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ASSESSMENT OF DIGITAL SWITCHOVER COMPLIANCE IN SELECT TELEVISION STATIONS IN DELTA STATE, NIGERIA

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Abstract

The study examined the extent of compliance of digital switchover in Nigerian Television Authority, Asaba and Quest Television, Ughelli. It also examined the influence of managerial bureaucracy on effective digital switchover. The study was anchored on the technology-determinism theory. The population consists of combined population of 132 staff of Quest Television Ughelli and Nigerian Television Authority. The study used census method to determine the sample size and all staff were studied. Major findings revealed that both stations are currently on partial digital switchover and managerial bureaucracy affects the implementation of digital switchover in both stations. Based on the findings of the study, it is recommended that the National Broadcasting Commission (NBC) should review the current position on full digital switchover and proffer a new workable timeline for its enforcement. Also, as alternative, stations should utilise the accessibility of social media platforms to engage in streaming and podcasting of news.

Key words: Compliance, Digital switchover, Digitisation, Managerial Bureaucracy

1. Introduction

Digitisation marks a point of convergence between analog (also analogue) and digital spectrum. Digital media are those that have been created in or transformed into machine language or computer-readable forms. The process in which media is made into computer-readable form is called digitalization (Pavlik and McIntosh, 2011). Today, the world has recorded tremendous advancement in communication technology thereby revolutionizing radio and television transmissions. Ezeh and Mboso (2019) rightly observe that we now live in a digitally saturated environment and digitisation offers unparalleled access to information. Digitisation has affected broadcast media through the use of better technology and efficient signal transmissions (Kenechukwu, 2014).

Digital switchover in broadcasting refers to digital migration from analog to digital transmission in line with the treaty signed at an international conference organised by the International Telecommunications Union (ITU-R, 2011). The value of digital terrestrial broadcasting to the broadcasting industry should not be underestimated. It enables the use of better transmission standards and the delivery of a greater range of

services, which consumers are likely to value and which will generate medium to long term benefit for the broadcasting industry (Plum, 2014).

On the other hand, Compliance refers to the state of conforming with or agreeing to do something. Contextually, digital compliance refers to conformity of television stations with NBC policy on digital migration. It measures the degree at which, most broadcast media have complied with the policy of digital migration. Compliance index of digital switchover in Nigeria is an ongoing study. This is because, the country is a developing economy with many challenges. Past studies on compliance index of digital switchover has continued to generate serious concerns. Mediator (2014) states that Nigeria currently has 155 analogue stations mostly operating on a regional state basis with weak analog TV channels and the pay DTT platforms offer a few new digital -only Nigerian channels primarily in entertainment.

Historically, digital switchover marks a paradigm shift from analog transmission to digital transmission. Contextually, it is not just about an improvement on media equipment, it covers all aspects of broadcast transmission especially signal transmission. Robust media equipment may not transmit beyond the immediate signal coverage of a radio or television stations but digital migration widens the transmission coverage a radio or television station.

The treaty on digital switchover was signed on June 16, 2006 when the representatives of 104 countries adopted and signed in Geneva, Switzerland at an international conference organised by the International Telecommunications Union (ITU-R, 2011). In Nigeria, the government of Goodluck Jonathan (former President) announced the readiness of his government to actualise digital switchover of television stations on or before June 17, 2012. The Presidential Advisory Committee on Digital Broadcasting (PAC) was inaugurated with the responsibility of (a) adopting a new broadcast model based on two classes of digital broadcast licenses namely content licence and signal distribution licence, (b) establishment of public broadcasting, and (c) implementation of certain digital standards, namely DVB-T and MPEG-4 (terrestrial digital television), DVB-S (satellite), DVB-H (mobile TV) and IBOC system for FM Digital (Odufwa, 2011).

