

Towards Digitization of Broadcasting in Nigeria: Deadline, Challenges and Realities

Linus I. Ogbuoshi & Elijah O. Efebor

Abstract

Digitization is the current trend in broadcasting globally. The decision to shift from analogue to digital broadcasting is in line with keeping up with new technologies for better and efficient transmission of programmes as espoused by the International Telecommunication Union (ITU) which set June 2015 as deadline for the entire broadcasting stations in the world to go digital. The study adopted the descriptive research design, collected and analysed research data from the five states in the South East zone of Nigeria. Research finding shows that Nigeria is somewhat unprepared for the digital switchover in terms of physical infrastructures, manpower, communication equipments, and adequate power supply to drive the digitalisation. By 2014, some few months to 2015, Nigeria is still miles away from getting close to achieving the ITU's digitalisation benchmark. Ignorance level of both the media personnel and audience members alike as it concerns the nitty-gritty of the broadcasting digitalisation is at its all time high. Results indicate that the 2015 ITU's deadline for the total digital migration may not be feasible for Nigeria if necessary and urgent machineries are not set in motion. It was concluded that though the political climate in Nigeria poses fear on whether the deadline could actually be met, Nigeria has no alternative to it. There is a need to move forward, while stepping up efforts to make the digital broadcasting in Nigeria a reality on or before 2015.

Key Words: Deadline .Digitization .Broadcasting .Analogue .Challenges

Introduction

Over the years, all broadcasting media in Nigeria have run on an analogue system. Analogue broadcasting involves complete use of waves to transmit pictures and sounds. However, digital transmission deals with the conversion of data into a series of some binary numbers (1s and 0s) in order to produce better quality picture and sound.

The major drawback of analogue broadcasting is that location plays an integral factor in disabling, distorting images and audio on television in rural areas. Today, in other developed societies of the world, digital broadcasting is becoming commonplace, with many cable providers encouraging their customers to switch to digital television, so they can take advantage of the providers' new services. Information in digital broadcasting is broken down into binary chunks which have immunity to distance and interference. Here, digital signals are largely free of visual snow and disruption.

Our world is undergoing technological transformation in all areas of our lives. One key area that is presently having a perfect dose of such revolution is the broadcasting industry. In this regard, Nigeria is gradually keying into the digitalization process. The need for digitalization of the broadcast industry was conceived by the International Telecommunication Union (ITU). Consequently, in her 2006 Regional Radio-communications Conference (RRC '06), a 2015 deadline was set for a total switchover of all broadcast channels from analogue to digital.

Digital communication, according to Kombol, (2008) is "an advanced form of information transfer in which messages are converted into a series of 1s and 0s (binary digits) and sent over a channel to the receiver." Digital broadcasting is based on the use of digital transmission technologies such as DVB-T and video and audio compression technologies such as MPEG 2/4. Digitization, being a technological innovation, no doubt, was envisioned to change the scope of

radio and television broadcasting, both in developed and developing economies of the world. Across the global broadcasting world, various governments and broadcasting stakeholders have continued and continuing to inform, educate and create awareness about the digital migration from analogue to digital broadcasting (Dokpesi, 2009). Going by the June 17, 2015 deadline, as set by International Telecommunication Union (ITU), all UHF channels should have gone digital by the expiration of that date. For all VHF channels, digitization target was set for 2020. With the exception of a couple of territories, all countries are scheduled to complete the total migration from analogue to digital broadcasting by June 17, 2015, in tandem with the 2006 agreement brokered by the International Telecommunication Union (ITU), the United Nations agency that allocates radio spectrum and satellite orbits.

Experts believe that Nigeria could earn as much as \$2 billion (about N380 billion) when it finally migrates from analogue to digital broadcasting. More importantly, the digitalization is capable of creating thousands of jobs for the youths. By the time analogue is switched over to digital, there would be improved programme presentation in terms of clarity and quality of signals and spectrum efficiency. Hence, Ocholi (2009) argues that:

Since technology has opened a world of possibilities for broadcasting, a huge spectrum will be available for radio and television broadcast in the country. As a result, more frequencies or wavelengths will be available for television stations in the country. It will also afford the industry opportunities for interactive broadcasting as the television sets would now do much more than receive signals. (p.2)

Also, more channels of diverse programming, will eventually give the viewers more choice, possibly of multi-lingual delivery of programmes and better quality sound and pictures.

Initially, Nigeria set June 17, 2012 as its switchover date. Even though Nigeria is a global economic and political leader, particularly in Africa, setting a deadline three years earlier than the ITU's deadline was not only over ambition, but a mere show-off. However, one may see it as a way of setting machineries in motion, earlier than schedule to meet the ITU's deadline. While some communication scholars agree Nigeria is on the fast and right track, others according to Oshodin (2009 p.1) see "Nigeria's digital broadcast migration a mirage" if certain measures are not taken by government and stakeholders. When Nigeria was unable to meet the initial June 17, 2012 deadline set, the date was further shifted to December 2012. Obviously, Nigeria was also unable to achieve the goal by this new date.

