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Research Article

CHALLENGES IN APPLICATION OF ICT IN TELEVISION BROADCASTING

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ABSTRACT

This paper examines the application of ICT by broadcast professionals of Nigerian Television Authority, NTA Channel 10, Port Harcourt. The study was carried out to gauge the response of professionals of NTA to the use of ICTs; to ascertain various ways ICT enhances the broadcast process and to find out factors that militate against the use of ICTs by broadcasters of NTA. The survey research design was used for the research employing personal interview and observation technique to collect data qualitatively. The study population consisted of the staff of the engineering department; programmes department; and, news and current affairs department respectively at NTA. Nine staffs of NTA were selected purposively with three from each of the departments as sample. Findings from the research showed that the staffs have responded positively to ICT in the work place although the younger professionals have shown more enthusiasm towards using ICT compared to the older staff. Power failure and high cost of ICT tools and high cost of training are part of the factors militating against the use of ICT by broadcast professionals. The recommendations for this study include making funds available to upgrade ICT facilities, training and retraining broadcast professionals on the ethics and use of ICT resources and providing an effective and efficient power supply system in order to harness the unlimited potentials of ICT in broadcasting today.

Keywords: ICT; Television; NTA; Broadcasting; Challenges

INTRODUCTION

ICT or what some authors like Wright (2000) and Stafford, Kline and Dimmick (1999) refer to as Computer Mediated Communication (CMC) has done more than touch every facets of human communication: it has become the soul and central nervous system of communication process at all levels. Okoro (1998) is of the view that "CMC is as effective and cost efficient as when town criers addressed community gatherings in ancient village squares" (p.27).

Information and Communication Technology (ICT) is a term used to express the convergence of information from telecommunications, broadcasting and communications generally. Rodriguez and Wilson (2000) define ICT as a set of activities which facilitates and enhances the processing, transmission and dissemination of information by electronic means. ESCAP (2000) also views ICT as a technique people use in order to share, distribute, and gather information by communicating through computers and computer networks.Tiamiyu (2002) suggests that information and communication technologies are now generally perceived as strategic activities and the management of resources for stimulating personal, organizational and national productivity growth and development.

In its use in broadcasting, Samadar (1995) perceives ICT as an integral part for enhancing timely news delivery in the broadcast industry; he opined that ICT is a tool for facilitating the creation, storage, management and dissemination of information by electronic means. This it has been able to achieve by breaking down the time and distance barriers. Events can be reported as they happen in real time regardless of if the journalist is live at the event or monitoring the event from the studio or at home.

Heath and Luff (2000) predicted the impact of technology on news reporting; an impact that has led to a new enfranchisement for citizens. Before the advent of ICT, there was a significant time lag separating the point when an event occurs, and the time when the public becomes aware of such information as news. ICT has helped bridge the time lag between when an event takes place and the time it is made available to the public. The most significant impact of ICT on news is that it allows immediate feedback; the audience can respond to news stories instantly and immediately if they want to.

This led Adigwe (2012) to boast that "ICT in the 21st century is a force to be reckoned with because it has caused and continues to cause major changes in the way we live. The ICT revolution is a revolution changing all modes and patterns of communication and hence is bound to lead to dramatic changes in TV broadcasting and how information communication technologies are applied in television broadcasting.

Adigwe (2010) further states that ICT not only facilitates and enhances the creation, processing, sharing, production and dissemination of information in the broadcast industry but the immediacy and timeliness of news is of a high priority. With ICT news gathering has become faster, cheaper and readily available to anyone connected to the internet using any devices such as mobile phones, laptops, tabs, Palm

tops etc.

Broadcasters in Nigeria in the past were employing manual and analogue technologies in their programming, news gathering, processing and dissemination which in a way delayed delivery to the targeted audience. However, with the advent of ICT devices and digital equipment which are now being employed in the production, recording, programming, gathering, processing and transmission of news events by television broadcast stations in Nigeria, there has been an enhanced or improved delivery of broadcasting services. This invariably will mean a radical departure from the ways of broadcasting and the skills required to master the various ICT components.

