

The Impact of Evolution of Technology on Communication

AWOFADEJU PETER OLAYINKA

Mass Communication Department,
Oduduwa University, Ipetumodu, Osun State.
Awofadejuolayinka@Yahoo.Com.
lecturerolayinka@gmail.Com

ADEYEMO LATEEF ADEGBOYEGA

Mass Communication Department,
Oduduwa University, Ipetumodu, Osun State.
adeadegboye2011@yahoo.Com

ADESANYA ABAYOMI

Mass Communication Department,
Oduduwa University, Ipetumodu, Osun State.
oluwagbemi@yahoo.Com

ODORUME AKPOBO

Mass Communication Department,
Oduduwa University, Ipetumodu, Osun State.
kpoboghene@gmail.Com

ABSTRACT

Communication involves interaction or sending of message between two or more parties. Communication can either be in oral, written or verbal (sign or body language) form, introduction of technology has improved the process of communication, this involves the use of electronic means to send and receive information using equipment such as telephone networks, radio links, satellite, optical fibres and so on. The information can take various forms some of which are pictures, voice, video, etc.

This paper tends to discuss the impact of evolution of technology on communication.

INTRODUCTION

Communication is the exchange of thoughts, messages, or information, as by speech, signals, writing, or behaviour. Communication requires a sender, a message, and a recipient, although the receiver may or may not be present or aware of the sender's intent to communicate at the time of communication; thus communication can occur across vast distances in time and space. The communication process is complete once the receiver has understood the message of the sender; however, feedback is critical to effective communication between participants. Communication can occur in various forms; apart from intra-personal (person-to-person) communication which occurs between two or more people of a particular location, there are also tools involved in the development of communication which allows message to be passed across to a lot of people of different locations at a time. The focus of this paper will be on video, Internet and GSM technologies as tools in development communication.

VIDEO AS A TOOL IN DEVELOPMENT COMMUNICATION

Video is one tool that can be used to deliver development communication-oriented messages. It involves recording development messages and practices in video cassettes which can be screened on a television, projected on a wide screen or bite wall for people to watch. The equipments involved in the recording of videos involve the Video Tape/Cassette Recorder (VTRJ'VCR), Camcorder, etc.

Video is one technique that can be used to top the benefits of television Video are in many cases transmitted requires equipments such as Satellites, Transmitter, Receiver, etc. Television on its own is a very good channel for communication, because it involves sight and sound. However, it cannot be fully used for development communication programmes because it is expensive and most rural people do not have access to it. Video is thus a way to get round the constraints of using television.

Another important feature of video is that it can be played back again and again. This makes it a good tool for teaching and learning. This is unlike television broadcasting, whose broadcast is once and for all. This feature makes the impact of video more widespread.

Video can be used to reach out to groups of people between thirty to as many as five hundred (where a projector is used).

Potentials of Video for Development Communication

Video is a visual-based projected motion picture with sound. In this way, it brings real life events, practices, operations; and others, from different places to the audience. Video is a prestigious and persuasive medium. It can easily draw people's attention and it enjoys high credibility.

The visual impact makes the information presented through video appear like real life experience. This effect can stimulate people to embrace the idea or practice advocated in the video for their own development.

Video is an effective tool for teaching and learning development-oriented messages Isiaka (2002:140) notes that with video:

Learning readiness is stimulated, attention is pricked and its span sustained and perception is heightened. The result is that the rate of retention is high, recall is high, comprehension of content of the message is enhanced and it lingers in the memory for a long time.

Video can provide opportunity for immediate feedback from the participants in a discussion group or meeting. Mefalopulos and Karnlongera (2004) add that video can also be used effectively in presentation of the community viewpoints to policy makers and decision makers.

Video is also relatively simple to use. Rural people could easily be trained to handle the video camera and shoot scenes, activities, demonstration and topical issues for discussion programme. With video, the development message can cover more grounds and reach many more audiences than the television broadcast. This is because the videotapes are mobile they can be moved from place to place.