Despite the initial 2012 deadline set by Nigeria, there is somewhat slow pace of work in the switch over process. The slow pace of preparations, especially in Nigeria and other African countries have triggered off a debate about the seriousness of stakeholders, particularly government, to make all the necessary commitments capable of meeting the 2015 deadline. Although many countries have chosen earlier target deadlines to allow more time before the global switchover, as of October 2012, Mauritius, according to Udeorah (2008, p.23) was the only African nation that had completed the analogue to digital television (DTV) switchover. Mauritius initiated its migration process in 2005 with a "soft launch" of its first digital services offering six free -to -air channels.

The level of preparedness by the federal government agencies charged with the responsibility of coordinating the migration i.e. the Nigerian Broadcasting Corporation (NBC) and the Ministry of Communications is, no doubt, very slow.

Statement of Problem

The technology of analogue has been with Nigeria since 1959. It is pertinent to say that digital technology has brought about qualitative signal processing, reception and reach which were never thought of some years back in developed societies.

The extent to which Nigerian broadcast media have intensified efforts towards complying with the 2015 ITU's digitalisation switchover, inherent factors challenging the transition process and feasibility of meeting the set deadline are questionable research variables this paper seeks to answer.

Objectives of Research

The objectives of this work are:

1. To check the level of progress in the switchover process among Nigerian broadcast media.
2. To identify the factors challenging the transition from analogue to digital broadcasting in Nigeria.
3. To evaluate the feasibility of complete digitalization by the 2015 set deadline.

Research Questions

The following Research Questions were framed:

1. To what extent have the Nigerian broadcast media complied with the 2015 ITU's digitalisation switchover?
2. What are the inherent factors challenging the transition process from analogue to digital broadcasting in Nigeria?
3. How feasible is the 2015 deadline for a complete digitalisation by the Nigerian media?

Literature Review

Conceptual Framework

A number of digital broadcast equipment such as cameras, switchers of various sorts, editing console/suites, video cassette recorders, vision mixers, to mention a few; all have the letter "D" which signifies digital before their names, for example, digital video camera, digital vision mixer and so on.

The word, digital, denotes "a process or device that operates by processing information that is supplied and stored in the form of a series of binary digits" Robinson (2004, p.373). In the view of Okpanachi (2008, p.4), Digital radio is the pure digital transmission medium that improves the sound quality of radio broadcasts, virtually eliminating static, hiss, pops and fades and offers data display capabilities on receivers and opens up opportunity for multicasting: Broadcasting multiple high-quality channels on each frequency.

According to Baran (2010, p.227) digitization of video signals "reduces their sizes; therefore, more information can be carried over phone wires and stored." Corroborating, Hanson (2005, p.241) avers: Just as sound recording has moved to digital formats with CDs and MP3 files, so is television in the process of going from analogue technology of Farnsworth and Zworykin to the computerized digital technology.

There are two distinct digital formats:

- i. High-definition television (HDTV) being a wide screen format and features an ultra clear high resolution picture with superior sound
- ii. The standard digital television (SDTV), which makes it possible to broadcast up to six channels on the same frequency space that now carries only one channel.

The above submissions not only represent the attributes of the digital concepts, but also reveal the inherent benefits of the digitization process. That is, the digital technology is all-important in contemporary broadcasting. It was perhaps in realisation of this that Dominick (2009, p.233) stated that "the traditional broadcast television industry is in a state of change".

The difference between traditional analogue broadcasting and digital broadcasting resembles the disparity existing between AM and FM signal qualities. No doubt, these seemingly outstanding qualities of digital broadcasting prompted the ITU to make moves towards digitizing all broadcast outfits in the world.

As deadline for the complete switchover from analogue to digital broadcasting by the International Telecommunications Union (ITU) draws nearer, there is serious concern about the readiness of Nigeria to meet the much talked about transition from analogue to digital broadcasting, come June 17, 2015.

Contrary to insinuations that the proposed date could have been an imposition from the western world, Engineer Bolarinwa of the NBC dispelled such imagination by providing a background to Nigeria's involvement in the decision at the ITU conference held in Geneva, in June 2006 where a switchover date of June 17, 2015 was agreed. For the DG, NBC has single-handedly driven the process without the support or input from the broadcasters. Hence he

believes that it was necessary for Nigeria, not only to embrace the digital platform, but to also strive to do it well.