In this vein, this research investigates the challenges of using ICTs by broadcasting professionals. The study attempts to ascertain whether the introduction of ICTs has been positive or negative for the professionals as well as the various ways ICT has enhanced the broadcast process. Also, this study will identify the constraints to the use of ICTs in the aforementioned aspects and how they are being managed and/or surmounted. The research objectives to guide this study include:

1. To find out the response of the professionals of NTA to the use ICTs.
2. To ascertain the various ways ICT enhances the broadcast process in NTA.
3. To find out factors that militates against the use of ICTs by the professionals of NTA.

The following research questions were formulated for this study from the research objectives, they include:

1. Do you have negative or positive response to the use of ICT by professionals of NTA?
2. How has ICT enhanced the broadcast process in NTA?
3. What are the factors that militate against the use of ICTs by professionals of NTA?

Review of related studies:

As technology has spread through our society, new behaviours and new ways of working have emerged. For example, few would have predicted the impact of technology on news reporting; an impact that has led to a new enfranchisement for citizens. Such changes necessarily affect the structures of a society and new or transformed institutions emerge (Heath & Luff, 2000).

In this regard, Dugo (2008) maintains that Information and Communication Technologies have transformed the world in all spheres of life in time past. He further elucidates the potential of ICT in reducing manual operations in fostering the growth in the media has increased rapidly. For this reason, ICT bridges the constraints of distance and time by possibly bringing news sources closer than ever before to the news gatherers and reporters.

McGee (2013) found that US adults check their email more than they browse the web or check their

Facebook accounts, making email the most popular activity for users to do on their smart phones. 78% of the respondents in the study revealed that they check their email on their phone. It was also found that 30% of consumers use only their smart phone to check their email, and 91% were likely to check their email at least once a day on their smart phone. However, the percentage of consumers using email on smart phone ranges and differs dramatically across different countries. For example, in comparison to 75% of those consumers in the US who used it, only 17% in India did (van Rijn, 2014).

Mugo (2006) is of the view that the telephone has bridged the time between the reporter and the source, reporter and editor, saving costs such as travel logistics. As news can be reported from any location and at any given point in time. Still, cost is one of the immediate impacts of ICTs on news gathering, as the cost of gathering news has drastically and significantly reduced with the advent of information and communication technologies.

Recent studies on the interplay between ICTs and journalism practice are largely grounded on the technological determinism theory whereby technology is viewed as a driver of social change. This approach attributes changes in journalistic practices to technological innovations (Chari, 2013). Griffin (2000) reveals that technological determinism through ICTs do not only extend our reach and increase our efficiency, they also act as a filter to organize our work schedule.

Rubbery (1996) in his study stated that with the advent of personal computers and Internet facilities, reporters and editors began to explore these facilities, becoming more productive on deadline, providing, in addition, greater context and depth to news items, while at the same time, saving time and money in the course of their jobs.

Thus, technology is either lauded for ushering unlimited opportunities to the journalism profession or blamed for various negative ramifications on the quality of media products (Wasserman, 2001; Fulton, 2008; Yau& Al-Hawamdeh, 2001). However, most of these studies dealt more with western media (Arant, 2000; Shumway &Berkman, 2001; Singer. 2011), with no emphasis on ICT use by journalists in Africa, or Nigeria in particular.

A book edited by Guy Berger (2005) is perhaps one of the first attempts to investigate the use of Information Communication Technologies (ICTs) (the internet, email and cellular phones) in selected newsrooms in nine Southern African countries. The study investigated the various problems embedded in the use of ICTs (Berger, 2005:8). Internet use was found to vary across countries, but email was used by all respondents. The study found that there was extensive utilization of ICTs and a considerable number of journalism practitioners confessed that they had engaged in some unethical practices, such as lifting material from the internet without attribution or downloading pornographic material (Letlhogile, 2005:35). Mabweazara (2005:96) notes that Zimbabwean journalists who participated in the study refuted the

existence of plagiarism among themselves.

