

TRANSITION FROM ANALOGUE TO DIGITAL BROADCASTING IN NIGERIA: OPPORTUNITIES AND CHALLENGES IN THE STATE BROADCAST MEDIA

ACHOLONU, Ijeoma Jacquelyn¹

¹ Imo State University, Owerri
Correspondence email:

ABSTRACT

Many countries of the world have recognized the huge benefit which digital broadcasting offers and are making a huge effort to shift from analogue broadcasting to digital broadcasting. This is also to be in line with new technologies for improved and effective transmission of programmes as stipulated by the International Telecommunication Union (ITU) which set June 2015 as deadline for all broadcasting stations in the World to go digital. The study adopted the survey and interview method, collected and analysed data from the two broadcast media owned by the Rivers State Government (Rivers State Television (RSTV)) and Rivers State Broadcasting Corporation (RSBC) and two private owned media (Silverbird TV and Rhythm 93.7 FM). The Diffusion and Technological Determinism theory was used as a framework for the study. Research findings indicate that the two governments owned broadcast stations are not fully prepared for the digital switchover in terms of infrastructure, manpower, communication equipment, as well as adequate power supply to drive the digitization process, while the private broadcast stations are fully prepared in terms of digital equipment. It also revealed that though the previous administration made effort to procure some digital equipment, the present administration is not making enough effort to install and train personnel to man them. The paper concluded that the State Government must rise to the challenge so that Rivers State broadcast stations can meet up to global standards of high quality broadcasting in the new computer age and recommended among others that there is need for adequate collaboration both on the part of the government, stakeholders and the broadcasting stations to work towards the actualization of the switch over.

Keywords: Digitization, Analogue, Preparedness, opportunity and Challenges

Introduction

Broadcasting media in Nigeria, throughout the years since its inception has been transmitting through analogue devices. Analogue broadcasting is the use of waves to transmit pictures and sounds while digital broadcasting deals with using digital

signals or the conversion of data into series of some binary numbers in order to produce better quality picture and sound. The switch over date for the digitization of all broadcast services in Nigeria from analogue in Nigeria as set by the late former President Umaru Musa Yar Adua was June 17th, 2012. The President had approved December 2007 as kick off date for the transition from analogue to digital broadcasting in Nigeria.

Beside the role of broadcasting to the people regarding education, entertainment, information and mobilization, the society cannot maximize its development and prosperity without a strong broadcast media which is also required for developing nations to move to the level of developed nations. Experts have opined that the fine national rebranding efforts of former Information Minister, the late Professor Dora Akunyili failed to have the much desired impact because Nigeria do not have a major media that was globally strong enough to shape international perception of the nation as a positive brand.

The need for digitization of broadcast industry was conceived by the International Telecommunication Union (ITU) in her 2006 Regional Radio-communications Conference (RRC'06), where a 2015 deadline was set for a total switchover of all broadcast channels from analogue to digital. 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. Experts explain that digital services are carried on a multiplex, which can carry many television and radio services in the same frequency channel unlike analogue television service. Up till now, television broadcast services are transmitted on the VHF (Band III) and UHF band (Bands IV and V) throughout Africa and most parts of the Middle East. The use of these bands is governed by international agreements under the ITU. Broadcast media organizations such as CNN, BBC, and Al Jazeera have contributed immensely to the economic strength of their host countries. Few can deny the power of the media in shaping the destiny of any nation. Powerful media entities have often shaped global perspectives concerning an issue, a person or a nation.

Ocholi (as cited in Ogbuoshi and Efetebor, 2014, p. 122) stated that: since technology has opened a world of possibilities, 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.

Digitalization programme in Nigeria commenced in Abuja on June 3, 2008, following a meeting of stake holders in the broadcast industry which underscored the need for Nigeria to embrace the new technology, before the June 17, 2015 deadline

for the entire world set by the international telecommunication union (ITU) after its congress in Geneva, Switzerland in 2006. This was to avoid the country being turned into a dumping ground for obsolete analogue equipment. Digital Communication is an advanced form of information transfer in which messages are converted into 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. (Kombol as cited in Ogbuoshi and Efetobor 2014, p. 121)

Nigeria, however officially started the digitalization of its broadcast industry in December 2007, following late president Umaru Musa Yar'Adua's approval, directing the national Broadcasting commission (NBC), the industry's regulator to set motion and pilot the programme towards the target date (Adeniyi 2009). According to Okonji (2017) the journey towards the preparation for digital switchover actually started in Nigeria in June 17, 2006 after Nigeria signed international and regional agreement to conclude digital migration by June 17, 2012.

In a bid to achieve the 2012 migration date, the federal government in 2007 approved the process of migration and in 2008 it inaugurated a presidential advisory committee on transition from analogue to digital broadcasting. Having missed the initial date in 2012, government was forced to shift migration date to June 17, 2015. Experts believe that lack of seriousness on the part of government in the area of release of funds made Nigeria to miss digital migration for the second time. According to Yomi Bolarinwa of the National Broadcasting Commission (NBC), though Committee inaugurated by the Federal government alongside the National Broadcasting Commission made frantic efforts to fulfil the mandate, the efforts again didn't yield any result owing to paucity of funds. He further noted that, discussions about the switchover date from the 51-year-old analogue model began in Nigeria in 2004. The date was however shifted to June 2017.

