions use the internet for their teaching, research as well as a communication tool. They do access the Internet through cybercafé, personal computers, ipods (phones), among others (Al-Ansain 2006; Igun 2006; Ani, Edem and Ottong 2010; Owoyemi and Abayomi 2013; Ogunrewo and Odusina 2010;

Igbineweka and Ahmed 2014). However, it has been observed that application of the Internet into the academic environment for teaching, research and learning could still be rated low in Nigeria and the platform is not being used as expected. Many lecturers are still not using the Internet for teaching, research and learning activities (Onasanya et al. 2010; Adeyemi 2013; Okereke 2014; Owusu-Ansah et al. 2015).

Several studies have been conducted to examine the use of social media tools among students and results show that students use social media tools such as Facebook, Twitter, WhatsApp, YouTube among others, both for academic and entertainment purposes (Ekeh, Omekwu and Odoh 2014; Musa 2011; Ebersole 2005; Audu 2006; Badu and Markwei 2005; Luambano and Nawe 2004; Uwaifo and Azonobi 2014). It was found that social media tools have positive influence on students' academic performances; they are helpful and convenient for online discussions and communication with colleagues and their lecturers.

However, studies have also indicated negative influence of social media use on the academic performance of students. It has been indicated that students are prone to have low GPA, and poor writing skills because of abbreviations they use when communicating, addiction and spending too much time on social media, watching pornographies, among others (Haq and Chand 2012; Junco 2012a; Gafni and Deri 2012; Ahmed 2011; Igbineweka and Ahmed 2014).

Social Media Use in Libraries

Library and information professionals nowadays provide many services to users, which are mainly technology-driven. There are digital libraries all over. Many libraries have digitized their records and there are Institutional Repositories (IRs) in universities. Apart from the library management system, cloud computing is being adopted for record management in many libraries. Many libraries use mobile web, and social media platforms to contact and disseminate information to their clientele.

Mr. Vice-Chancellor Sir, wherever you read in the media that students graduate with First Class Honours degree without visiting the university library, it does not mean that they have not used the library resources. Rather, technology adoption has enabled libraries to provide access to their resources without physical presence in the libraries. Similarly, many library resources (including full text, databases, theses and other digital records) are available and could be accessed virtually. Librarians are the original 'search engines' who collate, organize and disseminate information and knowledge in usable form! All of the students are still regular users of libraries whether they acknowledge it or not!

Issues in Technology Adoption

There is hardly an invention that would not open up some attendant issues and challenges. Some of the major issues arising from technology adoption (especially ICT use) in developing economies and especially in Nigeria include: ethical use of information, cost, sustenance, government policy, infrastructure and low bandwidth. Issues in information ethics include access to timely information devoid of discrimination and considering human right; accuracy, which is the correctness of data or information provided and used, censorship, 'an act by means of which information in the public domain is officially controlled for moral, social ideological or political reasons' (Malam and Bester 2014). Other moral issues are: intellectual property rights and cyber ethics. Acts of plagiarism, especially of digital content, is now at an incredibly high scale. Plagiarism is so rampant nowadays among students, teachers, scholars and researchers that it is giving the academic community much concern. Even though some plagiarism detector software is now being used by publishers and higher institutions, people are still not mindful of the consequences of being detected and the likely sanctions.

Technology use and sustenance are expensive. In developing countries, the cost of maintaining and replacing software and equipment, especially in classrooms and

libraries is prohibitive. The government at all levels has to bridge the gap between the divide and to provide the enabling environment through proactive policies and infrastructural development. Over the years, some of the inhibitors to media resources use in instruction have been: irregular supply of electricity and funding to sustain technology use (Mabawonku 1992). The situation still persists and is probably getting worse. Other inhibitors are lack of experience in media and technology use, and management of the resources (Idowu and Mabawonku 1999). Although the situation is not devoid of technical and infrastructural challenges, most especially in sub-Saharan African countries (Nigeria inclusive), the fact still remains that technology has come to stay and will continue to chart the direction of development in all spheres of life.

My Contribution to Knowledge

Research and Publications

In this section, the focus will be on only the research activities that are related to the topic of this lecture, which is on the application of technology for teaching, research and scholarly activities, and by practising information professionals.

