



THE NIGERIAN JOURNAL OF COMMUNICATION

The Journal of the African Council for
Communication Education (ACCE),
Nigerian Chapter, Vol. 17, No. 1, June 2020

- Clicktivism and Political Engagement in Nigeria
- UWALAKA, Temple, PhD1
- Digital Media, Distressed Wears, Tattoos and Saggy Pants: A Study of the Perception, Knowledge, and Attitude of Students of Select South-South Universities in Nigeria
- OKUGO, Chukwemeka Uzoma, PhD; NWEKE, Chidinma Joan; OKON, Patrick Ene, PhD; OMELAGAH, Godwin Ekunke & UDOYO, Okon Effiong23
- Framing of Cybercrime (Yahoo-Yahoo Business) by the Guardian and Vanguard Newspapers
- GUANAH, Seigha Jammy; NWAMMUO, Nkiru Angela, PhD & OBI, Ijeoma41
- Influence of Information and Communication Technologies (ICTs) on Modern Public Relations and Advertising Practice in Nigeria
- PEPPLE, Iwowari Ibituru, PhD; ACHOLONU, Ijeoma, PhD & KOKO, Reginald63
- Acquisition and Utilisation of Digital Media in the Teaching and Learning of Mass Communication in Tertiary Institutions in Akwa Ibom State, Nigeria
- UDOAKAH, Nkereuwem, PhD & NDA, Iniobong Courage, PhD81
- Digital Media and the Participation of Udu Community in Politics
- KEDIEHOR, Collins, PhD & UCHENUNU, Ambrose, PhD101
- Digital Broadcast Appreciation Among Broadcast Operatives in Akwa Ibom State, Nigeria
- AKPAN, Uwem Udo, PhD119
- Social Media and Political Participation Among Residents of South-East, Nigeria
- ANYANWU, B. J. C., PhD & ORJI, Uchenna Franklin137
- Utilisation of Digital Media for Marketing Communications by Businessmen in Owerri Metropolis
- NKWAM-UWAOMA, Adeline, PhD & ASEMAH, Ezekiel S., PhD157
- Perception of Young People in Uyo Metropolis on Social Media Health-Related Information
- OKE, Benson R., PhD; MERIBE, Nnaemeka, PhD & IWOK, Uduot A., PhD173

Digital Broadcast Appreciation Among Broadcast Operatives in Akwa Ibom State, Nigeria

Uwem Udo Akpan, *PhD*

Department of Communication Arts
University of Uyo, Uyo, Nigeria

Abstract

This paper investigated the understanding and appreciation of the concept and implications of digitisation of broadcasting by broadcast operatives in Akwa Ibom State. The research design was the survey. The population was drawn from the 193 broadcast operatives, namely journalists, programme producers as well as engineers and technicians who manned the transmitters and other engineering accessories in seven commercial radio and two television stations that are currently in operation in Uyo, the capital of Akwa Ibom State. Purposive sampling was adopted. Three operatives were selected from each broadcast station: a journalist, a programme producer and an engineer or technician for in-depth interview, which was the instrument. The Diffusion of Innovation Theory provided the theoretical framework for the study. The findings of the study revealed that the broadcast operatives, though they could not explain with engineering precision the difference between analogue and digital transmission, understood the concept of digitisation of broadcasting, as well as its implications and benefits. Therefore, it was concluded that since broadcast operatives were well aware of the advantages of digital over analogue broadcasting, it would be easy for stations to actualise digital migration in Nigeria. Hence, it was recommended that broadcast stations and the National Broadcasting Commission should intensify their awareness programmes on the benefits of digitisation of broadcasting while government should show more political will and fast-track the attainment of the Digital Switch-over.

Keywords: Digitisation, Migration, Switch-over, Analogue, Digital Broadcasting

Introduction

Since the birth of the Industrial Revolution in the United Kingdom in 1760, when inventions, discoveries and breakthroughs changed the society from an agrarian to an industrial one, the world has firmly remained on the path of inventions and breakthroughs aimed at making life easy for humanity. The Industrial Revolution swept and is still sweeping through all facets of human endeavour, including broadcasting, to improve the quality of living. They are now routine in today's world. The breakthroughs did not and still

have not come in one fell swoop, but have been incremental and staggered, one development following on the heels of another, sometimes with many years or decades as a gap between one invention and another.

Like in the other sectors of life, developments in what is known as broadcasting today were cumulative and have spanned nearly a century. For example, the invention of radio is generally attributed to Guglielmo Marconi, an Italian engineer and inventor; yet the birth of broadcasting is a product of many geniuses, including Henrich Rudolf Hertz. Thus, the discovery of the electromagnetic spectrum, including radio waves by Heinrich Hertz in the 1880s, followed theoretical developments on the connection between electricity and magnetism, led by James Clerk Maxwell in 1873 to develop the theory of electromagnetism which Heinrich Hertz eventually and finally proved.

In 1866, Mahlon Loomis, an American dentist, successfully demonstrated “wireless telegraphy” and in 1895, Guglielmo Marconi, an Italian inventor, proved the feasibility of radio communication when he sent and received his first radio signal. By 1899, he was able to send a wireless signal across the English Channel. In 1902, Marconi was the first to successfully send a transatlantic radio telegraph message. The same cumulative process of development occurred in the invention of television. According to Salem Media (2019, n.p.):

There is not an easy answer to who invented the television. The idea of having something that transmits moving images existed long before the first television was built. In the 19th century, a couple of scientists made pivotal discoveries without which the first television would not have existed. In the 1920s, over 50 inventors from Japan, Britain, Germany, America and Russia were all seriously attempting to build television, many of which had promising demonstrations.

