ICTs AND THE DYNAMICS OF BROADCASTING IN NIGERIA

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Abstract
This study was designed to ascertain the influence which ICTs have on the Nigerian broadcast media industry. To achieve this, a statement of problem was formulated with four research questions drawn to guide the research. However, for clarity of purpose, *Edo Broadcasting Service*, *Independent Television* and *Radio, Nigeria Television Authority* (NTA) and *Sylverbird Communications*, Benin City, Edo State were used as the study base. Relevant literatures on ICTs and broadcasting were reviewed. In order to elicit the relevant data, the survey method of research was deployed using the instrument of the questionnaire to formulate questions in line with the research objectives. The results showed, among other things, that the Nigerian broadcast media have accepted and adopted the use of some relevant ICTs, particularly the extensive application of the computer and digital computer in various areas of broadcasting. The study also found that this application has been very gradual, though moderate in Nigeria. It was also revealed that most of the broadcast personnel are not proficient in the use of the ICTs. High cost of the equipment and lack of access are the possible challenges encountered by the broadcast media in the application of the ICTs as was further revealed by the study.

Keywords: Broadcasting, digitalisation, convergence, ICTs and communication.

Introduction

Background of the Study

Information and Communications Technologies (ICTs) advances since the end of the 20th Century have led to multiple convergences of content, computing, telecommunications and broadcasting. They have brought about changes in other areas, particularly in communication and other areas bothering on development. The increasing capacity of ICTs has further been empowered by the growth of a global network of

computer networks known as the Internet. It has impacted the way business is conducted, facilitated learning and knowledge sharing, generated global information flows, empowered citizens and communities in ways that have redefined governance, and have created significant wealth and economic growth resulting in a global information society.

Information technology is simply the application of digital technology to the process of communication. According to Nwabueze and Nwabueze (2007, p. 172), information and communication technologies are simply communication gadgets, hardware, equipment or facilities that have modernized, improved and eased exchange of ideas and information of various kinds between and among people within or across distant boundaries/frontiers. In the same vein, Nwodu (2003, p. 5) describes information and communication technologies as a generic name used to refer to a number of communication hardware adopted in ensuring instantaneous dissemination of information and social values across the globe.

Media industries are today driven by ICTs. It is the hub around which broadcasting revolves. This is because broadcasting as it is today is being transformed by new ways of gathering, processing and transmission of information. Ciboh (2005, p.144) notes that "in this new pattern is a group of advanced computer-based services such as video-tel services, electronic newspapers, consumer's computer networks, wireless television, facsimile machines, direct broadcast satellites, compact disc read- only memory, laser discs, wireless cable systems, hand-held data banks, multi-media computers, digital radio broadcasting high definition television and the internet". As noted earlier that these technologies have influenced to a great deal the process of gathering and transmission of broadcast signals. Of these technologies, electronics news gathering (ENG), has made it possible for live transmission of signals to be broadcast live through microwave or satellite transmission. Bishop (1995, p. 231) observes that the development of electronics have made possible the world wide boom in television communication, enabling information to be sent instantly to all parts of the world. Aririguzoh (2006, p. 159) further stressed the idea that where the transmission is live, it means that the action is being recorded and transmitted simultaneously as it is happening right away. There is usually no editing. Therefore, the viewer at home sees the news events as they are happening. The import of these submissions is that technology determines how mass communication messages are consumed by mass communication audience. Therefore changes in media technologies bring about a corresponding change in how news is gathered, transmitted and consumed.

One major communication aspect which Information and communication technologies have contributed greatly to its development

is broadcasting. The world of broadcasting enjoys most of the digital modern ICTs that are around today. The modern information and communication technologies can be seen in the broadcasting industry through the use of the Internet, Digital Television, Web Television, Mobile Telephone and others. It is in the light of the above that this study sought to examine ICTs and the changing face of broadcasting in Nigeria.

Statement of Problem

The place of ICTs in the broadcasting sector cannot be over-emphasised. This is as a result of the enormous role which the latter plays in the former, and considering that the former are a product of the latter. This brings to bear the countless lists of revolutions in Information and Communication Technologies which have impacted greatly especially on the broadcasting sector. Obviously, this accounts for the reason why the world has set 2015 as the year for the phasing out of analogue broadcast equipment in place of digital technology.