Use of Instructional Media in Teaching and Learning

Mr. Vice-Chancellor Sir, my first exposure in the realm of media resources production and use was as a graduate assistant at Michigan State University in 1975. I worked with other, graduate students from Africa in conjunction with Ms Mary Johnson, Carolyn Jeffery and Professor Joanne Eicher to produce multi-media packages for American youths. The project was financed by the 4-H Youth Educational program of the Cooperative Extension Service Unit of Michigan State University, USA. Three books with fact sheets and multimedia packages (Mabawonku 1977a, 1977b, 1977c) were produced on African clothing, and grooming, crafts and foods of West Africa. The experience, no doubt, prepared me

for teaching of audiovisual media courses and production and use of media in teaching in LARIS Department in 1976 when I was employed.

On getting appointment in my Department, I conducted a study on audiovisual media availability and use in Nigerian schools and higher institutions of learning. I carried out some studies on media use in instruction (Mabawonku 1977d, 1987, 1992, 1993). They focused on how to develop functional instructional media centres and also highlighted the deterrents to media use for instruction in the classrooms and the attitude of students to media use in learning and instruction. Media and ICT use for distance learning were studied and reported by Mabawonku (2003). The study found that lecturers and students in the Nigerian universities which were studied were willing to use media and technology for teaching and learning. Institutional support and environmental factors were found to be major inhibitors to media and ICT use. More recently, Adetimirin and Mabawonku (2016) studied the use of ICTs by students to determine the relationship among some socio-economic factors (gender, age and monthly allowance) and use of ICTs by 1,702 undergraduates in seven Nigerian universities. ICT use was significantly associated with gender, age and monthly allowance. Strategies to encourage higher levels of ICT use, such as gender and age group specific strategies were discussed.

Media and ICT Adoption by Information Professionals

Academic libraries are supposed to be the nerve centres of the institutions which they serve. My studies in the 1980s showed that some academic libraries had audiovisual media which they stored and preserved for staff and students' use. In some of the institutions, the materials are stored in a separate building (Mabawonku 1981, 1987), and the universities had more media resources. With the emergence of ICT, most of the non-print materials have been captured and stored in electronic forms. But there was still the urgent need to have more electronic resources and databases in the libraries.

A study on multi-media resources collection and management was conducted among 22 academic research and university libraries in the 1990s to determine ownership and use of computers. The findings revealed that computers were used extensively by librarians for records and information management and those bibliographic databases were available and used by the librarians, lecturers and researchers. Other studies (Idowu and Mabawonku 1999; (Mabawonku 2009) have shown that many special research libraries seem to have placed higher premium on media resources collection and management. More recently, the study by Obasola and Mabawonku (2013) on assessment of digital access control methods used by selected academic libraries in South-west Nigeria confirms the deployment of information technology for information access and use on Nigerian academic libraries.

Information Behaviour of Different Groups

Everybody in the society has information needs and they have diverse methods of seeking the information. All professionals need information that is relevant to their professional practice. For example, among lawyers in Nigeria, their needs include obtaining information for self-development. The library was indicated as their most consulted source for job related information (Haruna and Mabawonku 2001).

Information needs and provision to policy makers were studied and useful reports were made on providing information and development literature for policy/decision makers in government and the private sector (Mabawonku 2001; Mabawonku and Oladele 2001). These researches conducted in Nigeria proved that library and information centres serving special groups, were recognized sources of information for policy advocacy and aimed to contribute to national development through advancement of frontiers of knowledge.

Using a study population of 253 artisans, the information seeking behaviour of artisans in Ibadan, Nigeria, was investigated (Mabawonku 2004). It was discovered that their

needs were mainly on: health, finance and security. They relied on neighbours, friends, the radio and television media as sources of information. In a study by Mabawonku (2006), access to information and the use by women in Nigeria's public service was investigated to determine their information needs. The needs were job related but also very much on home management, economic and social matters. Recommendations were made on how to improve access and use of job related information.

Access to Information and Productivity

Studies on the relationship between information resources utilization and professional effectiveness attributes of legal practitioners in Lagos, Nigeria, revealed that the number of papers written/published by the subjects, cases won, awards, promotions citation of current and relevant authorities at law courts and the rating by colleagues, were related to the practitioners' access to and use of relevant information (Haruna and Mabawonku 2000; Haruna and Mabawonku 2001).

