

**IMPACT OF TECHNOLOGICAL ADVANCEMENT ON THE
DISSEMINATION OF INFORMATION**

CASE STUDY UBC TV- UGANDA

BY

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DECLARATION

I hereby declare that this research project is my original work carried out solely and has never been submitted in any academic institution.

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Date.....*22 October 2007*

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DEDICATION

This book is dedicated to the late John Nderitu Kigotho and John Wachira Ngubia.
You're my life long sources of strength.

ACKNOWLEDGEMENT

Duty of writing this project was so enormous but its success was through efforts from various individuals who participated in different ways enabling me to achieve my goal.

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MAY GOD REWARD YOU ABUNDANTLY

TABLE OF CONTENTS

DECLARATION	i
DEDICATION.....	ii
ACKNOWLEDGEMENT	iii
TABLE OF CONTENTS	iv
CHAPTER ONE	1
1.1 Introduction	1
1.2 Statement of the problem	2
1.3 Justification of the problem	2
1.3.1 Broad objective	3
1.3.2 Specific objectives	3
1.4 Scope of the research	4
1.5 Research questions	4
CHAPTER TWO	5
2.0 Introduction	5
2.1 Literature review	5
2.2 Opportunities of the Ugandan media in the digital age	9
2.3 challenges for the Ugandan media in the digital age	9
CHAPTER THREE	10
3.0 Methodology	10
3.1 Research design	10
3.2 Target population	10
3.3 Sampling techniques	10
3.4 Data collection instruments	11

3.4.1 Primary data11

3.4.2 Secondary data11

3.5 Data analysis11

3.6 Limitations to the study12

CHAPTER FOUR13

4.1 Introduction13

4.2 Data analysis13

 4.2.1 Digital television quality levels16

 4.2.2 Benefits of digital TV18

4.3 Conclusion20

CHAPTER FIVE21

5. O Introduction21

5.1 Summary21

5.2 Conclusion21

5.3 Recommendations22

 5.3.1 Introduction22

 5.3.2 Recommendations22

5.4 Conclusion24

REFERENCES25

APPENDIX26

List of tables / photos

Table 1 digital television facts	15
Picture 1 Hycast TX antenna	18
Map of Uganda	30

CHAPTER ONE

1.1 INTRODUCTION

Broadcasting has been existent since the nineteenth century. It means the airborne transmission of electromagnetic audio signals (radio) or audiovisual signals (television) that are accessible to a wide population via standard, readily available receivers (David Marc 2006). Broadcast television, McLuhan pointed out, is capable of carrying all types of aural and visual information. It conveys sound, color, light, shade, movement, the human voice, and the images of all other media (1990)

In 1926 the first televised television broadcast was carried out by John Logie Baird, who broadcast a televised image to an audience at the Royal Academy of Science in London. Since then TV has been a remarkably a volatile medium, its technology has steadily changed its content has constantly evolved and various people have come out to criticize the medium due to its presumed effects.

In Uganda television was first thought of by the protectorate government in July 1957 who wanted to use it as a means to spread colonialism into the protectorate but was later termed as 'impractical'. When Uganda got her independence the then Prime Minister Dr. Milton Obote officially switched on UTV on October 1963, programs were set that were to be aired by the national broadcaster that was owned and controlled by the government of Uganda.

However Uganda was to fall into turmoil, in 1971 Obote's government was overthrown by Idi Amin through a military coup.

On assuming presidency Amin is credited in the broadcasting community as having introduced colored television into Uganda however, this was done without proper consultation and planning as the country lacked the technology to undertake such a feat.

In April 1979 Amin's government was overthrown, this was a dark day in Uganda's broadcasting history as equipment within UTV was destroyed and looted. The equipment was left unmaintained and neither was it repaired or replaced.

In 2004 the *Uganda Broadcasting Corporation Act*, was passed by parliament that allowed for the establishment of *Uganda Broadcasting Corporation (UBC)* as the public

broadcaster that merged the operations of *UTV* and *Radio Uganda*. On November 16, 2005 *UBC* began broadcasting.

