GSM technology, The Internet and Communication for Development: An evaluation of the interactivity of broadcast Programmes on Nigerian Television stations"

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Abstract
The Democratic-Participant theory and the Development media theory were attempts at addressing the obvious limitations of the original four theories of the press, as regards the developing nations. One common denominator in the principles of these theories as given by McQuail is the need for people at all levels to participate in the process of bringing about development through the use of effective communication. In Nigeria, the advent of the GSM technology and the internet has opened a lot of channel for interactivity in broadcast content. This chapter will focus on how these new media have turn around the packaging of broadcast content, with particularly focus to interactivity in television programming.

Keywords
Television, Communication for Development, Mobile phone, Internet and Interactivity

1. GSM AND THE INTERNET IN NIGERIA :Historical perspective

1.1 GLOBAL SYSTEM FOR MOBILE COMMUNICATIONS (GSM)

August 7, 2013 marks exactly twelve years since Nigeria joined the rest of the world in acquiring the GSM, before then, access to telephone was the exclusive preserve of the rich and privileged few in the society.Adegbite (2013) Prior this historic breakthrough, the total available telephone lines in the country before GSM were below 500,000 which are grossly inadequate for the over 130 million population of the country.

Indeed, the rate of investment in the telecom sector since 1999 is regarded only second to the oil industry. With over 45 million subscribers' base, Nigeria's telecommunication industry is regarded as the fastest growing in the world. This has opened up huge business opportunity in the telecom industry; it has empowered the people economically through creation of mass employment. Today, so many unemployed people are earning their living by operating phone calls Centre's, selling recharge cards and GSM accessories. It has equally become a major source of revenue for the government. GSM operators do make substantial financial contributions to the Nigerian government through the payment of taxes and duties. Babaita (2010)

1.2. **INTERNET**

The internet came with an evolution that cannot be compared with technologies that existed before it. Molosi (2001) remarked that the television revolution took 13 years to reach 50 million viewers and the internet achieved this mark in only 4 years. There is no doubt that the rate of deployment of new technologies in developing countries is low, especially those of sub-Saharan Africa. This is particularly noticeable in the area of telecommunication and computing infrastructure, such as telephones, power supplies, development of appropriate electronic networks etc. Today, the growth in telecommunication infrastructure has led to increase in internet connectivity. More people get connected to the internet through ISDN, VSAT and even through the mobile phones. Governments in Africa in their ICT reforms programmes have made efforts to liberalize the market and privatize the sole carrier. A number of countries have adopted the Global Systems of Mobile Telecommunications (GSM) which has boosted the overall available telephone lines. For instance, in Nigeria, Zimbabwe and Uganda government have licensed a number of GSM operators. Nigeria's Internet sector has been hindered by the country's underdeveloped and unreliable fixed-line infrastructure, but this is changing as competition intensifies and new technologies are able to deliver wireless broadband access. More than 400 ISPs have been licensed as well as a number of data carriers, Internet exchange and gateway operators.

2. ICT AND THE NEW MEDIA

2.1 THE ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY IN THE BROADCAST INDUSTRY

Information and communication Technologies (ICTs) are the plethora of technologies that allow users to participate in a rapidly changing world in which work and other activities are increasingly transformed by access to varied and developing technologies. Ayo (2001) says Information technology can be defined as *the acquisition, processing, storage and dissemination of vocal, textual, pictorial, and numerical information by a micro-element based combination of computer and telecommunications.*

ICTs have increased international interconnectedness and have sped up the process of globalization. There have been ICTs, in conjunction with globalization and the information revolution, which have reshaped the entire outlook of the world. Moreover, these technologies continue to converge and bring alight new innovations. Oliver & Chapman (1990), while looking at ICT in media parlance, comment that new media technologiesare viewed by scholars in different ways. They further define ICT as;

"The technologies that support the activities involving the creation of information together with their related method, management and application. These new technologies of obtaining, storing, editing, retrieving, packaging and communicating information rely on scientific means and are quite fast as they are mostly computer driven. They aid the transmission and reception of knowledge for decision making by individuals, organization and governments."