After several years of unsuccessful move by successive administrations to switch over from analogue to digital broadcasting, the administration of President Muhammadu Buhari has at last edged the country into the league of digital world, (Adekunle (2016)

Nigeria transited from analogue to digital television viewing on April 30, 2016 in the city of Jos, the Plateau State Capital when it launched the pilot phase of the Federal government's digital transmission project and recently switched on digital television broadcasting in Abuja, which signalled the gradual discontinuation of analogue

broadcasting. With the Abuja switch over, many Nigerians still don't know much about the scheme while the level of preparedness of the broadcast media in Rivers State is uncertain.

Statement of the Problem

Questions are being asked whether Rivers State is prepared to meet the switch over, the preparedness of stakeholders to meet the technical challenges involved in the transition. There are also questions around whether or not government is ready to play its own part to meet the deadline. This is because the International Telecommunication Union gave Nigeria up to June, 2017 to switch from analogue broadcasting to digital to free some spectrum for telecommunication use. If Nigeria meets the deadline, it means the Country will cease to broadcast analogue TV. Nigerian Government after series of setbacks had in June 2017 switched to digital broadcasting in Jos, Plateau State and in Abuja, which signalled the gradual discontinuation of analogue broadcasting.

The National Broadcasting Commission (NBC) in its annual stations on TV and Radio broadcast in Nigeria, observed that most private and government owned broadcast media outfit are yet to meet digital switch over.

Based on this, this paper seeks to look at the effort of the State government and broadcasting Stations in Rivers State to switch over to digital radio and television by 2017, the challenges and opportunities that would be derived from digitizing the broadcast stations in Rivers State.

Objective of the Study:

The objectives of this study were to:

1. Find out the level of preparedness of RSTV, RSBC, Silverbird TV and Rhythm 93.7 FM in the switch over process.
2. Evaluate the feasibility of digitization of RSTV, RSBC, Silverbird TV and Rhythm 93.7 FM by 2017
3. Identify the factors mitigating against the switch over to digital broadcasting of RSTV, RSBC, Silverbird TV and Rhythm 93.7 FM
4. Ascertain the efforts of the State government in the digitalization of RSTV, RSBC, Silverbird TV and Rhythm 93.7 FM
5. Evaluate the opportunities in the digitalization of RSTV, RSBC, Silverbird TV and Rhythm 93.7 FM.

Research Questions Based on the problem, the following research questions were formed to guide the study:

1. What is the level of preparedness of RSTV, RSBC, Silverbird TV and Rhythm 93.7 FM in the switch over process?

2. How feasible is the complete digitization of RSTV, RSBC, Siverbird TV and Rhythm 93.7 FM by 2017?
3. What are the perceived challenges of RSTV, RSBC, Siverbird TV and Rhythm 93.7 FM in the switch over process?
4. What is the State government effort in the digitalization of RSTV, RSBC, Siverbird TV and Rhythm 93.7 FM?
5. What are the opportunities in the digitalization of RSTV, RSBC, Siverbird TV and Rhythm 93.7 FM?

Literature Review

Conceptual Review

Analogue and Digital Broadcasting

The dramatic change in television and radio signals coming up, there is need one should understand the differences between some of the technological terms. Analogue means using of continuous range of physical qualities (say-weight, length, volume etc) to represent numbers. (Crowder et al 1995, p. 38) Carpesomedian (2009) asserts that analogue television is considered over the air programming, this means you need to use an antenna to receive a signal or you use a cable connected to an antenna outside your home to pick up that signal. When you do not have a cable provided and you just plug T.V. into wall, this is considered-over the air broadcast.

Kombol (2008, p. 1) in his view states that digital broadcasting is a way of transmitting over airwaves like a computer. He further noted that the waves in digital broadcasting are encoded to ensure enhanced picture and sound quality and maintained that due to the nature of the airwaves used to transmit in digital broadcasting, the picture and sound quality are greatly enhanced. In that regard the audience has a wide variety of programmes to choose from.

Digital TV signals are received by aerial satellite or cable but have to be decoded by a set-top-box or an integrated TV digital radio signals are received by radios that use Digital Audio Broadcasting System often called (DAB) but now referred to as digital radio. What is Digital Television Digital television is a technology that offers viewers sharper pictures and enhanced sound quality compared to existing analog television by transmitting large quantities of data in compact form, just like in personal computers, compact disc and the internet. Kombol (2008, p.1).

Digital switch over

According to the National Broadcasting Commission Digital Switch over is the name given to the process of changing from analogue to digital TV broadcasting. The digital television transition or analogue switch-off is also the process in which

analogue television broadcasting is converted to and replaced by digital television.

Robinson (2004, p. 373) defined “digital” as a process or device that operates by processing information that is supplied and stored in the form of a series of binary digits. Okpanachi (2008, p. 4) on his own part stated that digital radio is the pure digital transmission medium that improves the sound quality of radio broadcast, 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.

Set top box

This is a box-shaped device that converts a digital television signal to analogue for viewing on a conventional set, or that enables cable or satellite television to be viewed. Television owners will be required to get set boxes to receive digital top boxes being sold across markets and shops at N1,500 but TV viewers will pay N1000 annually for TV license fee which would be put inside a fund for the use of the industry and Nigerians. Also those with low signals in their areas will need external antennas that will give them clear signals.