Having gone through the brief history of TV in Uganda, technology has been as fast as it's discovered such that the way broadcasting was in 1963 is not as it is today. The invention of computers and their entry into the Ugandan market has greatly affected dissemination of information. Television has seen the shift from analogue to digital broadcasting.

Analogue broadcasting is the physical duplication of sound or picture created by electrical signals that mimic the original. Technology is the science and the art of getting things done through the application of skills and knowledge. Digitalization is the use of binary digits to represent different meanings. This is the new trend in the broadcast media. Citing the bandwidth efficiency of digital TV in relation to analogue TV.

The invention of the internet too has affected how TV broadcasting works. The internet is awash with various sites that provide any information at the click of the mouse. The merge between TV and the internet creates a hybrid that will be the new super medium for the next generation.

The inventions in technology, the past history of *UTV*, the re-branding of *UTV* as *UBC* renders this research important to try and find out the challenges that *UBC* is facing, and the consequence of integrating the computer into broadcasting.

1.2 STATEMENT OF THE PROBLEM

Technology is growing and changing daily, it has become so much a part of our daily lives that communication can not be separated from it. As noted the indubitable merge between TV and the internet brings about a new super medium that has not been experienced before, it was thus the aim of the research to explore the impacts of this medium, challenges of the medium plus its consequences as the change directly affects the modus operandi of the traditional broadcasting media.

1.3 JUSTIFICATION OF THE PROBLEM

Attempts to craft and apply technology strategies are complicated and fraught with dangers.

It is of importance and of clear concerns that that the technological advancements have directly affected the broadcast media. The Internet is the first medium to allow unimpeded, interactive access to information from anywhere in the world that has supply of electricity. A computer with Internet software can be run from the cigarette-lighter socket of a jeep in the fields of Africa as easily as on the streets of New York (Baggily 1997). The merge thus between these two mediums arouses some interest in the compatibility of the systems plus the consequent result of the merge. . For instance, on a multi-media computer system, one can read online newspapers and other publications, watch television stations and listen to various radio stations as well as getting a wide variety of information from different websites.

The shift from analogue broadcasting to digital broadcasting or the shift to computer aided broadcasting also rationalized the need for the research.

The demise of various media and the large sprouting up of new broadcasting stations means that there are aspects within the broadcasting field that have led to this situation, thus the quest to dig up that which has allowed for such changes.

New media, particularly the Internet, have the appropriate attributes to overcome the shortcomings of previous communications technologies. It is thus the duty of this research to find out how best technology has continued to overcome various challenges and how well it's being integrated into the broadcasting system to better serve the audiences plus the owners of the media.

Thus the aim of this research is to point out the risks and destiny of applying or integrating technological advancements into the broadcasting field.

1.3.1 Broad objective

Establish the impacts of new technology on the broadcast media.

1.3.2 Specific objectives

- To determine risk factors and predisposing factors to a change in the modus operandi of media institutions.
- To establish various forms of broadcasting

1.4 SCOPE OF THE RESEARCH

The study was carried out in UBC headquarters at Kampala the capital of Uganda. Various departments of the broadcaster were dwelt on and more so the technical operations department. Plus the KIU community.

1.5 RESEARCH QUESTIONS

- a) How has technology assisted in dissemination of information
- b) How has technology impeded information dissemination?

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter will focus on the analysis of existing literature on the subject with the objective of revealing contributions, weaknesses and gaps.

2.1 Literature review

Technology is the application of scientific knowledge for practical purposes, especially in industry or machinery developed from such scientific knowledge.

It owes its name to a Greek word tekhnologia meaning 'systematic treatment'

Dissemination of information is the process through which information is sent out to the masses. In the broadcast media due to various technological changes the process of propagation has highly been influenced, the process has moved from analog broadcasting to digital broadcasting.

Analog is the physical duplication of sound pictures created by electrical signals that mimic the original.

