



APPLICATION OF ICT IN TELEVISION BROADCASTING: A STUDY OF NTA PORT HARCOURT

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ABSTRACT

Information and communication technology, ICT, has revolutionized the media industry. It has transformed information gathering and dissemination in television broadcasting. This study examines the application of ICT by broadcast professionals of Nigerian Television Authority, NTA Channel 10, Port Harcourt. The objectives of the study were to examine the extent NTA makes use of ICT in its broadcasting; to find out if NTA uses website(s) for broadcasting and to identify the benefits of ICT to broadcast professionals of NTA. Survey design was adopted for the study using personal interview and the data collected was qualitative. The study revealed that ICTs have been widely applied in television broadcasting by broadcast professionals at Nigeria Television Authority, NTA, Channel 10, Port Harcourt. Study results also showed that NTA Port Harcourt does not have a website whereas the benefits of using ICTs by broadcast professionals of NTA Port Harcourt include ease of communication and easier access to information using the internet and shared network, amongst a host of other benefits. The recommendations for this study include making funds available to upgrade ICT facilities and NTA Port Harcourt should have its own website in order to control its online identity, image and domain email accounts for staff.

Keywords: ICT; Television; NTA; Broadcasting

INTRODUCTION

It is contestable that Marshal McLuhan had information communication technology (ICT) in mind several decades ago when he coined the phrase “global village” to prophesy that the electronic communication would unite the world. But certainly, that prophecy is today, a reality as the internet in particular, and the ICT in general, have almost literally and spatially turned the world into one small village (Oketunmbi, 2005).

Marcelle (2000) views ICTs as applications and services used for the production, distribution, processing, and transformation of information with the aid of ICT tools. Ogunsola and Aboyade (2005) are of the opinion that ICT came into being as a result of related technologies clearly stated by their functional usage in information access and communication which is centralized through the Internet.

Information and Communication Technology (ICT) refers to forms of technology that are used to transmit, store, create, share or exchange information. This broad definition of ICT includes such technologies as: radio, television, video, DVD, telephone (both fixed line and mobile phones), satellite systems, computer and network hardware and software; as well as the equipment and services associated with these technologies, such as videoconferencing and electronic mail.(Wikispaces,2014).

Joseph (2003) observed that “the internet has revolutionized the computer and communication world like nothing before” (p.14). He further adds that “the internet has a worldwide broadcasting capability, a mechanism for information dissemination, and a medium for collaboration and interaction between individuals and their computers without regards for geographical location” (p.14).

The Internet is often called a network of networks (Plucauskas, 1994). Satellites and computers are changing news gathering, production and delivery processes. While the technical revolution deals with advances in production, the philosophical aspect deals with content and packaging (Whitney, 1985). Internet provides a vehicle or networks of all kinds and individual stand-alone computers to intertwine to form a global network, which connects people all over the world (AINA, 2008).

Shephard and Edelman (2005) define Internet as a worldwide collection of computer networks that share digital information through a common set of networking and software protocols.Zack (2009) stresses that the internet has it all. That, there is more information on computers and other ICTs than one could ever possibly digest. He explains that by using the search engines, you can even learn about the internet itself or about a piece of ICTs equipment.

Mueller (2012) stresses that your website is your online property, your digital store front, and also helps you build a strong online presence as well as your primary avenue for providing information about your business. Your social media presence should all be pointed to your website. Facebook, Twitter, Pinterest,

Youtube and any other properties you have should be driving traffic to your website. Knox (2004) is of the view that if you do not have a website, you will be losing business to other organizations that do. He informs that it's actually better not to have a website than have one that makes your business look bad.

ICT has ignited and provoked radical and drastic changes that has affected and revolutionized the broadcast industry, most especially in immediacy and timeliness of news. In the past few decades ICT has transformed the world in all spheres of life. It's potential for reducing manual operations and fostering growth in the media has increased rapidly. To strengthen this assertion, Adigwe (2010) noted that, computer technology has enhanced news processing and news reporting. With the Internet, journalist can now click on relevant sites to source for foreign or even local news for subsequent broadcast news. ICT he observes also helps to reduce and/or eliminate the constraint of distance in the broadcast industry especially in television.