Consequently, Nigeria as a nation cannot be left out as the World embraces ICTs and reposition broadcasting as no one wants to be left out of the global village, made possible by these ICTs. The applications and implications of these ICTs in the Nigerian broadcasting sector are yet to be ascertained, Nigeria is still faced with the problem of catching up with these technologies.

There is a growing increase in the capacity range, speed and quality of programme and other production techniques. The challenge, therefore, to the Nigerian broadcasting sector is how to pace up with developed countries that are already faced with information and communication surplus. Consequently, the performance of our broadcasting media are unsatisfactory and this has brought about poor quality output as compared with media output in developed countries like the United States of America, for example. The main thrust of this research, therefore, is the impact of ICTs in broadcasting in Nigeria. Put in another way, what has been the impact of ICTs in broadcasting in Nigeria?

Objectives of the study

1. To determine the extent to which the ICTs have influenced the operations of the broadcast media.
2. To examine the level of proficiency of the members of staff of ITV Benin in the use of information technologies.
3. To determine the extent to which information technologies have been incorporated into the stations operations.
4. To determine the challenges posed by information technologies to broadcast operations.

Research Questions

1. To what extent have the ICTs influenced the operations of the broadcast media in terms of reach, programmes, economy etc.?
2. How proficient are the members of staff in the use of the information technologies?
3. To what extent have the stations incorporated information technologies in their operations?
4. What are the challenges posed by these information technologies to the broadcast industry?

Methodology

This research adopted the survey research method; the rationale for adopting the survey method was that it helped to elicit responses from the sample respondents. Babbie (1975) cited in Okoro (2001, p.37), states that survey research is a very vital method structured for collecting data for the purpose of describing a population too large to be observed directly, through a careful sampling and good construction of a standardized questionnaire. It becomes possible to gather data from a group of respondents whose characteristics may be taken as being representative of those larger populations.

The population of this research work comprised the entire staff of *Edo Broadcasting Service*, *Independent Television* (ITV), *Nigerian Television Authority* and *Sylverbird Communications Limited* Benin City, Edo State. By virtue of the fact that they are in the right position and stand a better chance to supply the needed data for this study.

Owing to the small nature of the population, a sample size of one hundred (100) respondents was used for this study. Hence 100 respondents (100%) were selected. The returns from the respondents were used in the data analysis of this study.

This survey was conducted using the questionnaire as the main instrument for data collection. According to Okoro (2001, p. 52),"the questionnaire is a vital instrument for gathering information from people about their opinions, attitudes, behaviours and perceptions on a given phenomena." The copies of the questionnaire were administered personally by the researcher to the respondents. This is because the researcher wanted to ensure that there was no mutilation and to ensure early and high return rate.

To analyse the raw data, simple frequencies, numbers and percentages and tables were used where necessary. The percentage method was adopted for presentation of data that were analysed with regard to its efficiency, wide use and ease of understanding.

Theoretical Framework

The theoretical framework of this study is built on the Technological Determinism and the New Media theories. Technological

Determinism is a theory which holds that technology causes social change. It points to the fact that technology is the force which shapes society. McQuail (2005, p. 102) states that the accelerating pace of technological inventions witnessed over the years have advanced social change in culture and communication. For instance, there was invention of writing and later printing through the movable type of the mainframe computer. Today, computers and satellites have shown a shift- over time in increased speed, wider reach and greater flexibility. These have facilitated communication and accelerated social change, which is not only fundamental to the society but also the McLuhan's 'global village' is now a reality.

Technological Determinism underlines the capacity for communication more readily to cross barriers of time and space. To state one example, television is a technology which has had major effect upon society, causing a complete new pattern of leisure to emerge and 'shrinking' the world to the extent that national boundaries are no longer so pronounced.

The new media theory postulates the change being witnessed in mass media circle today. The underlying assumption is the fact that a disparate set of communication technologies (ICTs) that share certain features apart from being new, are made possible by digitalisation. Consequently, this has also brought about convergence between all existing media forms in terms of their organisation, distribution, reception and regulation. McQuail (2005, p.137).