Digital technology is the basis of today's new media technology it represents the translation of all forms of content, image, text, audio into a form that is easily manipulated by computers (Klopfenstein pg 22, 1997)

Digital Broadcasting is broadcasting via audio or visual in digital form. The old analogue form of recording or broadcasting basically worked by converting sounds into electric signals in form of a wave pattern. With digital the sound is converted into electric signals but this time using numerical codes. The numerical code used in digital comes in form of the binary numbers 0 and 1. All digital sounds, signals, and images are produced in this binary form of 0s and 1s. The wave pattern in an electric signal in analogue technology is impossible to reproduce in its exact form. With digital however, each copy reproduced is

an exact replica of the original with no distortion or approximation no matter how many thousands of copies are made (Timothy Kalyegira, 2007)

It is important to note that the emergence of digital broadcasting and ICT (can be broadly defined as technologies that provide an enabling environment for physical infrastructural and services development of applications for generation, transmission, processing, storing and disseminating information in all forms, including voice, text, data, graphics and video. John Nasasira National Information and Communication Technology Policy - 2002 - Uganda) requires a shift in the way we look at media regulation. Most of it is set on the social setup of sedition, defamation and other laws. Others like minimum broadcasting standards address the social impact of the media. The regulation shift from social impact of the media will focus on the technical and industry issues of the media.

Technology is a tool to accomplish some purpose; a communication technology is a tool to communicate with others. With every technology comes with a bias as each pre-dispose us to view the world in a particular view or way.

Communication technology leads us to view the world entirely as one large information field where you can process information from any point of the world and where information from any point is as important as that from your local area as has been exemplified by the intrusion of international news media into our television sets that is *CNN*, *Al-jazeera*, the *BBC* and many others.

The history of communication shows three trends the pace of technology change is accountable for; communication technologies are merging, specialization and demassification is increasing. The consequences of this are far reaching that is: there is information overload, misinformation, and cultural integrity has become an issue.

The process of computerizing has speeded transmission, allowed for the processing of large amounts of data to be transmitted.

Digitalization of video signals reduces their size therefore more information can be carried over cable and stored. This has led to the developments of such organizations as *You-Tube* where videos are readily accessed and shared between various users.

Mr. Kalyegira said that digital technology and the kind of system where things are compatible have brought on hybrid services like Internet radio, Internet telephony and net-boards. These developments are very exciting and make life a bit easier. Today one

can even access local TV through www.jumptv.com. This is a form of a hybrid between TV and the internet.

There exist various differences between analog and digital broadcasting.

- In a recording studio the equipment produces vibrations these then produce grooves that are then pressed on to the vinyl platter, when the recorder plays the needle goes over the grooves and sound is produced. That's in analog.
- In digital, computers transform sound of a singer's voice recording into a pattern of binary digits or bits that is a code of 0's and 1's, these represent the sound.

The digital world of computers has merged with virtually all communication technologies creating a communication revolution (De Fleur & Denois 1998). There are computer chips in TVs, Radios, telephones and many more. Digitalization has made possible the integration of communication technology unparalleled in human history there's interactive TV, which is the merge of TV, cable, telephone, and computer technology

TV by its nature is a visual medium. TV pictures determine its effectiveness: poor pictures lead to non-effective TV. TV by its nature is an action-oriented, fast paced, visual medium thus slow deliberate conversation on abstract topics do not grab a viewing audience. It demands immediacy, brevity, and entertainment. It requires active visual images that entertain not static downtime- TV can't permit dead airtime.

Through technological advancements; computer aided broadcasting, digital broadcasting and linear editing or the merger of communication technologies, have led to optimization of broadcasting more so in TV this is so more through the introduction of interactive TV. According to *Mr. Godfrey Mutabazi* (chairman broadcasting council, 2007) by 2015, everybody should be broadcasting digital.

New technologies like mobile-TV are also being introduced into the market and thus stepping up the competition. Mobile TV has moved from hype to reality as of Doug Lowther, (*The Agenda setter 2007* pg 12) - the last two years have seen the world wide proliferation of mobile TV trials with the aim to evaluate new mobile broadcasting technologies like DVB-H, DMB and Media FLO and to analyze consumer demand for

mobile TV services. Most of the results have confirmed their high potential for success, and the knowledge gained will be valuable for future commercial deployments.