In another study of academic staff, it was established that research productivity of lecturers in faculties of law in Nigerian universities was higher in journal articles and conference proceedings publications when they had access to and utilized various information resources (Anyagou and Mabawonku 2014). The study reported significant positive correlation between research productivity of the lecturers sampled and the use of legal information resources.

Media and ICT Use for Documentation of Indigenous Knowledge and Health Information Provision

Considering that I taught courses on oral history and indigenous knowledge systems (IKS) in the Department, some studies were conducted on indigenous practices in Nigeria and how they are documented and preserved in libraries (Mabawonku and Atinmo 1980; Mabawonku 1989). A paper on my research efforts was presented at the World

Congress on Indigenous Knowledge Systems in Pretoria, South Africa (Mabawonku 2002). Oral history and tradition were found to be documented and stored in libraries on subjects ranging from; festivals rites, rituals, deities, arts, crafts, poetry, customs, dance, music, folk tales, proverbs, etc; indigenous knowledge systems on agriculture, medicine, economic and social matters.

The extent of use of media resources for health information provision was investigated (Mabawonku and Atinmo 1980; Mabawonku 1998). The studies were updated recently (Ebijuwa and Mabawonku 2015). The recent study focused on documentation and use of indigenous knowledge by practitioners of alternative healthcare in Oyo State, Nigeria. The study revealed that practitioners of alternative healthcare use indigenous knowledge in the provision of primary healthcare. The practitioners documented their indigenous knowledge in books, audio and video recordings, drawings and photographs.

Access to Information and Information Literacy Skills

Considering that the Internet has opened up access to a large quantity of information, it is needful for researchers to possess information literacy skills to be able to access just the required information and within a short time. Okiki and Mabawonku (2013a, 2013b) found that academics in Nigerian federal universities possessed high information literacy skills and recommended that in order to sustain the academic staff information literacy skills, constant training of academics on information literacy skills acquisition was essential.

A research on information retrieval skills of undergraduates and their use of library electronic resources in Nigerian universities (Ekenna and Mabawonku 2013), revealed that there was low use of e-resources by undergraduates and this was due to lack of information retrieval skills. Recommendations were made on how librarians and lecturers could improve the skills of the students.

ICT Use for Research and Scholarly Publishing

Mr. Vice-Chancellor Sir, one of the greatest benefits of advances in ICTs and the application is in the area of research and scholarly publishing. The “publish or perish” cliché is still as valid today as decades ago. Academics and researchers are expected to advance knowledge through research. Access to literature has therefore become crucial. In a study by Aina and Mabawonku (1997), researchers and academics in the information profession were found to have cited literature from journals published in the USA, the UK, South Africa and Nigeria in that order. Another study carried out also focused on the nature of publications by librarians according to the types of libraries where they worked (Aina and Mabawonku 1998). There is an urgent need to provide more access to global literature for Nigerian scholars. This will in turn improve their research and publication output.

Outreach Services

African Network for Information Ethics

Some of the major issues arising for ICT use and global access to information as discussed earlier in this lecture, are the issues of privacy, access, accuracy, plagiarism, and intellectual property. Some African scholars formed the African Network on Information Ethics (ANIE) ten (10) years ago. The Network is funded by the University of Wisconsin, USA, University of Pretoria, South Africa and the South African Government Department of Telecommunication. The Africa Centre of Excellence on Information Ethics, based at the University of Pretoria, has organized series of activities with the aim of promoting ethical use of information in research, governance, information seeking, access and provision. There is the need to reduce the scourge of plagiarism (especially the cut and paste syndrome) in the academic community. Awareness about the danger to scholarship is being encouraged. I participated at the conference in Uganda in 2015 at which some guidelines were proposed on how to promote ethical use of information in the

academic community. I also conducted a study with a colleague at the University of Ibadan, Nigeria, to determine what could be responsible for the high level of plagiarism among students at the University of Ibadan. Findings showed that the students were aware that plagiarism is a crime but they still went ahead to plagiarize (Ilesanmi and Mabawonku 2016).

Mr. Vice-Chancellor Sir, it is a great pleasure to announce to this forum that courses have been produced and recommended for inclusion in the curricular of LIS and other information related programmes. I have participated at the conferences and workshops on ethics of information in the last decade at Kampala, Uganda, Gaborone, Botswana, and Johannesburg, South Africa.