Journalists and broadcast professionals in Nigeria years ago were using manual and analogue technologies in their programming, news gathering, processing, dissemination and journalistic endeavors which in a way delayed delivery to the targeted audience. However, with the advent of ICT equipment which are now being used in the production, recording, programming, gathering, processing and transmission of news events by television broadcast stations in Nigeria, there has been an enhanced or improved delivery of broadcasting services. This will bring about a departure from the ancient ways of broadcasting and the skills required to master the various ICT components. With regard to Nigeria and NTA Port Harcourt in particular, this further boils down to knowing; how are the ICTs presently used in television broadcasting in Port Harcourt, particularly NTA Port Harcourt?

To this end, this study investigates how the broadcast professionals of NTA Port Harcourthave benefitted from the use of ICTs in their journalistic and broadcasting activities and also find out if NTA Port Harcourt has an online presence; that is, if they have a website for promoting and sharing their news stories, programmes and events. The following research objectives were introduced to guide this study:

1. To examine the extent NTA makes use of ICT in its broadcasting.
2. To find out if NTA uses website(s) for broadcasting.
3. To identify the benefits in the use of ICTs by broadcasting professionals in NTA.

The research objectives in turn gave rise to the following research questions:

1. To what extent does NTA make use of ICT in its broadcasting?
2. Does NTA use website(s) for its broadcast services?
3. In what ways have broadcasting professionals of NTA benefited from the use of ICTs?

THEORETICAL FRAMEWORK

This study is based on technological determinism theory of Marshall McLuhan. Technological Determinism theory (TD), simply put, is the idea that technology has an important effect on how the media

contents are disseminated to audience. The theory was propounded in 1964 by a Canadian professor of English, Marshall McLuhan. According to McLuhan (1964), “technological determinism” is a theory which states that the characteristics inherent in a new technology govern the direction of its development and sets the conditions for social change. McLuhan's notion of a global village is based on characteristics inherent in electronic media, including the elimination of time and space barriers in the communication process. The ability to eliminate space in the communication process will create a new global sense of communication that is reminiscent of older oral traditions because people will become more dependent on technologies. Thus, the characteristics of eliminating space constraints will cause social change.

Dennis and Defleur (2010) acknowledge McLuhan's ideal world, that everyone would be connected to a global network of interactive communication in which everyone can be a communicator, capable of originating, retrieving, storing, and disseminating messages. Technological Determinism implies that media technology shapes how we as individuals in the society think, feel, act, and how the society operates as we move from one technological age to another (McLuhan, 1964). McLuhan also postulates that the medium is the message, which means that personal and social consequences of any medium are as a result of any new technology.

We learn, feel and think the way we do because of the messages we receive through the current technology that is available. For instance, the radio requires us to only listen and develop our sense of hearing. On the other hand, television engages both our hearing and visual senses. We then transfer those developed senses into our everyday lives and we want to use them again. Mobile phones no longer serve only the purpose of making and receiving calls, but with the inclusion of both recording and watching films, listening to musicals, sending messages as well as other entertainment functions. Same can be applied to the computer, where it doesn't only do all mentioned above, it also adds other functions like editing text, converting files from one format to another etc. all as a result of media convergence.

Griffin (2000) stresses that McLuhan's theory of technological determinism regards communication inventions as pivotal because of the consideration of every new form of the media innovation to be an extension of some human faculty. The media do not only extend our reach and increase our efficiency, they also act as a filter to organize and interpret our social existence, while technology will invariably cause cultural change.

Technological determinists interpret technology in general and communication technologies in particular as the basis of society in the past, present and even the future. Technologies such as writing or print or television or the computer change the society. The entire form of the society is seen as being determined by technology, new technologies transform the society at every level, including institutions, social interaction and individual's idea is associated with the notion that humans are first and foremost tool makers and tool-users, (Chandler,1995). Technological determinism expresses the relationship between technology

and the society, as well as setting the conditions for social change and progress in every society. Technological determinists often see technology as the major cause of social change, which can be considered as “techno centrism”. Techno centrism is a perspective that accounts for almost every social change in terms of technology (Williams, 1990).