Information and Communication Technology or ICTsallow users to participate in a rapidly changing world in which work and other activities are increasingly transformed by access to varied and developing technologies.

In tandem with the postulate of Marshal McLuhan in his technological determinism theory, the electronic media, especially Radio and Television, are at the forefront of societal changes and are experiencing convergence of technologies such as the internet, digital satellite, mobile telephony, computer technology and other ICTs.

2.2 THE CONCEPT OF MEDIA CONVERGENCE

Media industries are not only combining economically, as media companies began to buy and sell each other, but the technologies of the industries also are merging. This convergence means that eventually the products the media companies produce will begin to resemble each other. Traditional media industries with the computer industry would create a new type of communication. Biagi (2010) reinstates this when he noted that convergence essentially denotes that media continue to tie with one another to bring alight new innovation that has high effect not only on the entire outlook of the new innovation, but on how people can use and effectively manage it. Accordingly, therefore, areas of high import are convergence of broadcast media with other telecommunications or even ICTs. For instance, satellite communication was a technological phenomenon and breakthrough that was inculcated into television. Likewise cable TV evolved from a backdrop of cable networks. Today, the computer and internet technology continues to explore new grounds in communication; for broadcast media, the outcome is webcasting via streaming and internet television and radio by subscription. Mobile television and radio are also taking a place in the convergence. In fact, all these areas of convergence still continue to converge further, such as accessing internet TV content via the mobile phone or satellite materials from your cell phone.

3. INTERACTIVITY IN BROADCAST PROGRAMMING

3.1 Interactivity: This is the ability of the audience to interact with broadcast media (radio and television) and broadcast contents. Interactive broadcasting gives the audience an active participatory role in broadcasting, be it in channel/programme options or direct influence over broadcast contents.

Porges (2007) posits that many viewers are beginning to understand what video delivered over the internet might provide and their imagination have already broken free of their living rooms. Multi-platform initiatives and mobile ITV and mobile radio have been added to the strategic planning of many key players in the broadcast industry.

Interactive television and radio is made possible by the development of ICTs and its subsequent convergence with broadcast media. However, interactive broadcasting is not limited to internet pathways alone, it is presently possible in differing forms in all areas of broadcast via terrestrial, cable and satellite. To be truly interactive, the viewer must be able to alter the viewing experience (e.g. choose which angle to watch a football match), or return information to the broadcaster. This is possible through a “return path”, This "return path" or "back channel" can be by telephone, mobile SMS (text messages), radio, digital subscriber lines (ADSL) or cable.

Mobile technology has made it possible today for audience members to interact with Radio and Television beyond the technological control of remote to select program choices- from station to station- to embrace direct or delayed interactivity with programmes and even content. This fact was echoed by Popoola (2003) who states that the Global Systems of Mobile Communication (GSM) has aided phone-in or text-in programmes where audience members can contribute significantly to programme contents. In cable television, Cable TV viewers receive their programs via a cable, and

in the integrated cable return path enabled platforms, they use the same cable as a return path. Satellite viewers, mostly, return information to the broadcaster via their regular telephone lines. They are charged for this service on their regular telephone bill. An Internet connection via ADSL, or other, data communications technology, is also being increasingly used.

3.2 Mobile Television/Radio

Mobile television is gradually being introduced into Nigeria. Presently, there is a signed pact between DSTV and MTN mobile company for mobile television for the Nigerian audience accessible through subscription.

4. INTERACTIVITY IN NIGERIAN BROADCAST CONTENT: VIEWS FROM "THE HORSE'S MOUTH"

WALE FASHINA, BROADCASTING MANAGER, ENTERTAINMENT CABLE TELEVISION, DISC ENGINEERING LTD. ON TUESDAY, 15TH JUNE, 2010.