Journal Publishing

Mr. Vice-Chancellor Sir, I have served on the editorial boards of some scholarly journals in the last twenty years. One of the problems encountered by scholarly journal publishers in Africa is sustenance. Sustenance requires adequate funding, planning, commitment on the part of the editorial board members and the management. Many local journals often last less than five years before they go into extinction (Aina and Mabawonku 1996). But Professor Lenrie Aina and I have managed and published the African Journal of Library Archives and Information Science (AJLAIS) on schedule since April 1991. He is the Managing Editor/Publisher and I am the Publishing Editor of this privately owned and managed scholarly journal in the profession. With other scholars in Africa we have collaborated to attain the level of success on the journal. Today, it is one of the top rated academic journals in Africa and the only library and information science journal in Africa that is listed by the world acclaimed Thomson/ISI Web of Science and one of five journals published in Nigeria which are covered by the Web of Science. The journal is indexed and abstracted by seven international indexing and abstracting services.

AJLAIS has the highest h-index and g-index among major library and information science journals in Africa.

Training on Skills in Writing and Publishing

Series of training workshops and conferences were organized on skills in scholarly writing and management of journals. The Technical Centre for Agriculture and Rural Development (CTA) Wageningen, Netherlands, sponsored a training course on the management agricultural and scientific journals in Addis Ababa, Ethiopia in 1998. Participants were drawn from all over the continent. The International Network for the Availability of Scientific Publications (INAASP), UK also sponsored a training course on library and information science editors in West Africa in Ibadan Nigeria in 2003. I was a resource person on the programmes. Other training courses were held for young LIS librarians and lecturers on conducting and reporting research activities in 2002 and 2005. The proceedings were published.

Conclusion

Mr. Vice-Chancellor Sir, the lecture has highlighted the value of information and record keeping to mankind from the beginning of creation. It has also considered the importance of selecting the appropriate channels in communicating information. Knowledge transfer is crucial for national development. Thus, libraries play a very important role in documentation and preservation of oral and written information; providing access to literature in audio, printed and electronic and virtual formats. Technology is pervasive in the 21st century. It has become a way of life and so must be embraced by all for effective teaching, learning, research, and library and information services in Nigeria as in the advanced countries of the world

Recommendations

Mr. Vice-Chancellor, Sir, I would like to make the following recommendations to society at large, using the very special guests at this lecture as the point of contact—the University

Management, heads of institutions of higher learning and the government, on how to accelerate the development of technology and promote the acceptance and adoption.

- Lecturers need to invest more in technology for their personal use and to increase their access to timely information and literature wherever they are, even when outside their work stations.
- The universities need to have more of ICT centres and laboratories for teaching and staff training. Improved internet access, increased bandwidth and rooms with multi-media facilities should be built and furnished to facilitate technology use.
- Lecturers need to encourage virtual interaction with their students. This should be emphasized even more for distance education programmes in Nigeria.
- Library and information science schools in Nigeria are to review their curriculums constantly to reflect global trends in ICT development and use and the market demands from new graduates in the profession.
- Better funding of technology by the stakeholders, especially the government at all levels, is recommended.
- Knowledge, awareness and observance of information ethics, including plagiarism and cyberethics, should be promoted among students, researchers and lecturers as ethical issues in information technology use have become front burner issues globally.
- Synergy on training between universities and professional associations like Nigerian Library Association and the International Federation of Libraries, Associations and Institutions (IFLAI), should be strengthened in order to live up to trends in library and information science.

Acknowledgements

I thank God Almighty for life, good health and His abundant Grace on me and all my family members. To Him be all honour and glory. The Vice-Chancellor Sir, thank you for

your support. I thank the Deputy Vice-Chancellor (Administration), Professor E. Aiyelari, Deputy Vice-Chancellor (Academic), Professor Adeyinka A. Aderinto, and the Dean of the Faculty of Education, Professor M.K. Akinsola, for giving me the opportunity to present this lecture on behalf of the Faculty of Education.