Davenport, Fico and Weinstock (1995) postulated that there are still a good number of journalists and media organizations that are yet to embrace the computers, integrating same in their daily operations for reasons of cost, computer resources and expertise. This ends up affecting the quality of journalism which impacts directly on the citizenry, democracy and good governance.

An ethnographic study in Australia by Fulton (2008) revealed that journalists identify both negative and positive effects of information and communication technologies on their work, but the majority felt that ICT has more positives than negatives. Viewing the impact of new technology or ICT on journalism practice as either having "negatives" or "positives" is problematic because it masks the complex interplay of forces that shape journalistic practices. Some scholars argue that journalism practice takes place within certain institutional settings and organizational structures, where decisions are made and production processes prevail (Ndlela, 2008).

To support the positive impact of ICT use in the mass media, Ufuophu-Biri (2007) propounded that that ICTs have changed the situation in mass media positively, in various aspects of their operation globally, because news no longer takes time to travel within a country let alone across countries and continents.

Whereas the cell phone and Internet were status symbols in 2005, in 2012 there is hardly a journalist in the newsroom who does not use these technologies to gather news (Chari, 2013). Rogers (1995) argues that the adoption of new technologies must pass through five stages viz:

1. Exposure to the innovation
2. Formation of attitudes towards the innovation
3. The decision to adopt or reject the innovation
4. Implementation that is the trying out of decision
5. Confirmation – reinforcement

It is not unlikely that a good number of journalists in Nigeria must have journeyed through some of these stages, if not all. It is not unlikely that the experience of some members or organizations within the industry with computer usage may influence others within the social system.

Garrison (2001) studied the process of adoption of new technologies (computers) in the US newsrooms over a period of five years from 1994 to 1998, and submitted that journalists have moved through some if not all the five stages in Rogers' process of adoption of new technologies.

In the study, mail survey national censuses were conducted annually of daily newspapers with circulation of 20,000 or more for each year from 1994 to 1998. The newspapers population sizes were 514 in 1994, 514 in 1995, 510 in 1996, 510 in 1997 and 504 in 1998.

Surveys were mailed to respondents who were editors, managing editors, computer-assisted reporting supervisors etc. Series of close-ended questions were asked to measure the level of computer usage in their news gathering activities and also whether their agencies have worldwide website. There was consistency in respondents', newsroom roles over the period covered by the study.

Findings from the study showed that there has been a gigantic increase in the employment level of computers in newsroom activities generally. Also demands for new computer skills were on the rise. However, respondents said that computer use can be time consuming and difficult as in confirming online information.

The study concluded that there is compelling evidence that indicates that journalists' reliance on computers for reporting and other forms of information gathering is steadily on the increase, and in fact, gradually approaching complete adoption, especially in the areas of general use of computers in news gathering and general use of networked computer through the World Wide Web etc.

RESEARCH METHODOLOGY

This study adopted descriptive survey design to be able to draw inference concerning variables under investigation. This survey method is descriptive in nature and lays emphasis on the use of personal interview as the study is a qualitative one. Strauss and Corbin (1990) define qualitative research as, "any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification" (p. 17). According to Patton (2002), the researcher does not attempt to manipulate the phenomenon of interest (p.39).

The population of the study covered selected members of staff of the Nigeria Television Authority (NTA) Port Harcourt. The departments selected for this study were those involved in the production of programmes and broadcasting activities. They include; Programmes; Engineering; and News & Current Affairs departments respectively. Nine respondents, three from each of the above departments were selected for the purpose of this study

The sampling technique adopted was the purposive sampling method. It is a non-probability selection which does not follow the random process. Purposeful sampling is a technique widely used in qualitative research for the identification and selection of information-rich cases for the most effective use of limited resources (Patton, 2002). This involves identifying and selecting individuals or groups of individuals that are especially knowledgeable about or experienced with a phenomenon of interest (Cresswell& Plano Clark, 2011).