"If you look at DSTV, HITV websites you'll find out that they have all their programme line-up for the month pre-scheduled depending on the kind of bouquet you are on. But if there are certain events that would come up to change the programme set-up then it would be communicated duly. They also have their interactive guide that is given out every month; you pay for it along with subscription dues. This gives the audience control over what programmes to watch. DSTV has also got PVR, which is a decoder that enables you to record live programmes for future viewing, rewind recorded programmes and even create a forum for interaction of live programmes that the audience can partake in. and taking it out to the internet and mobile phone, you'll see that many interactive options

MR. OGUNADE TEMITOPE ICT CO-ORDINATOR AND ENGINEER FOR LTV - MONDAY 14TH JUNE, 2010.

"Interactivity is one of; if not the only influence the audiences have on television programmes, live programmes. Just like on radio, where you can be stuck in hold-up (traffic jam) for hours, listen to radio and even contribute. With mobile television you can do the same. In hold-up (traffic jam) or when you are less busy, you open your phone and start watching and even contribute if it is a live program."

RUFAI SHAKIRU, ICT CONSULTANT FOR NTA, NETWORKING, ENGINEERING AND MAINTENANCE - 9TH JUNE, 2010 AT 11:30 A.M.

"Interactivity, as far as I know is not just having or making contribution to programmes, even these DSTV interactive guide is a form of leverage for audience to have pre-empted control over what they would watch at a particular time. You know DSTV, HITV both have structured, automated programmes. Now you also have decoders that can record live programmes. I think DSTV calls it PVR. Yes, our own satellite decoder can also do the same. You connect. We have it in our editing studio. You connect and it has options which can record live programmes. And yes your call in programmes, of course, you have to use a mobile phone to call in or text in or your computer/internet to mail in and these are all interactive and they fall under ICTs has we have earlier mentioned. But using the internet to measure your level of viewership may be the best option. Say "for comments and suggestions or answer this question… through this people can also interact….for example a ending show can continue on FaceBook or any other social media.These would not have been possible without the internet or mobile or website…this is the trend everywhere in the world and Nigeria is on with it. So ICTs would improve audience interactivity definitely."

MR. EUGENE NWOJI, HEAD, IT DEPARTMENT, SUPERSCREEN TELEVISION - MONDAY 20TH JUNE, 2010

"Well generally we have phone-in or call-in programmes and text in programmes and of course you'll need your mobile phone for that. Sometimes it could be text in we are still looking at that. Audience partakes in programmes using these. For our websites there are some features we have. It's just that we are working on it putting one or two things in place to make it better and more interactive. For example we have an interactive programme like Super Dawn, which runs from 7.00 a.m. to 9.00 a.m. We have people that regularly call in and air their views. We also have the short-code where you can send your SMS and it can be scrolled. But we've gone a step further. We've asked our producers to give us the topic they are planning on doing and some other things a day before. So people can go to the website. They can read up and you know they can even make suggestions- this is what I want- you understand. We also have a feature that is built into our website called the *Super Watch*. With the Super Watch, you can see something or come up with an issue that you want to see on air. We can broadcast it if it is transmission friendly and if it is not then we can pick points out of it and talk about it…. So we are actually giving the audience a way of participating not just being the end consumer but being a part of the process itself"

GREG UGBODAGA, HEAD, ENGINEERING DEPARTMENT AND SUPERVISOR, IT UNIT; AIT - 2ND OF JULY, 2010

"Currently everybody knows that AIT is currently the people's television. It's all about the people anyway and interaction currently has been two ways. Through your SMS equipment, for example, they have some SMS equipment in the studio. Everything is displayed on the system there. So people sending in their text messages, their e-mails and, of course, their phone-in programmes. So it's more or less what has already been in place. It's just about taking it to the next level. Interaction is always there. There is a programme "Focus Nigeria". Most programmes running on AIT are dealing with the people and you can contribute from home or office or whatever."