I appreciate the effort of the Acting Head, Department of Library, Archival and Information Studies, Dr. K.I.N. Nwalo, towards this lecture. I want to acknowledge my mentor, mother and supervisor of my doctoral thesis, Professor Adetowun Ogunshye. She gave me appointment after a brief chat immediately I returned from the United States of America and I assumed duty the week after on January 6, 1976. Professor Bimpe Aboyade, another mentor, encouraged all of us to work hard and progress academically. In particular, I wish to acknowledge the confidence reposed in me by giving me an appointment as Research Librarian at Development Policy Centre, Ibadan. I obtained leave from the University for three years. The experience and remuneration went a long way in enriching me professionally and providing comfort for my family after the demise of my husband. Some of my vintage in the Department who contributed to the happy days and professional development in the Department are: Professors W.O. Aiyepoku, B.C. Nzotta, Gbade Alabi, Morayo Atinmo, David Elaturoti, and G.O. Alegbeleye; Mrs. Aderonke Fetuga, late Professor Benson Edoke, Mr. D.K. Gupta, Mrs. K.G. Okpako, and Professor Isola Ajiferuke in Canada. I thank you all for the friendship of over four decades.

I have to make special mention of Professor L.O. Aina, who was a colleague in LARIS Department, but later went to lecture at the University of Botswana for eighteen years. On moving to Botswana, he suggested that we should do collaborative research on African issues in LIS so that we could compare the Southern and West African sub-regions. The concept of the African Journal of Library, Archives and Information Science (AJLAIS), later emerged. We have collaborated to carry out some research studies, publish the

journal and train information professionals on writing skills and journal publishing in Nigeria and other African countries in the last 30 years. Professor L.O. Aina is now the National Librarian and the CEO of the National Library of Nigeria. I thank him very much.

I want to acknowledge the contribution of the Faculty of Education Inaugural Lecture Committee and LARIS Departmental Committee members, the Publishing House staff, the University Media Centre staff and all other functionaries who ensured the fantastic arrangement for this lecture. I thank my colleagues who contributed to this scholarly presentation: Professor Oyesoji Aremu, Dr. A.A. Abioye, Dr. Airen Adetimirin, Mr. Benson Oweghoro, Mr. Sunday Oyebamiji, Drs. Bambo Oduwole, C.A. Okiki, Yetunde Zaid; and my doctoral students: Biola Hamzat, Bola Adeagbo, Titi Ilesanmi, Bola Adewunmi, Adefunke Babarinde, Oluchi Iwuagwu, Wale Oyewole and Olaide Akinbo, towards the writing of this lecture. I miss late Mr. H.I.T. Akinyosoye today and always, RIP. I appreciate the support of all my colleagues and the non-teaching staff in LARIS Department. You have all been supportive and good to me. I thank all my former students and those presently at all levels, for the academic challenges they gave me especially as I prepared and delivered my lectures over the years.

My gratitude also goes to my former doctoral students who have become my co-researchers: Dr. Adetoun Idowu, Prof. Ibrahim Haruna, Drs. Bambo Oduwole, Kitan Akinboro, Fadeke Oyewusi, Airen Adetimirin, C. Okiki, Uluocha Anyaogu, Margaret Ekenna, Jide Owwoeye, Darlington Imeremba, Funke Ebijuwa, and Oluwaseun Obasola. I appreciate all my fellow information professionals at ARCIS, Centre for Educational Media Resource Studies, and all staff, old and present students of LARIS Department and the Faculty of Education with whom I have interacted in the last forty years. I have been accorded high respect and trust throughout my career in the University. God will continue to

bless you all as the Faculty attains higher heights. I acknowledge the support of all Library and Information professionals in Kenneth Dike Library and in all other libraries in Nigeria, many of whom are present here today. May the information profession continue to be more visible and relevant.

I acknowledge old students of my *alma-mata*, Christ's School, Ado Ekiti and University of Ife, now Obafemi Awolowo University. I thank God for my good neighbours at Orogun, Ibadan. I want to specially thank Hon. Justice and Mrs. Lambe Arasi, Chief and Alhaja Bayo Oyero, Mr. Kehinde Awolude, and the Idi-Iraye Landlords Association.

My spiritual life has been highly lifted up by the priests and laity of Immanuel College Chapel, Samonda, my family church. I thank Ven. Dr. C.A. Adagbada, and all ministers, members of the Women's Forum and all Chapel members; I also acknowledge the Chaplain and members of the Chapel of The Resurrection, University of Ibadan, where I also worship.