According to Bolarinwa, Nigeria had opted for DVB-T2 technology, being the highest grade of the decoder during the Geneva conference. He avers that

It is not true that the NBC has not been active on the transition; rather the white paper, which is meant to provide leeway on the recommendations of the Presidential Advisory Committee since 2008, has not been forthcoming from government. Victor (2012)

In supporting the "DVB-T2 around the world", Dr. Nick Wells, according to Victor (2012) described Nigeria as being foresighted for opting for DVB-T2, being the latest technology. He said the technology is the best for digital television broadcasting, saying it could typically deliver 50 per cent more data than DVB-T.

Somehow, the Nigerian Ministry of Information and Communications, and the National Broadcasting Commission (NBC), look confident on a successful switch over from analogue to digital by the 2015 target. However, the compliance level of Nigerians with the demands of this new technology, and the fact that both broadcasters and consumers do not have the basic information required to drive the digitalization process, makes the achievement of the total migration seems a mirage.

The above is premised on the fact that most of the domestic radio and television sets used in Nigeria today are not digitally made. That means those sets would have to be replaced with digital compliant ones when the process of digitalization is finally completed. The need for 100 percent digitalization cannot be overemphasized.

The NBC spokesperson, according Ocholi (2009) avers:

The truth of the matter is that television and radio stations do not have a choice. Nobody has a choice. If we do not migrate from analogue to digital, we will end up being in the dark. It is in everybody's interest to migrate... if Nigeria does not want to be left behind; it has to follow the rest of the world. (p.4)

Since it has become mandatory that the Nigeria's broadcast media must migrate from analogue to digital system with other nations; and since there is already a deadline set in this regard, excuses will become unacceptable in trying to meet this global dream. It is not in doubt that Nigeria is faced with lots of challenges ranging from, physical and social infrastructures, ICT infrastructure and manpower to sensitization issues. However, evaluating the efforts so far made as well as the attendant challenges to the digitalization process, will eventually help to retool strategies for a successful transition migration by on or before the 2015 dateline. This prompted this academic exercise in the first instance.

A Brief Incursion into the Historical Background

Experiments on High Definition Television started in the late 1940s but the first digital broadcasts were transmitted in November 1, 1998 (Mishkind, 2009, p.2). The transmission saw about 42 TV stations around the US air live digital signals of the launch of the space shuttle discovery (Hanson 2005, p. 242; Encarta 2008, p.1). In its desire to generate more money by auctioning spectrum space, according to Mishkind (2009, p.4), Congress directed the FCC to move all television to digital transmissions, effective February 17, 2009. Accordingly, sales of TVs without an ATSC tuner in it after July 2005 were forbidden in stores. The date was later moved to June 12, 2009. Today, the United States has fully transited to digital broadcasting.

It was in Germany that Digital Audio Broadcasting (DAB) was first developed in 1981 (Wiki 2010, p. 2). However, the BBC started broadcasting digital radio in 1995, making it the first organization to build a digital network in the whole of United Kingdom. Globally and contemporarily, the digital trend is being embraced by many nations as none would want to be left behind. In a bid to switchover from analogue to digital, different deadlines were chosen by different countries.

Following Late President Yar'Adua's approval, Nigeria officially started the digitization of its broadcast industry in December 2007 (Ocholi (2009, p.1). The digitization process was said to have commenced on June 3, 2008. This was in response to a stakeholders' meeting of the

industry. To achieve of the digitalisation target, the Presidential Action Committee (PAC) on the transition from analogue to digital broadcasting was set up on October 13, 2008 (Udeorah; 2009, p.7). It was this committee that set June 17, 2012 as switchover date in Nigeria. Accordingly, most of the broadcasting media stations in Nigeria started making frantic efforts to meet the deadline. However, Aihe (2008, p.2.) stated that it is noteworthy that many countries responded to the 2015/2020 deadlines fixed by International Telecommunication Union.

The Gains of Digital Broadcasting

Studies have shown that digital broadcasting attracts a lot of benefits to viewers, broadcast stations, programme producers and the government in the areas of programme content, media convergence, quality signals and multiple channels. Below are the inherent prospects of a complete digitised broadcast media.

Benefits to Broadcasters

The broadcasters are going to enjoy an era of cost effectiveness with digital broadcasting. This is based on the fact that a station can carry up to five or more channels on the same frequency.

Because the digitalization process encourages equal opportunities that result in healthy competition, stations may generally rely on syndicated programmes. Consequently, in the view of Uzor (2008 p. 2), this will “delineate content, multiplexing and transmission”

For programme producers, digital simplifies, streamlines, and reduces the costs involved with production, editing, storage and transmission of broadcast programmes and services. Because digital technology does not go with bulky equipment and few people required to man such equipment, the amount of money spent on salaries and maintenance and infrastructure will be drastically reduced. It was on the strength of this basis that Dokpesi, (2008, p. 2-3), in supporting the cost effectiveness of digital broadcasting avers: “In the master control where we used to have about 12 people working, it’s only one person doing that now. In programme injection, you only need two now as a result of new (digital) technology”. By so doing so, they can better channel their human and material resources more efficiently.