In addition to knowledge and experience, Bernard (2002) and Spradley (1979) note the importance

of availability and willingness to participate, and the ability to communicate experiences and opinions in an articulate, expressive, and reflective manner.

The instrument used to collect data for this study was the interview schedule or guide and a tape recorder and observation method. The technique was personal and oral interview method using semi-structured questions to ensure that respondents elaborate on their answers.

The data collected for the study were presented and analyzed descriptively using discourse analysis to ensure comprehension. The application of discourse analysis in research has been discussed in information studies (e.g. Budd &Raber, 1996; Frohmann, 1994; Talja, 1997; Talja et al., 1997; Tuominen&Savolainen, 1997).

DATA PRESENTATION AND ANALYSIS

(i) Research objective 1:To find out the response of the professionals of NTA to the use ICTs in terms of whether positive or negative.

The interviewees all said the general response to ICT has been positive although it has been slow. The younger members of staff were more enthusiastic in using ICT, while the older members of staff are slower in adopting ICTs, which is why the staff are sent on training to improve their hands-on experience using the newer digitized equipment. The older members of staff are encouraged to apply to attend these trainings and with time gradually they are catching up. On the question of which gender responds better to ICTs? The respondents said men respond more positive to ICT compared to women of NTA Channel 10 Port Harcourt.

The respondents of the news and current affairs department however disagree with one another on which gender responds more positive to ICTs. Ms. Onyedibia believes men and women have responded equally to ICT, Mrs. Omessah is of the view that women have distractions like pregnancy, raising a family etc. that prevents them from improving their ICT skills thus the men will show more enthusiasm, while Mr. Dahoho Isaac is emphatic that the men are more ICT savvy compared to the women who work at NTA Port Harcourt.

Researcher's Observation: the researcher's observation on the first research objective whether the response of staff of NTA to ICT has been positive or negative, most of the respondents talked about ICT positively, and were willing to learn more about ICT. I also observed that most of the staff holding positions that required using ICT equipment were mainly young staff like the cameramen, sound engineers, mixers and studio engineers. Also during the interview, younger staff members were more willing to be interviewed for this study than the older staff especially when the researcher introduced the topic of the study.

The findings from the first research question **"How have the professionals of NTA responded to the use of ICT in their work?"**show that broadcasting professionals of NTA Port Harcourt have responded positively to the use of ICT in broadcasting although the younger staff members embrace ICT better than their older counterparts, and the men respond more positive compared to the women.

(ii) Research objective 2: To ascertain the various ways ICT enhances the broadcast process in NTA

The interviewees stated how the ICTs have enhanced the broadcast process. In the engineering department, they named the components and their uses: the computer, used for troubleshooting and setting up other equipment; the internet, for research and communication; networking system, for sharing and saving files on a shared network; email, used for communication both with the internal and external publics; video mixer, used for video editing; videotape recorder, used to play or recording purposes; transmitter, used for broadcast clarity and reach; amplifiers, used for sound clarity; video camera, for recording videos and a host of other equipment.

The interviewees of programmes department mentioned aspects of broadcasting where they apply ICT in the department include: video and audio editing, where they use the video mixer and video console to create video projects and audio consol is used to synchronize the audio into the video project, they also use the videotape recorder (VTR) to record videos; the computer, is used to save, edit, arrange projects as well as playback scheduled programmes in multimedia; the network system, is used to save and share files on the network; the teleprompter, is used during live telecasts such as news and other scheduled programmes; internet and email for communication and research.

When asked "before the application of ICT what analogue component did you apply ICT to in your unit?" Mrs. Opene clarifies that back when they use analog for production, they use a divicam machine, where they roll using a divicam tape, but with the world going digital, computers have become a mainstay in their industry, even cameras have memory cards instead of tapes used in the past. Recorded programmes are edited and saved on the computer, and rolled in at the appropriate time for the programme to air. ICT has helped to surmount challenges they used to have in the past where tapes could freeze or show "caution" sign due to unfriendly weather or some unforeseen circumstance.

