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Delayed in Transition from Analogue to Digital Transmission and Its Implications on Broadcasting Production Output in Osun State, Southwest Nigeria

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Abstract
Factors deterring the proposed transition from analogue to digital broadcasting in Nigeria have been extensively addressed by a good number of studies. However, these previous studies have failed to explore the implications of this delayed on broadcasting production output from a comprehensive view. This study addresses this limitations by its investigating the implications of analogue broadcasting on programme quality, content, leadership/viewership and revenue generation from the sector by the government. Six media houses - Osun State Broadcasting Corporation, Nigeria Television Authority, Ile-Ife, Crown FM, Orisun FM, Living Spring FM and Odidere FM - were purposely selected across the three senatorial districts of Osun State, Southwest Nigeria. This study adopted the multi-stage and simple random technique to elicit information from 103 broadcast operators working with the selected media houses. Data were sourced through the administering of a well-structured questionnaire. The outcome variable is broadcasting station production output. The outcome variable indicators captured in this study are programme quality, programme content and programme coverage, leadership/viewership and revenue generation from the house media by the government. The key explanatory variables are shortage of trained broadcast personnel, lack of technical know-how, poor sensitisation, lack of monetary support from the government, environmental constraint (Electric Power Supply), poor training and retraining of broadcast operators, broadcast operators years of experience and type of media ownership. Percentage distribution and multiple linear regression statistics were applied to measure the factors hindering the transition to digitalised broadcasting, and the implications of the delayed in transition on production quality. Results showed that programme quality, content and coverage were significantly associated with analogue broadcasting ($p<0.05$). Also, the results of the study showed that analogue broadcasting had significant influence on leadership and viewership ($p<0.05$). The results further showed that analogue broadcasting and revenue generation were significantly related ($p<0.05$). The study concluded that programme quality, programme content, programme coverage, leadership/viewership and revenue generation were limited by the continua use of analogue equipment in broadcasting across broadcasting stations in Osun State, Southwest Nigeria.
Keywords: Broadcasting, digital, analogue, transmission, delayed transition, implication.

1.1 Introduction

Broadcasting, the fastest means of information dissemination involves the prompt transmission of signals or messages through electromagnetic waves to a heterogeneous audience or a large community (Creeber & Martin, 2009). Information transmission has experienced diverse kinds of transition in programme packaging, studio designs and equipment for the transmission and this has been attributed to the innovation in communication technology improvised technology (Creeber & Martin, 2009; Rodman, 2006). Television transmission, a form of broadcasting has grown tremendously from strength to strength over the years as result to improvised technology. In line with this assertion, television broadcasting has evolved from monochrome (black and white) to coloured transmission (Rodman, 2006). Traditionally, analogue broadcasting is the original technology that uses analogue signals to transmit video and audio messages; then, radio and television messages were transmitted through analogue devices. The term analogue signal refers to electronic signals which are moderately weak and subject to interference. Invariably, in analogue broadcasting, television broadcast, the brightness, colours and sound are characterised by rapid variations of the amplitude, frequency or phase of signal (Dominick, 2002). Also, the instantaneous voltage of the signal varies uninterruptedly with the pressure of sound waves (Dominick, 2002).

The Information and Communication Technology (ICT) Penetration in Nigeria is still low. According to census 2006 result, a nation with a population of over 143 million people, could boast of only 46.1% ICT penetration and this technology has a great impact in its digitization effort (Samaila, 2013). It is only when access to the technology is pervasive that society at large will be able to comprehend the transition production

and act in that direction. Despite the establishment of the National Information and Communication Technology Development Agency (NITDA) – the body that has been charged with the responsibility of implementing, coordinating and regulating information technology development in the country, and the Nigeria Internet Registration Authority (NIRA) to increase Nigeria's presence in cyberspace. It appears that not much has been achieved as per as the Information and Communication Technology is concerned. This is evident in the failure of these accredited and authorised bodies to meet-up with the transition to digital broadcasting deadline twice (Samaila, 2013; Endong, 2015).

These shortcomings pose serious challenge to the country in its bid to transit from analogue to digital broadcasting. In essence, the policies did not help in actualizing the set objectives, while the world now is becoming more information technology driven (Endong, 2015; Maynard, 2000). Notable among the identified factors restraining the effective transition from analogue to digital broadcasting in the country are inadequacy of well trained personnel, high prevalence of household poverty, erratic supply of electricity, poor and inconsistency in the implementation of policies relating to the subject matter, poor funding of both private and public-owned broadcasting firm (Ogah, 2009; Innocent & Uwaoma, 2012).

Understanding the link between digitalized broadcasting and production quality and coverage will provide the reason behind the agitation and solidarity for effective and full transition from analogue to digital broadcasting in all mass media firms in the country. The objectives of this study are to describe the factors hindering the proposed transition from analogue to digital broadcasting, and to investigate the implications for the delayed in transition from analogue to digital transition on broadcasting production output across the six selected broadcasting stations in Osun State, Southwest Nigeria. Osun State was selected as the study area for two major reasons. First, in spite, the State being the cradle of Yoruba land, the level of economic development in the State is relatively low compared to other States in the Southwest region but Ekiti State of Nigeria. Second, the public radio station in the State is one of the oldest in the country; nevertheless, broadcasting stations within the State are yet be digitalized. The implication is that, the rate of information and communication technology penetration as provided by broadcasting operators within the State is relatively low (Samaila, 2013).