However, John Logie Baird and Philip Taylor Farnsworth are credited with the breakthroughs in television. Philo Farnsworth successfully demonstrated the first television signal transmission on September 7, 1927 with his own scanning tube.

The strides in the second half of the 19th century through the 20th century have led to further developments to improve broadcast technology. One of such developments is the migration from analogue television (which was since the birth of television in 1927) to digital television which has come as an improvement on the analogue model. Digital broadcasting is the practice of using digital signals rather than analogue signals for broadcasting over radio frequency bands. Idachaba (2018, p.1) sees digitisation as “the process of conversion of analogue information in any form: text, photograph, voice, etc. to digital form with suitable electronic devices, such as a scanner or specialised computer chips, so that the information can be processed, stored and transmitted through digital circuits, equipment, and networks”. He further states that a digital television is a TV broadcasting system that can transmit images with 720 to 1080 horizontal lines of resolution as compared with 480 lines of the ordinary

(analogue) television system. Digital television offers interference-free, CD-quality sound and multiplexing of up to six channels under one band width.

Digital television, DTV, is more advanced than the older technology. Miller (2009, n.p.) states that

unlike analogue television, which uses a continuously variable signal, a digital broadcast converts the programming into a stream of binary on/off bits – sequences of Os and Is. This is the same way that computers store information in data files... The primary advantage of digital broadcasting is that these binary bits recombine to reproduce an exact copy of the original material. The picture and sound received from a digital transmission are always identical to the original source.

According to the Benton Institute for Broadband and Society (2019, n.p.):

Digital television is a superior television format that delivers better pictures and sound, uses the broadcast spectrum more efficiently, and adds versatility to the range of applications. Often referred to as DTV, digital television represents a new technological infrastructure for broadcast television and thus a new economic and competitive paradigm. This new transmission technology invites a broad reassessment of established programming practices, competitive strategies, and regulatory requirements, including the public interest obligations that have always been considered fundamental to broadcast television in this country.

Following many years of technical improvements on television technology, including the development in Japan of the HDTV and the digital technology in the United States of America, the International Telecommunication Union, ITU, on 16 June, 2006, signed a treaty at the conclusion of ITU's Regional Radio-communication Conference (RRC-06) in Geneva, to herald the development of "all-digital" terrestrial broadcast services for sound and TV. The Conference agreed that the transition period from analogue to digital broadcasting should begin on 0001 UTC 17 June, 2006 and should end on 17 June, 2015. The date of migration to digital terrestrial broadcasting (2015) was intended to coincide with the targets set by the Millennium Development Goals.

The nine-year period was to allow nations to key into the global digital plan according to their own pace dictated by the political will, technical capacity and financial resources. Nigeria as a member of the ITU, by the 2006 Geneva Treaty, was also expected to achieve the digital switch-over (DSO) within that time span. This is not yet so. A number of factors account for this. Even as Nigeria is yet to achieve the digital switch-over, one area of concern is the level of understanding by broadcast operatives of the DSO and its implications for broadcasting in Nigeria. It has been argued at several fora that an appreciation by the broadcast operatives of the implications of digital broadcasting can, on its own, serve as some form of pressure on the authorities and broadcast stations to fast-track the process of digital switch-over.

Hence, the need has arisen to ascertain the level of understanding of broadcast digitisation by broadcast operatives who, in the short- and long-runs, appear to be the immediate beneficiaries of the switch-over from analogue to digital television broadcasting.

In this study, “broadcast operatives” refers to those who work in the news, programmes and engineering departments of broadcast stations in Akwa Ibom State. It is used synonymously with “broadcasters”, except where an express meaning is intended. “Appreciation” in this study refers to the understanding by the aforementioned broadcast operatives of the concept of digital broadcasting. “Implications” means the benefits or the advantages that digital transmission has over analogue broadcasting.

Statement of the Problem

The International Telecommunications Union, ITU, had set June 17, 2015, as the deadline for countries to switch from analogue to digital broadcasting. Following this, the Federal Government of Nigeria approved June 17, 2012, as the date for Nigeria's digital switch-over. That deadline failed. Two more deadlines in 2015 and 2017 also failed.

While the anxious wait for the transition from analogue to digital broadcasting continues, broadcast operatives, a key subsector in the broadcast industry, appear nonchalant to the switchover deadlines. This leaves some Nigerians worried over the level of understanding and appreciation by broadcasters of the much-awaited digital broadcasting. Thus, this study is motivated by the need to ascertain the appreciation of digital broadcasting among broadcast operatives in Akwa Ibom State as a measure of their readiness to embrace the DSO.

Research Questions

The following constituted the research questions for the study:

1. How do broadcast operatives in Akwa Ibom State understand the meaning of digital broadcasting?
2. What is the attitude of broadcast operatives in Akwa Ibom State towards digital broadcasting?
3. What are broadcast operatives' expectations of digital broadcasting?
4. To what extent do broadcast operatives in Akwa Ibom State appreciate the benefits of digital broadcasting?
5. To what extent do broadcast operatives in Akwa Ibom State appreciate the professionalism implications of digital broadcasting?

