GHANA INSTITUTE OF JOURNALISM

SCHOOL OF GRADUATE STUDIES AND RESEARCH

PUBLIC PERCEPTION OF THE DIGITAL TERRESTRIAL TELEVISION MIGRATION IN GHANA.

BY NATHANIEL ANNERTEY NARTEY

MADC19081

AUGUST, 2020

SUPERVISOR: DR. KOFI AMPONSAH BEDIAKO

ACKNOWLEADGEMENT

My sincere gratitude goes to God for the gift of life, health and the spirit of discipline and persistence to pursue and complete this course in the midst of all the COVID-19 challenges that affected the academic calendar as well as the psychological wellbeing of students around the globe.

Special thanks to my supervisor, Dr. Kofi Amponsah Bediako for his patience, guidance, invaluable support and rich contribution in the development of this study.

To the School of Graduate Studies- Ghana Institute of Journalism, my colleagues and friends, most especially the MA-Development Communication class of 2020, who stood by me through the tough times and gave me the moral support that I needed.

DEDICATION

For the tremendous support, belief and encouragements given throughout the academic year; I would like to show my sincerest gratitude my family especially my parents. Mr and Mrs Nartey for the hope and persistence. I am forever indebted. Thank you.

DECLARATION

I, the undersigned solemnly declare that the study titled **PUBLIC PERCEPTION OF THE DIGITAL TERRESTRIAL TELEVISION MIGRATION IN GHANA,** is based on my own work carried out during the course of study under the supervision of **Dr. Kofi Amponsah Bediako**. I further certify that whenever I have used materials from other sources, we have given due credit to them in the text of the report and giving their details in the references.

NAME OF STUDENT……. …..

SIGNATURE……. DATE…….

This study has been submitted for examination with my approval as the

University Supervisor

NAME OF SUPERVISOR……...

Senior Lecturer,

School of Graduate Studies and Research,

Ghana Institute of Journalism.

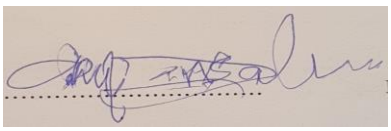
SIGNATURE  DATE…24/08/20

TABLE OF CONTENT

ABSTRACT

The study explored public perception of Digital Terrestrial Television Migration in urban communities in Ghana with a focus on East Legon. The main objective was to find out the level of understanding and appreciation of the respondents as far as television migration is concerned. Primary source of data for the study was collected through interviews, using a semi-structured questionnaire which was administered to respondents.

The main finding of the study was that the level of understanding and appreciation of digital migration was above average. Another finding was that Ghana and the rest of West Africa were lagging behind East Africa in digital migration. Kenya, Uganda and Tanzania are among East African countries who have either successfully switched off analogue transmission or are at advanced stages of doing so.

This may be attributed to that fact that East African countries set a 2012 deadline for themselves despite the global deadline set for 2015 by the International Telecommunication Union in Geneva. Such a move by the East African countries obviously helped quicken the pace with which they intend to migrate to full digital transmission and encourage other countries to follow suite.

The study recommended that policy makers in Ghana ought to strategise and expedite action on digital migration so that its full benefits would accrue to the country as a whole.

CHAPTER ONE

1.0 INTRODUCTION

Available literature points to the fact that the road to digital migration began in early 2000. This was a period when some member states of the International Telecommunications Union (ITU) Regions 1 & 3 (Europe, Africa, Middle East and others) expressed interest in the introduction of digital broadcasting in Very High Frequency (VHF) and Ultra High Frequency (UHF) broadcasting bands that were at that time used for analogue television broadcasting.

The purpose of this was to enhance efficient utilization of the already scarce frequency resource in order to accommodate more advanced forms of broadcasting (CCK Information Paper, 2013). This chapter however introduces the phenomenon (digital migration) and explores how feasible it would be as an academic study. It offers an insight into the area of digital migration in television broadcast and its accompanied public perception as well as other relevant issues.

1.1 BACKGROUND

The run up to digital broadcasting in Ghana has followed a long tradition of analogue broadcasting that started in 1935 with a BBC relay station established in Accra by the British colonial rulers. Broadcasting has grown from a monopoly industry to a highly competitive sector following the establishment of the converged electronic communications regulatory body in 1996.The much talked about need to migrate from analogue form of broadcasting to digital broadcasting has been talked about for some time now.

The migration has become necessary due to the fast nature of technological innovations and inventions in the broadcasting industry and the world at large. The International Telecommunication Union (ITU), a global telecommunication union with responsibility of developing policy and standards that guides the improvement of telecommunications infrastructure held a conference in Geneva (2006) and signed a treaty which recommended that member states migrate from analogue to Digital television broadcasting. Ghana, also a member of the ITU signed onto the treaty to phase out analogue television broadcasting from 17th June, 2006 to 17th June, 2015.

Currently, two types of television broadcast services, Pay TV and Free-To-Air, exist in Ghana. It is estimated that 99% of the Ghanaian population exclusively rely on the FTA broadcasters to access public information and also make their views heard.

Ghana is already behind time regarding the deadline for the analogue switch off and may likely not be able to completely finish the migration process by the end 2019. Experts in the industry are of the view that the slow pace of the digital migration in Africa can be seen as a dark cloud hanging over the African TV market. Currently, the geographic extent of TV signal in Ghana is 80% coverage of the land area and 70% of the population is covered and the uncovered areas are due to gaps caused by an unseen distribution of the analogue transmitters. The digital rollout of future plans to extend the coverage and also close gaps in the existing analogue system.