1.2 Literature Review and Theoretical Focus

1.2.1 Literature Review

The change in broadcast system from one form to the other is indicative of the interest attached to broadcasting modernisation. Digital communication remains an advanced form of information dissemination in which messages were transformed into a series of 1s and 0s (binary digits) and sent over to a channel receiver (Creeber & Martin, 2009 Kombol, 2008). Thus, digitisation is a broad concept used in discourse on various types of media - print and electronic (Creeber & Martin, 2009; Uzor, 2008). The term digital implies the breaking down of processed information into series of 1's and 0's and putting it into a form that can be easily manipulated by the ever-speedier microchips that heat the heart of every digital device Creeber and Martin (2009). Also, digitalisation was described by Maynard (2010) as "a mega media", whereby the much about the ways we define, gather and produce news. This change from analogue broadcasting to digital broadcasting is referred to as the transition. The phenomenon is about to be globalised. unfortunately, Nigeria, although a developing with abundance of both natural and human resources is drawing-back in the move for digitalised world of transition, as presently experienced in the information and communication technology.

In Nigeria, one of the identified factor hindering the smooth shift from analogue to digitalised transition by broadcasting operators, particularly, the private-owned ones is the huge taxes and import duties on broadcasting equipment. Endong (2015), argued that the NBC need learn how to create a more realistic plan (as they have started doing now) so that the industry can follow and press for its implementation of policies to enhance a smooth and speedy transition. In line with this assertion, not until the government come to realise that the heavy taxes and import duties borne by broadcasting operators in the country are lessen, many of these firms may find it very difficult to completely shift over from the use of obsolete analogue broadcasting equipment to the improvised technology aided with the use of analogue transmitting equipment. Ending (2015) and Samaila (2013) argued that another area of concern was the interoperability of structure, the method that allows the equipment in vogue to receive content from any other service provider. This is in an attempt to forestall a situation where, for instance a decoder meant for service provider X, cannot receive service provider Y if there is subscription for Y). Interoperability will make it mandatory for one device for all service providers so long as there is subscription to the service provider especially in cable television. It was evident from several studies that the analogue system of transmission since inception no doubt has contributed to the development of the broadcasting industry in Nigeria. (Akinreti, 2013; Idoko, 2010; Kombol, 2008; Ohaja, 2003). The fact remains that the analogue system cannot support future developments. Thus, the irregularities created with the use of obsolete equipment in the country's broadcasting sector can be corrected with the advent of digital technology.

In order to attain and sustain national development in virtually all sector of the economy, the transition from analogue to digital technology is inevitable. This is so, as the shift from analogue to digital transmission will

portend a whole new world of opportunity and prospects to stakeholders. According to Akinreti (2013), it has also given rise to trepidation by broadcast professionals due to antecedents of government policies and execution in the past. Therefore, the shift from analogue to digital transmission may not be taken that serious by the broadcasting operators in the country until the government is ready to be fully committed to it by taking the lead in the transition with its public-owned broadcasting stations across the country. Idoko (2010) pointed it out that the preparedness and by the National Broadcasting Commission and broadcast stations towards the transition process must take into consideration the challenges faced by broadcasting operator and even the broadcasting audience. The major challenge faced by the broadcasting operators, particularly in the government owned-stations have been largely allied to their insufficient resources as a result of their inability accommodate huge finances (Idoko, 2010). It was argued also argued that the successfully shift from analogue to digitalised broadcasting by these firms to a very large extent was dependent on the level of support they have received from the government (Akinreti, 2013). Therefore, a situation where huge amount of money is spent on digitising a station and training of personnel is likely to have financial effect on broadcast users who are equally stakeholders in the transition process.

The shift from analogue to digital broadcasting involves many modifications in the transmission signals as well as making sure that members of the public buy high definition television sets and get rid of standard definition (analogue) sets; nevertheless, media professionals are deliberating if the transition is a matter of absolute necessity and the benefits derivable. In Nigeria, broadcasting has been at the forefront of many technological changes, mostly in digitisation and enhancement of existing services (Akpan, 2006). In enumerating the advantages of digital technology over analogue broadcasting, Dominick (2002) described digital technology as a system that encodes information - sound, text, data, graphics, and video into a sequence of on and off pulses which were usually represented as zeros and one. The digital revolution has significantly impacted the broadcast industry as it affected both sound and picture signals, the electromagnetic waves turned into digits, bandwidth compression to accommodate more frequencies, lower digital power capable of covering wider areas, digital modules and components for the transmitters, set top boxes for reception for digital signals, culminating into crisp clear pictures and superb audio qualities (Oshodin, 2009). Digitisation plans began in Nigeria in Abuja on June 3, 2008 as an aftermath of series of meetings held by key stakeholders in the broadcasting industry, where the forum emphasised on the need for Nigeria to key into the new technology, in order to save the country from becoming a dumping ground for obsolete analogue equipment from the developed nations (Oshodin, 2009).