Staff members of the news and current affairs department stated that ICT has made their work faster and easier, breaking down barriers that could serve as impediments and hold-ups in the process of news gathering and production. News and reports can be gathered in the field using equipment such as digital cameras, mobile phones, tape recorders, and can be sent in from the field using email. Such reports sent in are then shared on the LAN network in folders for the editors to work on, and made available to be broadcast as news or other feature programmes. This is against the old ways of either mailing in reports which could be lost in the post or phoning in reports where some minor details could be lost in dictation/translation. They also use the internet for research and the teleprompter is used for reading texts on television by presenters according to Ms. Onyedibia, a presenter and newscaster. All the n has been added advantage in the broadcast process.

Researcher's Observation: the research confirmed that all the ICT equipment stated by the respondents

were available at NTA Channel 10, Port Harcourt, Rivers state, Nigeria. Most of the ICTs observed were operational and in good working condition during the time of the interview. The researcher also observed some old and obsolete equipment like desktop computers, laptops, audio mixers and microphones. The respondents informed the researcher that some the obsolete equipment needs to be changed for better digital versions.

The second research question **"how has ICT enhanced the broadcast process in NTA?"** From the list provided above, we can see that ICTs have enhanced the broadcast process, documenting how each ICT equipment is used in broadcast activities in the various departments of NTA Channel 10 Port Harcourt.

(iii) Research objective 3: To find out factors that militates against the use of ICTs by the professionals of NTA

The interviewees in their response to the third research objective are stated below. When asked if NTA Port Harcourt sends their staff on ICT training? Staff of the engineering unit said that NTA Port Harcourt sends their staff for ICT trainings. Mr. Richard Hart informed that one of his colleagues in the department just returned from the NTA-run TV College in Jos, Plateau state. Staff are sent there at intervals for training and refresher courses that last between 2-3 months. Sometimes, staff members are sent to India for training as well. He further adds that most of their trainings are usually sponsored by NTA Port Harcourt. This view is supported by the other two respondents. However, they state that the trainings are very few and difficult to secure sponsorship as the resources are very lean.

Staff members of the programmes unit answered that staff of NTA Port Harcourt are sent on ICT training quarterly to improve their know-how on the job. Mrs. Opene also recalls that a staff was sent to India for training. Mrs. Godwin claims to have been sent to the NTA College in Jos, Plateau state for training. They inform that they do not know anyone who sponsored himself/herself to any ICT training.

However, for the news and current affairs department, Ms. Onyedibia claims to have attended a workshop on ICT sponsored by NTA Port Harcourt, Mrs. Omessah says that she has not been sent on any ICT training but is aware staff are sent to training in Jos, however, the process is very competitive due to limited resources, and Mr. Isaac added that although he has not sponsored himself or knows anyone in his department who has sponsored himself/herself to training, he is of the view that the staff try to upgrade their ICT knowledge in order to keep up with the technological advancements by buying the latest gadgets like laptops, ipads, iphonesetc for their personal use and also asking for guidance from other staff members who are better operators of such gadgets.

The interviewees identified some factors that affect ICT usage by broadcasting professionals of NTA Port Port Harcourt. The interviewees of engineering department described some factors that affect their use of ICT to include poor networking which occurs in periods when there is heavy rainfall or adverse weather

conditions and especially thunder storms, high cost of getting ICT components and high cost of training staff because of lean resources.

Also there is the problem of synchronizing audio and video recordings which can be challenging, and it is the job of the engineering department to correct such anomalies. Freeze frame is caused by frame sync losing its input signal and holding the last good frame for output, this they correct by either rebooting the system or using software to clear it up. Picture jumping occurs when picture jumps vertically or horizontally, it shows the analog video was not synchronized to the Analog to Digital encoder. The analog video needs to be cleaned up before being fed to the Analog to Digital converter again using the processing amplifiers.

Other problems they highlighted include the problem of interference, when a second picture fades in over the main image, it's a sign that a second signal is interfering with the desired one. Finally, power surge or power failure is a problem they encounter as it either disrupts transmission putting the engineers under pressure to rectify the situation or sometimes such outages cause damage to equipment or leads to loss of data and system settings because of the unexpected cut in power supply.