The migration from analogue to digital television broadcasting would have an impact on almost every citizen of this country considering the pervasiveness of television access and the reliance of the populace on TV for information dissemination, education and entertainment. The profound impact of the migration process makes it a national priority and therefore must be of serious

concern to the Government of Ghana, who is currently providing overall leadership in the process. The National Digital Broadcasting Migration Technical Committee set up by the government of Ghana in 2010 came up with a number of objectives which include the following.

1. Citizens and households would be protected from losing their rights to watch free-on-air television. In this vein: Existing analogue terrestrial free-on-air TV transmissions must continue for a reasonable period of time after digital transmissions have been introduced to enable citizens prepare adequately for the analogue switch-off.
2. Citizens should be well informed of the migration process and about all the options available to make them ready for analogue switch-off.
3. Equipment for converting digital signals for viewing on existing analogue television sets should be broadly available and affordable.
4. Spectrum should be used efficiently as a scarce national resource.ϖThe fledgling democracy of Ghana should be deepened by the increasing availability of information and interactivity through the opportunities offered by digital broadcasting.
5. Fairness, equitable access and an enabling environment for growth and profitability should be promoted in the broadcasting industry.
6. Spectrum should be used efficiently as a scarce national resource.
7. The fledgling democracy of Ghana should be deepened by the increasing availability of information and interactivity through the opportunities offered by digital broadcasting.
8. Fairness, equitable access and an enabling environment for growth and profitability should be promoted in the broadcasting industry.

For the fact that Ghana has missed a number of deadlines to implement the migration process since signing the International Telecommunication Union treaty in 2006 which indicated that all member states should have fully migrated to digital broadcasting, means the objectives set Ghana in achieving this goal may be problematic and obsolete. The roll out of Digital Terrestrial Television platform for migration plan was expected to be implemented in three (3) phases as follows:

- Phase 1: Greater Accra and Ashanti Regions by July 2016
- Phase 2: Volta, Northern, Upper East and Upper West Regions by October 2016
- Phase 3: Western, Central, Eastern and Brong Ahafo Regions by March 2017.

The United State of America completed their digital migration in 2009 and most countries in Europe completed by 2012 while a few Africa countries including Kenya, Rwanda and Tanzania have also migrated. South Africa came close, with its broadcasters moving to a "dual illumination" mode, which transmits both digital and analogue signals. But much of Africa still has far to go to achieve the objective.

However, its implementation in Ghana has hit several snags due to several reasons. The government failed to successfully implement the Digital Migration after it failed to meet the September 2017 deadline. Subsequently, a new deadline was set by the Communications Minister Ursula Owusu for 2018, which was also missed.

1.2 JUSTIFICATION FOR STUDY

There is a global push towards digital transmission of TV signals for reasons of efficient

spectrum usage, lower transmission cost and better service offerings for users. But throughout the world, this "migration" from traditional analogue transmission of TV to newer digital transmission system is proving to be a highly complex proposition. Television transmission has clearly entered the digital era, entailing both new opportunities as well as pitfalls. The exponentially increased competition and range of services, applications and channels reflect the diversity of opportunities (d'Haenens, 2001). At the same time, in this newly digitized and competitive television arena there are 'downsides' or pitfalls at several levels. The public needs to be aware of the changes and benefits of these changes.

They also need to be motivated to change; Individual users need the competence and confidence to operate the technology; and Individual users need to feel confident that they are supported at all stages through the switch over. There appears to be a lot of knowledge about digital television transmission and the whole migration process among a number of East African countries. Little research exists about the perception of West African Countries on the matter. It is no accident that East African countries such as Kenya, Uganda, Rwanda and Tanzania are blazing the trail in digital migration on the continent. It is against this backdrop that this study seeks to gather public perception about Digital Television Terrestrial Migration in Ghana.

A study by Brian, (2014) on the Consumer Attitude Towards Analogue to Digital Broadcasting Technologies in Nairobi, Kenya found that respondents were aware of migration from analogue to digital television technology. The study also demonstrated that respondents had a higher favorability towards attributes that digital technology has over analogue technology however most respondents indicated that they were being held back by constraints such as affordability and

implementation. The researcher recommended that similar studies should be carried out in other counties and consumers need to be provided with more information about digital technology.

Another study by Douglas, 2017 on the same topic in Uganda also revealed a similar pattern in term of awareness of Digital Migration. Also, (90%) of the respondents from Nsangi Parish in Wakiso District in Uganda are aware about the presence of digital television. Furthermore, the most (92%) of the respondents also are aware about analogue TV.

Last but least, majority of them have set top boxes (68%). Majority of the respondents from Nsangi parish feel good watching digital television (51 %). On the other hand, others feel Pleasant (19%), relaxed (10%), interesting (7%), refreshed (8%) and rest feel positive (5%), with the focus of the study being the consumer attitude towards analogue to digital migration of television broadcasting technologies. The researcher collected data from residents of Nsangi Parish in Busiro Sub county aged 18 years and above and living within the villages of Mukono, Kyabanzi and Nabbingo in Nsangi Parish. Data collection from villages for this research topic could be problematic for various reasons.

Notable among them is the issue of high illiteracy associated with village communities, hence the respondents may not understand the questions well enough to provide the needed response. Hence the population of study for this research will be in urban areas in Accra-Ghana which is an urban community where most of the rich and affluent in society live.

This is to ensure that the researcher collects responses that are rich in depth because people in such a community are more likely to be knowledgeable on the subject matter because it is assumed that most of them can afford digital television sets or have set up boxes or decoders that transmit

using digital signals. Such persons will be better placed to give an opinion on the Digital Terrestrial Television Migration because they most likely have the experience of both analogue and digital television transmission.

1.3 RESEARCH QUESTIONS

1. What are the factors that affect public perception of Digital Terrestrial Television Migration in Ghana.?
2. Do Ghanaians prefer digital terrestrial television transmission to analogue television transmission or the other way around.?
3. Why do Ghanaians prefer digital terrestrial television transmission to analogue television transmission or the other way around?