In the meantime, during the workshop on the strategies for the transition from analogue to digital broadcasting in Africa 2015, the Federal government mandated all stakeholders in the broadcasting industry to incorporate digitalisation in the nation's development agenda (Edong, 2015). This was based the recommendation suggestion given by the International Telecommunication Union (ITU). At the moment, some public-owned broadcasting firms in Nigeria were still being subjected to so much degeneration as a result of their inability to change from the obsolete analogue to modern-day digitalised transmission devices that were currently in use in most developed countries of the world. It remains so pathetic that despite the launching of the Nigsatcom 1, which curbed an outrageous sum of about 40 billion naira (over USD 100 million), the country could not boost any significant contribution the project paid back into broadcasting sector (Udeorah, 2009; Bassey, 2009). The benefits of the digital broadcasting abound, however, the Nigerian society was still largely denied of its plausible contributions to societal advancement (Edong, 2015).

1.2.2 The Metamorphosis theory Theory

The theory as postulated by Roger Filder is composed of two terms "media" and the short form of the term "metamorphism". The theory seeks to describe the manner in which the media is circumstantially transformed from a lesser to a more sophisticated state, to meet a number of complex contemporary needs. As Anaeto *et al* (2008:191) argues, the mediamorphosis theory is centered on "the transformation of communication media usually brought about by the complex interplay of perceived needs, competitive political pressures, social and psychological innovations". In other words, the media responds to external pressure with an impulsive process of self-reorganization. In line with this, Watson observed that practically all technological change in the field of mass communications has had what one might describe as "a hands-around-the globe effect". By operating digitally, the computers have for instance outweighed the modifications of national languages; in the intervening time, cables and satellite are networked with computers to cross national boundaries. In relation to the mediamorphosis theory, the present sophisticated nature of the media is the product of systemic emanations from older ones. The media in effect do not transform spontaneously and independently, but stem their dominant traits from their previous versions.

As Watson empirically notes: "what were originally a separate communication system, telecommunications and broadcasting have converged along the same fiber-optic wires to offer multiple services" The same box of artifices can offer us telephonic, tele-visual, computing, games-playing facilities; each of them allied to a wired world which advocates of the new technologies claim will be limitless in scope. Likewise, Broadcasting has advanced from a stage of analogue to digital thereby creating modifications in programme production and

content. Hence, it can be concluded that the delay currently experienced in the transiting from analogue to digital transmission in Nigeria was largely as a result of poor and inconsistence in policy implementation, shortage of skilled manpower and insufficient funding of the transition due to lack of political will.

2.1 Research Methodology and Data Analysis

2.1.1 Research Design, Sampling Technique, Data Collection and Analysis

This study on the implications of delayed in transition from analogue to digital broadcasting on production output adopted a cross sectional survey design approach. The multi-stage and purposive sampling techniques were employed in this study. Information was elicited from One Hundred and Three (103) staffs of six broadcast operators in the three senatorial districts of the State. The selected broadcasting stations are the Osun State Broadcasting Corporation, Nigeria Television Authority, Ile-Ife, Crown FM, Orisun FM, Living Spring FM and Odidere FM through the administering of a well-structured questionnaire. The broadcast stations selected for sampling were drawn at random in each senatorial district of which staff from News, Programmes, Engineering, Marketing, Administration and Finance departments were also randomly selected from the sampling frame. The retrieved data from the well-constructed distributed questionnaires were entered into the EPI-data entry software package. The entered data was later exported to the IBM SPSS, version 23, and processed into information in line with set objectives of this study. The retrieved data were analysed using descriptive and the multiple linear regression inferential statistics in line with the objectives of the study. The study's outcome variable, that is, production output is captured under these three indicators – programme quality/programme content/programme coverage, leadership/viewership and revenue generated from broadcasting stations by government. The unit of analysis for each of the study's indicators was a broadcasting operator from a private or public broadcasting station in the study area.

The key explanatory variables are shortage of trained broadcast personnel, lack of technical know-how, poor sensitisation, lack of monetary support from the government, environmental constraint, poor training and retraining of broadcast operators, broadcast operators years of experience and type of media ownership. Other explanatory variables of interests employed in this study are broadly classified into station readiness for transition, challenges hindering analogue transition and factors that led to the failure of earlier scheduled 2012 and 2015 transition dates. The background characteristics of the respondents was presented in Table 1. The first objective of this study, thus, the factors hindering the transition from analogue to digital broadcasting were presented in percentages in Tables 2 and 3. Also, all variables of interests, in relation to the objective one this study were discussed in relation to years in service of the selected respondents and type of media ownership in Table 2 and 3. The second objective of this study, that is, the implications of delayed in transition from analogue to digital broadcasting on broadcasting programme quality, content, leadership/viewership and revenue generation by government were established and presented in Table 4. The study is guided by the hypothesis that analogue broadcasting is significantly associated with programme quality/content/coverage, leadership/viewership and government revenue generation. In line with the stated hypothesis of this study, three models were developed, in order to capture the second objective of this study. These models are specified one after another below.