However, McLuhan’s perspective about the medium being the message is suitable to this study because the medium has changed the means of communication in the society. In the present age, people make use of electronic media much more than sending messages through post office. The prevalent technology thus causes cultural change. This implies that when new technologies are developed, the culture and the society will immediately change to reflect the values inherent in these new technologies such as the impact of computer, cell phone, the Internet, cable, satellite, camcorder, digital camera and High Definition Television. People could communicate across national boundaries which will enable them to access other cultures and make preference. Technologies have reflected the world as a global village because societies now think, feel and act in accordance with the current trends in technologies.

The theory of technological determinism is applicable to this study because technologies have drastically changed the entire complex systems of time, space and barriers in communication as well as enhanced the quality of media contents. This study is thus concerned with the extent of ICT application, how these technologies have been beneficial to staff of NTA and also the challenges contained therein in the use of these technologies.

Information and communication technology:

Nwodu (2006) states that information and communication technologies are grouped into major modes. These modes are the telecommunications and the computer communications. Digital and cellular phones, fibre optics, microwave technology, satellite communications, transistor, computer and the Internet have combined to enthrone speedy, faster and easier gathering processing and distribution of news and information around the globe. Umunadi (2009) asserts that information and communication technology involves the use of computerized machinery, fibre optics, telecommunication, satellites, the Internet and other (ICT) tools in today’s economy. Tiamiyu (2002) explains that information and communication technologies are now generally perceived as strategic activities and the management of resources for stimulating personal, organizational and national productivity growth and development. Ufuophu-Biri (2007) posits that information and communication technologies have changed the situation in mass media positively, in various aspects of their operation globally, because news no longer takes time to travel within a country let alone across countries and continents.

Similarly, radio and television were not abolished with the advent of satellite. Rather, there is integration of old and new technologies into large communication networks (Defleur& Dennis, 1998). According to

Orhewere (2006), the idea of new information and communication technologies has to do with the combination of computer technologies in relaying, retrieving and storing information. It is the convergence of computer and telecommunications technology.

Choo (2002) sees technology as the way people use resources to meet their needs and wants. In his enumeration of such needs, he lists them as the need for comfortable sleep, storing and looking for foods, transportation and so on. All these are the physical needs of man. Information and communication technology (ICT) has contributed a lot to the globalization process which has overtaken the world in recent times (Adimorah, 2005). Bittner (1989) states that “new technology is changing the way we receive and consume mass communication simply because new technology has greatly altered our lives, offered us new alternatives for choosing both the media content and the means of communication”(p,262).

Dickinson (2007) is of the view that technology comes in two phases, one phase is, its progressive development because of the ability to report current world events, while on the other hand, is the continuous over flooding of foreign ideas, life styles and cultural materials into other countries by the superior technologically more powerful countries. Nwodu (2006) states that advancements in information and communication technologies (ICTs) have, therefore made the sharing of news and information across the globe a lot easier, clearer, faster and relatively cheaper.

Chari (2013) says that the way in which news is conceptualised, gathered, produced, disseminated or consumed is changing in the context of new communication technologies. Letlhogile (2005) states that information and communication technologies (ICTs) have become part of the modern newsroom for receiving and sending information for processing and storage of data. He adds that ICTs makes the modern newsroom, whether it is for television, radio or press agency more efficient and better able to deliver a competitive and newer product that can sell faster and better because of its quality

Aniogbolu, Nina and Ememeriagbon (2009) assert that communication technologies such as e-mail, fax computer and video conferencing are used to overcome barriers of space and time. The world has become a global village as a result of the emergence of Information and Communication Technology. The force fuelling this rapid transformation of remote and isolated information units into global inter-connected super highways is information and communication technologies.

REVIEW OF RELATED STUDIES

Idemili and Sambe (2006) state that poor information and communication technologies have had an adverse effect on the dissemination of information in the past and even at present. They add that digitalized system of information gathering is part of the innovation that has been noticed in the operation of the broadcast media.

McGee (2013) found that US adults check their email more than they browse the web or check their Facebook accounts, making email the most popular activity for users to do on their smart phones. 78% of the respondents in the study revealed that they check their email on their phone. It was also found that 30% of consumers use only their smart phone to check their email, and 91% were likely to check their email at least once a day on their smart phone. However, the percentage of consumers using email on smart phone ranges and differs dramatically across different countries. For example, in comparison to 75% of those consumers in the US who used it, only 17% in India did (van Rijn, 2014).