South Korea was the first country to launch a commercial service in May 2005 and today has achieved over one million subscribers. *TU Media*, a consortium of Korean mobile and broadcasting interests are the ones behind this massive success, their offering consisting of 15 video channels and 19 radio channels. Other deployments followed in Europe, taking advantage of the 2006 German world cup as a driver. The coverage of the event helped to launch new mobile TV services in Germany, Italy and the United Kingdom.

Wavelength June 2007, in an interview with Chendong Yu president of Huawei's mobile networks on how mobile TV market is evolving, reports that mobile TV is evolving into an information bearer than just a communication tool. The introduction of mobile internet, mobile radio and now mobile TV asserts this assumption.

However the adoption of digital broadcasting is bringing about disparity that is de-massification- where the mass media are no longer broadcast to the mass but to a few who have the capacity to access this type of media.

The consequence of digital broadcasting is that we are going to have information HAVES and HAVE-NOTs. In order for community media to survive the digital era, we have to emphasize public service broadcasting.

Another consequence of digitalization is the laying off of employees as new technology renders them redundant as their jobs are taken over by the computers.

Some of the world's biggest "old-media" companies—including MTV Networks (MTVN), NBC Universal, Disney and Discovery Communications—are axing staffers in handfuls and hundreds. In one of the biggest reductions, Time Warner's AOL began cutting 5,000 employees in December, about 26% of its workforce. (Anne Becker -- *Broadcasting & Cable*, 2/26/2007) this response is due to digitalization as 'they just don't need the same people they used to'

2.2 Opportunities of the Ugandan media in the digital age

- Because the technology is based on the binary 0 and 1 numerical code, it cuts across all technologies and creates the conditions for a convergence of formats.
- It saves on space or the need to purchase large equipment that does different things. Operational costs will come down. Efficiency will be noticed. Rather than reels of audiotape or stacks of CDs, flash drives will store a station's entire collection of music, voice, news sound bites, and advert logs.
- Vastly improved sound quality.

These advantages will benefit the rural or smaller urban stations even more significantly than the major Kampala stations.

2.3 Challenges for the Ugandan media in the digital age

- Political interference and manipulation
- The talent and manpower problem; Radio and television station owners will need to invest a great deal more in their talent than they have thus far done.

'No doubt technology advancement is perfect, real essence of media is public trust, honest and impartial. What are achievements of media, some times reporting & analysis appears little contaminated, or influenced.' *Syed Hasan Turab.*

CHAPTER THREE

3.0 Methodology

This chapter highlights on the research design, target population, sample technique, sample size, data collection tools and discussion, research procedure and data analysis techniques.

3.1 Research Design

The research entailed a before and after research design, it targeted employees of UBC and viewers of the station. The research design used as the researcher intended to examine the impact of the various changes in the broadcasting field before the introduction of these changes and the effects of eventual digitalization, plus the foreseen impacts in the near future.

These were very crucial in developing the questionnaire(s) which were the basis for collecting data. It also focused on the study design, area of study, study population, sample size, data collection methods and data analysis.

3.2 Target population

The study concentrated on the employees of UBC and more so those in the technical operations as a specific target group. It also targeted the views of the audience of UBC centering on the students of KIU and its environs due to their accessibility to the researcher.

3.3 Sampling Techniques

The sampling technique used for this study was simple random sampling to select a sample of the employees plus the general public. This was used to avoid prejudice and to offer an equal likelihood of every element of the population and technical crew to form the sample.

3.4 Data Collection Instruments.

The mode of collecting data involved a combination of tools, whereby primary and secondary sources of data collection were used. The researcher was directly involved in data collection particularly in the field, through observations, administering questionnaires and interviewing the respondents.

3.4.1 Primary data

This was obtained using the following methods:

- Interviews
- Questionnaires (Open ended)
- Observation

3.4.2 Secondary data

Secondary data is to be obtained from:

- Newspaper articles
- Magazines
- Journals
- Published books
- Internet

3.5 Data Analysis and Presentation

The data collected was compiled and converted into meaningful and useful form as results from interviews, observation and questionnaires were first recorded in sheets using tally tables. These sheets were used as the basis for the application data analysis.