1.4 SIGNIFICANCE OF STUDY

The National Communications Authority of Ghana as well as its implementation agency, the National Communications Authority and other stakeholders especially those involved in fast tracking the digital migration process can generate important insights from the findings that may assist in packaging the entire digital migration process and make it even more acceptable to the consumer especially as the issue of affordability of set top boxes remain a major topic of discussion.

Academicians will find this study and its findings useful as a basis upon which further studies about public perception on Digital Terrestrial Television Migration attitude can be undertaken.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter discusses what has been covered by experts, other countries and further sources of information regarding the Digital Terrestrial Television Migration. It explores the perception of the Ghanaian public of digital migration. It also looks into account how other African countries have performed in switching from analogue to digital transmission as well as describe digital migration, its significance and benefits.

The theories related to the study will be used to give insight into the behaviors of media consumers in regards to the process of digital migration, concluding with a relationship established between digital migration.

2.2 THEORITICAL REVIEW

A theoretical review guides a research, determining what things to look out for, and which relationships to measure. It indicates how to conceptualize the nature of the research problem, its basis and the analysis chosen to investigate that problem. In this section, the study will focus on using relevant theories to demonstrate an understanding of public perception about Digital Migration.

2.2.1 Modernization Theory

Max Weber's Modernization Theory holds that modernity is a process where institutionalization of rationality results in social specialization, and bureaucratization. The modernization theory treats progress as a process that will take place naturalistically. Daniel (2004) notes that, for economic and social institutions to change, change is required in individual knowledge, attitudes and aspiration. This means that change is very necessary for development as well as modernization. Modernization in this light is that television broadcasting has been a process and the process is still on, however, there has been some level of progress in Ghana, Africa and the rest of the world.

When progress occurs, it enables an individual to compare the two instances where there is no progress and where there is progress and form a perception about either of them.(public perception) It is important to note that the perception formed under each circumstance would likely be opposite of the other. In this case, the period of analogue transmission and the introduction of digital transmission (progress) would be the two comparing scenarios. The Modernization theory casts development as a uniform evolutionary route that all countries adhere to, from agricultural, rural, and traditional groups to post-industrial, urban, and modern forms (Bradshaw, 1987; Escobar, 1995; Chirot and Hall, 1982; Shrum, 2000).

In other words, all settlements, once engaged in the modernization process, follow a predetermined guideline of developmental stages: traditional economies prepare for takeoff, drive to maturity, age of high consumption, and post-industrial societies (Chirot and Hall, 1982: 82).

As far as the modernization theory sees development simply as knowledge and transfer of technology that is unproblematic and straightforward, context free, and not disruptive of existing

social and cultural arrangements in developing countries. (Herkenrath and Bornschier, 2003). Modernization theory also seems to be unmindful of the fact that much of the knowledge and technology critical for national development and national competitiveness are within the domain of proprietary knowledge production.

2.2.2 Diffusion of Innovation Theory

According to Rogers (1996), diffusion refers to "the process by which an innovation is communicated through certain channels over time among the members of a social system. An Innovation is an idea, practice or object perceived as new by an individual or other unit of adoption. The diffusion of innovations involves both mass media and interpersonal communication channels". That is, by sharing communication channels such as interpersonal communication or mass communication people can get information of an innovation and perceive its innovation as useful.

The Theory of Diffusion seeks to explain how, why, and at what rate new ideas and technology spread through cultures. This enables those affected or involved in the process to form a perception or general idea about the innovation. The perception could be that digital transmission is a progressive innovation because it requires smaller and thinner television sets which transmits quality pictures and clear sound.

Everett Rogers, a professor of communication studies, popularized the theory in his book Diffusion of Innovations; first published in 1962. Diffusion research examines how ideas are spread among groups of people, going beyond the two-step flow theory, centering on the

conditions that increase or decrease the likelihood that an innovation, a new idea, product or practice, will be adopted by members of a given culture. In multi-step diffusion, the opinion leader (in this case the Government of Ghana) exerts a huge amount of influence on the perception of citizens, called adopters.

There are however other intermediaries between the media and the audience's decision-making, which leading to the creation of perception. One intermediary is the change agent, someone who encourages an opinion leader to adopt or reject an innovation (Infante, Rancer, & Womack, 1997). When an individual ends up adopting an innovation, the perception created about it might differ from when the individual rejects the same innovation. Innovations are not adopted by all individuals in a social system at the same time. Instead, they tend to adopt in a time sequence, and can be classified into adopter categories based upon how long it takes for them to begin using the new idea.

Adoption of a new idea is caused by human interaction through interpersonal networks. If the initial adopter of an innovation discusses it with two members of a given social system, and these two become adopters who pass the innovation along to two peers, and so on, the resulting distribution follows a binomial expansion. Expect adopter distributions to follow a bell-shaped curve over time.

The criterion for adopter categorization is innovativeness. This is defined as the degree to which an individual is relatively early in adopting a new idea then other members of a social system.

Rogers (1962) classifies consumer attitudes towards

purchasing products into five categories according to how quick consumers are to purchase new

products;

1. Innovators (2.5%),

2. Opinion leaders or early adapters (13.5%),

3. Early majority (34%),

4. Late majority (34%), and

5. Laggards or late adapters (16%).

2.2.3 Theory of Planned Behavior

Theory of Planned Behavior, offers a model which can measure how human actions are guided. It predicts the occurrence of a particular behavior, provided that behavior is intentional. Ajzen (1991) explains the conception of this theory which began as the Theory of Reasoned Action in 1980 as a way to predict a person's intention to participate in a behavior at a specific time and place. The intention of the theory is to explain all behaviors over which people are able to exert self-control. The crucial element of the theory is behavioral intent.