Berger (2005) investigated the use of Information Communication Technologies (ICTs) (the internet, email and cellular phones) in selected newsrooms in nine Southern African countries. The study investigated the various problems embedded in the use of ICTs (p.8). Internet use was found to vary across countries, but email was used by all respondents. The study found that there was extensive utilization of ICTs and a considerable number of journalism practitioners confessed that they had engaged in some unethical practices, such as lifting material from the internet without attribution or downloading pornographic material (Lethogile, 2005:35). Mabweazara (2005:96) notes that Zimbabwean journalists who participated in the study refuted the existence of plagiarism among themselves.

Nwodu (2006) in his study showed that Information and Communication Technologies had a negative impact on the cultural values of developing nation. Further findings from the study highlighted that limited access to and lack of proper training in the use of information and communication technologies were responsible for this situation. The study however recommended that various governments in developing nations should assist their journalists to obtain proper training in the use of Information and Communication Technologies as well as make the technologies easily accessible to the journalists.

RESEARCH METHODOLOGY

This study adopted descriptive survey design to be able to draw inference concerning variables under investigation. This survey method is descriptive in nature and lays emphasis on the use of personal interview as the study is a qualitative one. Strauss and Corbin (1990) define qualitative research as, "any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification" (p. 17).

The population of the study covered selected members of staff of the Nigeria Television Authority (NTA) Port Harcourt. The departments selected for this study were those involved in the production of programmes and broadcasting activities. They include; Programmes; Engineering; and News & Current Affairs departments respectively. Nine respondents, three from each of the above departments were selected for the purpose of this study

The sampling technique used was the purposive sampling method. Purposeful sampling is a technique widely used in qualitative research for the identification and selection of information-rich cases for the most effective use of limited resources (Patton, 2002). This involves identifying and selecting individuals or groups of individuals that are especially knowledgeable about or experienced with a phenomenon of interest (Cresswell & Plano Clark, 2011).

In addition to knowledge and experience, Bernard (2002) and Spradley (1979) note the importance of availability and willingness to participate, and the ability to communicate experiences and opinions in an articulate, expressive, and reflective manner.

The instrument used to collect data for this study was the interview schedule or guide and a tape recorder. The technique was personal and oral interview method using semi-structured questions to ensure that respondents elaborate on their answers.

Data Presentation and Analysis:

Research objective 1: To examine the extent NTA makes use of ICT in its broadcasting.

All the respondents stated that they make use of ICT for communication and access to the internet. They also informed that NTA Port Harcourt uses ICT for intra and inter-communication within and among its various departments. They said intercoms are used to communicate within a department and “Ethernet” connected local area networks (LAN) are used to communicate among the various departments, share files, send messages, and edit production back and forth.

The engineering department named specifically some ICT components they use to include: Desktop Computers, WLAN Connectors, Rohde and Schwarz transmitter, Audio Console, Audio Mixer, Teleprompter, Studio camera, Camera Control Unit (CCU) – it regulates and controls the camera, Amplifiers, Digital Satellite Broadcasting Dish, Digital Satellite Electronic News Gathering (DSENG) device or Emergency Transmitter. High Broadband Optimization Cables for sending and receiving information at high-speed.

The interviewees said before now in the engineering unit, they stored materials containing vital information in files in the cupboard. Most times, these materials are destroyed by rodents, cockroaches which eat up parts of the reports containing the vital information thereby rendering the work useless. All these are analogue forms which have been replaced by digital technologies/devices with the emergence of ICT. Information is no longer stored in the cupboard, rather it is stored in small portable devices known as Digital Satellite Electronic News Gathering Device (DSENG) which enable those in the engineering unit to click on relevant information needed for broadcast activities.

The programmes department said some of the ICT components they use include desktop computers, laptops, modern flash memory cards, High Definition (HD) television sets, microphones, headphone speakers, Outside Broadcasting (OB) vans, HD digital cameras amongst a host of others.

The interviewees said in the past, they used to employ tape analog devices alongside a divicam machine which most times causes tape freezing especially during outside broadcasting causing interruption

of programmes leading to loss of sound, signal and blurred images. However with the advent of modern ICT components viz computer, tapeless and digital cameras containing memory cards, all these troubles are now a thing of the past. The computer makes the work faster and easier, and reporters can self edit reports on their own.