The 30 channel operators on the Abuja Rollout have been trained and sensitized on the management of the channels, according to NBC. Viewers can reach out to NBC call centers operators and receive services or have their boxes activated. The Federal Government has said over 30 million TV set top boxes were being locally made to give more Nigerians opportunity to own the device. 13 companies for the manufacturing of set top boxes have been approved.

According to Edward Mana, Chairman of Digiteam, a body of stakeholders set up by the Nigerian Government to coordinate the digital switchover in broadcasting industry. “as of today, the set top box manufacturers have set up assembling plants in Calabar, Port Harcourt and Lagos and each plant will be employing a minimum of 2000 personnel directly’

The gains of successful digital migration

Digital broadcasting has enormous benefits to the country, especially, broadcast stations and government in terms of content, quality of signals and multiple channels. The gains of compliance include: more efficient use of spectrum because digital signals take up much less bandwidth than analogue signals. For instance, 10 television channels can be carried using the same bandwidth that would normally carry only one channel using analogue. Other gains included more efficient infrastructure, which allows for a single broadcast infrastructure instead of independent parallel networks, reducing the cost for all broadcasters as well as reducing environmental impact.

The new arrangement also promises to bring about better quality TV programmes. Digital broadcasting offers superior viewing experience with a sharper, brighter pictures, reduced interferences, better audio signal, and improved sound quality, (Paul 2014).

How does digital broadcasting benefit the people?

Digital broadcast means that consumers can enjoy a wider variety of shows on multiple channels with a better quality of broadcast. It also facilitates reduced power energy consumption and spectrum efficiency which brings a host of associated benefits for consumers and broadcasters. For instance in Abuja, TV viewers will be able to enjoy 30 channels unlike the limited number of channels offered by analogue TV. Rodman (2006, p. 268) opined that viewers are going to receive clearer pictures because digital broadcasting, promises television pictures that are as clear and crisp as a cineplex feature. Digital broadcasting will also enhance the full propagation of local content as announced by the NBC

Generally, the advent of digital television will bring remarkable, exciting changes to broadcasting. Consumers will have many more choices from broadcast television, from sharp high-definition television programming and multicasting of niche-audience channels to new information services and computer-interactivity. According to experts, Nigeria can earn as much as N380 billion when it finally migrates from analogue to digital broadcasting. Apart from this, the digital dividend is also said to be capable of generating thousands of jobs for youths and more channels of diverse programming, giving the viewer's more choices, possibly of multi-lingual delivery of programmes and better quality pictures and sound.

Benefits of Digitalization to Broadcasters

Broadcasters will have new opportunities to develop innovative programmes and services, along with new revenue streams and marketing franchises. DTV will help broadcasting evolve and compete in the new media environment, while ensuring that public interest needs are still met through over-the-air broadcasting. According to Uzor (2008, p. 2) “this will delineate content, multiplexing and transmission”. Specifically therefore the DTV will bring about the following advantages:

- Progressive scanning is a more demanding technical format than the current “interlaced scanning” that will allow for a smoother sequencing of video picture frames and interactivity between computers and television sets.
- Square pixels, or the most basic element of video image data, facilitate the interoperability of the new video standard with other imaging and information systems, including computers. With 1,920 pixels per line displayed on 1,080 lines per frame, the resolution of HDTV images is much sharper than that of the current NTSC format.

- Increased frame rates allow a smoother simulation of motion in television signals; the more frames per second, the more realistic the portrayal of motion. The ACATS proposal allowed three different frame rates—24, 30, and 60 frames per second.
- Additional lines per frame allow video images to be sharper in resolution. The current NTSC format provides for 525 horizontal lines of picture data; the HDTV standards provide for either 720 or 1080 horizontal lines.
- Different aspect ratios give viewers a wider field of view, so that the viewing experience is more encompassing, in the manner of a film. In the existing NTSC format, the aspect ratio, or relation of the width to the height of the screen, is 4-to-3. In HDTV, the aspect ratio is a wider, more rectangular 16 to 9 aspect ratio, which is the same dimension as 35-millimeter film.

Challenges of Digitalization of broadcasting media

Experts propound that Broadcasters will meet four major challenges in the switch over process which are: promotion of digital television, upgrade, new licenses and multi-channel availability. Igyor (2009, p. 11) states that the broadcast industry and the governments must publicize, enlighten and create various ways to make the consumers know about the digital conversion. One of the reasons for the slow diffusion of the digital technology in some countries has been the lack of knowledge about the technology. Digital Terrestrial Television (DTTV) delivery faces more difficult challenges as nearly all cable and satellite services now operate on a digital basis, which is not the case for free-to-air Digital Terrestrial (FTA DTTV) channels that must be transmitted in analogue format until consumers switch over to digital reception or by law when the analogue system is switch off.

The second challenge is the entrance of new players, which will precipitate a change in organization and strategies. The (DTV) industry has been shaped around complex vertically integrated structures, where proprietary systems prevail. Broadcasters are being forced to rethink their roles and business models, in a multiple-channel environment that is particularly imperative for broadcasters wishing to get access to the increasing number of viewers using non-terrestrial platforms.