2.1.2 Testing hypotheses I, II and III with "multiple regression analysis"

Model I: $Y_1 = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8$

where Y_1 is "programme quality, content and coverage", a is the intercept, $b_{i's}$ are the slopes,; $X_{1\ is}$ environmental constraint; X_2 is shortage of trained broadcast personnel; X_3 is lack of technical know-how; X_4 is lack of monetary support from the government; X_5 is poor sensitisation; X_6 is poor training and retraining of broadcast operators; X_7 is broadcast operators years of experience on the job; X_8 is type of media ownership; n=8.

Model II: $Y_2 = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8$

where Y_2 is "leadership and viewership", a is the intercept, $b_{i's}$ are the slopes,; $X_{1\ is}$ environmental constraint; X_2 is shortage of trained broadcast personnel; X_3 is lack of technical know-how; X_4 is lack of monetary support from the government; X_5 is poor sensitisation; X_6 is poor training and retraining of broadcast operators; X_7 is broadcast operators years of experience on the job; X_8 is type of media ownership; n=8.

Model III: $Y_3 = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8$

where Y_3 is "revenue generation", a is the intercept, $b_{i's}$ are the slopes,; $X_{1\ is}$ environmental constraint; X_2 is shortage of trained broadcast personnel; X_3 is lack of technical know-how; X_4 is lack of monetary support from the government; X_5 is poor sensitisation; X_6 is poor training and retraining of broadcast operators; X_7 is broadcast operators years of experience on the job; X_8 is type of media ownership; n=8.

3.1 Results

3.1.1 Background Characteristics of Broadcast Operators

The background characteristics of the respondents as presented in Table 1 shows that the mean age of the broadcast operators was 27 years. The distribution shows that about 70% of the respondents were less than 30

years and about 11% were age 40 years and above. On the other hand, less than 10% of the broadcast operators had at least 10 years' experience on the job while about 60% had less than 3 years' experience on their current job. The distribution further shows that the proportion of the male (about 47%) and female (53%) was almost the same. The results by the educational level of the respondents show that at least three in every four broadcasting operators had a bachelor's degree and about 16% were senior school certificate holders. Nearly one-third (31%) of the respondents worked in the New department, more than 28% worked in the programme department and less than 10% were technical staffs across the six selected broadcasting stations. More of the respondents worked with government-owned media houses (68%) than their counterparts who were gainfully employed by private broadcasting firms (32%).

3.1.2 Factors Hindering Transition from Analogue to Digitalised Transmission by Type of Media Ownership

The outcomes of the study addressing the factors that were hindering transition from analogue to digitalised transmission by type of media as presented in Table 2 show that staff capacity building was recognised by about 63% of the respondents working with public broadcasting stations as one of the factors deterring the proposed shift while about 78% of private broadcasting respondents identified environmental constraint, as well as quantum of expected dividends as some of the hindrances to the shift in transition from analogue to digital broadcasting in the State. More of the private-owned broadcasting operators (43%) than their counterparts working with public house media (21%) saw redundancy as one the factors hindering the transition from analogue to digital broadcasting in the State. The results further show that absence of technical know-how was identified by more than one-quarter (29%) of private broadcasting operators as a factor hindering the transition while about 45% of the respondents working with government-owned house mail shared this view. It is obvious that media houses in Nigeria faced with one challenges and another in the discharge of their functions. In line with this, the outcomes of the studies as presented in Table 2 show that about half (52%) of the respondents working with private house media attributed the delay in transition from analogue to digital transmission to shortage of trained broadcast personnel. Contrarily, about 71% of the respondents engaged by the government house media did not see shortage of trained broadcast personnel as a deterrent to the proposed transition to digital broadcasting.

On the other hand, lack of monetary support from government was identified by more than three-quarters (79%) of the broadcast operators working with private house media. Relatively, about 13% of the broadcast operators working with private-owned house media and 44% of their counterparts engaged by public house media identified poverty, particularly among broadcasting audience and ignorance as factors deterring the proposed transition from analogue to digital broadcasting houses in Osun State respectively. Poor sensitisation among broadcasters and broadcasting audience was identified by 43% of the respondents working with private house media as one of the factors attributed of the failure of the 2012 and 2015 transition dates from analogue to digital broadcasting, and more than 40% of their counterparts engaged by public house media were of the view that the failure of the 2012 and 2015 transition dates could be attributed to the government inability to provide the required fund to facilitate the transition process. Similarly, more than one-third (37%) of the respondents working with public house media attributed the failure of the 2012 and 2015 transition dates from analogue to digital transition among broadcasting station in Osun State to shortage of technological skills among broadcast operators. The results also show that the failure of the 2012 and 2015 transition dates was attributed to poor training and retraining of broadcast operators to 71% and more than three-quarters (78%) of the respondents working with private and public house media respectively.