The roles of National Broadcasting Commission in the digital switchover include: (a) directing and managing all aspects of DSO delivery, (b) defining the timeline and regional roll out plan, (c) issuing clear roles and responsibilities to all parties, (d) setting out the key financial framework and areas where each party generates revenue, (e) arranging funding package for ASO under the director of Honourable Minister, (f) providing STB subsidies and confirming required quantities and timing, (g) regulating and licensing all broadcasters, signal distribution and STB manufacturers and (h) monitoring of all TV and radio stations (National Broadcasting Commission, 2012).

Digital switchover has numerous advantages; for instance, a digitised cable station transmits better than a television variation on Very High Frequency (VHF) or Ultra High Frequency (UHF). Baran (2008) identifies the reduction of size of bits of information without tampering with its resolution and accuracy. For instance, the digitisation of video signals reduces the size thus, making it possible for more information to be carried over telephone wires and stored. The pictures are clearer with better sound quality. It also enhances the “rectangle-ness” of the screen (16:9 aspect ratios) unlike the traditional TV which is square (4:3 aspect

ratios). Digital switchover delivers an attractive, low cost multi-channel service offering to a wide audience. In many countries it is or will be the primary means of distributing broadcast video content and it can be

developed as part of a multi-platform digital broadcasting strategy (Plum, 2014). For the purpose of this study on assessment of digital switchover, the study examined the extent of digital switchover in Nigeria Television Authority (NTA) Channel 11Asaba and Quest Television Ughelli. The choice of federal and private broadcast stations was to determine whether competition and other intervening variables affect the extent of migration of these stations.

1.1 Statement of the Problem

Digital switchover involves considerable costs especially for broadcasters and some regulations mechanisms that must be put in place for efficient digital migration. Considerate modern technology is involved and lack of access to such media equipment militates against effective digital switchover. There is also a case of inability of Nigerian broadcast stations to meet the deadline of global as well national timeframe for digital switchover. Remarkably, the pace of digital switchover by federal, state and private broadcast stations has remained slow in acquisition of modern communication technology and migration from analog to digital mode. The slow pace of migration is often, attributed to organisational structure vis-à-vis its communication channel as in ancillary stations of Nigeria Television Authority (NTA) that depends on directives of the Headquarters. The result is that all NTA ancillary stations in each State of the Federation continue to lag back in the migration index. The same scenario is seen in management of both state and private broadcast media in Nigeria.

Governments frequently play key roles in setting such objectives and steering the switchover process and usually set the timeframe for completion of digital switchover. A poorly articulated migration regulation affects the takeoff and eventual implementation of digital switchover. The implementation of digital switchover plans is important in the takeoff of the programme. Nigeria failed in its attempt for a full takeoff of digital migration on June 17, 2012 and June 17, 2015 which was the date set as deadline for member nations to switch over to digital mode. However, repeated governments have failed to attain full digital migration of broadcast media in Nigeria.

Summarily, issues such as non-authorisation by NTA national management to approve full digital switch over, Set-Top Box (STB) manufacturing, poor awareness, lack of funds and lack of technical know-how are principal challenges affecting the full implication of the digital compliance in many television stations in Nigeria. The study therefore, attempts to assess the extent of digital switchover using federal and private television broadcast stations.

2. Objectives of the Study

The objectives of the study are as follow:

- a. To find out the nature of digital compliance of digital switchover of NTA, Asaba and Quest Television, Ughelli.
- b. To ascertain the extent of digital switchover compliance of Nigerian Television Authority Asaba and Quest Television Ughelli.

- c. To ascertain the efficiency of transmission based on current pace of digital switchover compliance index.
- d. To find out whether managerial bureaucracy affects digital switchover of select television stations.

2.1 Research Questions

The following research questions guided the study:

- a. What is the nature of digital compliance of digital switchover of NTA, Asaba and Quest Television, Ughelli?
- b. What is the extent of digital switchover compliance of Nigerian Television Authority Asaba and Quest Television Ughelli?
- c. What is the efficiency of transmission based on current pace of digital switchover compliance index?
- d. To what extent does managerial bureaucracy affect digital switchover of select television stations?