Thirdly, a multiplication in the number of channels will boost demand for television programs and attractive content will become highly valued asset. Delivery cost will decrease and no longer an issue, the problem now becomes a greater number of outlets competing for relatively scarce content. An increase in the number of competing channels would bring about a reduction in the size of the average audience for each program broadcast, as average audience members decline, the programming cost per audience member will increase and without a corresponding increase in advertising revenues, the average profit of television channels will be greatly

reduced. These will be the immediate challenges the African broadcaster will have to deal with in additions to the new regulatory regime that might arise.

Finally, one of the largest unresolved issues is what public interest obligations should govern digital broadcasters in the new media marketplace. In the Telecommunications Act of 1996, Congress specified that broadcasters would continue to serve as trustees of the public's airwaves and that public interest obligations should extend into the digital television environment. Nothing in this section shall be construed as relieving a television broadcasting station from its obligation to serve the public interest, convenience, and necessity. In the Commission's review of any application for renewal of a broadcast license for a television station that provides ancillary or supplementary services, the television licensee shall establish that all of its program services on the existing or advanced television spectrum are in the public interest.

Although Congress' general intent is clear, the substantive meaning of public interest obligations in the new television environment is likely to change. To determine the precise contours of a DTV licensee's public interest obligations, the FCC plans to initiate a rulemaking in the near future. This process will be enhanced by understanding the historical development of the public interest standard in broadcasting, which is the focus of Section II of this Report. This is followed in Section III by the Advisory Committee's formal recommendations.

For all the challenges that remain, the opportunities to build a new, more robust broadcasting system have never been greater. The sheer technological capabilities of DTV offer sweeping possibilities for program creativity as well as for the increased competitiveness of broadcasting and public interest service. The most important task at hand is to devise the most appropriate structures to facilitate all these goals.

Nigerian transmission from Analogue to Digital Broadcasting: Efforts so Far

The National Broadcasting Commission recognizes Digitization, the convention of the broadcast and communication system from analogue to digital, as an important global movement driven by the International Telecommunication union (ITU), that will revolutionize broadcast as we know "it" Digitization both improves the quality of reception and ensures a more efficient use of the spectrum, which is a scarce and finite natural resource belonging to all Nigerian and held in trusting licensees.

Sennitt (2008) opined that the transition to digital terrestrial broadcasting will affect all segments in the broadcasting value chain namely: content production, transmission and reception as all will require technical upgrading to support digital broadcast.

In November 2007, the N.B.C briefed the 38th National Council on Information and Communication in Jos on the imperatives of Digitalization and Urgent need for the nation to take advantage of this inevitable global phenomenon, thus in December 2007, President Umaru Musa Yar'Adua approved that the Commission should set in motion and pilot Nigeria's digitization programme towards the target date of June 17, 2012. Meanwhile the commission in a forward looking manner has encouraged cable (MMDs) and DTH Operators to digitize their operations. All those operating in Nigeria are now making move of transmitting digital signals. Gradually, all other broadcast stations are on their march to this transformation.

To beat the global timetable of transition from Analogue to Digital broadcasting and meet the late President Yar' Adua's Vision 2020, the Nigerian Communication Satellite and DIGITECH Broadcasting Ltd went into partnership. During the signing of a Memorandum of Under-standing (MOU), the Managing Director NIGCOMSAT, Ahmed Rufai Lawal, said the venture would afford Nigerians opportunity to have access to all Nigerian television and radio stations as well as over 200 other channels.

The NIGCOMSAT Boss said the solution based joint venture is to ensure that the historically disadvantaged Nigerians now have access to quality communication without necessarily paying exorbitant fees for the opportunity. He further said the intent of this joint venture is also to redress the long term damage to the Nigerian broadcasting environment created by years of technological dumping and inconsistent approach to signal and content distribution by practitioners. "The unfortunate outcome is that the man in the village who through no fault of his has little access to information. In most cases, the individual has only one source of information his state Radio or TV or from NTA and FRCN. This type of Nigerian may not travel outside his geographic state of origin which in effect handicaps him sociologically."

According to Shola Ajay, MD DIGITECH Broadcasting Ltd, "information is a right and not a privilege therefore Nigerians especially in the rural areas should be able to receive signals from all over the country and around the world. This is where the partnership comes in". DIGITECH takes cognizance of the fact that service of this magnitude will both be costly infrastructural, and elaborate in the real intention of all Nigerian broadcasters to take advantage of this service (Adaobi2010). The focus of the partnership is to allow broadcasters concentrate on the provision of quality content in order to realize maximum advertising revenue. "The ratio of content funding to transmission cost for most broadcast organizations is very lopsidedly in favour of the latter. The reversal of the trend would simply make these organizations formidable since they can now compete for advertising naira effectively."

Again the venture is to significantly lower the entry cost for new broadcasting practitioners and also to ensure that technical infrastructure is not deterrent to broadcast practitioners. Lawal noted that “this joint venture conclude the fact that existing broadcasters and prospective new pay TV and licensed Free to Air operators will have access to DIGITECH's facilities and those of its overseas partners such as TELEMEDIA. He added that it will serve as an open door to attract foreign investors as it will showcase the untapped Nigerian cultural resources which will in the long run increase its foreign direct investment. Apart from millions of dollars which would be accrued into the government coffers, Lawal explained, “the DIGITECH service will afford broadcasters two distinct advantages amongst which their signal instantly becomes national whereby any citizens of Nigeria can receive their signals anywhere and West Africa through a decoder”. The joint venture when operational will provide a level playing ground for all broadcasters to compete on the basis of content and not access to hardware. The project is to commence within the next six months.