Uses of Video in Development Communication Programmes

Video, according to Mefalopulos and Karnlongera (2004), can be used for the following in development communication programmes:

- Documentation;
 - Generating discussion;
 - Facilitating learning process; and
 - Monitoring and evaluation.
- i. *Documentation:* Video is an important tool for documentation. Documentation refers to keeping record of the entire development programme. Video captures the reality of the programme. This is to serve as reference for the programme. It can also be used to detect areas of flaws in the programme with a view to correcting them in future programmes.
The use of video in documentation of the development programme can help transfer the success from one community to another community. This makes for sharing and applying results of a development programme in one community to other communities.
 - ii. *Generating Discussion:* Video can stir up lively discussions on community problems and issues. After the video show, the communication planner can start up discussion among the group that viewed it. The people can give their opinions, perceptions and suggestions on how to address the problem or issue presented.
 - iii. *Facilitating Learning Process:* Video can be used in teaching community members practices and techniques which are beneficial to them. The opportunity for repetition of the same message as many times as possible makes it a useful tool for learning. This is particularly important for teaching illiterate people.
 - iv. *Monitoring and evaluation:* Video can be helpful in effectively monitoring a development communication programme. After each stage of the programme, the video is watched both by the development planner and the community members to see how the programme progresses.

Considerations in using Video in a Development Communication Programme

In adding video to the media strategy of a development programme, its strengths and weaknesses should be considered. Video is basically a visual medium. The development communicator should try to understand the visual literacy of the community. Visual literacy refers to people's understanding of images and symbols in a message.

Another consideration in the use of video is the cost and implication. At times, it may require large capital to use video. Mefalopulos and Kamlongera advice that one should carry out a cost-benefit analysis, answering questions, such as:

- Is video the most appropriate medium to achieve the objectives?
- Is it cost effective?
- Do most people have access to view the video?

Strategy for using Video in Development Communication

The use of video in development communication requires a carefully chosen strategy and skilled producers. In using video, the planner has to be clear on what purpose he wants to achieve. There needs to be a plan in advance, as to what things in the programme are to be recorded. A guideline to direct the video recording should be developed. Where there is no advance plan in the use of video, one makes the mistake of videotaping everything just because the equipment is available. As such, one will likely end up with a heap of video tapes of very little value.

Limitations of Video

Using video as a tool in development communication has some limitations. Mefalopulos and Kamlongera give the following:

- It is a powerful medium, but it can also be rather self-absorbing, diverting people's attention from the intended content onto the video itself.
- When used for informational purposes, it requires complex preparation in terms of content (what should be presented) and format (how it should be presented and shot). Hence, it requires specific know-how that is seldom available in rural communities.
- When used at community levels, it tends to be monopolized by powerful interests because of its prestige.
- Video equipments are quite delicate; they must be stored in an appropriate place and handled with care. They usually require proper maintenance in order to function properly over a period of time.

THE INTERNET AND DEVELOPMENT COMMUNICATION

The Internet is a large computer network made up of a number of computers networked throughout the whole world. The computers are interlinked to provide, exchange and share data with one another. Networking of computers involves the use of Satellite, Radio-Links, Optical Fibres, Router, Telecommunication Mast, etc.

The Internet, according to Baran (2002), is the network of networks. It can connect individuals from any location to a complex network of information that can be accessed regardless of space and time.

The Internet has revolutionized the communication world. Commenting on the versatility of the Internet, Leiner et al (2003) state that:

The Internet is at once a worldwide broadcasting capability, a mechanism for information dissemination, and a medium for collaboration and interaction between individuals and their computers without regard for geographic location.

The influence of the Internet is widespread; it reaches to both the technical field of computer communication and the society at large, as we have an increasing use of online tools to accomplish information acquisition and dissemination, electronic commerce, and community operations.

The Internet: An Overview

The Internet that we have today was developed from a network called ARPANET developed by the United States of America's Department of Defense in 1969. The major motivation for the ARPANET and the Internet was the need for a system or mechanism in which information can be shared between people in distant locations. It started as a simple network of four computers and from this, the connection was expanded and today the number of computers on the network is over a million.

The World Wide Web (www), a component of the Internet was developed in the early 1990s by Tim Berners-Lee. The World Wide Web presents information in an easy way using graphics, text, pictures, sounds and video. The World Wide Web is the most widely used component of the Internet, This is because of its availability and easy usage. The World Wide Web has revolutionized the process of sending and receiving information. It provides unlimited access to information on any subject.

The Internet, since its development, has changed much from what it used to be. There have been new developments to make it work better and serve many purposes. Leirier, et al (2003), state that one should not conclude that the internet has finished changing. The Internet, according to them, will continue to change and evolve at the speed of the computer industry if it is to remain relevant’.

The Internet as Medium of Communication

The Internet as a medium of mass communication has widened the space of expression and has also broken barriers and media controls. Adedina, Adeniyi and Bolaji (2007) note that:

The Internet harbours interpersonal group, public, cultural and cross-cultural, mass communication and other contexts of communication. This makes it different from the traditional media in the sense that none of such traditional media combines the contexts the way the new media does.