Significance of the Study

The importance of this study lies in the fact that its findings would reveal the mind-set and attitude of broadcasters who are in the frontline of benefiting from the digitisation

of broadcasting. Their attitude, their understanding and appreciation of broadcast digitisation and its inherent advantages is some body language that could strengthen or weaken the resolve of government in the march to achieve the digital migration. The study will also serve as a baseline to our understanding of the readiness of the current crop of broadcasters to manage the emerging DSO in the Nigerian context.

Scope of the Study

This study covers all the commercial radio and TV stations in Akwa Ibom State. There are seven of such radio stations in Akwa Ibom State, namely *Radio Akwa Ibom* (90.5 MHz), *Atlantic FM* (104.5 MHz), *Planet FM* (101.1 MHz), *Inspiration FM* (105.9 MHz), *Comfort FM* (95.1 MHz), *Passion FM* (94.5 MHz), and *Excel FM* (106.9 MHz). There are two television stations in Akwa Ibom State, namely *AKBC Channel 45* and *NTA 12, Uyo*. All the aforementioned radio and television stations are in Uyo, the State Capital.

The study excludes broadcast operatives in community radio stations which are mainly radio stations run by higher institutions in the State. The study is in no way concerned with the administration or the operations of the broadcast stations but only in the views of their employees on digitisation.

Theoretical Framework

This work is founded on the Diffusion of Innovations Theory which is “based on the process of understanding how new ideas and products spread and why some very good ones do not make it or take a long time to catch on. The theory was propounded by Everett Rogers in 1962. The theory helps to explain the adaptation of a new innovation and the process of social change. An innovation is an idea, practice or object that is perceived as new by an individual or other unit of adoption (Rogers, 2003).

Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system. The theory has four elements: innovation, communication channels, time and the social system. The new idea or innovation typically moves slowly through a societal group as it is first introduced. Then as the number of individuals (the adopters) trying the innovation increases, the diffusion of the new idea moves at a faster rate. According to Rogers, the change agent or person introducing the innovation in a social system should take into consideration the characteristics of the target population (the adopter categories), the characteristics of the innovation and the stages of adoption. Each of these three categories should be analysed and planned for, when introducing an innovation.

In analysing the target population, Rogers mentions the innovators, early adopters, early majority, late adopters and resisters. Littlejohn and Foss (2008, p. 322) state that “in the diffusion of innovations, many years may be required for an idea to spread...Once established, an innovation will have consequences – be they functional or dysfunctional,

direct or indirect, manifest or latent. Change agents normally expect their impact to be functional, direct, and manifest, although this positive result does not always occur...when innovations such as the cell phone, DSL Lines, a new HIV therapy or internet shopping are introduced, it takes a while for them to catch on". Furthermore:

The rate of adoption is determined by perceptions of the innovation's relative advantage and its compatibility with existing values and experiences. The complexity of the innovation matters, and potential adopters will more readily accept an innovation that they can experiment with, or try out, without making a huge commitment. They may also want to observe others' adaptation before taking the plunge. People vary in their levels of resistance and the social support needed to adopt a new idea, practice, or object. There are always individuals who will adopt an innovation early, before most others consider doing so. These early adopters will set the stage, and they usually have an influence on others. As more and more people adopt, a critical mass of adoption occurs that gives rise to a rapid increase in general adoption" (Littlejohn and Foss, 2008, p. 322).

This theory is relevant to the present study. In the global and Nigeria's drive towards digitisation of broadcasting, some broadcast operatives may be early acceptors, early majority, late majority, late adopters or resisters of the idea of the digital switch-over. This, as has been already noted, may be determined by how the broadcast operatives perceive digitisation and the advantages it brings to broadcasting and how the switch-over will impact on their lives and the lives of those around them. If accepting the complexity of digitisation will take little or inconsequential commitment from them, the broadcast operatives may have no objection to the digital switch-over and may even encourage their colleagues to key into the process. Here, lies the relevance of the diffusion of innovations theory to this study.

Nigeria's Journey to Digital Television

The digitisation of broadcasting in Nigeria is pursuant to the International Telecommunications Union (ITU) Radio-communication Conference of 2006 (RRC-06) and the subsequent Geneva 2006 Agreement (GE-06), which recommended the transition from analogue form of broadcasting to digital by June 2016, by all countries in the world (Idachaba, 2018). The Digital Switch-Over (DSO) is the name given to the process of changing from analogue to digital TV broadcasting. The digital TV transition or Analogue Switch-off (ASO) is also the process in which analogue TV broadcasting is converted to and replaced by digital TV. According to the ITU (2012, p. 106):

Analogue Switch-off (ASO) is the process of turning off the analogue *terrestrial* television signal and replacing it with a digital signal. It will basically require changing existing television broadcast networks and changing end-consumer television receiver equipment (either

connecting a digital converter to the existing television set/recorder or replacing the existing television set with an integrated digital television set and/or digital recorder). Very often with ASO, not only the existing analogue channels will be converted into digital channels, but also additional Digital Terrestrial Television Broadcasting (DTTB) channels will be introduced at the same time (as more than one/two multiplexes will be assigned).