One of the central aims of this study is to unravel the impact of ICTs in broadcasting. Thus, the Technological Determinism as well as the new media theories provides new and diverse opportunities for the broadcasting media in terms of application and uses of these technologies.

From the foregoing, it has become evident that the Technological Determinism theory and the New Media theory would provide a solid foundation on which this study will be built. These theories point specifically at the invaluable place of ICTs in communication and its impact on the society and also as it applies to the broadcasting media, which in turn, influence society.

The impact of the theories to the study lies in the following assumptions:

- The use of ICTs in these stations will facilitate clear transmission of signals live via satellite.
- The adoption and use of ICTs will break the monotony and drudgery inherent in analogue system.
- ICTs use will make the transmission of data, text, visuals to be possible, thereby assisting the deaf who can read to follow the news.

Dissecting Information and Communication Technologies (ICTs)

According to Nwokoye (2003, p.16), technology is the 'academic and practical study of material, source of energy and natural phenomenon with ultimate intention of applying these in the service of man." Put differently, technology connotes the systematic exploration of scientific nature towards achieving the convenience needs of man. In line with this, information technology is that aspect of technology that seeks to explore the scientific nature towards solving the information and communication needs of man.

Nwachukwu (2004, p. 123) notes, that information communication technologies (ICTs) are all techno-communication gadgets including computers, satellites technologies and other electronic equipment used in the generation, processing, transmission and management of information to achieve desired efficiency and goals attainment.

Thus, it is pertinent to note that there is no universally accepted definition of ICT. It is rather a new method of thinking about all the uses of digital technology that already exist to help individuals, businesses and organizations to use information effectively and efficiently in their day-to-day activities. Ukonu (2006, p. 133) explains that the "new communication technologies are often confused with new information technologies. Although in practice there is very little distinction between them. Ukonu (2006, p. 120) posits that information technology refers more to the processes that underlie data acquisition, processing, storage and retrieval; while communication technology mainly refers to the computer-driven and satellite-based media for information dissemination.

Information technologies encompass many aspects of computing technology and cover many fields, as the term is now more recognizable than ever. Mbam (2006, p. 60) corroborates this, noting that ICT is the communication and technology that involves the application of electronic equipment, especially the computer, to the gathering, analysis, storage, retrieval and transmission of information as part of man's effort to find solutions to the multifarious problems facing him. In other words, ICTs could be the application of computer hardware and software components, telecommunication equipment, and electronics in finding solutions to the multifaceted problems of mankind. It is one of the most valuable resources or factors of communication profession. It is, therefore, one of the nervous systems of modern communication and indeed of the economy.

Ochai (2007, p. 17) opines that the term "ICT" encompasses all forms of technology used to create, store, exchange and use information in its various forms such as data, still images, motion pictures, and other forms including those not yet conceived.

Information Communication Technologies have been variously described as the complex varied set of goods, applications and services used for producing, distributing, processing and transforming information including telecommunication, television and radio broadcasting, computer services etc. Marcella (2000, p. 48) notes that ICTs represent a cluster of associated technologies which are identified by their definite and functional usage in the sphere of information gathering and dissemination. The common ground for the acceptance of the various definitions of ICTs is the complexity of its nature and multiple applications. This is because, it includes all devices and activities involved in the cumbersome task of data processing, sending, receiving and retrieval.

Because today's broadcast industry is driven by technologies, some of the dominant communication technologies employed in broadcasting include internet, satellite technology, cable system, computer technology, digital cameras, digital television, microwave technology and fibre optics to mention but a few.

ICTs Used in Today's Broadcast Environment

The Internet

The internet service or what is known today as the Information Super High Way (ISH) is another vital information communication technology in modern broadcast industry. The international computer network is virtual communication technology which has the ability to exchange information electronically from one part of the earth to another.

Ekemezie (2003, p. 69) writes that the "internet is a network of networks. It consists of thousands of separate computer networks all inter-linked so that a user on any of these networks can reach out and touch a user on any of the other networks." With this, one can send electronic mails and access information stored in computers all around the world.