2.2 Scope of the Study

The study critically assesses the compliance index of digital switchover in select television stations in Delta State. Remarkably, television (not radio broadcast) broadcast media was chosen due to its sophistication of communication technology and audiovisual quality. Secondly, the choice of a federal television station (NTA) and a private television station (Quest Television) critically examines whether managerial bureaucracy affects efficient digital switchover of both stations.

2.3 Significance of the Study

The study will be significant in many ways. First, the study will examine the compliance index of select television stations in Delta State with the intent of replicating the findings in other television stations across Nigeria.

The findings of the study will address issues of managerial decisions on compliance index of digital switchover in Nigeria. It will show the extent that managerial decisions affect full implementation of digital switchover in Nigerian broadcast industry. It will also help media managers and technicians to understand digital switchover technology. Finally, the findings of the study will serve as reference materials for future research in related fields.

3 Review of Related Literature

The techniques and instruments in data collection include both primary and secondary methods. The primary data was collected using a structured interview conducted on the students of Al-Qalam University Katsina who participated in the online learning to ascertain the impact and challenges they experienced during the process. On the other hand, the secondary data was collected through review of related literature from various scholars who conducted studies on the use and challenges of online learning platforms to sustain teaching and learning during the COVID-19 pandemic lockdown in different countries.

3.1 Interview Questions

The study used secondary source of data collection for the review of related literature. Relevant textbooks, journals and credible online websites were critically reviewed vis-à-vis compliance of digital switchover in television broadcast stations.

Understanding Digital Switchover

Technology revolution has affected the ways we think and execute tasks. By extension, a switch from analog to digital mode has resulted in expanded discourses in information superhighway. Today, broadcast media have gone beyond the Console manipulation in a studio to microwave transmission. This paradigm shift from analog to digital is called digitisation. McQuail (2005) agrees that digitisation serves as a basis for convergence of media and best known in reference to the replacement of analog by digital transmission of television signals leading to a large increase in potential channel capacity and scope for interactivity.

Basically, digital switchover refers to change from analog transmission to digital transmission. The concept of digital switchover is hinged on the global migration from analog to digital transmission. Plum (2014) states that the consumer benefits arising from digital switchover are widely recognised, happen relatively quickly and are primarily driven by increases in programming and quality. There are also broader benefits to society of introducing digital TV including the potential to use digital broadcasting to narrow the digital divide, reach unserved areas, and to provide e-government and other digital services. The implication is that digitisation supports both hardware and software approaches to information management. A digitised television studio has an array of assorted modern equipment that interact with in-built applications that indicate the pattern of instruction that such media equipment (Mathew, Ogedebe and Nda-Abaya, 2013).

Plum (2014) designed a table that shows phases for transition digital broadcasting switchover viz:

PHASE	KEY ACTIVITIES	STAKEHOLDERS INVOLVED
PHASE 0: Pre-switchover planning	Decisions on overall policy and digital strategy for television broadcasting. Establishing the licensing and regulatory framework. Policy and process for allocation of subsidy. Frequency planning. Planning and implementation of transmission and receiver standards.	Government, regulators
Network planning, build and test Manufacturing of receivers		Industry
PHASE I: Switch-on	Network deployment and introduction of DTT services	Network operators, broadcasters
Marketing and communications campaign Provision of subsidies and consumer support services		Government, industry
Adoption of DTT services		Consumers
PHASE II: Switchover	Marketing and communications campaign	Government, industry

	Provision of subsidies and consumer support services	
Adoption of DTT services	Consumers	
Complete network deployment and achieve coverage objectives Network monitoring	Network operators, broadcasters, regulators	
Phase III: Analogue switch-off	Switch-off analogue TV	Broadcasters
Restacking of frequencies to free up digital dividend	Government, industry	
Retuning of TVs or STBs	Consumers	

Source: Plum (2014).