The Internet helps in the dissemination of news and information from one place to another. It also serves as a storehouse of knowledge. Internet is the foundation upon which Telecommunications i.e. telephone networks, Radio and Television are built and they all require the networking of computers across various locations to function effectively.

The Internet has the ability to perform more functions than the conventional media of mass communication as it breaks boundaries built around communications. The Internet has extended the frontiers of mass communication, enabling it to accomplish many activities and actions.

Advantages of the Internet

Some of the advantages of the internet are:

- It can be used to send information from one place to another quickly;
- It removes the barrier of time and space in human communication;
- It has the power to cut across social and geographic distance;
- It is basically information dissemination medium. The Internet can provide in-depth information on diverse subject matters with only a simple click of the mouse;
- The Internet can be used to create awareness for new development ideas and strategies;
- it provides global access to information and human resources;
- Gives room for interactivity. The Internet is interactive and provides strong potential for audience participation and immediate feedback; and
- Enhances speed in accessing information, the Internet is the quickest means of acquiring and receiving information.

Using the Internet for Development Communication

The benefits of the Internet can be tanned for development communication programmes. Arnodu (2007) states that the unprecedented success of the Internet in most of human endeavour, particularly e-commerce, has precipitated the incorporation of the same into the development process. Explaining the usefulness of the Internet in development communication, Negroponte (1995) in Richardson (1996) states that the fact that the Internet has the power to cut across social and geographic distance and help find new ways of facilitating the flow of information and knowledge makes it an especially attractive medium within communication for development.

Whenever a development project involves people who need to communicate and share information across geographic social grouping, there is often a need to create flexible systems of communication and information. The Internet readily comes to play in such situations.

Commenting on using the Internet for developing communication and rural development. Bie (1996) posits that:

Internet is not a panacea for the removal of constraints to rural development. But it does bring new information resources and can open new communication channels for rural communities. It offers a means for bridging the gaps between development professionals and rural people through initiating interaction and dialogue, interpersonal networks... It creates mechanism that enables the bottom-up articulation and sharing of local Knowledge.

With the Internet, people can have increased access to information and communication, thus, speeding up sustainable development in the region. The internet can help in meeting people's information and communication objectives in order to attain their development goals and objectives.

The Internet as a medium of communication is flexible. It has the potential to be integrated within a variety of development project that have objective such as local participation training, education and research.

Development Communication uses of the internet

The Internet can serve the following purposes in development communication programmes:

- i. Provision of Knowledge: The Internet provides a plethora of news and useful information that will broaden people's horizon and equip them to take decisions about their development.
- ii. Technical Assistance: The Internet can provide technical knowledge and expertise that can help accelerate development in the community.
- iii. Building Linkages: Through the Internet, local communities can establish linkages with non-governmental organizations and international agencies that can help them in their development process.
- iv. The Internet presents a means for bridging the gaps between development professionals and rural people through the initiation of interaction and dialogue.
- v. The Internet has the potential of supporting mechanism that enable the articulation and sharing of information on local needs and local knowledge.

In using the Internet for development communication and rural development, the whole idea must begin with the real needs of the local community of users. The community or area and its needs will determine the type of Internet applications to be used. Richardson (1996) stresses the fact that in all cases, it will be important to link Internet activities with, existing media and indigenous communication methods and patterns. This is because each community has its own unique characteristics as well as its own social, cultural, economic backgrounds. All these can affect and influence the type of Internet initiative to be carried out.

Food and Agricultural Organization (FAO) and other NGOs are seeking ways In assisting the developing and strengthening of Internet services for indigenous purposes. For example, the international Development Research Centre (IDRC) and The World Bank have been helping in the use of Internet for sustaining development in Africa and Latin America.

(FAO) has used the Internet in various capacities for rural development and development communication programmes. Richardson mentions that through the use of the Internet, the following range of projects outputs can be achieved:

- Indigenously developed learning tools and learning networks;
- Interactive extension information networks;
- Rural ‘folk school’ and farmer field schools;
- Research sharing and information dissemination systems;
- Rural media networks (e.g. rural radio, newsletters and others);
- Market information networks (regional, national, local);
- Interactive expert systems networks;
- Training tools; and
- Indigenous knowledge networks.

There has to be careful planning in the use of Internet for rural development and development communication programmes. Care must be taken not to allow such interventions contribute to the gap between the information haves (experts, academics, researchers and others) and the information have-nots (usually the ultimate beneficiaries of development work) when Internet applications to serve only the elites are created.