And behavioral intent is also guided by perception. This is because more often than not, people's intended actions are informed by the perception they have of something. For instance, in order for an individual to purchase a set up box to become a consumer of digital broadcast transmission, he or she might have an idea formed in the mind that digital transmission provide quality pictures and sound.

So clearly, human beings are guided by their perceptions, which can also be seen as **subjective norms**. The implication here is that if the consumers have a positive attitude toward the change in broadcasting, they will eventually feel confident to comply with purchasing Set-Top boxes in order to receive the digital signal.

Shimp and Kavas (1984) use Fishbein and Ajzen‟s concept to explain that a consumer's intentions are determined by the attitudes and perceptions of their significant others. Shimp and Kavas address the process of Subjective norm in the Theory of Planned Behavior where the individual will be considerate of his attitude toward a particular behavior, whether positive or negative depending on his friends or family's opinion (Hansen and Christensen, 2007: 45). Therefore, in terms of the digital migration, it is implied here that consumers would respond toward purchasing devices required in receiving a digital signal if they are encouraged by significant others (family and friends) or if they observe multiple people taking up the trend.

Arjen extends his argument stating that behavioral intentions are influenced by the attitude about the likelihood that the behavior will have the expected result and the subjective evaluation of the risks and benefits of that result. The theory of planned behavior postulates three conceptually independent determinants of intention.

The first is the attitude toward the behavior and refers to the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question. The second predictor is a social factor termed subjective norm; it refers to the perceived social pressure to perform or not to perform the behavior. The third antecedent of intention is the degree of perceived behavioral

control which refers to the perceived ease or difficulty of performing the behavior and it is assumed to reflect past experience as well as anticipated impediments and obstacles.

2.3 CONCEPTUAL REVIEW

2.3.1 Introduction

A conceptual review serves as a visual or written article as part of a study, explaining either graphically or in narrative form the main things to be studied. They include the key factors, concepts, or variables, and the presumed relationships among them (Miles and Huberman, 1994). It is a system of concepts, assumptions, expectations, beliefs, and theories that supports and informs the research; hence this section of the chapter seeks to break down and explain the notion of digital migration and all its pros and cons.

2.3.1 Analogue and Digital Migration

All of electronics can be divided into two broad categories: analogue and digital. The difference between analogue and digital technologies is that in analogue technology, information is translated into electric pulses of varying amplitude. In digital technology, translation of information is into binary format (zero or one) where each bit is representative of two distinct amplitudes. In other words, *Analogue* refers to circuits in which quantities such as voltage or current vary at a continuous rate, while in digital electronics, quantities are counted rather than measured.

There's an important distinction between counting and measuring. When you *count* something, you get an exact result. When you *measure* something, you get an approximate result. One of the most common examples of the difference between analogue and digital devices is a clock. On the analogue clock, the time is represented by hands that spin around a dial and point to a location on the dial that represents the approximate time. On a digital clock, a numeric display indicates the exact time.

Digital Broadcasting Migration is a process in which broadcasting services offered on the traditional analog technology is replaced with digital based networks over a specific period (Berger, 2010). The transition or switch from analog television to digital television is referred to as the Digital Migration. Hence the migration from Analogue to Digital Broadcasting simply refers to the process in which television services operating on analogue networks are transferred to digital based transmission networks over a period of time in which at the end of the process, the analogue transmitters will be switched off.

Analogue broadcasting uses analogue signals throughout its broadcasting chain (RURA, 2008). Each programme being broadcasted in analogue format is assigned a frequency channel making it the responsibility of the broadcaster to distribute signals to be transmitted to all transmission sites as well as operating/managing transmitters in all areas the programme has to cover. Hence a television station broadcasting three programmes needs three separate frequency channels. Digital broadcasting on the other hand uses digital signals in its broadcasting chain; the different signals to be transmitted are combined with identifiers so that several programmes can use the same frequency channel as is the case for mobile telephone (Beal, 2013).

In a nutshell, analogue transmission requires a channel each for each programme transmitted while digital broadcasting combines several programmes to use a common frequency channel for transmission.

Perhaps the most essential device necessary for digital broadcast transmission to take place is a set up box. A set top box is a receiver that decodes or converts digital signals to analog so as to enable the channels be displayed in an analog television set. Rosenberg (2013) points that one of the critical factors identified by the European Union was set top boxes for successful migration to Digital Terrestrial Television broadcast (DTT). A set top box when connected to an analog television set converts digital signals thereby giving viewers ability to watch digital programmes on their ordinary television sets. The other option for the consumer is to acquire an integrated digital TV set (idTV) which has an inbuilt set top box hence does not require an external set top box.

Until the 1990s, broadcasting was mainly a matter of transferring sound or video streams through the airwaves (or in some developed countries, through cable as well) by means of analogue signals (Berger, 2010). This was a linear process, with each element in the content stream taking its turn to transmit behind the one that went before it. This worked well enough, except it required a lot of bandwidth. A lot of capacity was taken up on wireless electronic frequencies in order to carry signals in this manner. This meant only a limited number of stations could be accommodated on the radio spectrum.

A radio frequency like 107.9 FM for instance, would be available for use by a single analogue radio station. Other frequencies were often unsuitable for audio transmission, or were better used for television or cellular telephony, or were reserved for military communications.

For television broadcast which uses UHF and VHF frequencies, it was the same story: one station, one frequency. With limited frequencies, the effect is a limit to the number of stations. Much of this changed with the advent of digital electronics. These technologies meant that sound and video, as well as text and still images, could be stored and transmitted digitally, heralding a new way to transmit content and connect the people of a nation and, thus, eventually show up on various social aspects of a country.