Benefits to Advertisers

Digital broadcasting will also benefit the mass media and the mass society. That is, the media convergence will create a good avenue for advertisers. The availability of multiple channels will avail advertisers the ample opportunities to market their products and have wider reach to consumers. This is in sync with Ekeh (2009, p. 2) belief that the migration of television from the traditional TV set to the mobile device will portend a whole new world of opportunity to advertisers wishing to reach customers and prospects and to the entire advertising industry itself.

Benefits to Viewers

Digital broadcasting plays a vital role in information dissemination due to its high receptivity, vast coverage and efficiency. Digital broadcasting, in the view of Udeorah (2009, p. 7) will afford the viewers “more programming choice arising from efficient spectrum utilization”. The viewers are going to receive clearer pictures because digital broadcasting “promises television pictures that are as clear and crisp as a Cineplex feature” (Rodman; 2006, p. 268).

- There will be multiple channels reception from one station.
- This variety will, therefore, enhance the gratification efficiency of broadcasting.
- It will enhance media convergence which affords the audience to use TV in conjunction with telephone, computer and other ICTs.

Local Content

Digital broadcasting will enhance the full propagation of local content being trumpeted by NBC.

Benefits to Content Providers

A multiplication in the number of channels will boost demand for broadcast programmes and attractive content will become highly valued asset. Resulting from the digitization process, all

the existing broadcast stations will surely increase the number of their channels, while the demand for programme will also increase. Accordingly, content providers will be well engaged in the bid to satisfy the numerous stations that will be yearning for programmes. As such, this will create competition which will ultimately lead to provision of quality content. Eventually, content providers will be enmeshed in profit maximisation.

Benefits to the Nation

The development of digital compression techniques has reduced the amount of spectrum required for broadcasting, and this provides scope for a substantial increase in the number of spectrum required for signals available to viewers. With a complete digitalisation, the spectrum will be freed up. Nigerian government is not left out in this digital gain as digital broadcasting creates the potential to reassign part of the spectrum released by the eventual termination of analogue transmissions to other communications uses, and provides the opportunity for the government to generate revenue from sale of part or all of this released spectrum capacity. Just as American Congress had a "desire to generate more money by auctioning spectrum space (Mishkind, 2009: p.4), Nigeria could as well make more money from a huge spectrum that will be available for radio and television stations in Nigeria due to the digitalisation.

It will really project Nigeria a truly a giant of Africa, just as she is ahead of most African countries in the march towards 2015 switchover date.

Community Broadcasting: More importantly, community broadcasting will emerged or encouraged because with the multiple channel approach, some of the channels of a station could be community oriented.

Benefits to Regulator

NBC being the regulator will get increased revenue accruing from additional licences. At the end of the day, *specialized broadcasting* will emerge if not encouraged. This will address the shortfalls in the areas that were hitherto neglected by conventional commercial broadcasting.

Digital Broadcasting: Harnessing the Potentials

It is only when the necessary machineries are put in right places and the viewers, broadcasters as well as broadcast stations adopt extant technologies will the benefits of *digital broadcasting* be tapped for the betterment of Nigeria.

To harvest the inherent advantages of the global digitization movement for the good of Nigeria, government as a matter of seriousness must provide the necessary and enabling infrastructural framework as well as adequate funds as panaceas to midwife the transition. Also, Nigeria government should fashion out appropriate policy framework on method and pace of migration, acquisition of set-up boxes for existing receiver already in Nigeria and generally giving direction to the industry in the interest of our country.

Towards Digital Broadcasting in Nigeria: Key Issues

To measure the nation's state of readiness, one of the questions to be asked is the plans in place to ensure Nigeria is not left behind in the quest to achieve a seamless migration in 2015.

The slow pace of preparations in Nigeria has triggered off a debate about the seriousness of stakeholders, especially government, to make all the necessary commitments capable of making the nation to meet the 2015 ITU's deadline. As of October 2012, the only African nation that had completed the analogue to digital television (DTV) migration was Mauritius. The country initiated its migration process in 2005 with a "soft launch" of its first digital services offering six free -to -air channels.

The reality on ground is the low level of preparation by the federal government agencies charged with the responsibility of coordinating the migration i.e. the Nigerian Broadcasting Corporation and the Ministry of Communications. Unfortunately, no one can say with conviction that the journey so far has been smooth because a number of questions on the digital migration are yet to be answered.