Experts views on Digitization of Nigeria Broadcasting

Dan Oshodin (2009) in a paper titled: Nigeria's digital broadcast migration a mirage? points out that the 2012 date for switch over from analogue to digital broadcasting in Nigeria may be a mirage if certain steps are not immediately taken by the government and key stakeholders in the country's fielding broadcast industry.

In his paper titled “Digitization and Radio Broadcasting in Nigeria”, Ben Egbuna, Veteran broadcast manager and former Director General of the federal Radio Corporation of Nigeria. (FRCN) while speaking at the conference on journalism and new media technologies in Africa which was held in Lagos, noted that broadcasters and consumers alike do not have the basic information required for smooth transition less than three years to the national analogue switch –off date. In his words “Broadcasters in the country are not mobilized or galvanized for the digital project, little wonder many are ignorant even of the 2012 date and have not begun to address the 'what', how; 'where', and “who” of the transition process”.

Egbuna who traced the historical development of radio broadcasting both locally and globally to drive his points, took a swipe at the misconception in official quarters which sees digitization only from a television perspective and uses the same rationale for both radio and television analogue switch off. He also wondered if most Nigerians are aware of the changes and cost outlay required to continue to receive-broadcast signals after the transition in 2012. While expressing worry about the slow preparation for digital migration in Nigeria with no visible practical steps towards actualization, Egbuna urged the government to learn from the experience of some countries that began to early digital migration and found the analogue switch –off

date unachievable because of low consumer switch over capacity; citing Australia as an example. Australia had originally planned a switch –off in 2008 but has had to delay to a date to be determined between 2010 or 2012.

Adeniyi (2009) in a paper titled, “Migrating implication of digital broadcasting and its challenges for Nigeria” asserts that, the international television communication union's position on migration was informed by the developments in telecommunication technologies which enable a more efficient use of radio frequency spectrum and improved quality picture and audio. Previously everyone relied on radio spectrum for T. V transmission but this had inherent restriction posted by the analogue transmission. Adjacent analogue transmission were found to be subject to interference, forcing the regulatory bodies to leaves space between channel and only allocate a small percentage of available spectrums for transmission to ensure high quality transmission and reception throughout the region served.

Since digital 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 T.V stations in the country. It will also effort the industry opportunities for interactive broadcasting as T.V sets would one do much more than receive broadcast signals. Nigerians that do not want to be left behind in the new technological development have two options. The first is for them to buy a digital –compliant television set to enable them enjoy the benefits of the new technology. The second is that even with the analogue system, one can set “set –top=box” which is a digital analogue signal converter. It is like the ordinary decoder that easily plugs into a television set which will allow you to continue to get your programme signals

Review of Related Empirical Studies

In a paper titled “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 stations 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 for 2013 before doing so in order to avoid a fire brigade approach.

Another study that gives support to this paper is a survey conducted by the Harris Corporation, a provider of broadcast and radio equipment, in December 1997 found that 44 percent of broadcasters were not sure exactly what they would do with DTV programming. The survey also found out that 33 percent said they planned to offer multicasting; another 23 percent said they definitely would offer high-definition television. For those broadcasters who will use high-definition television, most plan to do so during primetime, but not during other times of the day. 23 percent of the broadcasters who plan to multicast, 50 percent predicted they would offer news and regular network programming; 47 percent said they planned to transmit information services; and 26 percent planned to air local news and public affairs. Two of the more significant findings of the Harris survey were that broadcasters will move to local digital program origination faster than generally anticipated, and that they expect to offer more locally produced news with DTV.

The December 1997 Harris Corporation's survey of broadcasters recommended that the average cost to broadcasters of converting to digital would be in the vicinity of \$5.7 million. This sum is "soft" in the sense that television stations that serve the larger urban markets will likely bear greater expenses than smaller stations. The timing of purchase of DTV equipment will make a significant difference as well. In addition, the kinds and amount of equipment that stations choose to buy for local origination of DTV programming can vary immensely. They concluded that for all these reasons, previous estimates of DTV conversion costs of \$6 million to \$10 million per station are expected to decline rapidly, probably even faster than the 20 percent annual price decrease that now prevails.

Theoretical Framework

Diffusion and Technological Determinism Theory

This paper is anchored on the Diffusion and Technological Determinism theory. The theory was propounded in 1986 by Everett Rogers. The proposition of the theory involves using communication to transfer technological innovation from development agencies to their client so as to create an appetite for change through raising a climate for modernization among member of the public. This is the diffusion side of the theory. On the other hand, there are critical role for technology in the employment of mass communication for development.

The technology in mass communication serves as dual role in diffusion. They are channels for messages, as well as messages for innovation. Another technologically deterministic approach sees technology as a value-free and politically neutral asset that value-free and political neutral asset that can be used in every social and historic context. The essence of this theory is to

communicate to members of the public a discovery or idea based on research. According to Daramola (2010, p. 65-66), diffusion refers to the process by which new ideas are communicated to members of a social group. Innovation means ideas or inventions that are to be diffused to members of a social system.