The ITU (2012, p.107) further states that “ASO is a government initiated policy, aiming at gaining *spectrum efficiency* which will bring consumer benefits (more choice in television channels and services) and industry benefits (new revenue streams and business models)”. While the above objectives are concrete reasons for governments to bring on DTTB services, they do not necessarily make it imperative to carry out an ASO operation. Hence, the switch-off must align with the government's objectives of having a universal television service on the DTTB platform, and/or securing the future of the terrestrial platform. As stated by the International Telecommunication Union (2012, p.7), “the broadcasting industry and regulators face both opportunities and challenges in dealing with the transition from analogue to digital broadcasting. The transition requires decisions to be made on a great number of political, social, economic, and technological issues. Therefore, it is necessary to develop a well-defined roadmap covering national strategies and key decisions”. Industry experts, including Idachaba (2018, p.4), have asserted that the future of terrestrial television which offers free services in the midst of other platforms lies in digitisation:

Digital Television will without doubt be perhaps the only way to secure the future of Terrestrial Television. Traditionally, the terrestrial platform has been the cornerstone of free television services. National and local broadcasters depend upon the terrestrial platform to reach their viewing public. Despite the availability of many other television delivery platforms such as cable, satellite and Internet Protocol Television, IPTV, the importance of the terrestrial platform remains. It is one of the only television platforms to offer viewers access to local content. Services are generally offered either for free or for a modest subscription fee, depending on the service package selected.

Countries all over the world are converting their analogue terrestrial television to digital television. Nigeria as a member of the International Telecommunications Union is not an exception. The migration to digital TV in Nigeria has largely been policy-driven rather than market-driven. The National Broadcasting Commission (NBC), Nigeria's regulator of broadcast services, fully aware of the global drive towards digital broadcasting, insisted on having Multichannel Multipoint Distribution Service, MMDS, licensees digitise their operations for maximum results. It then sets the deadline of 31 March, 2008, for the digitisation of all MMDS operations in Nigeria. This has since been realised (Balarabe, 2013). Balarabe further states that the NBC embarked on a sensitisation programme on digitisation for stakeholders and prepared a position paper for the Federal Government between 2004 and 2006.

Government fixed the start-off date for the digital switch-over as December 2007. This failed. In 2008, a Presidential Advisory Committee (PAC) was set up to design a road map for the digitisation programme. The 27-member PAC submitted its report to the government in June 2008. The Committee, in acknowledging that Nigeria was behind other countries, suggested that a Digital Implementation Team (DigiTeam Nigeria) be constituted.

The Committee submitted its report with a well-defined road map for the attainment of the digital switch over by 17 June, 2012, three years ahead of 2015, the global deadline for the switch-over. However, the recommendations of the PAC could not be addressed until 2012 (Idachaba, 2018). As the country missed the deadline once more, another deadline – June 17, 2015 – was set, and then another, 17 June, 2017.

The recommendations of the PAC, according to Idachaba (2018), formed part of the Government White Paper on the Transition from Analogue to Digital Terrestrial Television (DTI):

1. Adoption of new broadcasting model which involves the splitting of broadcasting services into broadcast content provision and broadcast signal distribution. This is radically different from the current trend where the broadcaster does programmes production and transmission.
2. Restructuring of licensing framework in the broadcasting sector.
3. Management of digital dividend spectrum (DDS); (that is, money that will come to government from the lease or sale of the broadcast spectrum which may be freed up and become available for telecommunication arising from the digital compression of spectrum).
4. Technical standards to be maintained in the transition.
5. The two units should provide separate accounts to the regulator to avoid anti competitive practices.
6. The state-owned broadcasting stations should also be restructured in a similar manner.

Another interesting aspect of the PAC recommendation and subsequent White Paper was on the generation of e-waste. The Committee proposed and Government accepted that disassembling centres be established in order to achieve an organised retrieval and safe disposal of e-waste arising from digitisation (Idachaba, 2018). He further reports that the Committee recommended the use of local manufacturing companies for the manufacture of set-top boxes (STBs) which would enable analogue TV sets to receive digital signals. The White Paper estimated the digital switch over to cost N60 billion to cover infrastructure, subsidy for STBs, software, training and publications.

Some of the recommendations of PAC and the White Paper are of great interest. For example, PAC recommended and Government agreed that public broadcasting (truly/mostly funded by the public) no longer exists in Nigeria with the partial

commercialisation of NTA, FRCN, and other state broadcasting stations. Given the benefits of broadcasting for effective national development, Government accepted as follows:

1. The establishment of public broadcasting in Nigeria.
2. The planned commercialisation of NTA and FRCN should be reviewed.
3. The FRCN and NTA should each be restructured into two separate self-accounting units.
4. One unit, which will be publicly funded, will manage channels that are dedicated to public broadcasting.
5. The second unit would operate the other channels as a commercial broadcaster to produce set-up boxes (STBs) for the transition among others.

Government White Paper on the Committee's Report was not released until May 2012, just a month to the 12 June, 2012 deadline earlier set by the Federal Government. The DigiTeam was established on the recommendation of PAC and following the White Paper on the Committee's recommendations. But coming a month before the deadline of 12 June, 2012, PAC could not perform miracles to meet that deadline. Even on establishment, PAC could not raise the needed funds to hit the ground running. Furthermore, "the conversion from analogue to digital requires infrastructure to broadcast the signals and for each home to have a digital set-top box (STB) which converts their TV from analogue to digital...According to a survey conducted by the NBC, Nigeria requires 22 million set-top boxes to meet the requirements of reaching analogue TV set owners that will transit to Digital TV" (Idachaba, 2008, p.12).