On the issue of funding the migration by the Nigerian government, success could only be realised when the federal government sees the process as an investment instead of focusing on what would accrue from the sale of spectrums by the relevant agencies. Government must not be too excited over the anticipated proceeds of the sale of spectrums, as such, dividend of digital migration should not be seen as a means of raising funds.

The gains of digital migration would be easily accomplished when all stakeholders see migration as a necessity and not necessarily because ITU asked everyone to migrate.

The Fate of Consumers

In Nigeria, there are concerns that unless government moves faster, the consumers will lose out at the end of the day. Certain unscrupulous businessmen could take advantage of the poor level of sensitisation campaign to sell television sets that are not compliant with the new order to innocent people. What it means is by the expiration of the deadline in 2015, some of the television sets in use now may become obsolete. Therefore, there is the need to get the buying of television to focus on T2 compliant so that consumers won't have to face the challenge of having to change their sets before 2015 dates.

Digitization in Nigeria: Key Challenges

Even though digital broadcasting has some attendant inherent gains, there are several interlocking factors that challenge the switchover process.

Knowledge Level

One key unnoticed challenge is the awareness or knowledge level of the broadcasting personnel, the audience, and government of the very digitization process. Nigeria is a conglomerate with a large segment of her population that are grossly illiterate, most of whom dwell at the countryside.

These large caches of people do not know anything about the digitalisation process. Even among the government circles, the level of awareness is abysmally low.

This has created a big knowledge gap between those that are aware those that are not aware of the digitalisation process. That mean, the process has been faced with the challenge of awareness or knowledge about the process, since people who do not understand the issues and other intricacies of the programme may not eventually key into the process of digitalization easily.

Lack of Trained Personnel

The digital transition is faced with the challenge of professionals. In Nigeria, for instance, manpower is trained to only handle analogue broadcast equipments, it will then be very difficult to send lay them off or train them again to handle digital broadcasting

First, the switchover process will surely increase the number of broadcast media stations. Consequently, the existing broadcast professionals who may have the needed expertise to drive the process may not be enough to fill the spaces. This indeed is a big challenge.

Also, the digital process moves with complex and fragile equipment. As they are emerging, there is need for matching manpower that would drive these complexities and fragilities. To train and retrain these media personnel to fit into the digitalisation process is envisaged to be a major challenge.

More importantly, Nigeria is a funny country where political and ethnic considerations have been variables used in appointments over the years, media institutions inclusive. Such existing personnel, who do not have the requisite knowhow and those who may not be able to understand the flexibility and, or, cope with the fragility of the new technology would surely be shown the way out. Kombol (2008) asserts that, broadcast technology will render technical crew redundant especially those who are skilled in analogue broadcasting.

Thrown to the already congested labour market, this will in the end add to the burden of unemployment that has bedevilled Nigeria nation in over the years.

Long-Range Problems

With the current way of picking digital signals, using antenna, viewers are limited to whatever channels the antenna picks up and the signal quality will also vary.

Also, tuning to distant TV stations will be more difficult. Digital TV signals drop out completely below a certain level, whereas analogue TV signals degrade gradually, allowing a watchable picture at greater distances from the transmitter.

Deadline Factor

The key challenge to digital broadcasting is the actual migration from analogue to digital, but meeting the set 2015 deadline is something to worry about. Ibulubo (2008) believes that there are no available stringent measures put in place to make sure all broadcast stations in Nigeria comply (p. 1).

Nigeria is reputed for failing to meet deadlines. Considering the slow approach to issues and projects in Nigeria like reinvigorating the power sector, infrastructural development and fighting corruption, one would wonder how Nigeria will meet the 2015 ITU's deadline.

Technical and Financial Factors

The switchover requires huge capital investment on the technological equipment and communication gadgets. Finances must be in place to acquire all these. The financial involvement faces both the broadcaster and the audiences. The broadcasters need to acquire new digital production and transmission equipment. Accordingly, most government and private broadcast organizations will be worse hit. The technological cum infrastructural challenge according to Mishkind (2009, p.4), manifested in USA where less than 15% of the stations signed off at the June 12, 2009 deadline.

More so, considering the low economic standard of most Nigerians; it will be a herculean task for all the audience to comply with the deadline. Nevertheless, the broadcast audience without digital compliant sets must have to acquire them. Hence, the financial and technical factors are considered here as big bottlenecks in the digital switchover process.

Ignorance

The technology is there, but it is not very widespread yet. In Nigeria for instance where every Tom, Dick and Harry can go into journalism, the situation is worse because even the media professionals themselves lack the awareness. It is not as widespread as it was with the analogue technology we were used to and has been around for decades. There is lack of proper awareness about digital broadcasting. Kombol (2008) notes that, these professionals are content with the analogue broadcasting because they are ignorant of the benefits of digital broadcasting.