The respondents of programmes department informed that one of the challenges they have with ICT is "overload". They may queue so many programmes on the system which can cause freezing, this they try to minimize by not loading too many programmes at the same time. They also have the challenge of "lip sync". Lip sync, short for lip synchronization, implies that the audio and visual components of a programme do not synchronize. That is; the voice may be faster than the picture or vice versa. There is also the problem of loss of data during an unexpected power failure especially if they are working with a system that is not connect to the UPS mains because the UPS is connected to carry the most essential equipment especially those involved in live on air transmission, however, there are lots of other background operations that go on in the studio that any malfunction in any of them will impact negatively live transmissions.

According to the respondents of news and current affairs department, challenges do arise from using ICT at NTA Channel 10 Port Harcourt. They cite one of them as network failure especially at the peak of timely events, caused by system crash, thus making news reports/programmes inaccessible. Another problem that can be encountered by the news and current affairs department is the loss of sound quality during a production especially a live programme.

They went further to name factors that can affect the sound quality to range from mechanical, in which case the engineers in engineering unit are called upon to correct; environment related, for example events such as live outside broadcasting where the background noise can affect audio transmission, the engineers also try to isolate the noise in such circumstances; and also loss of audiovisual which could be caused by weather vagaries during outside broadcasting affecting sound and/or picture quality causing blurred images in the case of picture. There are also desync issues, where the audio fails to match up to the visual footage, this can be especially critical when talking is involved, and can be particularly frustrating for

viewers.

Researcher's observation:

The researcher observed firsthand the problem that arises from unexpected power outage. One of the computers in the engineering department refused to come up after the generator had been put on. The engineers had to use an alternative method to boot the computer as it contained important files that are used daily.

Finally, on the third research question **"what are the factors that militate against the use of ICTs by professionals of NTA?"** The findings from the respondents show that there are indeed factors that militate against the use of ICTs by broadcast professionals of NTA Channel 10 Port Harcourt. The main ones that cut across all departments are power failure and equipment malfunction due to hardware or software problems. Improving the power supply can also help to reduce equipment failure and also low availability of ICT training opportunities for staff as none of the interviewees have been sponsored by NTA Port Harcourt for any ICT training although they know other staff who have been sponsored for ICT trainings locally and internationally.

DISCUSSION OF FINDINGS

Research question 1: What is the response of broadcast professionals to the use of ICT in NTA?

The research work showed that the response of staff of NTA Port Harcourt to ICT has been more positive than negative. This view is supported by Fulton (2008) who revealed that journalists identify both negative and positive effects of information and communication technologies on their work, but the majority felt that ICT has more positives than negatives. The study further showed that the younger members of staff have been more enthusiastic to adopt and improve on their usage of information communication technologies in their work.

Garrison (2001) in his study found that respondents said that computer use can be time consuming and difficult as in confirming online information. This may be why there is a slower affinity for ICTs at NTA Port Harcourt as the age increases, people who are used to doing things in a particular way do not easily conform to doing the same things in a different way.

Thus a recent journalism graduate is already grounded in ICT use from the university and has made it a part of his life, while older journalists who have been working may find it more difficult to change as they have not made such ICTs a major part of their life unlike journalists fresh out of the university.

Our study showed that the adoption of ICT by professionals at NTA Port Harcourt has a higher percentage as the age reduces. Thus the older and perhaps less adventurous journalists are less inclined to adopt ICTs, although our respondents state that everyone wants to be identified with ICTs, the older members of staff may see it as a hard process to learn while the younger ones will see it as a part of their life

incorporating ICT tools of social media like facebook, twitter, google+, skype and other available communication media technologies.

These media we have seen in current times have been employed by broadcast professionals. For example, tools like skype, google+ and youtube can be used to hold video interviews (live or recorded) with news sources, personalities or even the journalist reporting live into the studio.