MR. ROBERT BETURE, MANAGER, TRANSMITTER UNIT, DAAR TELEVISION - 2:15 P.M. 2ND JULY 2010

"You see when GSM came in people had the option of calling or texting in or both and that increased their rate of participation, unlike the NITEL days, that were the privilege of the rich. Anybody can now communicate with presenters and even contribute to issues by calling in or texting in their opinion. So ICT has helped here. Also when we get our internet TV on board and in the future probably have our own mobile link, more people will be reached and they can instantly contribute to discussions and I believe, discussions can continue even after the programme ends on air, you can even create a special kind of audience group interaction through the internet all evolving from the interactive sessions of our programmes."

PETER OLAKUNLE, BROADCAST MANAGER, HITV, - 26TH JUNE, 2010

"One we have our interactive guide, which we give to subscribers. They can preview foreign programmes and make up their mind what they want to want at what time and that is for recorded programmes. You know we have live programmes and recorded programmes. On the other hand, for live programmes, you can interact with the programme and make contributions either through text or calls even beyond the country borders. So it is interactive. And there are also terrestrial local stations on our bouquet. They have channels you can tune to"

VICK AHAN, RELAY MANAGER, MULTI-CHOICE WEST AFRICA (DSTV) - MONDAY 7TH JUNE, 2010

" The area of interactivity we have the interactive guide both printed and electronic and you can choose any channel you want or even with our PVR decoder, you can do so much with it. You can

record live programmes and even recorded programmes and watch it later. It records for up to 80 hours. You can also pause and rewind live programmes and fast-forward recorded live programmesThis would improve your control over the services and with DSTV on-line and mobile interactivity is enhanced if the programme is live. It is easier"

5. EVALUATION OF THE USE OF GSM AND INTERNET ON SELECTED NIGERIAN RADIO AND TELEVISION STATIONS

TABLE ONE

DATA COLLECTED ON SELECTED BROADCAST STATIONS IN NIGERIA

STATION	PROGRAMME TITLE	PROGRAMME DESCRIPTION	USE OF GSM AND INTERNET FOR INTERACTIVITY	TIME OF TRANSMISSION
Africa Independent Television (AIT)	Kakaaki	2 hours magazine daily programme, focused on current affairs (Mon.-Fri.)	Audience phone in	7.00am – 9.00am
	Sound City	Daily musical programme with different segments	sms, emails	10.00am- 11.00pm
	Gbedu	Daily musical programme focused on featuring indigenous Nigerian artist (Mon.-Fri.)	Audience phone in request, text messages/sms	1.00pm- 3.00pm
	Focus Nigeria	Discussion programme focused on political and economic issues in Nigeria(Mon.-Fri.)	Audience phone calls, text messages	10.00am-11.ooam
Lagos State Television (LTV)	Owurolawa	Daily magazine programme in Yoruba language focused on current affairs and targeted at the general audience(Mon.-Fri.)	Phone in,	6.00am-12.00pm
	Day –time talk	Daily discussion programme aimed at identifying and presenting critical and opposing views on chosen issues(Mon.-Fri.)	Audience phone calls	1.00pm-2.00pm
WAZOBIA Fm	How Una See am	Magazine programme presented in "pidgin	Audience phone in, sms,	6.00am-12.00pm

		English" a n informal English usage among Nigerians regardless of level of education or creed. The name WAZOBIA, is the combination of the three dominant language in the multi language society of Nigeria(Mon.- Fri.)	facebook request	
	Go slow yarn	Go slow is a "pidgin" language used to describe bad traffic situation among Nigerians. The programme is an interactive programme aimed at allowing citizens to make traffic report in order to fore warn others from falling victim to bad traffic and it is transmitted daily(Mon.-Fri.)	Phone calls from audience on the road, sms/text messages	7.30 pm- 9.00pm
	Eko how unadey	This is a daily programme targeted at creating a forum for audience living in Lagos to discuss and express their views about the peculiarities of living the most acclaimed busy state in the country	Emails, facebook remarks, phone calls	2.00pm-3.00pm
Radio Lagos (107.5fm)	Kasunlayo	Daily musical/talk programme aimed at giving the audience a companion in radio presenters as the audience prepare to sleep after a hard day work	phone calls, text messages	11.00pm-1.00am