Ironically, the government may prioritise other issues above digitalisation, thus digital broadcasting may be the least of her priorities.

Power Supply

In Nigeria, the power sector has always been in a sorry state. Government has expended huge sums of money, though not accountably, to revive the power supply all to no avail. It is alarming hearing the sound of generators at every corner of a Nigerian street as well as the fumes. Companies in Nigeria, particularly broadcast organizations rely on standby generators to carry on their businesses. This, in the long run, impacts on the cost of production or service rendering costs, the incidences of which are borne by the consumers. The epileptic power supply and the consequent dependence on generators pose big challenges to the digitization process. This would eventually create high cost of programme production and presentation for the broadcasting media in Nigeria.

Corruption

In Nigerian society in particular, the government is not so concerned about how to improve the society. Thus spending money on vital projects such as communication is ignored. Instead, public office holders are constantly looking for ways to divert public funds into private pockets.

Poverty

It takes a lot of money to move to digital broadcasting. In the developing nations such as Nigeria, it is difficult to buy the analogue television sets not to talk of the digital televisions. Kombol (2008) notes that, the digital transition is indeed very expensive, he further stated that poverty among citizens of the developing countries ensures that they are unable to afford television sets that efficiently receive digital broadcast signals.

Theoretical Framework

This research is affixed on the Diffusion and Technological Determinism Theory. According to Denis (2005, p. 102), any history of communication technologies testifies to the accelerated pace of innovation and of material potential as an outcome. Rogers (1986), for instance locates turning points at the invention of writing, the beginning of printing in the fifteenth century, the mid-nineteen century start to the telecommunication era, and the age of interactive

communication beginning in 1946 with the inventions of mainframe computer. This theory posits that communication is used to transfer technological innovations from development agencies to their clients so as to create an appetite for change through raising a climate for modernization among members of the public.

Thus the following theoretical assumptions as related to this work include:

- That digital broadcasting through the application of digital technology can resolve all varied problems of mankind with regard to analogue broadcasting.
- That digital technology is the driver for development communication.
- That technology is an inexorable, irresistible, and overwhelming force, which is a message in its own right (Anaeto *et al* 2008, p. 178).

The diffusion and technological determinism theory is used based on the fact that, technology according to the theory is a message and an answer to all human physical need, such as the need for digital broadcasting. Consequently, since technological innovations can imbibe development through the diffusion of the message it carries, there is no doubt then that digital broadcasting is the answer to all broadcast problems associated with the old analogue system.

Review of Related Empirical Studies

In a paper titled "Directing the Digital Dividend towards Bridging the Digital Divide in Nigeria" co-investigated by Gbenga-Ilori, A. O. and Ibiyemi, T. S. (2010), the researchers sought among other things to investigate the use of digital dividend from the transition from analogue to digital television broadcasting to bridge the divide between urban and rural dwellers in Nigeria. Five areas categorized as zones were used for the research. The results from the study show that wireless broadband network was preferred for use because of its potentials and capacity to bridge the reception gap in the rural areas, as well as its high revenue potentials and prospects. In that same study, the researchers were able to identify the following challenges:

- a. The slowness of transition from analogue to the digital transmission format due to its financial implication; and
- b. Government's attitude in relation to policy formulation and implementation of decisions both of which were unreasonably delayed.

Accordingly, the researchers made the following recommendations:

- a. That digital dividend should reflect social interest rather solely being guided by economic gains;
(b) That intensive public awareness was necessary for accelerated transition from analogue to digital broadcasting; and
- c. That Government should ensure adequate availability of appropriate receivers at affordable rates for the benefit of the consumers.

Another study that gives support to this work is the "Digital Broadcasting: Migrating Implications and the Challenges for Nigeria Broadcast Stations" by Ogah (2009) which sought to find the implications or benefits of digital broadcasting over analogue system and the inherent challenges of the transition process for the Nigerian media. With the adoption of the content analysis method in generating data for the study, findings revealed that the implications or benefits of digital broadcasting over analogue has to do with quality content production, good reception, possibilities of huge spectrum for broadcasting, access to internet, less bandwidth, quality signal, among others. The study also found that digital broadcasting constitute threat to the old analogue equipment in the area of rendering some obsolete, while the low economic power of both some broadcast station and individuals to transit conveniently was found in the research to be a big problem. The Researcher concluded in the study that Nigerians should endeavour to embrace the technology now and not wait for 2012 before doing so in order to avoid a fire brigade approach.

Methodology

This research adopted the descriptive research design, wherein survey methodological approach was adopted. The study population was taken from the South East geopolitical zone of Nigeria (Abia, Anambra, Ebonyi, Enugu and Imo States) which is **16,395,545**, according to the 2006 census result as obtained from the National Population Commission official website. Sample size of 400 was statistically determined using Taro Yamane's formula at 0.5 error margin.