3.1.3 Factors Hindering Transition from Analogue to Digitalised Transmission by Broadcast Operators Years of Experience on the Job

The results of the study as presented in Table 3 show that the delayed in transition from analogue to digitalised transmission across broadcasting firms in Osun State was attributed to non-readiness of media houses to the capacity building of their staffs by more than half (55%) of the respondents with less than 3 years working experience and about two-thirds (65%) of those with 3 years and above working experience on the broadcasting job. The results linking the delay in transition from analogue to digital broadcasting was attributed to lack of technical know-how by more than 40% of the broadcast operators with less than 3 years working experience on the job while majority of the broadcasting operators with work three or more years working experience held a contrary view that absence of competiveness among media houses could be one of the factors hindering the shift from analogue to digital broadcasting in the State. Similarly, almost all (88%) the respondents with less than 3 years working experience held the notion that transition from analogue to digital broadcasting in the State was as a result of workers redundancy.

This assertion was also shared by nearly two-thirds (65%) of the broadcast operators who had 3 years or more working experience in the broadcasting job. The results also revealed that at least two in every five (41%) broadcast operators with less than three years broadcasting job experience held the assertion that the delayed transition could be as a result of quantum of expected dividends. On the contrary, majority (94%) of the

broadcast operators with 3 years or more broadcasting job experience argued that environmental constraint was not a causal factor hindering the transition as against 94% who were of the view that shortage of trained broadcast personnel had hindered the anticipated transition from analogue to digital transmission in media houses in the State. Furthermore, the results show that while more than half (57%) with less than 3 years broadcasting job experience attributed the failure in meeting up with the transition to prevalence of poverty among the broadcasting audience, about 59% of their colleagues with at least 3 years broadcasting experience attributed the failure in transition from analogue to digital broadcasting in the State to ignorance. Also, it could be deduced from the study's findings as presented in Table 3 that at least four (82%) in every five broadcast operators with less than 3 years broadcasting job experience disagreed that lack of monetary support from government may have hindered the transition as expected. This is contrary to the view held by the broadcast operators with at least 3 years broadcasting job experience – more than 42% of them were of the opinion that lack of monetary support received by the house media in the country could be responsible for the failure in transition.

As presented in Table 3, the 2012 and 2015 transition dates failure in the transition from analogue to digital broadcasting was attributed to poor training and retraining of broadcast operators by nearly two-third (65%) of the respondents with less than 3 years and more than 88% of broadcast operators with at least 3 years broadcasting job working experience irrespective of the type of media houses that they worked with respectively. Similarly, 47% of broadcast operators with less than 3 years broadcasting experience and more than one-third (35%) of those with at least 3 years working experience were of the opinion that the failure of the 2012 and 2015 transition dates from analogue to digital broadcasting in Nigeria could be as a result of shortage of fund to facilitate the transition process. In contrary to this assertion, more than three-quarters (77%) of the respondents with less than 3 years broadcasting job experience and more than half (59%) of their colleagues with 3 or more years broadcasting experience disagreed that the 2012 and 2015 transition dates were not met as a result of shortage of technological skills among broadcast operators across media houses in Nigeria. meanwhile, more than 29% and about 24% of broadcast operators with less than 3 years broadcasting job experience and those with 3 years or more years of experience on the job were of the opinion that the 2012 and 2015 transition dates failed as a result of poor sensitisation among broadcasters and broadcast audience across the thirty-six of the federation.

3.1.4 Multivariate Analysis: Implications for Delayed in Transition from Analogue to Digitalised Broadcasting on Production Quality

As indicated in Table 4, the results show that programme quality, content and coverage were significantly associated by shortage of trained broadcast personnel ($t=3.19$; $p<0.05$). The results of the study reveal that programme, quality, content and coverage were significantly associated with broadcast operators years of experience on the job ($t=4.33$; $p<0.05$). Also, the outcomes of the study show that programme quality, content and coverage were significantly associated with poor sensitisation ($t=2.60$; $p<0.05$). The outcomes of the study further reveal that programme quality, content and coverage were inversely and significantly associated with type of media ownership ($t= -3.40$; $p<0.05$). Therefore, the delayed in transition from analogue to digital broadcasting had significant influence on house media programme quality, content and coverage in Osun State, Nigeria ($p<0.05$). Also, it could be deduced from the output of the study that explanatory variables of this study contributed about 36% to programme quality, content and coverage of the selected broadcasting stations in Osun State, Nigeria. On the other hand, the outcomes of the study as presented in Table 4 clearly show that leadership and viewership were significantly associated with lack of monetary support from the government ($t=2.59$; $p<0.05$). Similarly, lack of technical know-how was found in this study to be significantly associated with leadership and viewership ($t= 2.45$; $p<0.05$).

The results also show that leadership and viewership were inversely and significantly associated with poor training and retraining of broadcast operators ($t= -2.17$; $p<0.05$). Likewise, the results also reveal the existence of an inverse and significant association between broadcast operators years of experience and leadership and viewership ($t= -4.33$; $p<0.05$). Similarly, the type of media ownership was found to be inversely and significantly associated with leadership and viewership ($t= -3.40$; $p<0.05$). Hence, the delayed in transition from analogue to digital broadcasting had significant influence on leadership and viewership ($p<0.05$). As indicated in Table 4, the identified explanatory variables of this study contributed about 32% to leadership and viewership in the selected broadcasting stations in Osun State, Nigeria. relatively, the results of the study as presented in Table 4 reveal that there was an inverse and significant relationship between lack of technical know-how and generation of revenue by government ($t= 2.52$; $p<0.05$). The results also show that poor training and retraining of broadcast operators was significantly associated with generation of revenue by government ($t= 3.32$; $p<0.05$). Therefore, generation of revenue by government and delayed in transition from analogue to digital broadcasting were found to be significantly associated in this study ($p<0.05$). Invariably, the outcomes of this study empirically show that the delayed in transition from analogue to digital broadcasting has significant influence on broadcasting production quality across media houses in Osun State, Southwest Nigeria.