Digital signals are much more robust (not prone to electromagnetic and noise interference like analogue), more secure, and most importantly use less bandwidth unlike the analogue counterpart allows multidirectional transmission simultaneously. Digital TV allows TV broadcasters to compress data so as to send large amounts of information without the need of a cumbersome satellite dish.

This translates into more channels, as well as better picture and sound quality. Digital TV also allows you to transmit data back to the service provider so as to interact with the broadcaster or one of its associates.

2.3.3 Why Television, not Radio is the Focus of Digital Migration.

The digitization drive in broadcast transmission worldwide appears to have shifted towards television only, due to a number of reasons. Berger (2010) gives an understanding on why radio is much more complicated than TV in terms of digital migration. A conversion device to play digital signals on analogue radio sets does not make economic sense for starters. Also, digital radio sets will take a very long time to disseminate.

More importantly, the key difference to TV is that there is no urgency in digitizing radio transmissions in order to free up frequencies for other uses. This is because, far from freeing up airwaves, most digital radio distribution technologies do not operate in the place of FM frequencies. Rather, they need to use the frequencies used by analogue TV.

So, even if all FM radio broadcasting are closed down immediately, its frequencies are generally not suited to digital audio. This is unlike television, where the same analogue frequencies are needed for re-use so as to carry multiple digital channels. It is in this light that the taskforce on digital migration in Kenya, one of the trail blazers in Africa for digital migration stated that: “The switchover of existing sound broadcasters from analogue to digital transmission is not required since AM and FM broadcasting will not be affected by the transition.”

2.4 EMPIRICAL REVIEW

Majority of the studies conducted on Digital Migration across Africa appears to have similar conclusions; that is the advantages that come with digital transmission are favorable and more likely to influence consumers to switch from analogue to digital television consumption. This demonstrates the importance of Digital Migration and why African countries including Ghana

should adopt it, hence the recommendations by the International Telecommunications Union that all countries to move to digital broadcasting by the year 2015. Although Several African countries including Ghana have missed the deadline more than once, East African countries are leading the way in this regard.

A study by Brian (2014) on the Consumer Attitude Towards Analogue to Digital Broadcasting Technologies in Nairobi, Kenya found that respondents were aware of migration from analogue to digital television technology. This was corroborated by Douglas (2017) on the same topic in Uganda which conceded a similar pattern in terms of awareness of Digital Migration. Both studies by Brian (2014) and Douglas (2017) in Kenya and Uganda respectively showed similar patterns in terms of results.

Brain's study (2014) also demonstrated that respondents had a higher favorability towards attributes that digital technology has over analogue technology, however most respondents indicated that they were being held back by constraints such as affordability and implementation.

Muvaka, (2011), agreed with Brain, (2014) in his study which investigated the impact of the television broadcast in the implementation of the Digital migration process also in Kenya. In his research he noted that Digital migration process has a potential to enrich the viewing experience for the media consumer by improving the quality and quantity of the programs. Mwangi, 2012 also agreed with Brain (2014) et al in her assessment of Analogue Television Switch-off in Kenya, where she concluded that the top most factors that will motivate the acquisition and the installation of the Set Top Boxes were the clear picture/ high resolution and the quality sound system.

However, Njogu, (2016), highlighted some salient points which was also highlighted by Brain (2014) in his study on the influence of the Digital Migration Project on citizen's access to information on Television in Kenya. He stated that the cost and technological preparedness of the consumer was a big setback to the success of the Digital Migration project. However, he goes on to highlight the main advantage of digital migration as has been echoed by Brain et al, on signal clarity and better pictures.

Brain recommended that similar studies should be carried out in other counties and consumers need to be provided with more information about digital technology. Best practices should also be emulated from countries that have switched off analogue technology in the region.

As stated earlier, Douglas (2017) in his study also revealed a similar pattern in term of awareness of Digital Migration. Also, (90%) of the respondents from Nsangi Parish in Wakiso District in Uganda where he collected data are aware about the presence of digital television. Furthermore, the most (92%) of the respondents also are aware about analogue TV.

Last but least, majority of them have set top boxes (68%). Majority of the respondents from Nsangi parish feel good watching digital television (51 %). On the other hand, others feel Pleasant (19%), relaxed (10%), interesting (7%), refreshed (8%) and rest feel positive (5%), with the focus of the study being the consumer attitude towards analogue to digital migration of television broadcasting technologies. The researcher collected data from residents of Nsangi Parish in Busiro Sub county aged 18 years and above and living within the villages of Mukono, Kyabanzi and Nabbingo in Nsangi Parish.

Mavuka (2011) investigated the impact of the television broadcast in the implementation of the Digital migration process also in Kenya. In his research he noted that Digital migration process

has a potential to enrich the viewing experience for the media consumer by improving the quality and quantity of the programs.

The transition from analogue to digital broadcasting took place in June 2015 by which time several countries including Kenya, were expected to make the transition. The research aimed at exploring the attitudes and opinions of the media consumers regarding the Digital migration transition and how much information was available; specifically, the preferences of consumers in terms of television content and ultimately, the impact of the loss of the broadcast signal for 19 days and the factors affecting the decision of media consumers to purchase the set-top boxes.

The research used a mixed method approach to the study where the researcher administered questionnaires to 111 participants; with the criteria being whether they had television sets in their households. He also interviewed key personnel at the Communication Authority of Kenya in order to learn their role in the ensuring the media consumers received proper orientation.

The criteria used to analyze the results was areas such as Financial status, Awareness of the Digital Migration exercise, Popular medium for information access, Purposes for watching television, the impact of the 19 day loss of the broadcast signal for the four channels KTN, Citizen TV, NTV, QTV and which among these four was the most popular. With the switchover having taken place, more than a million households that own television sets have yet to migrate. Research findings indicated that the subsidization of set-top boxes as well as the sensitization of a number of media consumers has yet to take full effect. He therefore recommended that a cordial relationship between the government and the media be established in order to ensure the policy on new innovations such as the Digital Migration transition is incorporated effectively in addition to efficient dissemination of information to the media consumers.