The relevance of the theory to this study is based on the fact that, technological innovations can imbibe development through the diffusion of message it carries, hence digital broadcasting as technological innovation is an answer to the problems posed by the analogue system.

Methodology

This paper adopted survey research design as well as the interview technique. The survey made use of questionnaire as instrument for data collection. The choice of survey design was based on the nature of the study which focuses on determining the views, opinions and perspectives of staff of RSTV, RSBC, Silverbird TV and Rhythm 93.7 FM towards the level of preparedness to meet switch over deadline. The Interview technique was also thought to be most suitable for this study. There are numerous advantages associated with using these techniques one of which is that it allows participants to participate fully in the process of facts finding (Seidu et. Al as cited in Anyadike, Olemadi & Odoemelam, 2015, P. 20).

The population of this study comprised all staff of RSTV, RSBC, Silverbird TV and Rhythm 93.7 FM including the General Managers and Directors. Therefore, for the purpose of accessibility and effectiveness, the population was restricted to only staff of engineering, programmes and commercial departments of the broadcast stations who were purposively selected based on their practical knowledge. A total number of staff in RSTV as at January 2017 was one hundred and fifty seven (157), RSBC was one hundred and ninety seven (197), Silverbird TV 24 while Rhythm 93.7 has 20. Therefore, the population of the study is 398 staff of both RSTV and RSBC. A sample size of 170 staff members of the three departments were used for the study. This implies that the 170 staff of the three departments was all sampled. This is known as census survey, where the entire population is sampled because of the small population size.

This study employed the use of a questionnaire and interview guide as instruments for data collection. The interview guide was to elicit the opinions of people who are directly involved in the process. An interview was scheduled with the three General Managers and some Directors. After designing the questionnaire, the researcher presented the copies to the some experts in mass communication for face-validation and content validity of the instrument before it was distributed to the target population.

Data Presentation and Analysis

Research Question 1

What is the level of preparedness of RSTV and RSBC in the switch over process?

Table 1: Level of preparedness of RSTV, RSBC, SILVERBIRD TV AND RHYTHM in the switch over process

Stations	Infrastructure	Manpower	Awareness	Readiness	Total
RSTV	5	20	20	5	50
RSBC	10	15	15	10	50
SILVERBIRD TV & RHYTHM 93.7 FM	20	15	15	20	70
Total	35	50	50	35	170
PERCENTAGE	4.8	3.4	3.4	4.8	100

Source: field Data, 2017

Data presented on table 1 reveals that even with the switch over by 2017, RSTV and RSBC are largely unprepared for the digital switch over. In terms of infrastructure, RSTV and RSBC are 4.8 still percent away for the 100 percent target by 2017. Going by the manpower needed to drive the digitization process, RSTV and RSBC as well as Silverbird TV and Rhythm 93.7 FM are still 3.4 percent low, the awareness level is also 3.4 percent. Readiness is the least in terms of getting ready for a total switch over. The implication of these is that RSTV and RSBC are still miles away from getting close to achieving the digitization deadline of 2017. Meanwhile from the above analysis it indicates that Silverbird TV and Rhythm 93.7 FM are prepared in terms of infrastructure and readiness as against the two government owned stations.

Research Question 2

What are the perceived challenges of RSTV and RSBC in the switch over process?

Table 2: Perceived challenges of RSTV, RSBC, SILVERBIRD TV and RHYTHM 93.7 FM in the switch over process

Stations	Lack of fund	Manpower	Infrastructure	Power	Total
RSTV	20	15	20	15	70
RSBC	20	20	15	15	70
SILVERBIRD TV & RHYTHM 93.7 FM	5	5	5	15	30
Total	45	40	40	45	170
Percentage	3.7	4.3	4.3	3.7	100

Source: field Data, 2017

Research data generated and analysed as presented on table 2 indicates that lack of funds, infrastructures in terms of communication equipment and power generation that are largely unavailable and pose the major challenges of actualization of the digitalization of the two stations by 2017 when the country had launched the switch over. The other challenge are lack of trained manpower, since the stations are not able to generate funds to drive the process, as well training and recruitment of manpower were threats to the achievement of the 100 percent digital switch over in 2017. Data indicates that fund is not a problem to Silverbird TV and Rhythm 93.7FM, in terms of manpower and infrastructure; they are ready while power supply is a general problem.

Research Question RQ 3

How feasible is the complete digitization of RSTV, RSBC, SILVERBIRD TV and RHYTHM 93.7 FM by 2017?

Table 3 Feasibility of meeting the 2017 digitization deadline

Stations	Yes	No	Total
RSTV	20	55	75
RSBC	25	50	75
SILVERBIRD TV & RYHTHM 93.7 FM	20	-	20
Total	65	105	170
Percentage	2.6	1.6	100

Source: field Data, 2017

Presentation of research data on Table 3 show that 20 respondents said that the 2017 deadline for the total digital migration is feasible for RSTV while 25 respondents said its feasible in RSBC. However, the majority of respondents said no. according to them the 2017 deadline for digital switch over is not feasible for RSTV and RSBC. The analysis also indicates that all respondents in Silverbird TV and Rhythm 93.7 FM said switch over is feasible.

Research Question RQ 4

What is the State government effort in the digitization of RSTV and RSBC?