The study further used frequency distribution, percentage tables, bar graphs, pie charts and descriptive analysis to represent and analyze the findings from the data collected.

These methods are preferred as they offer suitable techniques for summarizing large sums of data as well as offering easy interpretation of the same.

3.6 Limitations to the Study

The major limitation to the study was the lack of proper guidelines by authorities on policy and regulation of technology within the country such that the types of technology differed with each broadcaster and neither of the broadcasters had the same level of technical know how.

The nature of the research also required sensitive information like the equipment being used that would be detrimental if found by competitors thus was not easily availed.

The bureaucracy of the organization researched was also a limiting factor as much time was spent complying with their demands rather than researching.

The lack of information to some of the respondents meant that the researcher fast had to inform them instead of caring out the research.

The expense of the research was also a limiting factor to this researcher.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.1 INTRODUCTION

This chapter presents the research findings on the impact of technology advancement on the broadcast media in Uganda.

Data is presented using tables, and graphs that have been summarized and categorized according to common themes. The analysis is based on the study objectives and the research questions.

4.2 DATA ANALYSIS

The respondents responded positively that there indeed were changes occurring in the field of broadcasting as well as pinning the changes to shifts in technology used by the broadcasters. The fields affected as per the findings of the research are the processes of gathering, packaging, and dissemination of information. However the effects per field vary as will be shown.

In gathering of information, the researcher was able to find out that instead of the old analogue cameras used the field is now filled with new digital cameras that the journalists use to collect information. These are user friendly, may require some level of knowledge to use, but the quality of pictures and recordings is unrivalled by the former analogue audio and visual recorders. However the researcher also found out that they are not readily available in the market and they are also very expensive plus information in the fields is readily available in analogue form rather than in digital form something that broadcasters have to endure until the whole system is streamlined. However still cameras are still in use until the proper skills are imparted on how to use the digital cameras and both the transmission processes and processing go digital in 2015 as per ITU recommendations.

In packaging the digital cameras used in the field come with memory chips whereby the data collected is stored in the same camera and memory cards that are used to transfer the information from the camera to the work station through the use of cables. The work stations are computers that are programmed to receive and interpret the stored information. Digital cameras generally include dedicated digital image processing chips to convert the raw data from the image sensor into a color-correct image in a standard image file format. Images from digital cameras often receive further processing to improve their quality, a distinct advantage digital cameras have over film cameras.

The digital image processing is typically done by special software programs that can manipulate the images in many ways. Many digital cameras also enable viewing of histograms of images, as an aid for the photographer to better understand the rendered brightness range of each shot. The downside to this is the expense and the level of skill required plus the eventual impingement on quality during conversion.

On dissemination or transmission the process is towards digitalization but its full impact has not been felt yet. Nevertheless, the researcher was able to find out the viewers of UBC had began to experience better quality of programs with DVD like picture quality and CD like sound, this they credited to new technology that has been input into transmission where information is now transmitted in digital form rather than analogue though its not entirely digital. However the researcher would also like to issue a disclaimer that quality of pictures is subjective to the viewer's eye. The researcher also found out that the transmission was not digital and the ITU deadline is on transmission and not the processing.

Through the research it also became evident that in broadcasting the shifts in technology are geared towards digital media and in this case digital TV (DTV).

DTV is an advanced broadcasting technology that transforms television viewing experience. DTV enables broadcasters to offer television with movie-quality picture and sound. It also offers multiple programming choices, called multicasting and interactive capabilities. Converting to DTV also frees up parts of the scarce and valuable broadcast spectrum.

Analog

DTV

- Date for final transition to digital is February 17, 2009. After that date, stations will only broadcast digital signals.
 - Consumers will always be able to connect an inexpensive receiver, a digital to analog converter box, to their existing analog TV to decode DTV broadcast signals.
 - Digital to analog converter boxes will not convert your analog TV to high-definition.
 - Analog TVs will continue to work with cable, satellite, VCRs, DVD players, camcorders, video games consoles and other devices for many years.
- Digital cable or digital satellite does not mean a program is in high-definition.
 - Digital pictures will be free from the "ghosts" and "snow" that can affect analog transmissions
 - Multicasting is available.
 - HDTV is available
 - Data streaming is available.