The pilot phase of the Federal Government's digital transmission project started in 2016 at NTA Jos and NTA Star TV, a joint venture between NTA and Star Times, a Chinese firm. According to Onwubiko (2017), although the digital TV switch-over in Abuja came months after it was done in Jos, Plateau State, it was worth celebrating. However, the rest of the broadcasters in the country are still analogue in their operations.

Analogue Switch-off Factors

By ASO factors, we mean a set of interdependent factors that will determine the approach a country chooses for the ASO process. Analogue switch-off process is the ASO transition model a country decides to use. It should be noted that the switch to digital television is no easy feat. First, digital frequency plans must be put in place and co-ordinated with neighbouring countries: secondly, viewers must change their television reception equipment, and many transmission sites must be upgraded over a relatively short period of time. The cost of the process can be high, depending on the size of the country and the number of viewers affected by analogue switch-off (Idachaba, 2018).

The ITU (2012) has listed four factors to guide the process of transition:

1. Required Public Service Broadcasting (PSB) Services

The government should determine which services are considered to be a Universal Service on the DTTB platform after switching them off on the analogue platform. These PSB services could be national, regional or local public service broadcasting. However, the ability of the DTTB platform to facilitate all PSB services depends on the spectrum availability network design and planning, if a simulcast period is required and the duration of the simulcast. A simulcast allows analogue viewers to switch to an alternative television platform.

2. The Number of Analogue Terrestrial Television Viewers

Since an ASO process is government-driven, political consideration is given to the risk of disenfranchising viewers who depend on analogue television. Thus, “countries with very few television households relying on the terrestrial analogue television platform will be able to switch off their analogue platform quickly and with little risk of large groups of viewers to lose television services. This has been demonstrated in highly cabled countries, such as Luxemburg, the Netherlands and Switzerland which completed analogue switch-off quickly (ITU, 2012, p.108). The same situation or even worse disenfranchisement could occur in Nigeria where most viewers rely on terrestrial analogue television platform. By and large, a country, before switching off its analogue system, should take into account the population of viewers who rely on the terrestrial analogue television platform in order to minimize disenfranchisement.

3. Availability of Spectrum

According to the ITU (2012, p.109), “the availability of spectrum will determine whether a given market can simultaneously offer analogue and digital terrestrial services in a given area or region. In some countries, the launch of digital television, DTV, services are contingent upon switching off analogue services list...In what countries, near-universal DTV coverage is generally not possible without first completing analogue switch-off in a certain area”. Therefore, the ability to launch DTTB services in some countries may depend on re-using the freed-up analogue frequencies. This situation is complex and therefore demands careful design and planning.

4. DTTB Service Uptake

The attractiveness of the digital switch-over is dependent on the success of the operation. Thus, the attractiveness of DTTB is directly related to: “the availability of the services (coverage); the appeal of the service offering (content); the cost of service (the price of the receivers)” (ITU, 2012, p.111).

Benefits of Digital Switch-Over

Digital Switch Over implies an Analogue Switch Off which, according to ITU, is the process of turning off the analogue terrestrial television signal and replacing it with a digital signal. In the foreword to its guidelines for Digital Broadcasting, the ITU states that: “The Broadcasting revolution is well – underway, and the transition from analogue to digital broadcasting is not only creating opportunities for the provision of ICT applications and multi-media services but is also contributing to the efficient use of the spectrum through the digital dividend and the release of spectrum for other uses” (ITU, 2012, p.i).

The above statement by the ITU captures and encapsulates the benefits which the broadcasting sector and indeed the entire society stand to draw from a digitised broadcasting world. Indeed, benefits will accrue to all stakeholders – consumers, broadcasters, equipment manufacturers, government and so on. The ITU further believes that: “The transition to digital terrestrial television broadcasting and the introduction of mobile television broadcasting (MTV) services is already benefitting regulators, service providers, network operators and consumer electronics manufacturers but it is a complex process. This is in part due to the different national regulatory frameworks, service offerings and network configurations, but is also due to national priorities, market circumstances, geography, and population distribution (ITU, 2012, p.i).

Idachaba (2018) has identified and highlighted the following as some of the benefits in switching over from analogue to digital broadcasting:

1. **For consumers:** The viewers will receive clearer pictures because digital broadcasting promises TV pictures that are as clear and crisp as a Cineplex feature. There will be optimum utilisation because viewers will be able to receive multiple channels from one station. The variety will, therefore, enhance the gratification efficiency of broadcasting. The customer benefits derive primarily from the possibility of digital processing and compression, making much more efficient use of the network's capacity (ITU, 2012).
2. **For broadcasters:** Broadcasters will enjoy a cost-effective era in broadcasting. A station in the digital regime can carry up to four channels in the same frequency which hitherto carried one. This is what ITU calls “spectrum efficiency”, and may result “in freeing up spectrum, the so-called Digital Dividend. In a given frequency channel, it is possible to broadcast between four to eight programme channels (as compared to one in an analogue network). The more efficient use of spectrum means that some capacity is freed up, the so-called digital dividend, and is available for new services” (ITU, 2012, p.10).
3. **For content providers:** Content providers will experience a boom in revenue and demand for content. The additional channels freed up would need content, and as the content is provided, the content providers will have more revenue. More content will enrich the programme bouquet of stations.
4. **For the Regulator:** The NBC as the regulator will also experience a boom in

- revenue that will accrue from the additional channels.
5. **For the Government:** Government will derive more revenue from taxes on the additional channels that will come on stream.
 6. **For education and research:** Digitisation will demand more contents from content providers who must be more creative in their content creation and generation. This will demand more research. Workers in the broadcast media will be required to be multi-skilled to enable them to be resourceful and efficient for their stations.
 7. **For marketing:** Consumer demand and the increased access to content will affect the complexion of business. Consumers' use of an ever-expanding set of devices, including phones, computers, tablets etc will grow. These demands have to be met. The capacity and efficiency of digital storage media will far outstrip what was previously available.