While the news and current affairs mentioned some of the ICTs they employ to include desktop computers, DVDs, laptops, Ipads and mobile smart phones to get information on the internet such as weather reports, stock market reports etc.

To edit stories in the past, different types of tapes and recording devices were used, for example, VHS, U-matic as well as Betamax were different types of tape and cassette recorders. Their shortcomings include short recording time, low picture quality, poor sound signals, and these delayed operations. Most of these have been replaced by DVDs which have clearer and better sound quality. Also most of their reports are done online in a form called non linear editing. That is, after editing using DVD format, news and reports are transferred to a shared network system arranged in folders such as news, commercials, current affairs, kiddies etc from where they are made available to those who are supposed to have access to them as regards to their own job specification. This networking process is possible because of ICT where storage of files is possible using both network cables and wireless networks, although they still have analog tapes on stand-by as backup in case the network fails.

Research objective 2: To find out if NTA uses website(s) for broadcasting.

On the question if NTA Port Harcourt has a website? All the respondents said NTA Port Harcourt does not have a website, but that the NTA Abuja, which serves as the national network has a website and its other subsidiary networks which NTA Port Harcourt belongs to make use of the national website for communication and whenever the need arises. They further added that they make use of emails in their communication using any of the public domain emails like gmail, yahoo or hotmail depending on the service subscribed to by the staff member.

They further point out that ICT is a core component in their various units and is very relevant to what they do. "In fact you cannot do without it. Part of the job of the engineering department is also to fix and maintain equipment of NTA Port Harcourt" (Engr. Idobe, Engineering Unit).

Research objective 3: To identify the benefits in the use of ICTs by broadcasting professionals in NTA

The benefits of ICT according to the respondents of the engineering department include; enhanced knowledge, improved job proficiency, as well as providing a platform to explore other areas of science & technology. They state that ICT has made their job easier and faster compared to the past. The processing speed of the digital transmitters are faster and with larger memory that can store more data, and also capable of detecting faults/errors and such faults/errors can be corrected using the system aided troubleshooting guide by clicking on the appropriate buttons as displayed.

Staff members of the programmes department said the benefits of ICT include making their job faster and easier and the ability to self-edit projects on the computer as most staff of NTA Port Harcourt in the programmes department have their own personal laptops which they can use to edit their reports without necessarily waiting for a specific editor, thus making the editor's job even easier.

Respondents of the news and current affairs department listed the benefits of ICT to include, using the laptop to prepare reports, the modem to connect to the internet and gather information which are edited on the computer or laptop, and sent across the network either through the Local Area Network, LAN, and wireless network or by email, making use of these ICT components implies benefitting from them. "In effect we consume ICT" (Mr. Dahoho Isaac).

DISCUSSION OF FINDINGS

Research question 1: To what extent does NTA make use of ICT in its broadcasting?

The study found out that NTA Port Harcourt makes use of ICTs to a great extent in their daily job routines from news gathering, writing, editing, broadcasting, planning and programming, as well as communicating internally and externally with their various publics. McLuhan (1964) already points out the idea that technology (ICT) has an important role on how the media contents are disseminated to the audience. To this end, ICT plays a very important role in how media messages are relayed by the broadcast professionals of NTA Port Harcourt to its audience in Port Harcourt and its environs.

Research question 2: Does NTA use website(s) for its broadcast services?

It was however surprising to find out that NTA Port Harcourt does not have a dedicated website, but rather relies on the National NTA website (www.nta.ng). In today's technology driven world, it is important that a media agency should have its own website to promote its programmes and enhance communication, and also a website can be a source of income from ads and banners. As Mueller (2012) pointed out, your website is your online property, your digital store front, and also helps you build a strong online presence as well as your primary avenue for providing information about your business. Knox (2004) adds further that if you do not have a website, you will be losing business to other organizations that do.