From their responses one can say that there is a psychological element that comes with the use of ICT by broadcast professionals of NTA Port Harcourt, no one wants to be unable to perform tasks and responsibilities that requires the use of ICTs which can lead to the staff being regarded as incompetent and ICT non-compliant.

Also, because of the "I want to belong factor", where staff ensure they are part of the ICT revolution mainly because they do not want to be left behind by current developments in their place of work. There is a sense of satisfaction they derive from being ICT compliant, and this can in the long run improve efficiency, as they will want to put their gadgets to the test to see if it can perform functions as stated by the manufacturer.

On the subject of gender diversity in the use of ICT by staff of NTA Port Harcourt, all the respondents agree that men show more interest in improving their ICT knowledge compared to women. Only one of the respondents alluded that family and societal responsibilities is responsible for women being not as responsive to ICTs as their male counterparts.

Research question 2: How has ICT enhanced the broadcast process in NTA?

In ascertaining the various ways ICTs enhances the broadcast process for broadcast professionals of NTA, this study agrees that the use of ICTs in the broadcast process has made their jobs faster and easier. Griffin (2000) supports this assertion by stressing that technological determinism through ICTs do not only extend our reach and increase our efficiency, they also act as a filter to organize our work schedule.

The study showed that the use of ICTs means that the work of NTA staff is now faster because of the type of digitized equipment they use with much larger processing speeds for the transmitters, as well as the equipment being able to detect faults by troubleshooting and pin-point where such faults may come from and how to correct them. This is a huge step forward in television broadcasting as valuable time that would have been spent trying to find out what is causing a particular problem is saved by the equipment telling the operator why it is malfunctioning and how to correct it.

The respondents further added that self-editing projects has made the job of the editors easier because reporters now have the means to edit their work from home or the location where they send in their reports, instead of the former practice of just filing the report and the editor edits. Back when desktop computers where the main editing equipment and staff had to come into the studio to edit work. Now,

however, editing can be done by anyone from any location; from home, airport, supermarket, fast food eatery etc. without necessarily coming into the studio.

Tiamiyu (2002) sides with the above view by suggesting that information and communication technologies are now generally perceived as strategic activities and the management of resources for stimulating personal, organizational and national productivity growth and development.

The respondents were of the view that networking on shared system using WLAN/LAN has eased access to files. Their completed or uncompleted reports and programmes are stored on a shared wireless network, and reporters, editors and producers can access such files as the case may be. The projects are stored in folders and staff can access them as required. Thus this can be seen as an innovation because it makes the work easier. Staffers are assigned routines and schedules, the reporter knows the deadline to submit his story, the editor knows the deadline to make the story news ready and the producer knows that at a particular time, a news report/programme should be ready for broadcast.

This assertion agrees with Rubbery (1996) who stated that with the advent of personal computers and Internet facilities, reporters and editors began to explore these facilities, becoming more productive on deadline, providing, in addition, greater context and depth to news items, while at the same time, saving time and money in the course of their jobs.

Ufuophu-Biri (2007) posits that ICTs have changed the situation in mass media positively, in various aspects of their operation globally, because news no longer takes time to travel within a country let alone across countries and continents. News items and events are shared within seconds of their happening or as they are happening with updates by the minutes as such events keep unfolding.

Research question 3: What are the factors that militate against the use of ICTs by professionals of NTA?

The study showed that NTA Port Harcourt sends its staff for ICT trainings; however, such trainings are limited and not adequately funded making it very competitive. Only two of the interviewees have attended ICT training sponsored by NTA, most of the others know someone who has been sponsored for such trainings in the past. The challenge here is that broadcasting professionals need to be trained and retrained to ensure they keep abreast with latest developments in their profession. The inability of the management of NTA Port Harcourt to adequately train staff on ICT will affect the quality of the work they do especially in our technology driven world.

Using the internet for journalism can create room for plagiarism (Letlhogile, 2005). This was a limitation for this study as the researcher did not ask the respondents especially those who use the internet to gather information for weather reports and features if they cite their sources of information when reporting. This can be captured in another study that will deal with plagiarism among journalist to find out its extent.