Prospects of Digital Switchover in Nigeria

Ihechua and Uwaoma (2012) classified the advantages of digital switchover into national interests, viewers' interests, broadcast interests, content providers' interests and regulator's interests. The underlying advantages are that (a) Nigeria benefits from digital switchover. Although, the country is still battling with full migration, there are significant improvements on broadcast transmission across the country; (b) a digitised broadcast medium increases the resolution and range of broadcast messages. Digital broadcasting will afford the viewers "more programming choice arising from efficient spectrum utilization; (c) broadcast interests cover a wide range of broadcast activities that digital switchover supports; for instance, it is cost-effective as a station can carry up to four channel on the same frequency. It makes digital programme to be flexible and faster than analog transmission; (d) it protects content providers' interests by increasing demand for all genres of programmes to fill the additional programming demands in the increased available channels. As the existing broadcast stations start increasing the number of channels resulting from the digitisation process, the demand for programme will increase. Consequently, the content providers will be well engaged in the bid to satisfy the numerous stations that will be yearning for programmes. This will create competition which will result to quality content provision. At the end, the content providers will maximise profit and (e) it will protect regulator's interest by increasing revenue that will be accruing to additional licences by National Broadcasting Commission (NBC).

Other prospects of digital switchover include:

- a. It offers fresh opportunities for change of broadcast technology and equipment away from the analogue equipment that is getting obsolete and difficult to maintain. As the demand for analogue services and products decreases, manufacturers will no longer produce professional and consumer analogue equipment.
- b. It will provide choice of channels to consumers-through a-la-carte selection, provide high quality service, controlled pricing of pay channels and thus lowered billing to consumers. Consumers will only pay for what they wish to watch. Consumers will get internet video-on-demand and value added services through set-top-boxes.
- c. It offers fresh opportunities for change of broadcast technology and equipment away from the analogue equipment that is getting obsolete and difficult to maintain.
- a. It offers better programme presentations through enhanced visual quality and sound signals.

Challenges of Digital Switchover in Nigeria

Agbo and Chukwuma (2017) identify the following challenges of digital switchover in Nigeria: (a) the challenge of unawareness which hinges on the fact that many Nigerian (including media practitioners) are not aware of digital switchover. This position is supported by the findings of Njoku (2015) that the ignorance level of both the media personnel and audience members alike regarding the migration to digital

broadcasting is at a high level thereby affecting the overall effort of migration. Furthermore, indepth interviews conducted with some broadcasters and audience in Northern Nigeria revealed that many of the respondents have never heard of the switchover to digital broadcasting; (b) unavailability/inadequacy of digital equipment is another impediment to successful digital switchover in Nigeria. The findings of Okafor (2014) found that most television stations in South-East, South-South and North-Central Nigeria do not use adequate digital broadcast equipment in transmission; (c) scarcity of qualified manpower to operate digital media equipment. Many technical staff of the television stations do not possess the requisite technical knowledge to operate crucial digital equipment. Some of them are not well trained to man the equipment for maximal performance and; (d) issue of inadequate power supply that disrupts broadcast transmission.

Other challenges of digital switchover include:

- a. Digital migration causes undue pressure on traditional content providers by changing the rules of competition and innovative ability which the analog method lacks.
- b. It widens the media dependence of developing nations as they depend on western technology to drive their communication needs. The effect is that the indigenous culture is completely or partially affected.
- c. Digital migrating involves considerable costs especially for broadcasters. Therefore, lack of fund poses serious setback towards digital migration.

Examining Nature of Digital Compliance of Digital Switchover in Nigeria

Digital switchover is a migration from analog to digital transmission as a result of two sides to communication technology. First, there is a hardware nature and software nature. Both natures are symbiotically interrelated for efficient digital migration. For a digital transmission to be effective, media equipment should be modern and operate in digital mode. Obsolete equipment limit the range of messages and signals (Agbo and Chukwuma, 2017). It therefore, becomes imperative that stations that intend to migrate to digital dissemination should consider the replacement of obsolete media equipment. The rise of computer technology has had enormous impact in the production process in broadcast media industry. Computer and computing technology has revolutionised how things are done in modern society. Today, modern communication technology exists such as digital camera, digital sound recording, digital computers and digital television, digital console and mixers etc.