3.2 Discussion

The delayed transition from analogue to digital broadcasting in the broadcasting media across Nigeria has been attributed to one factor and another. Many of these house media are stuck majorly as a result of hindrances arising from the government partial readiness, broadcasting stations poor drive towards the shift. Implicitly, the non-appliance of the media houses to the change has been allied to the prevalence of poverty among the broadcasting audience, shortage in the technical know-how that comes along with digital broadcasting, and to some extent the poor level of competitiveness in the media industry. Therefore, evidence from this study reveals that shortage of trained broadcast personnel was not only identified by broadcasting operators working with government house media as a big hindrance to the anticipated transition but also by their colleagues that were engaged by private house media. Relatively, we also observed that environmental constraint, redundancy and of course erratic or poor arrangement for staff capacity building were deterrents for the anticipated shift from analogue to digital broadcasting in the study area.

Invariably, these findings were in line with Ekeh (2009) and Samaila (2013) that identified poor implementation of the transition policies by the Nigeria Broadcasting Corporation as one of the key factors hindering the successful transition as proposed to be by then in June, 2017. Likewise, we observed that our identified hindrances in this study as it relates to the subject matter were to a very large extent in line with those by Adeniyi (2009) in his study where he explored digital broadcasting migrating implications and challenges for Nigeria. In the same way, the findings of this study collaborated with Edong (2015), Idoko (2010) and Maynard (2000) who maintained that for a successive transition from analogue to digitalised broadcasting in the developing countries, the aspect of technical-know how must be duly addressed. The results from our studies further showed that besides the negligence by the presumed to be in-action stakeholders in the media sector, the Nigerian society seemed not to be ready for the take-off. We discovered that the prevalence of poverty across many households in the Osun State, and in Nigeria, at large was relatively high. Invariably, many households, particularly in the rural and impoverished communities may find it extremely difficult to meet-up with digital broadcasting services, especially by the services charges that may be demanded by the privately owned television stations across the country. Imperatively, poverty, remains a factor that must be addressed in view of actualising sustainability of the media houses in the digital broadcasting world that the country is striving to fully explore. We observed that our findings were also in affirmation with Ohaja (2003) that posited that it was not all about provision of digitalised broadcast service but also delivering services to those who would be able to afford such. More so, just as we observed in our findings, Rodman (2006), Sennitt (2008) and Maynard (2000) likewise maintained that the socioeconomic wellbeing of the people remained one of the key predictors for how much they would be ready and willing to pay for media service.

Similarly, we were able to discover in course of this study that many of the broadcast operators in the State complained of erratic supply of electricity as a “big hindrance” to their transition from analogue to digitalised transmission. These firms complained that huge amount of money that would have been invested on digital broadcast gadgets were spent as running cost on alternative to electricity as source of power. In addition, it was evident from the broadcast operators’ assertion that digitalised transmission requires constant supply of electricity which at the moment was yet to be regularly provided by the government agency responsible for rendering such service. These findings juxtaposed that by Akinreti (2013) as well as the early assertions by Alalibo (2009) and Akinfelaye (2003) who all maintained that except the issues of outage of power in the country was fixed, the country broadcasting sector would struggle to compete at the global level. Equally, Edong (2015) and Samaila (2013) argued that outage of power in Nigeria had inflated more than most of the firms operating in the country could withstand. Consequently, the implications for nations building cut across almost all the sectors in the country, the media sector not excluded. It was evident from our study’s findings that the failure of the broadcasting stations to transit from analogue to digitalised transmission had limited programmes coverage, quality and content.

Imperatively, the limited coverage and poor production quality, especially by government owned-house media across the country was apparently obvious in the INEC (Independent National Electoral Commission) inability to reach the nook and cranes of the nation during the last general elections held across the country in 2015. The inability of many of these broadcasting stations to cover the election as they ought to has been majorly attributed to one factor and another; among which were erratic financial constraint, poor training of broadcasting operators as well as shortage of trained broadcast operators to efficiently handle to few purchased digital equipment. We observed in this study that the programme quality, programme content and production coverage of broadcasting stations in Osun State were significantly influenced by environmental constraint - electric power supply, poor sensitisation, type of media ownership and experience of broadcasting operators. Similarly, our study’s outcomes further reveal that the extent of leadership and viewership as relayed by broadcasting operators on their job and to the broadcasting audience were significantly influenced by lack of technical know-how, lack of monetary supports from the government, how much training broadcasting operators have had, broadcasting operators years of experience on the job and type of media ownership.