Table I. Digital television facts

Source DTVinfo@fcc.gov

4.2.1 Digital television Quality Levels

The researcher found out the various forms of DTV and the most common ones are:

Standard Definition TV (SDTV) - SDTV is the basic level of quality display and resolution for both analog and digital. Transmission of SDTV may be in either the traditional (4:3) or widescreen (16:9) format.

Enhanced Definition TV (EDTV) - EDTV is a step up from Analog Television. EDTV comes in 480p widescreen (16:9) or traditional (4:3) format and provides better picture quality than SDTV, but not as high as HDTV.

High Definition TV (HDTV) - HDTV in widescreen format (16:9) provides the highest resolution and picture quality of all digital broadcast formats. Combined with digitally enhanced sound technology, HDTV sets new standards for sound and picture quality in television.

(Note: HDTV and digital TV is not the same thing -- HDTV is one format of digital TV.)

Through the research the researcher was able to find out why there was the preoccupation with digital TV from the respondents.

The respondents agreed that if a minimum level of signal-to-noise ratio is maintained, then it is possible to operate a digital transmission system almost error free. Digital information is better transmitted in its digital form because converting the signal to analog and sending it through an analog network can be costly. Digital data is easily compressed; therefore it can be transmitted using a small bandwidth.

Because of the nature of devices used to boost the signal strength during transmission, error performance is much improved when compared with analog. It is also better to transmit information in digital form because computer components used in the transmission process are very reliable. Digital TV involves transmission of images, pictures and sound that make up a TV program, together with other services like text and interactivity digitally. With digital TV, sound and pictures from the broadcaster are converted into 'codes' or 'bits' of information and sent through an aerial, satellite, telephone line or cable. This digital signal is then turned back into sound and pictures by a digital box or a digital television set.

Digital stream is known to take up much less capacity in the airwaves, so that the space needed in the past for just one analogue channel can even carry five, six or seven different channels.

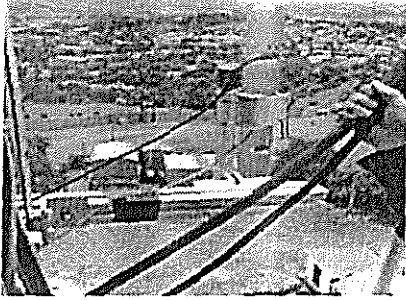
However some also found fault with the system pointing out that information is widely available as analog. The conversion of analog signal to digital bit stream requires special equipment; this adds cost and additional equipment may also contribute additional points of failure. Another disadvantage is that during the conversion process the quality of the signal is negatively affected.

Through the research the researcher was able to find out that out of every ten respondents only four understood what digital TV is or could clearly point out what it meant. This revealed to the researcher the lack of information to the wider audience and an undoing of both the media and government.

On analogue technology formerly used by the broadcasters the researcher found out that most of the respondents were of the view that it should be discarded once the system went digital. The reasons given for this were that the former technology was out of date and thus redundant to the broadcaster and the general public.

On the level of broadcast technology, the researcher found out that though most studios boast of having digital equipment none of them was really totally digitized.

Most studios inclusive of UBC have technical digital equipment like digital cameras but they lack the digital transmission capabilities due to lack of equipment. The researcher found out that only MDS International through a local company JRNet successfully installed in April 2004 a Hyper cable System to presents a new digital TV service to the Ugandan population. It has a total capacity of 300 up to 600 TV channels and is currently capable of broadcasting 20 digital MPEG2 TV channels to approx. 20% of the population in Kampala City. Its main TX site is on top of the hill of Kololo while The Head End is located in Wampewo.



Picture 1... HyCAST TX Antenna -Kololo

Source... MDS International.html

The researcher also found out that in Uganda there lacks a government policy on digitization of the media only of an intended one that's mentioned in a draft *-A New Broadcasting Aspiration for Uganda September 2004* by the broadcasting council secretariat. Besides this nothing on digitization is mentioned the country even formulated laws on digitization or a draft bill of the same.