The research also showed that media professionals encounter lots of challenges in their use of ICTs. All the respondents agree that power interruption is a challenge in their use of ICTs. Epileptic power supply is not a problem limited to NTA Port Harcourt. It is more of a national problem with billions of naira invested into the power sector by the federal government of Nigeria since the return of democracy in 1999, yet there has been no improvement. Most firms both public and private have resorted to using diesel engine generators and most recently inverters to minimize the effect of power problem.

NTA Port Harcourt was no exception as the researcher observed different types of power generators powering different buildings in the course of this study. Most times the power problem is not solved because it is expensive to maintain and run these generators. You then find out that whenever the generators are put on, only essential equipment are powered to reduce the fuel consumption, and this can then affect the performance of staff of NTA Port Harcourt. This is so because everyone employed has a role to play in the organization, not powering his/her office because they are deemed non-essential sends a wrong message mentally such that the staff sees themselves as not being important in the scheme of things. This will ultimately affect the efficiency and performance of such a staff.

The ICT equipment are not left out as incessant power interruption can lead to malfunction or damage of such equipment and in other instances loss of data can occur if a system shuts down abruptly several times in a day. This can be minimized by using an inverter or UPS that is switched on automatically once there is a power failure and ensures equipment are remain on until the generator is put on or the equipment are properly shut down as recommended by the manufacturer.

The respondents also listed high cost of getting the latest ICT gadgets as well as the training workshops to use such equipment in the broadcasting industry. The government can be of help here by increasing the budgets of broadcast stations to include purchase of digitized ICT equipment and regular training and retraining of staff to refresh their knowledge. Government should also remove some of the bureaucratic bottlenecks that cause delay in approving and releasing funds for such ICT tools and training grants as it can affect the quality of broadcasting. Effort should be made to make this process easier and timely.

As Davenport, Fico and Weinstock (1995) have already pointed out; there are still a good number of journalists and media organizations that are yet to embrace the computers, integrating same in their daily operations for reasons of cost, computer resources and expertise. This ends up affecting the quality of journalism which impacts directly on the citizenry, democracy and good governance. This should be avoided to improve the quality of journalism by government owned broadcast stations in Nigeria.

The respondents stated that they also experience loss of sound and image quality during productions especially live programmes. Factors that can affect sound and image qualities may range from mechanical, in which case the engineering unit may be called upon to rectify or environment related, like those observed

during live broadcast, the engineers also try to isolate the noise in such a circumstance.

CONCLUSION

This study has been able to show that information communication technologies, ICTs, have been widely applied and positively embraced in television broadcasting by broadcast professionals at Nigeria Television Authority, NTA, Channel 10, Port Harcourt.

The research has thus demonstrated that the members of staff of NTA Port Harcourt have responded positively to the use of ICTs in carrying out their respective tasks as it pertains the television broadcast industry. We were also able to demonstrate from the result that the younger members of staff embraced ICTs better than the older members of staff and the men responded more positive compared to the women. The gender disparity in the acceptance of ICTs by broadcast professionals should perhaps be studied further quantitatively to find out the levels of acceptance and also the reasons why such disparity exists.

The findings also showed that digitization has enhanced productivity of broadcast professionals of NTA Port Harcourt, and has also helped them reduce the burden of some challenges like weather and environmental vagaries thus giving them more confidence when carrying out assignments.

It was discovered that NTA Port Harcourt sends it staff on ICT Trainings. We can also deduce that of the nine respondents, two have attended sponsored ICT trainings, while the others know other staff members who have been sponsored for ICT trainings. Efforts should be made by the management to send more staff on training in order to keep up with trends in the communication world.

Finally, there have been some challenges that affect the use of ICTs by broadcast professionals of NTA Port Harcourt. The main challenges include; lack of stable power supply, mechanical failures because of outdated equipment, bad weather conditions, poor funding for staff ICT trainings and retraining amongst a host of others. The management is expected to come up with measures that will ameliorate some of these challenges.

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