Consequently, poor programme quality, content and coverage reduced leadership and viewership, which in turn has limited the amount of revenue that the government would have generated from the broadcasting firms across the nation; hence, quantum of expected dividends. Therefore, digitalisation of the broadcasting sector in Osun State, and in Nigeria at large would have bring information closer to the Nigerian people, irrespective of their location of residence and socioeconomic status; thereby widening the gap of leadership and viewership not just in the shore of this country but also across borders. Our findings in this perspective were in collaboration with Samaila (2013), Creeber & Martin (2009) and Innocent & Uwaoma (2012) that consistently agreed in their findings that wider coverage in broadcasting was one of the key reasons why broadcasting stations had to embrace digitalised transmission of their programmes. Relatively, Edong (2015) and Alalibo (2009) argued that the nation must move from analogue to digitalised broadcasting because she stood to gain more than ever had been imagined. Thus, it is imperative that the transition from analogue to digitalised broadcasting need to be taken with utmost seriousness, not only because it would bring about better programme quality, larger programme content, wider broadcasting audience coverage but also on the presumptions that lit would expand leadership/viewership with an increased quantum of anticipated dividends, at least in the long run.

Conclusion

This study was designed to investigate the implications of the delayed transition from analogue to digital broadcasting sourcing key information from primary data. The results of the study has revealed that the transition is inevitable in order for better and wider quality in service delivery by the broadcast operators to their target audience. It was evident from the conducted survey findings that digitalisation will produce clearer images, improved sound quality, better programme content and of course generate revenue for the government from sale of broadcast spectrum. Despite the fact that Nigeria may have failed three times, the last being June 2017 in plans on going digital since it was proposed, there are plans on the way to ensure that the transition becomes a success earlier than anticipated in the nearest future.

By exploring the positive benefits that come with the full transition from analogue to digital broadcasting, we observed that more efforts needs to be put in by the government in terms of availability of fund and massive campaign and awareness for the broadcast audience. This is necessary in order to actualise the dividend accrued with digital broadcasting. Furthermore, going by our findings in relation to this study, we discovered that in order to fully benefit from the anticipated transition from analogue to digital broadcasting, broadcasting stations in Nigeria need to invest more on their broadcasting operators through training and retraining, employing of more people with enough expertise on the job and striving to optimize the advantage in cash and kind that the media sector provide. On the hand, it is imperative that the government find a lasting solution to power outage in order to minimise running cost presently borne by both the private and public media houses. Likewise, it was apparent from our study's findings that the Nigeria governments, particularly at the Federal and State level need to commit more fund to the transition process. On a last note, the preparation to transit from analogue to digital broadcasting may seem to be pursue by the government sooner than anticipated, however, the study concluded that a lot still needs to be put in place, first, on the part of the broadcast operators and second, by the government for a successful transition sooner than anticipated.

Recommendation

The results of this study have made the following recommendations necessary and pressing:

1. Massive public awareness campaign is imperative, to prepare towards the success of the transition sooner than anticipated.
2. There should be frequent inspection of broadcast stations by the government henceforth to ascertain the level of preparedness in terms of technical acquisition and as a matter of policy ensure the removal of barriers against the acquisition of digital facilities.
3. Governments should ensure that quite a good number of journalists in broadcast industry get proper training in preparation for digital broadcasting.
4. Environmental protection experts and engineers should be incorporated into NBC, to kick start the collection and disposal of all analogue devices. This is to avoid dumping and also engender good waste disposal habits.
5. Universities and all other higher institutions learning should adjust their curriculum to include practical broadcasting and digitisation subjects. This is to ensure proper training in information technology.
6. Finally, it is apparent that the effectiveness of digital broadcasting is driven by constant electricity power supply; hence, it is imperative that the hindrance posed by erratic power supply should be addressed in good time.

Table 1: Distribution of respondents by background information

Variables	Frequency (N=103)	%
Age of respondents		
< 30 years	72	69.9
30-39 years	20	19.4
40 years & above	11	10.7
Mean age	***27 years***	
Years of experience in present broadcasting station		
< 3 years	59	57.3
4-6 years	28	27.2
7-9 years	6	5.8
10 years & above	10	9.7
Gender		
Male	48	46.6
Female	55	53.4
Educational level		
Senior school certificate	16	15.5
Bachelor's degree or equivalent	81	78.6
Diploma/Technical/Vocational	6	5.8
Work department		
Administration	14	13.6
Engineering	18	17.5
News	32	31.1
Programmes	29	28.2
Technical	10	9.7
Media ownership		
Private	33	32.0
Government	70	68.0

Source: Authors' Survey Report 2018

Table 2: Factors hindering transition from analogue to digitalised transmission by type of media ownership