Agba (2001, p. 55) affirms that "the internet is just as a road network which link cities as telephone networks link subscribers, the internet as a network of computers links computers for the purpose of communication. The Internet is, therefore, a global communication infrastructure, which enables any computer connected to it to communicate with any other computer connected to the Internet at electronic speeds regardless of geographical location.

Satellite Technology

Satellite is one technology that has contributed monumentally to human development in the areas of telecommunication, defence, transportation (air and water) and so on. Mbaezue (2006, p.17) said satellite communication is a significant concept on international as well

as national and regional broadcasting. According to her, "satellites are extending the range and flexibility of conventional broadcasting. On the other hand, Obodoechi (2006, p. 33) adds that communication satellites serve broadcasters and cable operators as distribution devices for relaying programmes to widely dispersed stations and systems.

According to Ibemesi (2007, p. 250), for satellite communication to happen, two requirements exist; one, there must be a satellite located in space; two there must be an earth station located on the earth. Signals are thus transmitted to the satellite from the earth station. The satellite then re-transmits these signals to the earth for consumption. Taking television, for example, pictures picked by the camera are transmitted to the satellite through the earth station. The satellite then powers these picture signals in frequency and beams them back to the earth where they are received by viewers using satellite dishes directed to the space.

Computer Technology

Computer is a device that accepts, processes, and stores data. It is the nucleus of the modern communication technology. Ochai (2007) opines that the computer can be used to manipulate data according to a list of instructions. The ability of the computer to keep signals in its memory and provide visual and even radio interpretations to such signals makes it an invaluable hardware for information dissemination in broadcast industry. Also, it offers faster, cheaper, more efficient and effective means of achieving quality in news-gathering, processing and dissemination. Initially, the principal input into computer was number essentially for arithmetical computation. Today, it has gone beyond that. It can now process non-numerical inputs like spoken and written languages. It can translate languages, retrieve information and process pictures.

The foregoing makes it clear that the speedy information ability of the computer makes electronic reporting a lot easier. The influence of computer in news gathering and processing on the internet is fantastic, so is the part it plays in electronic publishing.

Digital Cameras

According to Ekemezie (2003, p.26), with digital cameras, images are recorded digitally in the camera's memory unlike the analogue system which uses photographic signals in form of 0s and 1s". This improved technology has come to be useful to media men. The images in the camera memory can be stored in the computer or electronically sent to the Internet for mass consumption.

Owing to digitalization, the work processes of the media industry have changed. Using digital technology in content and programme production has been considered easier (Niina and Sanna, 2005, p. 54). In spite of the hard financial situation posed by digitalization in the

broadcast industry, digitalization has led to increased multi-professionalism and mixed job-descriptions, which means, for example, that in the future journalists in addition to their traditional task will record, film and edit their programmes.

Digital Television

Digital television (DTV) is the sending and receiving of moving images and sound by means of discrete (digital signals), in contrast to the analogue system. DTV is the umbrella term encompassing High-Definition Television and several other applications, including Standard Definition Television, Data casting, Multicasting and Interactivity.

It transmits broadcast signals by encoding it as 0s and 1s. The digital code used in computers. DTV can be compressed to provide four, five, or more channels in the same bandwidth required for one channel of the current standard television, better sound, and about five times more pictures.

Digital signals make possible video-on-demand, interactive programme guides. Digital signals create sharper and crisper video and can be compressed, increasing the number of channels that can be transmitted over a single system (Dominick, 2002, p. 261).

Micro-Wave Technology

Micro-waves are very short electromagnetic waves which work by line-of-sight transmission. Microwave systems may be used to send network television (e.g., NTA) programmes to thousands of miles before they reach the local TV stations. Micro-wave technology has a device called terrestrial (land) micro-wave system which operates in the same general range of radio frequencies as though communication satellites

Micro-wave sensors are capable of providing information previously unobtainable with basic imaging techniques such as photography, television or multi-spectral imaging used in post remote observations (Bittner, 1991, p. 276). Progress in this area has been so rapid that many private companies and electronic media houses operate their own micro-wave system to connect widely scattered offices.