Table 4: State government effort in the digitization of RSTV and RSBC

Stations	High	Low	Non	Total
RSTV	15	50	10	75
RSBC	15	50	10	75
Total	30	100	20	150
Percentage	5	1.5	7.5	100

Source: field Data, 2017

Analysis from the table indicates that 30 respondents, representing 5 percent said government presence is high, 100 respondents representing 1.5 percent said its low while 20 respondents representing 7.5 percent said there is no government presence in ensuring that RSTV and RSBC meet the 2017 switch over target. A

Discussion of Findings

The RSBC is a government owned, controlled and funded public broadcaster in Rivers State, created by Edict No. 8 of 1973. The RSBC was originally set up by the government to serve as an umbrella body for the States radio and television stations, including Radio Rivers and Rivers State Television.

Therefore, based on the results of the findings, it has been established that the situation in Rivers State, under the administration of Governor Nyesom Wike does not show that the government is ready to invest in such subsidy for the teeming population of Rivers State radio and television consumers. Respondents say, the problems of neglect, particularly, lack of funding is enough reason for the stations not to meet up with the switch over. The issue of obsolete equipment, inadequate power supply and trained manpower are some of the problems that might hinder the State

owned media from meeting up the switch over deadline.

On the level of preparedness,

The General Managers of RSBC and RSTV said the stations are not ready for the switch over, but that with the installation of new equipment on ground, in the case of RSBC it will be 95% ready. While RSTV said as a station, they have carried out several sensitization programmes for their staff and also written to the State government for an upgrade of their equipment and facilities for the digital process. They pointed out programme content provision, facilities and manpower training as some of the challenges mitigating against a full switch over of the stations, while is facing Lack of funding on the part of state government as well as obsolete equipment. According to the General Manager, through personal effort of management, RSTV has been put on GOtv and Startimes.

According to them, there are enormous opportunities inherent in digitalization of the stations such as healthy competition and job opportunities. The General Manager of RSBC Sir Fiberesima said the digitization of RSBC will encourage equalization of opportunities and healthy competition. He said if RSBC is digitized it will compete favourably with its contemporaries in the State. This he noted will enhance the revenue base of the station. Sir Fiberesima also stated that it will reduce the resources spent on personnel emolument and maintenance of infrastructure. He further explained that where you have about 4 persons working at a time in the live studio, you can now have one person as a result of new digital technology. While his RSTV counterpart, Pastor Dafini GogoAbbey, stated that digital broadcasting will afford the viewer's liberty to make choices in the programmes they watch. She said RSTV audience will receive clearer pictures and many channels to choose from. "Digital broadcasting will create competition that will result in quality content". On his part the Business Manager of Silverbird TV and Rhythm 93.7 FM Segun Owolabi said it will create job opportunities in the industry and ensure competitiveness as well as make the business of broadcasting flourish.

Some of the Directors interviewed corroborated the answers of the General Managers. According to them, the managements have been making efforts to get the attention of state government, but not yielding any results. They emphasized that the stations need serious upgrade, owing to the fact that most of their equipment are obsolete. They also noted that in the case of RSBC the previous administration of Governor Chibuike Rotii Amaechi procured some state of the art digital equipment, but getting the present administration of Governor Nyesom Wike to install the and train personnel to man them is difficult. This according to them is one the major challenges facing the station.

Nations around the world are moving fast towards the digitization of broadcast

media. The global drive is so crucial because, digital format of broadcasting is of higher quality than analogue. According to experts, it enhances sound and picture quality and makes multi-channel viewing easily accessible. The introduction of digital television, observers concur, represents the most significant innovation since the advent of television itself. Digital broadcast delivery, in addition to multiplying the number of available channels, will also transform the very nature of the television medium by making it interactive. The process of digitization merges technologies commonly used in broadcasting, computing and telecommunications and offers the potential for a whole range of new applications, such as electronic retail services, Internet access and pay-per-view facilities.

The migration from analogue to digital broadcasting for Nigeria to keep pace with other nations of the world that have switched over to digital broadcasting. However many developing nations, including Nigeria are faced with the challenge of economic and social disparity including not getting access to television with optional channels, rich content, quality pictures and sound. Many Nigerians with television boxes in their homes can only access few channels with poor picture and audio qualities. Hence the digital television outfits such as DSTV, Gotv and Startimes have exploited this situation, providing subscribed channels with mostly foreign contents and high subscription fees that are not affordable by many Nigerians. This has created disparity between the rich who can afford them and the poor who have to make do with few channels provided by the analogue broadcasting.

According to the Minister of information Lai Mohammed the DSO will address the disparity by providing Nigerians access to at least 15 free - to- air channels with rich contents.

Summary of Findings:

After careful analysis, the research arrived at the following.

- That even with switch over by Nigeria in June 2017, RSTV and RSBC are unprepared for the digital switch over, in terms of infrastructure and manpower, needed to drive the process. They are still miles away from getting close to achieving the digitization of the stations.
- Infrastructure such as communication equipment and power generation that are unavailable are the major challenges mitigating against the total switch over of the stations.
- Lack of funds and adequate manpower to drive the process makes it very difficult for the stations to acquire the communication/digital equipment and trained manpower pose serious threats to their actualization of the 100 percent switchover.
- That government commitment to the switchover process is very low. Even

when there some existing digital equipment, government has not been able to assist the stations to install them.