This prompted the researcher to inquire whether the country would meet the 2015 deadline. He was able to learn that it would be met nevertheless. He also found out that those who won't have complied with the deadline, their transmissions will be terminated.

4.2.2 Benefits of digital TV

One very enticing benefit of digital TV is that it enables one to pause and record the program you are watching or another channel.

Spectrum efficiency

Digital television and digital TV broadcasting need only one-third to one-half of the spectrum that is required for analog, thus promising a huge economic win from a more efficient use of the spectrum, better picture quality for users and more channels which can be made available to the public.

Broadband services

Broadband services like sending email via your TV are possible with digital TV. It is also making it a lot possible to watch shows on demand.

Other benefits of going digital include the value added services it can offer like viewer being able to retrieve programs from the archives, the additional number of programs that can be accommodated and the greater spectrum efficiency.

Subscription channels

Digital TV offers a greater selection of channels, and even customizes selection of subscription programs. Depending on one's digital preferences, it is possible to subscribe to additional channels which feature a variety of sports, films, news, documentaries, drama and much more enabling one to receive all usual TV channels and many more as standard.

Improved quality

Digital TV offers better image quality for the TV picture. This is due to the fact that the information or content needed for the TV program is 'coded' into a digital stream. Digitization enhances electronic transfer of high quality sound and video and improves broadcast transmission quality.

New features

It also brings with it new features. These include on-screen TV listings, true widescreen picture and red-button interactivity. This is especially common with UK's B Sky B Channel, where viewers engage the red-button interactivity functions like voting.

Access for the disabled

Some digital top boxes have special features for people with visual and hearing impairments, such as audio

4.3 CONCLUSION

In conclusion the researcher found out through the research and in retrospect to the research objectives and questions that indeed new technology has largely affected broadcasting and is the cause for the shift from analogue to digital transmission.

This has led to new methods of information gathering, packaging and the eventual dissemination.

New technology has led to the redundancy of analogue apparatus, their eventual disposal, and new installation of digital transmission equipment. This has revolutionized the media to begin offering quality programmes both sound and visual and a large investment on the new technology that is highly priced but to a greater good.

The risk associated with the assimilation of the new technology is less for one who accepts it than the media that doesn't as it loses out the competition and eventually come 2015 it will be terminated.

Through the research the researcher also found out the various broadcasting types that is analogue and digital plus the two types of digital TV - free to view and subscription channels

On how technology assisted the dissemination of information the researcher was able to find out that due to technology information is now readily available and in better quality and more quantity can be disseminated unlike through the previous soon to be discarded expertise. The researcher also found that due to advances in technology those left without the know-how remain an un-informed lot.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter will provide a summation of the findings of the research plus the recommendations of the research.

5.1 SUMMARY

Study findings revealed that there indeed were non-ignorable technological changes that had an impact on broadcasting. The broadcasting arena was now shifting from an analogue format of communication to a digital one that even has a compliance deadline for all broadcast media that wish to continue existing. The study also revealed of the lack of commitment from the legislators and government in formulation of laws and policies respectively that go hand in hand with the shifts in technology.

The trend towards digitization reflects the fact that digital technology is inherently more efficient than analogue. In an analogue network data has to be converted into tones simulating a voice signal, in a digital system the transmission of data does not require special processing. Digital technology has also been improved in terms of reliability and performance while its costs have been significantly reduced.

5.2 CONCLUSION

Technological change reduces the cost of equipment and raises expectations of quality. So far, the impact has been broadly incremental: broadcasters are delivering existing content through increasing numbers of channels, mainly DTV.

New media have the appropriate attributes to overcome the shortcomings of previous communications technologies. Digitalization as fore-seen not only increases on quality but frees up space that can be used for other purposes plus digital data is easily compressed and thus transferable using a small bandwidth than analogue data. Through the research the researcher also came to the view that the computer components used in the digital broadcasting than the components used in analogue the nature of devices used in the former also improve on error performance as well as boosting the signal performance. This hardware also can be able to recover on transmitted signals or data.