Special thanks go to all my friends, too many to mention individually. I have been richly blessed by the tons of love and support which I received, especially during the tough times. Some of my many friends are: Mrs. Remi Fawehinmi, Professor Tolu and Chief (Mrs.) Titi Odugbemi, Professor and Mrs. Adedoyin Soyibo, Professor Michael Omolewa, Professor Olufemi Bamiro, Mrs. Bimpe Filani, Mrs. Iyabo Ogunsola, Mrs. Bukky Ajayi, Mrs. Funke Ige, Mrs. Funke Ajakaiye, Professor Dele and Mrs. Ajike Sanni, Professor and Mrs. Wole Osonubi, Professor and Dr. S.K. Adeyoju, Professor and Mrs. Bisi Adebowale, Mrs. Funso Ogundola, Chief (Mrs.) Ronke Okusanya, Mrs. Ronke Fetuga, Professor and Mrs. Bode Lucas, Mrs. Dupe Akinrinmade, Mrs. Bola Agbaje, Arc and Mrs. Folake Bademosi, Dr. Jide and Mrs. Sola Olumeko, Professor Dele and Mrs. Kike Osinusi, Mrs. Tayo Ikotun, Mrs. Deola Shyllon, Mrs. Ladun Akinnawo, Professor and Mrs. Theo Jerome, Professor and Mrs. Idowu Farai, Professor M.A.Y. Raji, Dr. and Mrs. Jimi Jinadu, Dr. and Mrs. Ayo Ajelabi and many others who are here present.

At the family level, I start with my parents, who nurtured and taught me to be forthright and that honesty is always the best policy, I thank God for my father, Chief Jacob Oluwole Fakorede, a highly responsible and loving father and my mother, Chief Mrs. Augusta Omolara Fakorede, a mother in Israel. May you continue to rest in peace. My siblings and their families (and they are here) Engineer Oladapo Fakorede, Pharmacist Ademola Fakorede, Mrs. Beky Neff and Mrs. Olufolake Adeniyi. You have all been wonderful and loving siblings. I also thank your spouses, their families and all my relatives all over the world for their love. All friends of my late husband and all our family friends who are here and many others, I appreciate your love and support. I thank very specially all my in-laws: Mr. Jide Oyenuga and all relatives and in-laws from Sagamu, Ijebu Ode, Ikorodu, Ibadan, Ifon, Ile-Ife, Ondo and Ekiti States for giving me peace of mind. God bless you all.

I dedicate this lecture to the memory of my late husband, Professor Adewale Folarin Mabawonku, an erudite scholar and professor in the Department of Agricultural Economics, University of Ibadan. How I wish he is alive to witness this day. Unfortunately, the cold hands of death took him away from me and the very young children twenty two years ago. He encouraged me as a friend, lover, husband and mentor. I am eternally grateful and indebted to him for his contribution to my life. The Grace of God has sustained us till this blessed day. Halleluyah! Continue to rest in perfect peace.

I thank my sons: Olumide, Ayotunde, Tolulope and Olaolu. You have been too loving, caring and the best sons in the whole world. You will all live long in abundant health and prosperity. My daughters: Bolanle, Sola and Funmi, I appreciate you. You have given me and the family lots of love. My grand children: Tiwa, Kunmi, Mayo, Folarin, Tumi, Nifemi and Gbemisola, you will blossom and make us proud. God is good, He has done us well. Oh my soul, rise up and praise the Lord!

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BIODATA OF PROFESSOR IYABO MOTOLAGBE MABAWONKU

Professor Iyabo Mabawonku was born on 3rd April 1948 at Ile-Ife, Nigeria, into the family of late Chief Jacob Oluwole Fakorede and Chief (Mrs.) Augusta Omolara Fakorede (nee Shogbesan). Her father was a civil servant. Her mother was a teacher and later, a successful business woman. She is the first of five children in a monogamous family.

She started schooling at Mapo Day School, Mapo, Ibadan at the age of six years. When her father was transferred to Akure in 1958, she transferred to CAC Primary School, Akure, and in 1959 she entered primary six at St. Saviours Primary School, Ado-Ekiti. She attended Ekiti Anglican Girls' Secondary School (now Christ's Girls School), Ado-Ekiti, from 1960 to 1964 for secondary school education, and Christ's School, Ado Ekiti for the Higher School Certificate from 1965 to 1966. At Christ's School, she was the Senior Prefect (Girls) in 1966. She got admission to the University of Ife (now Obafemi Awolowo University) in 1967 to study English and Philosophy. She graduated in June 1970. She immediately proceeded to the University of Ibadan to study for the Post Graduate Diploma in Librarianship. There was no Masters degree programme in librarianship in Nigeria then.