Fibre Optic

Fibre optics is a communication line just like copper wire (cable). As the name suggests, the device uses light to transmit information. Instead of transmitting electrical voltage, it sends light impulses through a fibre with a small aperture through which the light passes. Consequently, of all the things known to man, light has the greatest speed of travel. It underscores the speed at which information is disseminated by means of this device. Fibre optic has the ability to carry increased quantities of information at high speed, such information could be in the form of voice, data or images. The device is capable of carrying

any type of signal that can be transmitted on conventional metal wires. It is believed to be the latest technology in wired communication (Agba, 2001, p. 31).

Problems of ICTs Usage in the Nigerian Broadcast Industry

Despite the fact that Information and Communication Technologies are basically of great service, they do have some basic challenges which tend to hamper success and reduce workability. Some of the challenges facing the Nigerian broadcast industry in line with the Information Technologies include;

Lack of Access: This has profound effect on the way people learn, conduct research, buy goods, communicate and even listen to radio and television. Krechowiecke (1999, p.9) says that "connectivity to the internet (in Nigeria, as in other African countries) has remained low." This lack of access to the Information Technologies is probably the worst problem faced by Nigerian broadcast industry even in Africa. Although there has been an upsurge in computer knowledge and usage in Africa, the infrastructure is inadequate.

Unstable Power Supply: This is another problem suffered in the developing countries especially in Nigeria. In a situation where there is unsteady power supply to power the computers or to recharge the UPS, most broadcast station find it a waste of resources to subscribe to the service providers. This, in turn, means that they cannot be connected to the internet which is at the centre of the Information Technologies. When this happens, the stations are unable to tune in internet stations. This is because as in most developing countries, the cost of getting connected to the Internet is so enormous that one can hardly waste it with the prevalent epileptic power supply.

High Cost of equipment and accessories poses a lot of challenges to the computers, Internet connection, (broadband) Internet browser (Internet explorer software) sound cards for playing music on external speakers, and computer speakers. All these are expensive as most media people already have the good old-fashioned traditional television and radio sets, and may have to buy the modern equipment that will help them broadcast to their audience efficiently. This is very discouraging, as many broadcast station cannot afford this.

Another challenge posed by the application of the Information technologies is skilful reportage, with live reporting you report events as they are happening. This means that you are precluded from script writing, editing and re-shooting. Cremer, Keistead and Yoakam (1996, p. 234) are of the opinion that news is usually fast moving, spontaneous and chaotic. Spot news is unpredictable. In the bid to stay on top of the news and in a highly competitive field, reporters can make mistakes. A defamatory statement cannot be withdrawn neither can wrongs turn into rights. Where the reporter is unable to adlib an unfolding news event in

an accurate and effective manner, using Electronic News Gathering becomes a challenge. Where the reporter is an inexperienced journalist with a poor background in diverse fields, he may not be properly informed or at most be very poor in live reporting.

Another obvious challenge the information technologies are posing to our present age is that of cultural and moral harm. Precisely in the aspect of broadcasting, this challenge has made itself swell felt as radio and television stations become more and more insensitive to morality and culture in their message delivery.

Our own situation in Nigeria becomes more pitiable considering the fact that we seem to always be more at receiving end as our acquiring of the modern technologies expose us more to the rampaging forces of western cultural invasion.

Data Presentation and Interpretation
Analysis of Research Questions

Research Question I
To what extent have the ICTs influenced the operations of the broadcast media?

This research question is answered by questions 10 and 19 in the questionnaire.