On the other hand, software nature of digital switchover looks at programming and signal transmission in a station. Unlike the hardware approach that is perceivable; the effects of software approach are measureable through signal strength and audience ratings (Kenechukwu, 2014). Broadcast modern information equipment often need the installation of certain Application software to work efficiently. The implication is that a camera operator of a digital motion-picture camera will surely need to understand the specific functions that some digital buttons perform. Measured from the perceptive of signal transmission,

Plum (2014) states that digital switchover allows introduction of High Definition (HD) and full-High Digital services. In future, if there is adequate bandwidth available it may also support the introduction of ultra-HD services.

Digital Switchover Compliance Index in Select Television Stations

In Nigeria, the National Broadcasting Commission in collaboration with Presidential Advisory Committee on Digital Broadcasting (PAC) regulates the implementation of full or partial digital switchover in broadcast industry. However, the extent of implementation of digital switchover remains a stagnating one. First in

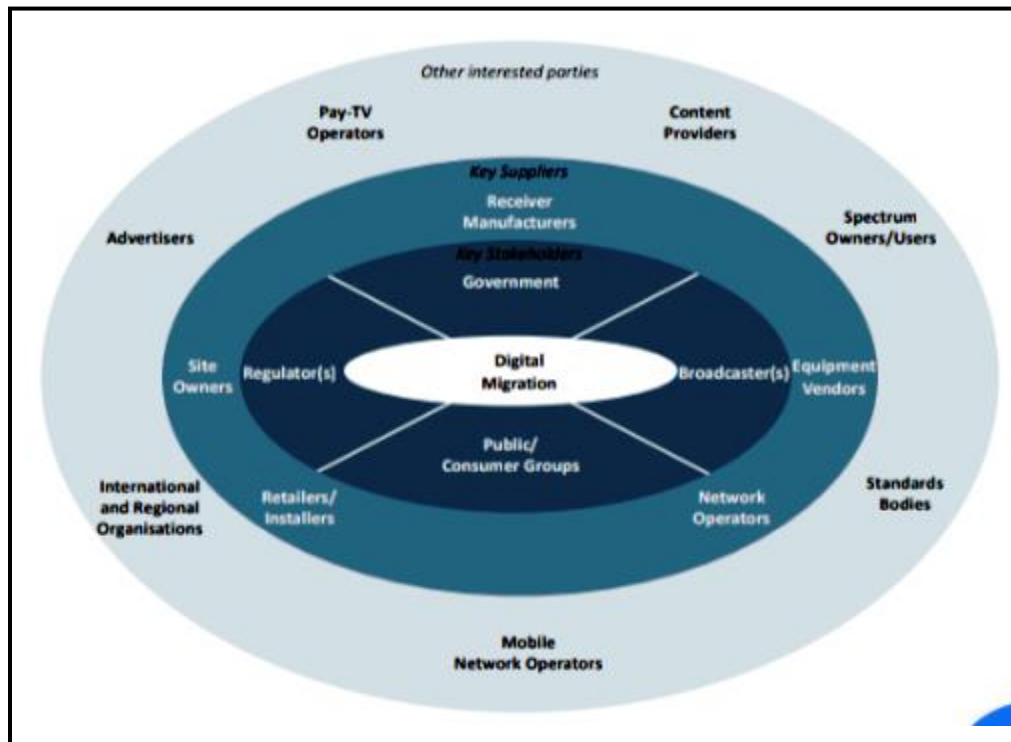
the league of digital migrating station is the Nigerian Television Authority (NTA) with its ancillary stations in every State of the Federation. However, there are no well documented records of extent of acquisition of media equipment. This is because, each State government funds its television station and private proprietors help to shape managerial decisions including whether a station. Regrettably, in a study on the state of digital migrations, Mediator (2014) states that Nigeria currently has 155 analogue stations mostly operating on a regional state basis with weak analog TV channels and the pay DTT platforms offer a few new digital -only Nigerian channels primarily in entertainment.