	Ojutaye	A magazine programme presented in Yoruba language, with lot of segments and transmitted Mon-Fri. The programme address current issues spanning the various segment of the society	Emails, phone calls, text messages/sms, letter	10.15am-12.00pm (Mon-Thur.) 10.15am-11.00am(Fri)
Supreme Fm (96.1) Kaduna	Woman to Woman	15 minute radio magazine weekly programme targeted at discussing and developmental issues concerning women	Emails, text messages	8.03pm- 8.15 pm(Tuesdays) 1.03pm-1.15pm (Thursday repeat)
	Morning Ride	Daily magazine programmes from Mon-Fri. The programme address current affair issues spanning the various segment of the society	Emails, text messages/sms, phone calls	8.00am-12.00 noon

5.2 TABLE TWO

ANALYSIS OF SELECTED PROGRAMMES ACCORDING TO THE FREQUENCY OF TRANSMISSION AND ITS RELATIONSHIP TO THE FOCUS OF THE PROGRAMME

Frequency of transmission		PROGRAMME FOCUS			
		DEVELOPMENTAL/ CURRENT AFFAIRS	ENTERTAINMENT	OTHERS	TOTAL
DAILY	Mon.-Fri.	78% (n=7)	11% (n=1)	11 (n=1)	100%(n=9)
	Everyday	-	50% (n=1)	50% (n=1)	100% (n=2)
WEEKLY		-	-	-	-
OTHERS		50% (n=10	50% (n=1)	-	100% (n=2)

The table above indicate that majority of programmes evaluated are focused on developmental / current affairs issues, and are transmitted Mondays to Fridays. This analysis could be interpreted to mean that programming in most of the broadcast stations in Nigeria are focused on enlightenment and development.

5.3 **TABLE THREE**

TIME OF TRANSMISSION	METHOD OF GSM OR INTERNET USED							
	P	T	E	F	2FR	3FR	4FR	TOTAL
6.00am-12.00 noon	33% (n=2)	-	-	-	17% (n=1)	33% (n=2)	17% (n=1)	100% (n=6)
12.00noon-6.00pm	25% (n=1)	-	-	-	50% (n=2)	25% (n=1)	-	100% (n=4)
6.00pm-6.00am	33.3% (n=1)	-	-	-	33.3% (n=1)	33.3% (n=1)	-	99.9% (n=3)
TOTAL	31% (n=4)	-	-	-	31% (n=4)	31% (n=4)	7% (n=1)	100% (n=13)

RELATIONSHIP BETWEEN TIME OF PROGRAMME TRANSMISSION AND THE METHOD OF INTERACTIVITY USED ON SELECTED PROGRAMMES

KEYS; P- PHONE INS, T- TEXT MESSAGES/SMS, E- EMAILS, F- FACEBOOK CONTRIBUTIONS, 2FR- TWO OF THE FOUR IDENTIFIED METHOD OF GSM AND INTERNET USE, 3FR- THREE OF THE FOUR, 4FR- FOUR OF THE FOUR

It is observable from the table that all programmes used for the study have at least 1 element of interactivity via the GSM and/or internet-related service no matter the time of transmission. Also, all programmes that do not make use of more than one technology of the new media will receive phone calls during the programme. The interpretation of this will suggest that whereas both GSM and Internet has become an integral part of programme content package in Nigeria, the GSM still appears more popular and common place. There could be a number of explanations for this observation, however, the ones that can readily come to mind would be the fact that most Nigerians do not yet have sufficient access to the internet, plus the fact that getting a GSM line is cheaper and more available than getting to the internet in the country. More so, given the fact that a good number of the Nigerian populace is still illiterate, the level of sophistication needed for the use of internet-related medium might pose as a major challenge.

This might also inform, why most broadcast organizations in the country will prefer to use at least two methods out of the four common methods identified and listed in the course of researching and writing this paper, in order to achieve interactivity in programming.

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