Table 1: Data answering research question I

No.	Questions	Options	Freq.	Percent.
10.	How has the use of the Information technologies contributed to the success of your job?	a) It saves time	11	11
		b) it makes delivery easy	9	9
		c) it increases efficiency	20	20
		d) It reduces error	21	21
		e) It has cut the barriers of distance	9	9
		f) All of the above	30	30
		g) None of the above	-	-
		Total	100	100
19.	In what ways have the ICTs contributed to your station's quality of programmes generally?	a) There's increase in the number of quality programmes as a result of the speed at which these machine works	7	7
		b) There's clarity in picture as a result of the use of digital video cameras.	10	10
		c) Digital editing of programmes have removed unwanted elements and made programmes more palatable	14	14
		d) As a result of digital editing sound effects can now be incorporated in to programmes to depict real life experiences.	18	18
		e) All of the above	51	51
		f) None of the above	-	-
		Total	100	100

Source: Field survey, 2015

The table above shows that ICTs have contributed to the success of the broadcasters' job; 11 respondents (11%) contend that the ICTs have contributed to the success of their job by saving them time. Nine respondents (9%) agreed that the ICTs have contributed to the success of the broadcasters' job by making delivery easy. Twenty respondents (20%) affirm that it contributed by increasing efficiency in their job. Twenty-one respondents (21%) state that one of the achievements of the use of ICTs is the reduction of error in scripts. Nine respondents (9%) observed that the ICTs have cut the barriers of distance while 30 respondents (30%) opined that the ICTs have contributed to the success of their job in the various ways identified in the options.

As to what ways the ICTs contributed to the station's delivery of quality programmes generally, 7 respondents (7%) observed that there is increase in the number of quality programmes as a result of the speed at which these machines works. Another 10 respondents (10%) reveal that digital editing of programmes has removed unwanted elements and made programmes more palatable. Fourteen respondents (14%) assert that the modern technologies have helped in the clarity of the pictures as a result of the use of digital video and cameras. 18 respondents (18%) agreed that as a result of digital editing, sound effects can now be

incorporated into programmes to depict real life experiences. 51 respondents (51%) reveal that all the items identified are the contributions of ICTs.

The implication of this table is that the use of ICTs has influenced the operations of the broadcast media by saving them time, made delivery easy, increased efficiency, reduced error in script and cut the barriers of distance. It has also influenced the general output of the broadcast media by the increase in the number of quality programmes as a result of the speed at which these machines work. It has helped in the clarity of pictures as a result of digital editing and sound effects.

Research Question 2: How proficient are the members of staff in the use of the ICTs?

In order to answer the research question above, questions 7, 8 and 13 of the questionnaire were examined.

Table 2: Data answering research question 2

No.	Questions	Options	Freq.	Percent.
7	Which ICTs do you use in your station? List.	a) Desktop/Laptop Computer	23	23
		b) Digital Camera	13	13
		d) internet	16	16
		e) digital Video recorder	11	11
		g) digital television	9	9
		i) satellite/cable system	6	6
		j) Video/Audio Mixer	8	8
		k) All of the above	14	14
		l) None of the above	-	-
		Total	100	100
8	How many ICTs can you operate efficiently? List.	a) One	21	21
		b) Two	17	17
		c) Three	13	13
		d) Four	11	11
		e) Five	9	9
		f) Six	8	8
		g) Seven	7	7
		h) Eight	5	5
		i) Nine	5	5
		j) Ten and above	3	3
		Total	100	100
10.	How often do you make use of the internet in your office?	a) everyday	16	16
		b) Once a week	23	23
		c) Twice a week	17	17
		d) Four times a week	21	21
		e) Any time	12	12
		f) Not at all	11	11
		Total	100	100

Source: Field survey, 2015

The table above shows the available ICTs in use in the sampled stations as given by the respondents. The desktop computer is largely in use, as 23 respondents (23%) chose it. It was followed by Internet, digital camera, digital video recorder, digital television, satellite/cable system, video/Audio mixer in that order while 14 respondents (3.6%) make use of all the ICTs in their station.

Probing further from the respondents how many of these ICTs they can operate efficiently, 21 respondents (21%) contend that they can operate only one equipment, 17 respondents (17%) revealed that they can operate two (2) of the ICTs. 13 respondents (13%) affirm that they can operate three (3) of the ICTs efficiently. 11 respondents (11%) were of the view that they can operate four (4) of the ICTs. 5 respondents (5%) observed that they can operate Nine (9) of the ICTs.