There is a gradual migration trends among some broadcast industries. Odufwa (2011) observes that most stations in Nigeria are gradually acquiring digital equipment for news collection and dissemination. Likewise, some State and private broadcast (television) stations are gradually switching over from analog to digital transmission. Significant number of federal, state and private broadcast (television) stations such as Nigerian Television Authority (NTA) and Quest Television Ughelli stream news online with the aid of social media platforms such as Facebook, Instagram, Twitter, YouTube etc.

Effects of Managerial Bureaucracy on Digital Switchover in Nigeria

One often neglected challenge of digital switchover is the case of managerial bureaucracy. It involves all forms of delays due to policy summersault, corruption, media ownership and poor channel of communication. In the case of Nigerian Television Authority (NTA), the channel of communication is centralised in which the Headquarters makes decision for all ancillary stations across the Federation. Funding and provision of media equipment usually come from NTA Headquarters. In the case of Quest Television, the communication channel is also centralised in the ownership structure. Both funding and provision of media equipment are centred on the decision of the owner.

Plum (2014) suggests a collaborative involvement of all stakeholders for effective digital switchover. It involves many stakeholders. These include government, policy makers, regulators, broadcasters and consumers. It also impinges on many other industry players, such as content providers, service providers, network operators, receiver manufacturers and equipment vendors.



Source: Plum (2014)

Figure 1: Collaborative Stakeholders in Digital Switchover.

4. Review of Empirical Studies

Some empirical studies have been carried out on digital migration of television. Major studies, however, show a dearth of substantial discussions within Nigerian context.

In a study on Digital Terrestrial Transmission Failure in Nigeria: Implications for Sustainable Development, Omale, Ekhaerafo and Essien (2016) sought to ascertain the implications of the failure on sustainable development. The study was anchored on the mediamorphosis theory and the technology determinism theory. The study used a mixed research design to generate data from 400 respondents, using questionnaire and focus group discussion guide as instruments. The analysis of the data generated show that the digital transition failed as a result of poor funding, politics and absence of relevant infrastructure. The result further showed that Nigeria may lose ITU's protection against signal interference and may be sanctioned by the ITU; loss of revenue from sale of freed spectrum and Nigeria may become a dump site of obsolete analogue broadcast equipment. The capacity of content creators and future broadcasters will become hampered. The study recommends the need for government to fund the project while encouraging total compliance. The Federal government directives that all set top boxes be manufactured in Nigeria to create job opportunities for Nigerian youths and empower local operators.

A study on A Survey of Digital Television Broadcast Transmission Techniques by El-Hajjar and Hanzo (2013) examined a survey of the transmission techniques used in digital television (TV) standards worldwide. The study made a survey of the transmission technology used in different digital terrestrial, satellite, cable and mobile TV standards in different parts of the world. It found that Video Broadcasting standards developed

in Europe for terrestrial (DVB-T2), for satellite (DVB-S/S2), for cable (DVB-C) and for hand-held transmission (DVB-H). It also found that the Advanced Television System Committee standards developed in the USA both for terrestrial (ATSC) and for hand-held transmission (ATSC-M/H) while the Integrated Services Digital Broadcasting standards developed in Japan for Terrestrial (ISDB-T) and Satellite (ISDB-S) transmission and then present the International System for Digital Television (ISDTV), which was developed in Brazil by adopting the ISDB-T physical layer architecture. The study identified the Digital Terrestrial television Multimedia Broadcast (DTMB) standard to have been developed in China. Finally, as a design example, we highlight the physical layer implementation of the DVB-T2 standard. The study recommended a holistic nationwide approach to digital migration of terrestrial broadcasting.

The relevance of empirical studies is the consensus by reviewed literature that Nigerian broadcast stations are still undergoing different stages of digital switchover. When fully implemented, digital switchover will enable the use of better transmission standards and the delivery of a greater range of services, which consumers are likely to value and which will generate medium to long term benefit for the broadcasting industry. However, the literature identified a gap which this study hopes to fill. The primary gap is the sociocultural effects of absolute dependence on foreign media equipment and programming. Little is considered about the possibility of media imperialism which absolute dependence on media equipment and programming may produce.