Challenges in Digital Migration in Nigeria

There are some challenges in the process of migration from analogue to digital TV broadcasting, especially in the Nigerian context. Some of these are:

1. **Finance:** It has already been stated that Nigeria needs N60 billion to attain the digital switch-over. This will cover the cost of infrastructure and subsidy for STBs. The NBC estimates that Nigeria requires 22 million STBs to meet the requirements of analogue set owners who will transit to Digital TV (Idachaba, 2018). Government's intention to subsidize the STBs to bring down the cost to N1,500.00 has not yet materialised.
2. Nigeria, so long as it has not attained digital TV broadcasting, still suffers from the effect of analogue broadcasting in which interferences are common. Thus, the failure to migrate to digital TV leaves a country's TV, radio and mobile signals open to interference and obstruction. In addition, non-conforming countries will have limited capacity available for mobile telephony and broadband (ITU, 2012).
3. In spite of NBC's sensitisation on the digital switch-over, many broadcast operatives are still in the dark as to the implications of digital broadcasting. Stations are similarly not showing commitment to it, partly because of the cost and partly because the consumers – the viewers – are not yet in a position to receive digital signals – either because they do not have a digital receiving set or they do not possess STBs that, when installed, will allow their analogue TV sets to receive digital signals. Many Nigerian consumers are not aware of the digitisation programme.
4. The delay in the DSO in Nigeria is partly caused by bureaucratic delays and absence of political will: either government personnel are changed or government changes its direction or soft-pedals in the implementation of policy according to timeline.

Method

The research design for this study was the survey. The population consisted of 193 producers, journalists, engineers and technicians in nine broadcast stations in Akwa Ibom State, namely AKBC (*Radio Akwa Ibom; Channel 45, Uyo*) (60), *Planet FM* (14), *Inspiration FM* (16), *Comfort FM* (12), *Passion FM* (15), *Atlantic FM* (34), *Excel* (13) and *NTA* (29).

Given the relatively technical nature of the subject matter, three persons – a journalist, a producer and an engineering staff – were purposively selected from each of the nine broadcast stations. This gave a total of 27 in terms of sample size. The instrument for data collection was the in-depth interview guide carefully designed to elicit responses that would show the extent to which broadcast operatives in Akwa Ibom State understand and appreciate digital broadcasting.

The in-depth interview was carried out at the interviewees' convenience both in time and location. The researcher made the interviewees to understand that the exercise was not linked to their performance at the work place, but was to further scholarship.

Results and Discussion

Research Question 1: How do broadcast operatives in Akwa Ibom State understand the meaning of digital broadcasting?

From the respondents' point of view, digital broadcasting is the transmission of information with digital rather than analogue equipment. On the face of it, this is true; however, the understanding is shallow. Many respondents could not explain the very process which makes a particular transmission analogue and the other digital. Although they know that there is a difference, they cannot explain the technical difference between digital and analogue transmissions.

This is not surprising though. First, many of the interviewees are not engineers, hence the gap in engineering precision is to be expected. Secondly, apart from what they hear on radio and/or watch on TV daily, these operatives may not have been deliberately exposed to campaigns by the relevant agencies – National Broadcasting Commission (NBC) and Nigerian Communication Commission (NCC) – aimed at creating awareness among broadcast operatives and making them appreciate in detail what digitisation entails. This failure, no doubt, results in a shallow understanding of the concept of digitisation – in theory and in practice.

This finding also shows that many of the broadcast operatives are late majority in the diffusion of digital innovation (Rogers, 2003; Littlejohn and Foss, 2008). This may have been due in part to the lack of intense awareness campaigns by the broadcast regulators; it may also be due in part to the initial lack of interest in the digitisation policy of Government. It is only natural that having been initially sceptical and cautious, the broadcast operatives would accept the digitisation innovation after it

appeared that they have been left behind and would be professionally found wanting if they did not key into the digital innovation.

Idachaba (2018) and ITU (2012) have outlined the advantages that digital broadcasting offers over analogue. It is therefore imperative that broadcast operatives should not only understand the implications and benefits of digital broadcasting, they should be in the forefront of advocacy to those who may still foot drag or have doubts about ASO. Although they might have keyed into digitisation late, according to Diffusion Innovation Theory (Rogers, 2003; Littlejohn and Foss, 2008), the broadcast operatives, as frontline personnel of broadcast houses, should have a clear understanding of what digitisation entails. Their frontline status places the operatives on a vantage platform to subtly pressure and openly persuade and encourage their employers (their proprietors – government or private) to embrace digitisation.

Research Question Two: What is the attitude of broadcast operatives in Akwa Ibom State towards digital broadcasting?