Mwangi, (2012) suggested that Majority of the respondent in her research indicated that the people would not take up the DTY voluntarily or willingly the moment it would take effect, all the households that had the TYs would be forced to purchase the Set Top Boxes in order to receive any signals in their TYs. The Major challenges that the respondents anticipated when adopting the analogue switch off was that the initial cost of the purchase of the set top boxes would be high. This point was also highlighted by Brain (2014) at al.

The respondents also indicated that they were anticipating government support for the acquisition of the set top boxes that facilitates the analog TVs to receive the digital signals. The Government as well as other media stakeholders should educate the public on the Analog Switch Off or the DTV so that they are aware of the services offered as well as the benefits of installing the Set Top Box.

2.5 CONCLUSION

The theories discussed in this chapter portray different aspects of the human perception towards the introduction of Digital Terrestrial Television Migration in Ghana. The detailed conceptual explanations offer a deeper understanding of what digital migration is and how its implementation has the potential of revolutionizing television broadcast in the world. Previous literature on the subject matter will have a major impact on the direction of this study. For instance, reviewed literature suggests that very little literature exists from West Africa on the subject matter, with majority coming from East Africa. This may be attributed to that fact that East African countries

set a December 2012 deadline for themselves despite the global deadline set for 2015 by the International Telecommunication Union in 2006 in Geneva. (Beal, 2013).

The direct opposite of the situation is evident in Ghana and the rest of West Africa where it appears very little success has been achieved in migrating from analogue to digital transmission. However, West Africa is the second well performing on the continent in this regard, followed by North Africa and South Africa. Statistics available to the African Telecommunications Union on the Digital Migration Status in Africa (2018) indicates that 6 East African countries have successfully switched off from analogue to digital transmission as at February 2018.

In that same period, 4 west African countries are reported to have done same, while the numbers in North and South Africa are 3 and 2 respectively. It is for this reason that this study is focused on Ghana-West Africa. Also, most studies done in other African countries with a similar focus were conducted in villages or towns.

This increases the probability to get response that may not be accurate due to the perceived low level of understanding of Digital Migration. Hence this study will focus data collection in urban communities like East Legon, Ghana where majority of the rich in the country reside. It is assumed that these group of Ghanaians can afford digital television sets or set up boxes hence can give a more informed opinion about the phenomenon dur to their experience in using it.