5. Theoretical Framework

The study was anchored on technology-determinism theory which holds the assumption that technology is a determining factor in communication. An appropriate technology will surely affect the effectiveness of a message. The technology-determinism theory is credited to Thorstein Veblen (1857-1929). In an effective communication, the place of the medium of communication is very important. If the medium is inappropriate, the message is likely to be received and interpreted wrongly. If the medium is appropriate, the message delivery and reception will be effective. Technology-Determinism theorists argue that computer-based information technologies have deep effects precisely because of their malleability (Adler, 2006). Applying technology-determinism theory to the study, it shows DSO (Digital Switch Over), it requires the combination of hardware and software technology. The use of digital media equipment improves the fidelity of messages and adequate message delivery.

6. Methodology

The study adopted survey design which examined opinions of respondents on compliance index of digital switchover in Nigerian Television Authority (NTA), Asaba and Quest Television, Ughelli in Delta State, Nigeria. The population consists of combined population of 132 staff of Quest Television Ughelli (32 staff) and Nigerian Television Authority (100 staff). As broadcast stations, the above population covers both permanent staff and freelance reporters for these stations. The study used Census Method which allows the use of entire population as the sample when the population is relatively small. Based on the census method, the entire 132 staff of both stations was studied. Questionnaire was the instrument for data collection. The collated data were analysed in tables using percentage method.

7. Data Presentation and Analysis

Data were presented and analysed in tables and percentage method. 132 respondents formed the unit of analysis viz:

Table 1: Nature of digital compliance of digital switchover of NTA, Asaba and Quest Television, Ughelli

Options	Nigerian Television Authority		Quest Television Ughelli	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Full Switchover	13	13.0%	6	18.6%
Partial Switchover	85	85.0%	23	71.9%
No idea	2	2.0%	3	9.5%
Total	100	100%	32	100%

Table 1 shows significant knowledge of digital switchover by the staff of both television stations. It also shows that both stations are on partial digital switchover. Contextually, a partial switchover indicates an ongoing digitisation exercise of hardware, software and signal distributions. The implication is that both stations lack in one form of digitisation or another.

Table 2: Aspects of digital switchover in select television stations

Options	Nigerian Television Authority		Quest Television Ughelli	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Improvement on media equipment	68	68.0%	20	62.5%
Improvement on signal of transmission	20	20.0%	8	25.0%
Improvement on both equipment and signal	12	12.0%	4	12.5%
Total	100	100%	32	100%

Table 2 shows each station's aspects of digital switchover. Results show that both stations have significant digitised media equipment with improved programming. The implication is that both stations concentrated on acquisition of improved media equipment than improving on signal transmission.

Table 3: Extent of digital switchover compliance of Nigerian Television Authority Asaba and Quest Television Ughelli.

Options	Nigerian Television Authority		Quest Television, Ughelli	
	Frequency	Percentage (%)	Frequency	Percentage (%)
High extent	12	12.0%	8	25.0%
Minimal extent	56	56.0%	20	62.5%
Low extent	32	32.0%	4	12.5%
Total	100	100%	32	100%

Table 3 shows that majority of respondents rated digital compliance of both station as ‘minimal extent’. This is because; both stations are presently on partial digital and needs to migrate to full digitisation. In line with the finding in Table 2, there is significant improvement on media equipment than on signal transmission.

Table 4: Efficiency of transmission based at current pace of digital switchover compliance index

	Nigerian Television Authority		Quest Television Ughelli	
	Frequency	Percentage (%)	Frequency	Percentage (%)
High efficiency	16	16.0%	8	82.4%
Minimal efficiency	72	72.0%	18	11.8%
Low efficiency	12	12.0%	4	5.9%
Total	100	100%	32	100%

On the extent of efficiency of transmission at current pace of digital switchover, the respondents indicated ‘minimal efficiency.’ The implication supports the position of Odufwa (2011) that most stations in Nigeria are gradually switching over from analog to digital transmission which has minimal efficiency.