Variables	Medial Ownership (N=103)			
	Private (n=33)		Public (n=70)	
	Hindrance (%)	No Hindrance (%)	Hindrance (%)	No Hindrance (%)
Station readiness for transition through:				
Staff capacity building	18 (55.6)	15 (44.4)	44 (62.9)	26 (37.1)
Environmental constraint (power supply)	7 (22.2)	26 (77.8)	2 (2.9)	68 (97.1)
Quantum of expected dividends	7 (22.2)	26 (77.8)	24 (34.5)	46 (65.5)
Redundancy	14 (42.9)	19 (57.1)	15 (20.7)	55 (79.3)
Absence of competitiveness	9 (28.6)	24 (71.4)	24 (34.5)	46 (66.5)
Lack of technical know-how	9 (28.6)	24 (71.4)	31 (44.8)	39 (55.2)
Challenges in terms of:				
Shortage of trained broadcast personnel	17 (51.5)	16 (48.5)	21 (29.4)	49 (70.6)
Poverty	6 (12.5)	27 (87.5)	19 (26.5)	51 (73.5)
Ignorance	12 (37.5)	21 (62.5)	31 (44.1)	39 (55.2)
Lack of monetary support from government	26 (78.8)	7 (22.2)	10 (13.8)	60 (86.2)
2012 and 2015 transition failed due to:				
Poor sensitisation among broadcasters/broadcast audience	14 (42.9)	19 (57.1)	16 (22.2)	54 (77.8)
Shortage of fund to aid transition process	14 (42.9)	19 (57.1)	28 (40.7)	42 (59.3)
Shortage of technological skills among broadcast operators	5 (14.3)	28 (85.7)	26 (37.0)	44 (73.0)
Poor training and retraining of broadcast operators	24 (71.4)	9 (28.6)	55 (77.8)	15 (22.2)

Source: Authors' Survey Report 2018

Table 3: Factors hindering transition from analogue to digitalised transmission by type broadcast operators years of experience in their present station

Variables	Number of Years of Experience (N=103)			
	< 3 Years (n=59)		3 Years & above (n=44)	
	Hindrance (%)	No Hindrance (%)	Hindrance (%)	No Hindrance (%)
Station readiness for transition through:				
Staff capacity building	32 (54.9)	27 (45.1)	28 (64.7)	16 (35.3)
Environmental constraint (power supply)	3 (5.8)	56 (94.2)	3 (5.9)	41 (94.1)
Quantum of expected dividends	24 (41.2)	35 (59.8)	13 (29.4)	31 (70.6)
Redundancy	7 (11.7)	52 (88.3)	16 (35.3)	28 (64.7)
Absence of competitiveness	28 (47.1)	31 (52.9)	8 (17.6)	36 (82.4)
Lack of technical know-how	24 (41.2)	35 (59.8)	21 (47.1)	23 (52.9)
Challenges in terms of:				
Shortage of trained broadcast personnel	40 (67.7)	19 (32.3)	3 (5.9)	41 (94.1)
Poverty	34 (57.3)	25 (2.7)	16 (35.3)	28 (64.7)
Ignorance	21 (35.3)	38 (64.7)	26 (58.8)	18 (41.2)
Lack of monetary support from government	11 (17.6)	48 (82.4)	19 (42.8)	25 (57.2)
2012 and 2015 transition failed due to:				
Poor sensitisation among broadcasters/broadcast audience	17 (29.4)	42 (70.6)	10 (23.5)	34 (76.5)
Shortage of fund to aid transition process	28 (47.1)	31 (52.9)	16 (35.3)	28 (64.7)
Shortage of technological skills among broadcast operators	14 (23.5)	45 (76.5)	18 (41.2)	26 (58.8)
Poor training and retraining of broadcast operators	38 (64.7)	21 (35.3)	39 (88.2)	5 (11.8)

Source: Authors' Survey Report 2018

Table 4: Implications for delayed in transition from analogue to digitalised broadcasting on nation building

Variables	Model I			Model II			Model III		
	Coefficient	t-test	C.I. (95%)	Coefficient	t-test	C.I. (95%)	Coefficient	t-test	C.I. (95%)
Environmental constraint (Electric Power Supply)	0.012	0.51	-0.036 – 0.06	0.009	0.67	-0.019 - 0.039	0.005	0.02	-0.051 – 0.618
Shortage of trained broadcast personnel	0.181	3.19**	0.068 – 0.293	-0.022	-0.70	-0.085 - 0.041	-0.019	0.32	-0.990 – 0.137
Lack of technical know-how	-0.074	-1.48	-0.173 – 0.025	0.069	2.45*	0.013 – 0.125	-0.133	-2.52*	-0.237 - 0.028
Lack of monetary support from the government	0.165	0.77	-0.263 – 0.594	0.316	2.59*	0.074 – 0.559	0.339	1.48	-0.116 – 0.793
Poor sensitisation	0.156	2.60*	0.037 - 0.275	-0.055	-1.49	-0.128 - 0.018	-0.025	-0.39	-0.152 – 0.102
Poor training and retraining of broadcast operators	0.044	0.54	-0.118 – 0.205	-0.109	-2.17*	-0.209 - 0.009	0.285	3.32**	0.115 – 0.456
Broadcast operators years of experience on the job	-0.092	4.33***	-0.134 - 0.049	-0.092	-4.33***	0.134 - 0.049	-0.057	-1.32	-0.143 – 0.287
Type of media ownership	-0.315	-3.40**	-0.499 - 0.131	-0.315	-3.40***	-0.499 - 0.131	0.206	1.10	-0.166 – 0.578
R-squared	**(r^2 = 0.359)**			**(r^2= 0.315)**			**(r^2= 0.431)**		

Note: *Significant at p<0.05, **Significant at p<0.01, ***Significant at p<0.001, Not significant at p>0.05

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