It is important to note however, that all the television stations in Port Harcourt are not very different from NTA Port Harcourt in terms of website ownership. There are three other television stations broadcasting from Port Harcourt; Africa Independent Television, AIT, and Silverbird TV, both privately owned stations and Rivers State Television, RSTV, owned by the Rivers State Government. AIT and Silverbird TV just like NTA Port Harcourt also have one network controlled website www.daargroup.com and www.silverbirdtv.com respectively, while RSTV has a website www.rstv22.tv, its last news item was recorded 3 months two weeks ago from the date (16/May/2015) we accessed the website.

Thus, television stations in Port Harcourt have not taken advantage of the opportunities that comes

with owning an organizational website. In the case of RSTV, Knox (2004) advises that it is actually better not to have a website than have one that makes your business look bad. Not updating information on the website of a media organization sure makes them look bad.

It was also observed that because of a lack of a domain website, broadcast professionals of NTA Port Harcourt make use of public domain emails for communication. The problem of solely using public domain emails like yahoo, googleetc is that a user may not have full control of his own email account as it is subject to terms and conditions of the domain owner, thus an email account can be shut down without notice. Also, access to such public domains can be affected by network issues from the owners. This can have a serious negative effect especially if the broadcast professional is working on very limited time schedule.

We have seen that although broadcast professionals of NTA Port Harcourt employ ICT in their work, the organization lacks a website dedicated to the broadcast activities of NTA Port Harcourt and also, the use of public domain emails can have negative effects as the user does not have full control over content sent over such media..

Research question 3:In what ways have broadcasting professionals of NTA benefited from the use of ICTs?

The study found out that broadcasting professionals of NTA Port Harcourt have benefitted immensely from the use of ICTs. It was discovered that part of the benefit of ICT is that it makes for ease of communication and access to information through Wireless Local Area Network (WLAN), Local Area Network (LAN) and the internet. The computers are used to prepare and edit reports; internet connection using emails and networking platforms are used for sending in the reports and further editing if the need arises, with all staff who have a role to play having access to the network. This aligns with Orhewere (2006), who said that the idea of new information and communication technologies has to do with the combination of computer technologies in relaying, retrieving and storing information. It is the convergence of computer and telecommunications technology.

This is also in line with McLuhan's (1964) ideal world where everyone would be connected to a global network of interactive communication in which everyone can be a communicator, capable of originating, retrieving, storing, and disseminating messages, but in this case the information network is restricted to staff of NTA Port Harcourt.

The benefit here is that sending in reports is now easier and faster. Completed projects can be sent in a matter of minutes using the email instead of courier mail which can take days or hours depending on the distance, in the case of sending through internet networks using email or social media, it can be in just a matter of seconds depending on the size of the file being sent. Videos and sound bites will take a longer time to upload compared to sending text. They add that reporters use the internet to gather information in filing reports and

using it to transmit programmes from different locations. This makes news stories believable as a journalist can report live from the venue of the beat he/she is covering whether it's an urban area, rural area, forest, etc.

From the results responses and information outlined above, we have seen that there are many benefits in the use of information and communication technologies, ICTs, by broadcast professionals at NTA Port Harcourt.

CONCLUSION

This research work has been able to establish that information communication technologies, ICTs, have been widely applied in television broadcasting by broadcast professionals at Nigeria Television Authority, NTA, Channel 10, Port Harcourt. ICT has made their work faster and easier and a general acceptance among the broadcast professionals of NTA.

Part of the findings was that NTA Port Harcourt does not have its own website rather; it makes use of the website of its national headquarters in Abuja. This lack of website means it does not have control over its content that may be put up on the website, instead, it sends its content to the Abuja head office which edits and post such content or not online. It is surprising that an organization as big as NTA Port Harcourt does not control its online presence. It is the expectation that the findings from this study will expedite actions of NTA Port Harcourt having its own website and online presence.

Recommendations:

The following recommendations have been formulated from the findings of this study, they include;

1. The management of NTA Port Harcourt should create its own website so as to be able to communicate effectively with its staff and the general public so information can be timely.
2. The management of NTA Port Harcourt should create a private domain email for its staff while the public domain emails like yahoo, gmail, hotmailetc should only be used as a backup rather than the main emailing tool.
3. It has been documented from this study that ICTs make the job of NTA Port Harcourt staff faster and easier; thus, more funds should be made available to upgrade the ICT facilities of NTA Port Harcourt and staff trainings.