However the researcher came to the conclusion that Uganda as a country has not started on the road towards digitization but have left the liberal market open for individual players to digitize on their own.

The new media would improve broadcasting, by allowing choice, of channel, medium and viewing environment. A range of different experiences could flow from a single piece of content, because of the different media and different contexts in which it could be accessed. The most exciting feature of the new technology was the shift to interactivity, with forms designed to be controlled by the user.

5.3 RECOMMENDATIONS

5.3.1 Introduction

Here the researcher basing on the data collected plus the findings of the research and further consultation offers recommendation or a way forward.

5.3.2 Recommendations

The report recommends that Uganda should adopt either a policy driven approach on transition to digital broadcasting with a firm nationwide switch-off date, or a phased switch-off of analogue services within a period of three years. This will help create an environment that allows for the regulation of the industry.

In detailing the policy the report recommends that the government and concerned bodies embrace convergence of technologies and formulate ways for the control and ownership of broadcast signal distribution.

In relation to the above it's recommended that there be a re-assessment of the existing media regulations. This onus should be taken over by the Ministry of Information and National Guidance.

As the research found out that there lacked comprehensive knowledge and information on the subject the report recommends that there be a civic program sponsored by the government to inform the populace about the intended switch over, the redundancy of their receivers and thus help them formulate a way national way forward.

The report also recommends current broadcasters to form an independent company to run the signal distribution service, which the Government has promised to license on a priority basis.

It also calls on the Government to ensure availability of affordable digital receivers and television sets through various measures such as tax incentives to importers or subsidization as the equipment required is expensive both to the broadcasters and to the audience.

The researcher also recommends that there be an investment kitty initiated by the broadcasting council to cater for the retraining of journalists in the new technologies.

This will enable them use the new technology more effectively.

The government should promote universal access to the means of communication and to broadcasting services, including through the provision of information and communication technology (ICT) centers.

5.4 Conclusion

The report thus concludes that for Uganda to have a smooth sailing conversion to DTV come 2015 there needs to be taken strategic steps as above that will ensure the process. New technology continues affecting broadcasting and as far as it's beneficial it should be adopted. The impacts of the new technology have been mentioned throughout the report and in its closing advices for the assimilation of the technology into the process of information dissemination.

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APPENDIX

Questionnaire

Dear sir/madam

TO THE RESPONDENTS

I am a student conducting an academic research for partial fulfillment of the award of degree in mass communication from Kampala International University. This questionnaire will assist me in gathering, recording and analyzing information on effects of technology on dissemination of information. I therefore kindly request you to participate by providing accurate information that will enable me obtain relevant data.

NOTE:

Don't write your name for purposes of privacy and confidentiality.

(Background information on the respondent)

Gender: MALE () FEMALE ()

Level of education

Occupation:

Have you noticed any changes in TV broadcasting?

Yes ()

No ()

Please elaborate on your answer above

.....
.....
.....
Are the changes due to shifts in technology?

Yes ()

No ()

Elaborate on your answer above.

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.....
.....
How has technology affected TV broadcasting?

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.....
.....
What is digital broadcasting?

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.....
What is the level of broadcast technology in Uganda?

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.....
What is the future of TV broadcasting in Uganda?

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.....
.....
What are the hurdles facing digitization of the Ugandan media?

.....
.....

What are the shortcomings of digitization?

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.....
.....
.....

Will Uganda be digitized by 2015?

Yes ()

No ()

Explain your answer.

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.....

We are adopting new technology; do you think we should discard the old technology?

Yes ()

No ()

Elaborate further

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.....

What implications does new technology have on the media owners in the country?

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Please add anything you would think relevant that wasn't mentioned above.

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Nderitu Charles Ngubia

Thank you for your assistance

UGANDA

A Province has the same name as its capital except wherever noted.

SUDAN



ZAIRE

KENYA

TANZANIA

LAKE VICTORIA

Sese
Kalangala
Islands

KAMPALA

Kabarole

- International Boundary
- Province Boundary
- ★ National Capital
- Province Capital
- Other Cities

Map not to Scale

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