She worked as Librarian II at the Federal Department of Agricultural Research Library, Moor Plantation Ibadan from 1972 to 1974. She later proceeded to Michigan State University, East Lansing, USA to study for a Masters degree in Educational Media Technology. Professor Mabawonku had an appointment as a graduate assistant at Michigan State University. She developed some multi-media instructional packages for youths in the 4H Youth Programme in Michigan State, USA. In January 1976, she was employed as an Assistant Lecturer at the then Department of Library Studies, now the Department of Library, Archival and Information Studies, University of Ibadan. She obtained her doctoral degree in 1987. She was promoted to the rank of Senior Lecturer in 1985, Reader in 2000, and Professor with effect from October 2004.

As an academic, she has conducted many research studies individually, and jointly with colleagues. Professor Mabawonku has published over 60 journal articles and papers in conference proceedings. She has supervised over 200 Master's degree students' projects and graduated 11 doctoral candidates. Two more are likely to join by the end of this session. She was a recipient of Senate Research Grant of the University (two times). Professor Mabawonku has served her Department and the University in many ways. She was the Acting Head of Department of Library, Archival and Information Studies between 2007 and 2008, and Head of Department from 2008 to 2011. She is a member of the Faculty of Education Board of Studies and has been a member of the Senate of the University since 2007. She has served on various committees in the University.

Outside the University of Ibadan, Professor Mabawonku has contributed immensely to other universities. She has served as an external examiner in the following institutions: Obafemi Awolowo University, Ile-Ife, University of Nigeria, Nsukka, University of Ilorin, Ilorin, Tai Solarin University of Education, Ijebu-Ode, University of Ghana, Legon, University of Botswana, Gaborone, and University of KwaZulu Natal, South Africa. She has also assessed papers of candidates for the post of professorship in library schools and libraries in Nigeria, Ghana and Sierra Leone. She was a member of the NUC Accreditation Teams to some universities and has served as Chairman of a panel for accreditation of programmes in Library and Information Science departments in Nigerian universities four times. She is a member of the African Network on Information Ethics (ANIE) which was formed ten years ago. The Network, aims to promote ethical use of information in this era of high technology use and unethical use of information, is funded by the University of Wisconsin, USA, University of Pretoria, South Africa, and the South African Government Department of Telecommunication.

She is a member of some professional associations, including the Nigerian Library Association and the International Federation of Library and Information

Association (IFLAI). She has served on the editorial board of many scholarly journals, including *Nigerian Libraries* and the *African Journal of Library, Archives and Information Science* which has been published in the last 26 years. She has served as a resource person at many workshops locally and outside the country and has attended and presented papers at many conferences in Nigeria and other countries like: Zimbabwe, Senegal, South Africa, Italy, Puerto Rico, Botswana, Ethiopia, Ghana, Kenya, Tanzania, Uganda, and USA. During the conference, at Washington DC, a tour was conducted round the Library of Congress, the biggest library in the world, situated at the US Congress in Washington DC, USA. She enjoys traveling and has visited many countries in Africa, Europe, North America and the Middle East.

Professor Iyabo Mabawonku was married to late Professor Adewale Folarin Mabawonku, formerly of the Department of Agricultural Economics, University of Ibadan. He died in active service in 1994. She is blessed with four sons, three daughters and seven grandchildren.

NATIONAL ANTHEM

Arise, O compatriots
Nigeria's call obey
To serve our fatherland
With love and strength and faith
The labour of our heroes' past
Shall never be in vain
To serve with heart and might
One nation bound in freedom
Peace and unity

O God of creation
Direct our noble cause
Guide thou our leaders right
Help our youths the truth to know
In love and honesty to grow
And living just and true
Great lofty heights attain
To build a nation where peace
And justice shall reign

UNIVERSITY OF IBADAN ANTHEM

Unibadan, fountainhead
Of true learning, deep and sound
Soothing spring for all who thirst
Bounds of knowledge to advance
Pledge to serve our cherished goals!
Self-reliance, unity
That our nation may with pride
Help to build a world that is truly free

Unibadan, first and best
Raise true minds for a noble cause
Social justice, equal chance
Greatness won with honest toil
Guide our people this to know
Wisdom's best to service turned
Help enshrine the right to learn
For a mind that knows is a mind that's free

UNIVERSITY OF IBADAN LIBRARY