Table I: Population and Sampling Frames

State	Total Population	Sample	Percentage (%)
Abia	2,845,370	69	17.3
Anambra	4,177,828	102	25.5
Ebonyi	2,176,947	53	13.2
Enugu	3,267,837	80	20
Imo	3,927,563	96	24
Total	16,395,545	400	100

Source: Collated from the National Population Commission official website

This paper adopted the survey research methodological approach. In this research context, the researchers studies the conventional broadcast media personnel and audiences in the South East region of Nigerian in terms of their knowledge level of the digitalisation.

The researchers purposively selected the state capitals of the randomly selected states from the South East geopolitical zone. The rationale for the selection was based on the fact that the mass media systems are largely centralized in these state capitals and the educated people that can respond to the questionnaire are mostly resident there.

The researcher used questionnaire in the collection of data. The questionnaire was considered because the respondents were scattered in the sampled location (five states within the South East geopolitical zone of Nigeria).

Data Analysis and Results

Research data collected from the field have been presented in tables for clarity and analyses.

Research Question RQ.1.

To what extent have the Nigerian broadcast media complied with the 2015 ITU's digitalisation switchover?

Data Analysed: Data generated from question 5 as presented on Table Five was used in analysing this RQ.

Table II: Compliance Level with the ITU's 2015 Digitalisation Switchover Deadline

State	Infrastructure	Manpower	Awareness	Readiness	Total	%
Abia	9	21	6	33	69	17.3
Anambra	14	29	13	46	102	25.5
Ebonyi	2	12	12	27	53	13.2
Enugu	18	26	13	23	80	20
Imo	10	25	32	29	96	24
Total	53	113	76	158	400	100
Percentage	13.3	28.2	19	39.5		100

Source: Field Data, 2013

Data presented on Table II reveals that by 2013, barely two years to the ITU's deadline, Nigeria is largely unprepared for the digital switchover. In terms of infrastructure, Nigeria is still 13.3 percent away from the 100 percent target by 2015. Going by the manpower needed to drive the

digitalisation process, Nigeria is still 28.2 percent all time low; the awareness level of the digitalization is on an abysmal level of 19 percent while 39.percent are ready for the switchover by 2013. In all of these, Anambra State tops the list in terms of getting ready for a total switchover, followed by Imo, Enugu, Abia and Ebonyi States successively. The implication of all these is that Nigeria is still miles away from getting close to achieving the digitalisation benchmark by 2015.

Research Question RQ.2.

What are the inherent factors challenging the transition process from analogue to digital broadcasting in Nigeria?

Data Tested: Data generated from question 8 as computed on Table Eight was used in analysing this RQ.

Table III: Inherent Factors Challenging the Digitalisation Transition Process

State	Poverty	Manpower	Ignorance	Infrastructure	Total
Abia	6	15	12	36	69
Anambra	12	19	16	55	102
Ebonyi	9	10	19	15	53
Enugu	11	17	9	43	80
Imo	9	17	41	29	96
Total	47	78	97	178	400
Percentage	11.8	19.5	24.2	44.5	100

Source: Field Data, 2013

Research data generated and analysed as presented on Table III indicates physical infrastructures (178 or 44.5%) like power and communication equipments that are largely unavailable are major challenges threatening the actualisation of the digitalisation by 2013, two years before the expiration of the ITU's deadline. Next on the bottleneck index are Ignorance level of both the media personnel and audience members alike as it concerns the nitty-gritty of the broadcasting digitalisation; Lack of adequate power supply to drive the process and the general poverty level in Nigeria that makes it pretty difficult for the audience members to acquire the digital facilities that would receive the digital contents. These are serious threats to the achievement of the 100 percent digital switchover by 2015.

Research Question RQ.3.

How feasible is the 2015 deadline for a complete digitalisation by the Nigerian media?

Data Tested: Data generated from question 10 as presented on Table Ten was used in analysing this RQ.

Table IV: Feasibility of meeting the 2015 ITU's Digitalisation Target

State	Yes	No	Total
Abia	21	48	69
Anambra	26	76	102
Ebonyi	12	41	53

Enugu	17	63	80
Imo	31	65	96
Total	107	293	400
Percentage	26.7	73.3	100

Source: Field Data, 2013

Presentation of research data on Table IV shows that 107 representing 26.7% of the respondents claimed that the 2015 ITU's deadline for the total digital migration is feasible for Nigeria. However, the majority of respondents (293 representing 73.3%) dissented. They strongly believe that the 2015 ITU's deadline for the total digital migration is not feasible for Nigeria.

Findings

After careful analysis, the following were the outcomes of the study.