To find out the frequency level at which the respondents make use of the internet facilities in their station; 23 respondents (23%) observed that they make use of the internet facilities once a week. 17 respondents (17%) asserted that they make use of the internet facilities twice a week. 21 respondents (21%) were of the opinion that they use the internet four times a week. 12 respondents (12%) said that they make use of the internet any time. While 11 respondents (11%) that they do not make use of the internet at all.

The implication of these findings is that many media personnel are not very proficient in the use of the ICTs. Also, the members of staff which also make use of the internet facilities every day which is at the centre of new media also attest to this fact, that the staff are not very proficient in the use of the new media but have average knowledge of its application as indicated by the data analysed

Research Question 3

To what extent have ICTs been incorporated into the station's operations?

To answer this question, questions 5, 6, 11, 12 and 14 of the questionnaire were examined.

Table 3: Data answering research question 3

No	Questions	Options	Freq.	Percent.
5.	Do you have access to any ICTs in your office?	a) Yes	80	80
		b) No	20	20
		c) No idea	-	-
		Total	100	100
6.	If yes, which of the ICTs do you have access to?	a) Computer	41	41
		b) Digital television	5	5
		c) Internet	21	21
		d) Satellite Technology	3	3
		e) Cable system	9	9
		f) Digital camera	17	17
		g) All of the above	4	4
		h) None of the above	-	-
		Total	100	100
11.	What type of studio does your station operate with?	a) Digital	60	60
		b) Analogue	30	30
		c) No idea	10	10
		Total	100	100
12.	Is your station connected to the Internet?	a) Yes	80	80
		b) No	-	-
		c) No idea	20	20
		Total	**100**	**100**

Source: Field survey, 2105

In determining the extent to which ICTs have been incorporated into the station's operations; 80 respondents (80%) agreed that they have access to the ICTs in their office. 20 respondents (20%) asserted that they do not have access to any of the ICTs in their offices.

On which of the ICTs they have access to, 41 (41%) respondents were of the view that they have access to computer, 5 respondents (5%) revealed that they have access to digital television, 21 respondents (21%) affirmed that they have access to the internet, 3 respondents (3%) asserted that they have access to satellite technology, 17 respondents (17%) agreed that they have access to digital camera while 4 respondents (4%) said that they have access to all the technologies.

Eliciting information on what types of studios the stations operate with, 60 respondents (60%) affirmed that their stations operate with digital equipment, 30 respondents (30%) observed that their station operates with analogue studio while 10 respondents (10%) said they have no idea of the kind of studio their station operates with.

To ascertain further if the stations are connected to the Internet, 80 respondents (80%) agreed that their stations are connected to the internet, 20 respondents (20%) noted that they have no idea if their station is connected to the internet.

This findings show that ICTs have been incorporated into the station's operations. Majority of the respondents said they have access to these ICTs in their stations, which means they work with them in their various stations. More so, some new media equipment such as the computer, digital recorder, internet satellite technology were identified by the respondents as some of the ICTs they make use of in their stations. Therefore, we can say that they have incorporated ICTs in their operations although at a low pace.

Research Question 4: What are the challenges posed by ICTs to the broadcast industry?

To answer this question, question 20 in the questionnaire was addressed.

Table 4: Data answering research question

No	Questions	Options	Freq.	Percent.
14.	What are the difficulties posed by these new technologies to the broadcast stations?	a) High cost of equipment	51	51
		b) ignorance/lack of technical know-how about the ICTs	25	25
		c) lack of access to ICTs	16	16
		d) Others	8	8
		Total	100	100

The above table shows that 51 respondents (51%) revealed that the high cost of equipment is another problem encountered by the broadcast stations. 25 respondents (25%) contend that ignorance/lack of technical know-how about the ICTs on the part of members of staff is another challenge, 16 respondents (16%) asserted that lack of access to ICTs is another challenge they face, while 8 respondents representing (8%) attributed it to other challenges.

High cost of equipment is a major impediment to the use of ICTs. Also Ignorance/lack of technical know-how about the ICTs and lack of access to the ICTs were other problems identified by the respondents. It can also be observed that irrespective of the positive influence of these technologies, the broadcast media still have problems in incorporating it further into their stations operation because of the expensiveness of this equipment, inexperience of the media personnel to manage and manipulate the equipment and non-accessibility of the equipment.