Table 5: Effects of managerial bureaucracy on digital switchover of select television stations

	Nigerian Television Authority		Quest Television Ughelli	
	Frequency	Percentage (%)	Frequency	Percentage (%)
High Progressive effects	22	22.0%	6	18.8%
Minimal Progressive Effect	52	52.0%	22	68.8%
Retrogressive effects	26	26.0%	4	12.5%
Total	100	100%	32	100%

Table 5 shows that managerial bureaucracy affects effective digital switchover in both NTA, Asaba and Quest Television Ughelli. The degree of effect differs as nature of centralised structure of hierarchy affects Nigerian Television Authority, Asaba and ownership pattern affects Quest Television Ughelli. In the case of NTA and digital switchover, the finding supports the position of Odufwa (2011) that centralised pattern of NTA affects compliance of digital switchover at the ancillary stations in various states of the federation. Decisions and technical instructions are approved at NTA Headquarters before such decisions are carried out by each State’s station. In the case of Quest Television, Ughelli, ownership affects digital switchover in the cases of funding and decision making.

8. Discussion of Findings

From the analysis of the research question, the following findings were made:

There are significant efforts at compliance of digital switchover by NTA, Asaba and Quest Television Ughelli. Major aspect of compliance is hardware improvement than signal improvement. The study found that digital media equipment are currently used in both stations. Also, the finding showed a partial switchover in the area of software (signal) transmission especially in the case of NTA in Asaba station often hooks to Abuja Headquarters for programming. By this method, there is sharing of technology and media convergence. Quest Television Ughelli also transmits on minimal switchover as management of the station has installed some digital transmitting equipment to serve the station.

The emphasis on technology in driving both hardware and software approaches further validated the technology-determinism theory used in the study. This is because, it addressed the role of technology and innovation in digitisation of broadcast industry. Digital migration is hardware-based (technology) and software-based (a product of innovation).

On the extent of compliance, the study found that both stations are at minimal extent. The implication is that both stations are still undergoing gradual digital migration. Also, the study found that the efficiency of transmission based on current partial digital switchover is also minimal with attendant shortfalls in information collection, processing and dissemination. It further contends that at the current pace, these two stations under study, aren't producing media programming and transmission optimally.

On the effects of managerial bureaucracy on digital switchover of select television, the study found significant influences of managerial bureaucracy on effect digital switchover. This is evident in the way NTA runs a centralised system in which most decisions are taken at Abuja Headquarters. The implication is that ancillary State NTA stations aren't fully independent especially in the area of digital switchover. In the case of Quest Television Ughelli, the study found that ownership structure affect full implementation of digital switchover. Major issues of bureaucracy in Quest Television include funding and decision making.

9. Conclusion/Recommendations

The study is timely and significant because, it examines the gains the digital switchover in Nigeria in line with global best practice. Based on the findings of the study, the following recommendations are proffered:

- a. The National Broadcasting Commission (NBC) should enforce full digital switchover of all broadcast stations in Nigeria. This is possible if the Commission reviews the current position of the Commission on full digital switchover and proffers a new workable timeline for its enforcement. There shall be some sanctions on erring stations as the Commission seems adequate.
- b. Digital switchover is a capital-intensive project especially to private broadcast stations. it is imperative that government should support broadcast stations with funding and share technology where applicable.
- c. The management of Nigerian Television Authority needs to review its centralised structure of command. It weakens ancillary stations and leaves these stations are mere media outpost of Abuja headquarters. There should some relaxed rules which will create favourable competitions among these ancillary stations in all States of the Federation. In the case of Quest Television, Ughelli, the management should source funds for effective full digital switchover. Interestingly, sole proprietorship encourages faster decision making. It is important that the management of Quest Television, Ughelli should apply good managerial quality in ensuring that the station migrates to full digital switchover.
- d. As alternative to slow migration in term of signal transmission, it is important that stations should utilise the accessibility of social media platform to engage in streaming and podcasting of news.

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