- Evidence from research data shows that even with the switch over of Nigeria in 2017, it may not be feasible for RSTV and RSBC to switch over if necessary and urgent machineries are not set in motion.
- That Silverbird TV and Rhythm 93.7 FM have all digital broadcast equipment on ground, meaning that the stations are prepared for the switch over.
- That inconsistency in government policy occasion by continuous change of dates for switch over and lack of waiver on importation of equipment are some of the challenges mitigating against switch over process in Silverbird TV and Rhythm 93.7 FM

Conclusion

Based on the findings generated from the study, it can be concluded that as Nigeria has joined the rest of the World to switch over from analogue to digital broadcasting in 2017, RSTV and RSBC, government and stakeholders have major roles to play in the digitization process. Digital broadcasting, when commenced will help to improve the quality of programmes as well the reach. Even though the challenges are enormous RSTV and RSBC have no alternative than to join the process, there is need for all hands to be on deck to achieve this looking at the advantages. The State Government must rise to the challenge so that Rivers State broadcast stations can meet up to global standards of high quality professional broadcasting in the new computer age. Government needs to support RSTV and RSBC to take the best possible option so that they meet the deadline.

Recommendations

The study recommends that;

- Since the overall project is capital intensive so there is need for adequate collaboration both on the part of the government, stakeholders and the broadcasting stations to work towards the actualization of the switch over.
- Capacity building on new engineering knowledge for digital broadcasting is very important if the two stations must meet the switch over target.
- Government must make haste to take action on the proposals sent in by the two state owned stations, set up committees with clear terms of reference to ensure the stations meet the deadline.
- Federal Government should be consistent in its policies by ensuring that everything is put in place for the switch over of the remaining states of the federation.
- Federal government should give waivers on importation of digital broadcast

References

- Adaobi, N (2010) Nigeria set to beat global timetable on digital transition. Retrieved from <http://www.abujainquireronline.com/fetcher.php?fid=2632,2010.12/01/2017>
- Adekunle (2016) Nigeria Joins Digital Broadcasting World. Retrieved from <https://www.vanguardngr.com>. 10/11/2017
- Adeniyi, O (2009) "Digital Broadcasting Migrating Implications and challenges for Nigeria"
Retrieved from: <http://www.technologytime.com/post/digital-broadcasting-migration-implications-and-challenges-for-Nigeria>. 10/6/2017
- Aderamola, Z. (2017) TV digitization: Everything you need to know. Retrieved www.dailytrust.com.ng 7/11/2017
- Anyadike, D., Olemadi, C. Odoemelam, C. (2015) *Local Dialect Radio Programmes, Rural Development and Social Integration: The Case of Nsukka Alua, Radio Nigeria, Enugu Programme. Mediterranean Journal of Social Sciences*, vol. 6, Rome-Italy: MCSER Publishing,**
- Daramola, I (2003) Introduction to Mass Communication. Lagos: Rothan Press Ltd.
Service, Fourth Report and Order (1996) Advanced Television Systems and Their Impact
- Ekeh, D. (2009) Nigerian television at 50: Challenges of digitalization Retrieved from <http://www.bizcommunity.com/Article/157/66/40113.html> 15/10/2017
- Kombol, M.A. (2008) Digital Considerations in T.V. Production, switches and plugs, Makurdi. AsaGod Printers.
- Nwaozor, F. (2014) Between analogue and digital Broadcasting. Retrieved www.Businessdayonline.com 2016 7/11/2017
- National Broadcasting Commission (2010) Retrieved 23/11/2010 from [http:// www.Nbc news.htm](http://www.Nbcnews.htm).
- Ogah, I.A. (2009) Digital Broadcasting: Migrating implications and the challenges

for Nigeria broadcast stations: A Seminar paper submitted for the course Broadcast Journalism, to the Department of Mass Communication. Benue State University, Makurdi.

Ogbuoshi, L.I. & Efetobor, E.O. (2014) Towards Digitization of Broadcasting in Nigeria: Deadline, Challenges and Realities. International Journal of Media, Security & Development (IJMSD) Enugu: Rhyce Kerex.

Ohaja, E. U. (2003) Mass Communication Research and Project report writing. Lagos. John Lettenman Ltd

Okpanachi, S.O.M. (2008) Radio Development: The case of Radio Nigeria. A paper presented at the 2008 Commonwealth Broadcasting Association Conference; Nassau, Bahamas.

Okonji, E. (2017) Nigeria's Quest for Digital Switch Over. www.thisdaylive.com
PAUL, D. (2014) The doubts ahead June 2015 switch to digital broadcasting. Retrieved from <http://www.ngrguardian.com>. 12/09/2017

Rodman, G. (2006) Mass Media in a changing World: History, Industry, Controversy. New York: McGraw-Hill.

Sennitt, A. (2008) Digital Television Transition Retrieved from <http://blogs.rnw.n//median> network Nigeria. Minister –says-switch –to digital- broadcasting –is-imperative.

Uzoagulu, A.E. (1998) *The Practical guide to writing research project reports in tertiary institutions*. Enugu: John Jacob Classic Publishers.

Uzor, B. (2008) Experts Draw Out Roadmap for Digital Migration in Nigeria. Retrieved from <http://www.businessdayonline.com>. 2/11/2017.

<http://www.en.m.wikipedia.org>. Retrieved 2/10/2017