REFERENCES

1. Adigwe, I. (2012). The impact of information and communication technology (ict) on News processing, reporting and dissemination on broadcast stations in Lagos, Nigeria. Library Philosophy and Practice (e-journal).Paper 861.Retrieved from <http://digitalcommons.unl.edu/libphilprac/861>
2. Adimorah, E. N. O. (2005). The economics and politics of global information: the lot of development

- countries. *Communicate: Journal of Library and Information Science*. 7(1&2).1-11.
3. *Advanced International Networking and Application (2008)*. 22nd International conference on Advanced Information Networking and Applications, AINA 2008, GinoWan, Okinawa, Japan, March 25-28. IEEE Computer Society 2008 BibTex.
 4. Aniogbolu, C., Nina, M. & Ememeriagbon, E. (2009). The status of information and communication technologies in Nigeria: Implications for national development.
 5. *International journal of language and communication studies*. 2 (1-2), 100-114.
 6. Berger, G. (Ed.), (2005). *Doing digital journalism: How Southern African news gatherers are using ICT*. Grahamstown: Rhodes University.
 7. Bernard, H. R. (2002). *Research methods in anthropology: Qualitative and quantitative approaches (3rd ed.)*. Walnut Creek, CA: Alta Mira Press.
 8. Bittner, J. R. (1989). *Mass communication: An Introduction*. (5thed.). London: Prentice Hall.
 9. Chandler, D. (1995). Technological or media determinism. Retrieved from <http://www.aber.ac.uk/media/documents/tecdet/tecdet.html>
 10. Chari, T. (2013). New communication technologies and journalism ethics in Zimbabwe: Practices & malpractices. *Online Journal of Communication & Media Technologies*, 3(2)
 11. Choo, C. W. (2002). *Information management for the intelligent organisation: The art of scanning the environment (3rded.)*. Medford: Information Today, Inc.
 12. Cresswell, J. W. & Plano Clark, V. L. (2011). *Designing and conducting mixed method research (2nded.)*. Thousand Oaks, CA: Sage.
 13. Defleur, M.L. & Dennis, E. (1998). *Understanding mass communication*. (6thed.). Boston: Houghton Mifflin
 14. Dennis, E.E. & Defleur, M.L. (2010). *Understanding media in the digital age: Connections for communication, society and culture*. New York: Pearson Education.
 15. Dickinson, R. (2007). Towards a sociology of media occupation. *Cultural Sociology*, 1, 189-208.
 16. Griffin, E. (2000). *A first look at communication theory*. (4thed.) New York: McGraw-Hill Higher Education.
 17. Idemili, S.O. & Sambe, S.A. (2006). The Nigerian Media and ICTs: Implications and Challenges: I.E Nwosu & O.E Soola (Eds). *Communication in global ICTs and ecosystem perspectives-Insight from Nigeria* (pp. 181-188) Enugu: Precision Publishers.
 18. Ogunsola, L.A & Aboyade, W.A. (2005). Information and communication technology in Nigeria: Revolution or evolution. *Journal of Social science*, 11 (1); 7 – 14.
 19. Oketunmbi, E. (2005). Trend in ict and its impact on mass communication. *Journal of communication and society*, 1(1), 36-50.
 20. Orhewere, J.A. (2007). Influence of ICTs on African cultural value system. In I.E Nwosu & O.E Soola (Eds). *Communication in global ICTs and ecosystem perspectives-Insight from Nigeria* (pp. 289-296) Enugu: Precision Publishers.
 21. Patton, M. Q. (2002). *Qualitative evaluation and research methods (3rded.)*. Thousand Oaks, CA: Sage

Publications, Inc.

22. Umunadi, E. K. (2009). ICT vocational and technical education programmes in Nigerian tertiary institutions: Issues and challenges. *Journal of Communication and Culture*, 1(2).
23. Whitney, D.C. (1985). Media organizations and professional communicators: conflict, opposition and change. *Communication*, 8(2), 133-137.
24. Wikispaces (2014). Use of ICT. Retrieved from <http://pc3.wikispaces.com/Use+of+ICT>
25. Williams, R. (Ed.) (1990). *Television: technology and cultural form* (2nded.). London: Routledge
26. Zack, R. (2009). *Information and communication revolution in the 21st century*. Lagos: Prime Target Venture.