The disposition of the broadcast operatives towards digitisation is that it is something to be desired; something that would benefit everyone and would offer opportunities for the technological transformation of the society. This attitude is rightly formed, coming as it were from the respondents' knowledge of the likely benefits of digitisation. Attitude is an important factor in the dissemination of innovation or in behaviour change communication. Once a communication participant is well informed of an innovation, it is then possible for him to develop a positive attitude that would lead to action. Thus, the broadcast operatives, after learning, over time, of what digitisation brings to the broadcast industry, have developed a positive attitude – an attitude of acceptance – towards digitisation of broadcasting. This is a welcome development as it prepares the crucial grounds that will support the digital switch-over.

The positive disposition of broadcasters in Akwa Ibom State towards digitisation may have been influenced by the digitisation of MMDS operations in Nigeria on the directive of the NBC (Balarabe, 2013). With clean, strong, crisp, and CD-like pictures which enhance the gratification efficiency in broadcasting (ITU, 2012; Idachaba, 2018) and the fact that “the picture and sound received from a digital transmission are always identical to the original source” (Miller, 2009), the operatives positively look forward to the time that terrestrial television would move from analogue to digital, in order to experience the aforementioned benefits and others imbedded in digital broadcasting. It is also important that the frontline personnel have a positive disposition towards digital broadcasting to enable them to act as a pull to others to join in the digital movement.

Research Question Three: What are the broadcast operatives' expectations of digital broadcasting?

From their responses in the interview, the broadcast operatives expect better quality broadcast, increased opportunity for content developers, higher economic returns and effective information dissemination. These expectations rightly follow the operatives' understanding of what digital broadcasting is all about. The digital world has promised a mammoth of gains. Their expectations are also in line with the gains that digital broadcasting is likely to bring about. As Balarabe (2013) has stated, digital TV gives better clarity as well as signals and spectrum efficiency; a huge spectrum will be available for radio and TV broadcast.

Idachaba (2018) and ITU (2012) have listed the benefits that digitisation will bestow on broadcasting industry. Quite interestingly, the operatives' expectations are in line with those benefits. They expect the consumers to benefit from crisp pictures and high fidelity sounds; receive multiple channels in place of one and general gratification from broadcasting efficiency (Idachaba, 2018). The broadcasters will also enjoy spectrum efficiency (digital dividend) where four to eight channels can operate within a band width that hitherto accommodated one. With that, broadcasters can provide additional services to the consumers (ITU, 2012).

Broadcast operatives in Akwa Ibom State also expect content providers to fill the additional channels with content; the NBC to make more money from additional channels available; the Government to generate more tax from the additional channels that will come on stream; and the broadcast industry to generally experience a boom which will be good economically to all stakeholders in the broadcasting industry (Idachaba, 2018). But it should be stated that these expectations can only come into fruition if digital broadcasting becomes a reality in Nigeria.

Research Question Four: To What extent do broadcast operatives in Akwa Ibom State appreciate the benefits of digital broadcasting?

The responses of respondents to the above question are very critical. They are indeed the soul of this research. The respondents, remarkably, were able to point out the benefits to be derived from digital television. They spoke of expanded services, higher quality video and audio, a great variety and faster rates of data transmission, more spectrum efficiency and consistency of data flows over long distances. This finding suggests that despite having been late to catch up with the digital breeze, broadcast operatives truly understand and appreciate the benefits of digital TV broadcasting. Their expressions are in line with what Lemm (1998) has said:

A digital standard is superior to analogue because of its greater accuracy, versatility, efficiency and interoperability with other electronic media. Digital signals also have the advantage of generating no noise or "ghosting" and being more resistant to signal interference.

Within the range of this signal, this results in a perfect signal... Another DTV capability is the ability to provide new kinds of video and data services, such as subscription, TV programming and computer software.

Similarly, the International Telecommunications Union (2012) maintains that digital TV broadcasting brings in its wake opportunities for the provision of multi-media services as well as the efficient use of the spectrum through the digital dividend. The benefits listed by broadcast operatives in Akwa Ibom State are also echoed by Idachaba (2018). One is therefore persuaded to say that with the appreciation of the benefits of digital broadcasting by broadcast operatives, the needed support within the broadcast stations for digital operations is guaranteed.

Research Question Five: What is the extent that broadcast operatives in Akwa Ibom State appreciate the professionalism implications of digital broadcasting?

The respondents – broadcast operatives – believe that digital broadcasting has professional implications for them. That is to say, it will challenge the professionalism of broadcast operatives. In other words, the professionals will have to adapt to the demands of the new method of transmission of signals – now digital, no more analogue.

The respondents believe - and truly so - that the professionals in the industry must respond to the new opportunities created or offered by digital broadcasting. For example, the increase in channels will challenge the professionals to be creative and more productive in creating contents to fill the new channels. The increase in channels also creates a new wave of competition among broadcast operators to satisfy their consumers.

As Akpan (2018) states, broadcast stations, in the face of stiff competition following the deregulation of broadcasting, would have to be creative enough to satisfy audience needs and by extension capture advertisers with whose fund they would use to finance their broadcast operations. This, they can attain through audience research which would reveal audience needs and interests that broadcast stations can actually strive to meet. The competition for audience will be stiffer with more channels on board. Hence, Akpan (2018, p 208) states: “It is of utmost importance that money be spent wisely – on contents that meet the tastes and needs of the target audience – especially as broadcasters are not in the business of merely creating programmes, but are in the business of creating audience, through programmes, that advertisers want to reach. To ascertain the programme needs of the audience is critical for the financial health of broadcast stations”.