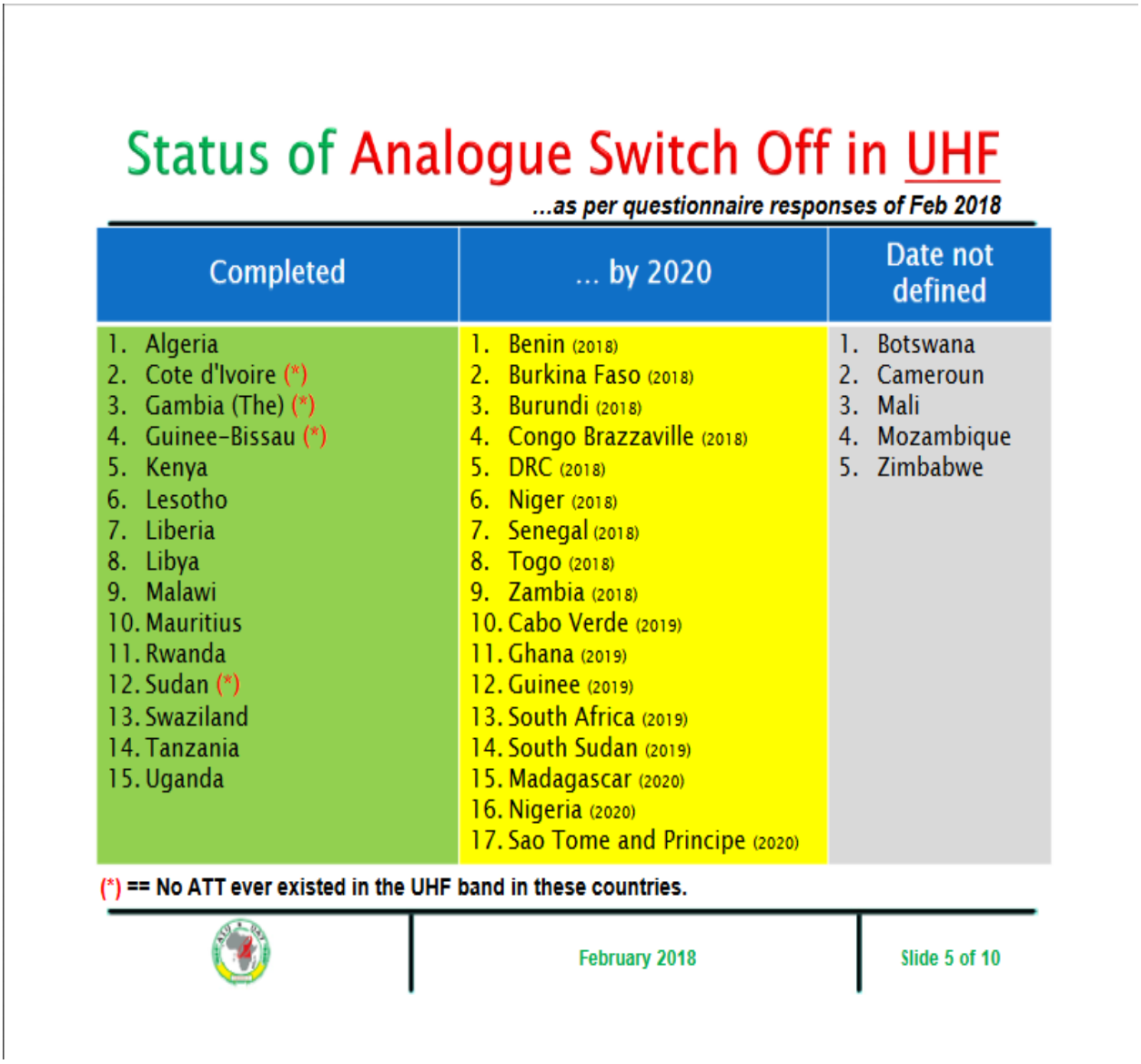


Figure 1 showing the status of analogue switch off in Africa as at Feb 2018 (Source: African Telecommunications Union)

CHAPTER THREE

3.0 METHODOLOGY

3.1 Introduction

This chapter describes the proposed research method to be used for conducting the study. The chapter explores the appropriate technique for data collection, as well as potential limitations and feasibility between time and other constraints necessary for conducting this study.

3.2 Research Design

This study will focus on the Descriptive Approach, which aims to accurately and systematically define a population, situation or phenomenon to answer questions on what, when, where, when and how. The descriptive approach often uses both quantitative and qualitative methods to investigate one or more variables. However, with this approach, the researcher does not control or manipulate any of the variables, but only observes and measures them.

The study focused on (qualitative) descriptive approach because it is the appropriate choice when the study aims to identify characteristics, frequencies, trends, correlations, and categories of a population. Investigating to know the perception of the public on Digital Terrestrial Television Migration falls within this domain because the researcher intends to understand the opinions or viewpoints, feelings and beliefs among others of the phenomenon.

Descriptive approach is useful when not much is known yet about the topic or problem. Before you can research the “why” of a phenomenon, you need to understand the “how, what, when and

where" of that phenomenon, Hence the descriptive approach focuses only what, how, where and when. As stated in the earlier chapters, very little literature exists in Ghana and West Africa on Digital Terrestrial Television Migration and this is justified by the fact that Ghana and West Africa are far behind the rest of the continent in the digitization agenda.

According to the African Telecommunications Union on the Digital Migration Status in Africa (2018) 6 East African countries have successfully migrated to digital terrestrial television transmission with several others at advanced stages of doing so while 4 West African Countries have either migrated to digital television transmission or at advanced stage of doing so.

3.3 Population of Study

Mugenda and Mugenda (2003) describes a target population as a complete set of individual cases or objects with some common characteristics to which researchers want to generalize the results of the study. The population of interest for the study will be East Legon because it is assumed that the inhabitants of such a community are more likely to be knowledgeable on the subject matter.

The assumption is based on the fact that East Legon is mostly a residential community where the rich and affluent in society reside and that most of them can afford digital television sets or have set up boxes or decoders that transmit using digital signals. Such persons will be better placed to give an opinion on the Digital Terrestrial Television Migration because they most likely have the experience of both analogue and digital television transmission. The areas of focus in East Legon are American House, Bawaleshie, Adjiringanor and School Junction.

3.4 Data Collection

Primary source of data for this study will be collected through interviews using a semi-structured questionnaire, which will be administered to 80 respondents in 80 households from 4 communities in East Legon. 20 questionnaires will be administered in each of the 4 communities in East Legon namely American House, Bawaleshie, Adjiringanor and School Junction.

Structured interviews are mostly closed ended while unstructured are often open ended. However, semi-structured interview is a blend of both structured and unstructured questionnaire. As a result, it has both their merits. For interviewees, the constructed part of semi-structured interview provides a general overview of the concept. It helps to draw an impartial comparison from the interviewers, which is accommodating for qualitative studies.

For interviewers, because the unstructured part of semi-structured interview gives them more space to ask for clarification on answers and to express free flow of thoughts, the interviewers normally feel less stress during the interview.

They would present more communication skills to the interviewees and build personal bond with them under the relatively warm and friendly atmosphere, which is a recipe for collecting honest, in-depth and objective responses. With this type of questionnaire, the interviewers are able to express their thoughts and ask questions to the interviewees during the interview, which encourages them to give more useful information, such as their opinions toward sensitive issues, to the qualitative research.

And they could more easily give the reasons for their answers during the interviews. Also, the structured part of semi-structured interviews gives the interviewees reliable, comparable qualitative data as well. Data analysis will be done qualitatively.

3.5 Limitations

Time constraint appears to be the major disadvantage linked to semi-structured questionnaires because the researcher would need ample time to prepare and do research before actually starting the interview. The researcher would also need to meet adequate amount of people (in this instance 80 respondents from 80 households) to conduct the interview to enable the researcher produce results that are viable.

3.6 Ethical considerations

Conducting a study of such nature often requires not only expertise and diligence, but also honesty and integrity. According to Cooper and Schindler (2011 :34), ethics are norms or standards of behavior that guide moral choices about individuals' behavior and our relationships with others. Weiman, Kruger and Mitchell (2005: 182) explained that ethical considerations and ethical behavior are as important in research as they are in any other field of human activity. The goal of ethics in research is to ensure that no one is harmed or suffers adverse consequences from research activities, in this case the interview.

Since semi-structured interviews allow people to communicate and express their free flow of thoughts at some degrees, the researcher needs to pay attention to certain dimensions such as

intercultural competence cultural during the interaction. Intercultural competence requires people to recognize and respect the diversity of different cultural backgrounds.

People with high intercultural competence often tend to respect individual variations and different cultural patterns. They often have self-assessments and are aware of the differences between people. They make their conclusions and assessments based on reliable evidence.