Implication of Findings

Despite the poor adoption of ICTs in the Nigerian broadcast industry, these facilities have had a very high level of influence on broadcast station's output. The key areas where their influence has been felt the most include the clarity and fidelity it gives to broadcast transmissions, the speed of broadcast productions and richness of broadcast programmes. It has also gone a long way in improving the work performance of broadcast personnel and cut the barrier of distance, thus further improving the general output of the stations they work for.

The staff of the broadcast stations under study has been found to have only moderate knowledge of the skills needed to manipulate the available ICTs. This implies that for the Nigerian broadcast industry to become a world contender and stop the dependency syndrome associated with the third world media on the international news agencies. The media personnel must be proficient in the use of the ICTs.

That there are numerous ICTs available and relevant to the Nigerian broadcast media. They include flash drives, computers, digital studio, digital recorder, internet facilities, etc. although most of these facilities are already in use; the extent of adoption is low. A major facility, like cable system needed to improve the scope of Nigerian broadcasting is yet to be adopted, this means that many stations reach would remain low, until relevant equipment are acquired.

However, there are some problems which are encountered with the use of these ICTs in Nigeria. The problems range from inability of staff to manage and manipulate these ICTs, high cost of the equipment and lack of access to the equipment. This implies that the level of expertise in the use of the equipment is still low. Again, the high cost of the equipment will continue to deprive Nigeria broadcast stations of the capacity to meet with their counterparts in the developed world.

Conclusion

It is clear that ICTs have great influence on the operations of the broadcast media. This of course, is the monumental capabilities of the ICTs in the Nigerian broadcast media. This realization has led to the acceptance and use of some of the relevant technologies, such as computer, the Internet, digital recorders. This infers that the media have fought the shackles of backwardness as implied by Amuchie (2001, p. 48) when he said, "in a world that has become a global village any country that stands aloof, whether out of ignorance or lack of appreciation of this basic necessity will certainly contend with backwardness."

The rate of adoption and usage of these technologies in Nigerian broadcast industry has been very gradual as broadcasters are yet to be fully acquainted with the technologies, thus, they apply them as moderately as their limited knowledge will allow.

Despite, the reluctance in the adoption of these media technologies there has been a significant improvement in the work performance of broadcasters. ICTs have gone a long way to improve content, delivery and quality of broadcast programmes. This affirms the opinion of Malcom (2001, p. 217) that "the position of broadcast media all over the world would improve once they apply the correct technology and communication system within their network." Being a developing phenomenon, the use of ICTs in Nigeria is plagued with some problems, which are not really insurmountable, but requires some level of hard work and commitment to overcome.

Recommendations

From the facts emanating from this study, it is clear that broadcasting in itself is technology-driven. It is thus inevitable that the future of broadcasting in Nigeria will be digital.

In the light of this, the researcher recommends the following.

- The government should reduce value added tax on ICTs, as this will help reduce the overall cost of the equipment in order to lessen the stations financial burdens.
- ICTs have the capability to further the scope of broadcasting by broadening their horizon and making Nigerian broadcasting a world contender. This can only be achieved if the broadcast media go out of their way to procure new and better facilities.
- Lack of technical know-how is also a great impediment to the use of ICTs in the broadcast media. Attempts should be made to educate broadcasters and other media personnel's through the use of workshops, symposia, seminars and training courses.
- The Nigerian government should try to formulate policies that will give prominence to the promotion of research in science and technology. This will improve the outlook of Nigerians on technological innovations, and help to improve their general awareness and acceptance.
- Broadcast media should provide their staff with training and refresher IT centres in their organization. This would help to refresh and update their knowledge of ICTs as new innovations emerge.
- Private, state and federal media stations should invest in the procurement of ICTs that are in tune with modern technological advances.

In order to completely eliminate ICT illiteracy among broadcasters, the government through the federal ministry of education should make IT literacy training a mandatory course in every tertiary institution, and even incorporated into the introductory technology subject of the secondary and primary schools.

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