Of course, new channels would lead to the expansion of services; consumers with a variety of channel choices will be more discrete and discriminatory in channel selection. All this piles the pressure on the professional to respond to audience needs in order to survive the blistering digital broadcast operations. One can predict that the era of digital broadcasting will be an era of hyper-professionalism in the broadcast industry.

Summary of Major Findings

As I begin to conclude, it is important to highlight the major results or outcome of this study thus:

1. Broadcast operatives in Akwa Ibom State generally understand what digital broadcasting is, but cannot describe, with engineering precision, what makes one transmission analogue and the other, digital.
2. From their knowledge of digital broadcasting, the broadcasters have a positive disposition towards digital broadcasting. They see it as something that will bring enormous dividends to all stakeholders in the industry and the society as a whole.
3. Broadcast operatives in Akwa Ibom State expect digital broadcasting to usher in better quality broadcasts, increased and varied opportunities and higher economic returns for stakeholders in the industry.
4. Following from their expectations, the broadcasters know some of the benefits of digital broadcasting as: expanded services, higher quality video and audio, more spectrum efficiency and consistency of data flow over long distances.
5. Broadcast operatives in Akwa Ibom State deeply understand the professional challenges that come with digital broadcasting and therefore expect the professionals to adapt to the challenges thrown up by digital broadcasting.

Conclusion

From the findings above, it is concluded that broadcast operatives in Akwa Ibom State understand and appreciate what digital broadcasting is, the advantages it has over analogue broadcasting, the benefits it bestows on the broadcast industry and the necessary adaptation by broadcast operatives to digital operations. It is further concluded that there is enough ground of support within the broadcast industry for the Analogue Switch Off or Digital Switch-over. Based on this, it is my informed view that digitisation of the broadcast industry in Nigeria is a desirable policy that should be pursued to its logical conclusion. The Government should muster the political will as well as raise the necessary resources to make this happen. That Nigeria is lagging behind many other countries that signed onto the policy with her in the same year is not desirable to the self-acclaimed giant of Africa. Concerted efforts must be intensified to ensure the DSO happens soon.

Recommendations

It is recommended, based on the findings, that:

First, proprietors of broadcast stations should create platforms to carry out awareness on digital broadcasting for their employees so that every broadcast operative would fully key in. The National Broadcasting Commission should embark on large scale

awareness campaigns on digital broadcasting, starting from the workers in broadcast stations. As the regulator of broadcasting in Nigeria, it behoves on the NBC to be in the

forefront of creating awareness on ASO – what it is, what it entails, the processes, its benefits and any likely disadvantage.

Second, broadcast operatives should, on their own, embark on self-improvement and upgrade themselves on all aspects of digital broadcasting. This will enable them to discuss issues relating to ASO with reasonable amount of understanding and confidence. Their deep understanding would be an encouragement to broadcast proprietors to invest in the Analogue Switch-Over since the operatives are already conversant in with the process.

Third, the Federal Government of Nigeria should show more political will and commitment to fast-tracking the attainment of the digital switch-over. Without doubt, the Government's lack of commitment to and decisiveness on ASO has been the major reason that Nigeria has trailed other nations in the digital migration. Therefore, there is need for the Federal Government of Nigeria to move decisively and implement the relevant recommendations of the various committees it had constituted at different times on the digital migration process.

References

- Akpan, U. (2018). Audience Research and the Survival of Broadcast Stations in 21st Century Nigeria. *The Nigerian Journal of Communication*, 15(1), 199-211.
- Balarabe, S. (2013). Digitisation of Television Broadcasting in Nigeria Review. *International Journal of Information and Communication Engineering*, 7(10). Accessed on 05/10/2019 from www.https://zenodo.org
- Benton Institute for Broadcast and Society (2019). The Origins and Future Prospects of Digital Television. Accessed on 05/10/2019 from www.https://www.benton.org
- Idachaba, A. (2018). Digitisation of Broadcasting in Nigeria: Policy and Implementation. *Mass Communication and Media Studies View Project*. <https://www.researchgate.net/publication/323935590>.
- International Telecommunications Union (2012). *Guidelines for the transition from Analogue to Digital Broadcasting including the Asia – Pacific Region*, August 2012.
- IT Telecom Digest (2015). How ITU Initiated Digital Broadcasting. Accessed on 05/10/2019 from www.https://ittelecomdigest.com
- Lemm, K. (1998). Digital Timeline. Accessed on 05/10/2019 from <https://www.wired.com>
- Littlejohn, S. and Karen, F. (2008). *Theories of Human Communication*. Boston, MA: Wadsworth Cengage Learning.
- Miller, M. (2009). How Digital Television works. Accessed on 05/10/2019 from www.informit.com
- Onwubiko, E. (2017). Nigeria: Digital Broadcasting and the Way Forward. Accessed on 05/10/2019 from <https://allafrica.com>
- Rogers, E. M. (2003). *Diffusion of Innovation Theory* (5th ed.). New York: The Free Press.
- Salem, M. (2019). Who invented the Television? Accessed on 05/10/2019 from www.https://history-on-the-net.com