This makes it crucial for the researcher to understand that their personal beliefs and biases may slightly impact the way respondents address questions and, as a result, influence the outcomes of semi-structured interviews. For instance a respondent from any of the four communities in East Legon (who is assumed to be wealthy enough to own a digital television set) may be inclined to think that those who cannot afford to buy digital televisions sets or set up boxes are lazy and do not deserve to own such gadgets rather than accepting the fact that some individuals have lower economic status and do not see such gadgets as a priority.

CHAPTER FOUR

4.0 CONCLUSION/SUMMARY

The main focus of this study was the perception of the public on Digital Terrestrial Television Migration in Urban communities with the focus on East Legon-Ghana. Available literature points to the fact that very little studies exist from West Africa on digital television transmission and migration, with majority coming from East Africa.

This is attributed to that fact that East African countries set a December 2012 deadline for themselves despite the global deadline set for 2015 by the International Telecommunication Union in 2006 in Geneva. (Beal, 2013). In Ghana and the rest of West Africa it appears the situation is the opposite as very little success has been achieved in migrating from analogue to digital transmission.

Despite this, West Africa remains second behind East Africa in countries performing on the continent in this regard, followed by North Africa and South Africa. Statistics available to the African Telecommunications Union on the Digital Migration Status in Africa (2018) indicates that 6 East African countries have successfully switched off from analogue to digital transmission as at February 2018. In that same period, 4 west African countries are reported to have done same, while the numbers in North and South Africa are 3 and 2 respectively.

This means that very little literature exists on Digital migration and digital television transmission in Ghana. It is for this reason that this study is focused on Ghana-West Africa. Also, most studies done in other African countries with a similar focus were conducted in villages or towns; hence the focus of this study on urban communities.

All the above seeks to prove is that Digital Television transmission is a new trend that started in the early 2000s on the continent, and is yet to get affirm foundation in Africa with Ghana and the rest of West Arica lagging behind their counterparts in East Africa.

Digital terrestrial television offers enhanced spectrum efficiency compared to analogue TV. It also offers improved audio-visual quality, interactivity, as well as increased programme choices. Migrating from analogue to Digital transmission is crucial because it means Ghana would finally be in compliance with the Geneva Agreement, after Ghana signed a treaty which recommended that member states migrate from analogue to Digital television broadcasting, latest 2015.

Digital transmission would also help to rapidly adopt spectrum efficient methods in the management of the scarce available spectrum to broaden its utility as a resource in the interest and benefit of stakeholders. It would help prevent the dumping of obsolete analogue transmission equipment into the country to protect the environment, investors and consumers. Analogue transmission equipment is usually large, take up a lot of space while some emit dangerous radiations. Digital Migration would enhance the quality and experience of TV viewers in Ghana by improving terrestrial TV transmission and reception.

The perception, views and opinions of the public on the subject matter is crucial to the overall success as it will influence policy making.

The Ministry of Communication of Ghana as well as its implementation agency, the National Communications Authority and other stakeholders especially those involved in fast tracking the digital migration process can generate important insights from the findings that may assist in

packaging the entire digital migration process and make it even more acceptable to the consumer especially as the issue of affordability of set top boxes remain a major topic of discussion.

Academicians will find this study and its findings useful as a basis upon which further studies about public perception on Digital Terrestrial Television Migration attitude can be undertaken.

REFERENCES

Ajzen, I. (1991). *The Theory of Planned Behavior: Organizational Behavior and Human Decision Processes*. Massachusetts: University of Massachusetts.

Annex 7. (n.d). *Progress Report on status of Digital Migration in Kenya.* Nairobi: Digital Kenya.

Berger, G. (2010*). Challenges and Perspectives of Digital Migration for African Media*. Dakar: The Panos Institute West Africa.

Bozsoki, I. (2012). *Why Digital Migration Matters*. Barbados: International Communication Union.

Communications Commission of Kenya. (2010, January 8*). Digital TV Broadcasting launched in Kenya*. Retrieved October 2013, from http://www.cck.go.ke/news/2010/news_08jan10.html

Ngugi, K. (2013, August 26). Pay TV Service Providers Face off in Africa. Retrieved June 4, 2014, from Open Eco Source: http://www.openecosource.org/technology/pay-tv-service-providers-face-off-in-africa/

National Communications Authority, *Ghana, (2010*): Report to the government of Ghana on the migration from analogue to digital broadcasting in Ghana.

Ministry of Communications *Ghana,* (2016). Digital terrestrial Television Broadcasting policy.

Muvaka, B (2015) Assessing the impact of the digital migration process on media consumers: a case of television in Kenya.

Mwangi, R. (2012) An assessment of analogue television switch-off in Kenya: A case study of kikuyu district.

Abell, D.F. (1980), *Defining the Business: The Starting Point of Strategic Planning*, Prentice-Hall, Englewood Cliff, NJ,

Analysis Consultants (2005), "Report on the public policy treatment of digital terrestrial television (DTT) in communications markets", study produced for DG Information Society and Media, European Commission, Brussels, 25 August.

Bane, P.W., Bradley, S.P., Collis, D.J. (1997), "Winners and losers - industry structure in the converging world of telecommunications, computing and entertainment", in Yoffie, D.B. *(Eds)*, *Competing in the Age of Digital Convergence*, Harvard Business School Press, Boston, MA,

Njogu, W. (2016) Influence of digital migration project on citizens' access to Information on television in Kenya – the case of Machakos Town constituency, Machakos county, Kenya

Brain, T. (2014) Consumer attitude towards analogue to digital migration of television broadcasting technologies in Nairobi county.

Douglas, S. (2017) Assessing consumer attitude towards analogue to digital migration of television broadcasting technologies in Busiro county.