- Presently, Nigeria is unprepared for the digital switchover. In terms of infrastructure, and manpower needed to drive the digitalisation process, Nigeria is still miles away from getting close to achieving the ITU's digitalisation benchmark by 2015.
- Physical infrastructures like power and communication equipments that are largely unavailable are major threats to the actualisation of the digitalisation by 2014, a years before the expiration of the ITU's deadline.
- Lack of adequate power supply to drive the digitalisation process, as well as the general poverty level in Nigeria that makes it pretty difficult for the audience members to acquire the digital facilities that would receive the digital contents are serious threats to the achievement of the 100 percent digital switchover by 2015.
- Ignorance level of both the media personnel and audience members alike as it concerns the nitty-gritty of the broadcasting digitalisation is at its all time high.
- Evidence from research data suggests that the 2015 ITU's deadline for the total digital migration may not be feasible for Nigeria if necessary and urgent machineries are not set in motion.

Conclusion

As Nigeria seeks to join the rest of the world in the switchover from analogue to digital broadcasting come 2015, everybody has major roles to play in the digitization movement.

It can be concluded that even though the political climate in Nigeria poses fear on whether the deadline could actually be met, Nigeria has no alternative to it. There is a need to move forward, especially in the area of digitalised broadcasting.

It is evident that the benefits of digital broadcasting are overwhelming. It is one of the most significant changes in broadcast environment that calls for all segments of the society such as broadcasters, political leaders, policy formulators, manufacturers of technological equipments, technologists, programme producers, and the viewers to be actively involved.

Recommendations

It would be pertinent to proffer some remedial measures to overcome inherent challenges to meeting the 2015 ITU's deadline. Consequently, the following recommendations were made:

- Nigeria undoubtedly has all it takes to take the initial step in every progressive venture in Africa especially if it must justify its claim to be "the giant of Africa". We have the resources (abundant human, material and natural resources) and therefore should be properly channelled for the benefit of all in this all-important venture. We must endeavour to, like other progressive countries of the world, take advantage of the gains of new technology and be in tune with global standards in relation to Information Communication Technology.
- Nigerian broadcasting industry must go digital with other countries. The country must not be left behind when the whole world must have switched over to digital system in

2015. It would amount to Nigeria being turned to a dumping ground for obsolete analogue equipment. No doubt, Nigeria will eventually migrate on the set date, if work is started in earnest.

- Rather than wait for government to release the controversial white paper, proactive steps should be taken to save Nigeria the possible embarrassment that may arise from her inability to meet the 2015 set deadline. It doesn't matter whether government releases the white paper or not.
- The study recommends that governments must ensure that the digital terrestrial broadcasting policy must be comprehensive, universal and total by carrying everybody (urban or rural, rich or poor, educated or not) along, to enable audience members to continue to enjoy the services when the switch over eventually takes place by 2015.
- Also, and more importantly, Government should ensure adequate availability of appropriate receivers at affordable rates for the benefit of the consumers. This is a sure way of guaranteeing the adoption, penetration and patronage of the digitalisation process in Nigeria. In the extreme, government should help subsidize the cost of acquiring new domestic sets or the Set Top Boxes to create greater accessibility on or before 2015.
- As a government regulator, The NBC must urgently marshal out time table for the complete switchover, while educating the operators and the public on the implications of the switchover including the social benefits. Nigerians, deserve to know what the government is doing in the direction of transition. There must be awareness campaigns to reduce the incomprehensibility of information regarding digitization. They should be made to understand the nitty-gritty of the entire process so as to become partakers, and not observers. There is danger in the people not knowing what is happening, and for sure, the repercussions of an unannounced blackout can be devastating.
- NBC should execute a planned migration strategy, and midwife it up to the switch off of the analogue system. It should endeavour to select the best standards that will give the most benefit to consumers.
- Capacity building on new engineering knowledge for digital broadcasting is critical at this point in time. Mechanisms must be put in place to get the broadcast personnel ready before 2014 that would drive the digitally transitioned media.
- The transition should be done in phases, because government would need to choose possible switch off method, whether phased shut off, nationwide shut off or partial shutdown. For effective changeover, government must set up an implementation committee with clear terms of reference to enable Nigeria meet the deadline.
- Government must provide incentives for companies that will be involved in local contents production to drive the digital transition process.

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OGBUOSHI, LINUS I. Ph.D. is a Senior Lecturer in Department of Mass Communication, Enugu State University of Science and Technology (ESUT), Enugu, Nigeria. He specializes in film studies and media research. linusogbuoshi@yahoo.com
Tel: +2348036738879

EFETOBOR, O. ELIJAH is a Lecturer in the Department of Mass Communication, Gregory University, Uturu, Abia State, Nigeria. Efetobor is currently doing his Ph.D in Mass Communication. He specializes in the area of media research and new media. info4eli@yahoo.com Tel: +2348032941977