Richardson enunciates the following as steps that will assist rural stakeholders’ in gaining access to and developing creative uses for internet services:

- Promote policy and regional coordination of Internet strategy for rural development
- Promote community managed communication and information service;
- Support effort to liberalize telecommunications policies in developing countries;
- Support local Internet entrepreneurs and other service providers in developing countries;
- Assist stakeholders in advocating for Internet service provision and telecommunication infrastructure and policy improvement;
- Orient existing Internet information services to users in developing countries;
- Provide Internet awareness building and demonstration;
- Promote rural and remote Internet infrastructure development; and
- Support creative Internet applications and Internet services for rural development.

Limitation to the Use of the Internet for Development communication

The followings are some limitations to the use of the Internet for development communication in developing countries:

- i. *Lack of Enlightenment:* Many people in rural Africa are not exposed to the Internet and do not know the benefits it offers. As such, to be able to use the Internet for development communication purposes in the rural areas, there has to be enlightenment programmes to educate the people on the uses and potentials of the Internet.
- ii. *Low Computer Literacy:* To use the Internet requires some level of computer literacy on the part of the user. This is one problem that can hinder the use of Internet in Africa. This is because a lot of people are not literate not to talk of being computer literate. To be able to use the Internet, the people would first have to be trained on how to use computer and its resources.
- iii. *Difficulty in Accessing the Internet:* There is limited or no Internet facilities, especially in the rural areas. Even in the cities where Internet connectivity is

available, there are usually frequent failures, high price and slow services. These and many more hinder the effective use of the Internet for development communication purposes.

- iv. *Poor Electricity Supply:* Electricity supply is a problem especially in Nigeria. The technology of the Internet needs to be powered by electricity. The poor supply of electricity adversely affects the use of the Internet for any purpose.
- v. *Inadequate infrastructure:* The basic infrastructures to operate the Internet are not readily available.

GSM TECHNOLOGY AND DEVELOPMENT COMMUNICATION

Recently, there was a naming ceremony where the photographer did not arrive until about 45 minutes after the naming session was over. One of the close friends brought out his GSM handset and recorded the whole ceremony, as well as took snapshots of the event. Thanks to technology!

Such is the diverse nature of modern technology that government impediments have no hold, you can go as far as your imagination can take you and as far as your little money can carry you. Immediately after the ceremony, it was shown live on the computer screen and friends had the opportunity of taking photograph prints of the snaps. With a CD writer, the edited version of the video recording was ready in an hour -even for distribution.

Another similar case was my visit to Photojournalism and Cinematography Department of Lagos State University School of Communication to say hello. I was entertained with a digital snapshot, 3 minutes later, I was outside the Department discussing with colleagues, imagine what was brought to me, the printed bright coloured picture of myself taken just three minutes ago. Men, I knew technology is here, but I wasn't expecting it so fast, not so fast as on a 5 by 7 card! I was more than surprised. In fact, I exclaimed this is America in Nigeria.

This technology convergence is so wide one cannot fully grasp the whole entity. One may only know as much as curiosity or interest takes one. With this convergence, just one of the technologies may be used with many capabilities.

For instance, with a GSM handset, you make and receive calls, send and receive text messages with clip arts, photographs, tones, send and receive electronic messages (e-mail) on the Internet! Technology is so wide now that the personal computer (PC) is the centre of convergence, therewith removing the erstwhile demarcations separating the mass media from other media.

If the GSM handset can receive radio signals loud and clear, why can't it receive television signals-after all it is the same frequency modulation (FM) signals that television utilizes? I will not be surprised if the naming ceremony is watched minutes after the recording elsewhere in the world through the electronic transfer. After all, we now watch CNN, BBC, etc. on our PCs even in the enclosure of our offices.

Global System of Mobile Communications (GSM) is a relatively new technology which debut in the advanced countries of the West. It is the latest advancement in telephony and is different from cellular or fixed wireless in that it is personal, mobile, digital and has capacity for data, voice, video, graphics and text among others. The GSM is indeed a digital and wireless telephony capable of making Alexander Graham Bell proud of his 1876 invention!

Nigeria joined the GSM telephony nations in 2001 having deregulated its almost moribund national carrier, Nigerian Telecommunications Limited (NITE U). With the breaking of government's monopoly over the telecommunications industry, some four telephone networks were licensed as digital mobile operators: MTN Nigeria, AIRTEL (previously Econet Wireless of Nigeria, Vodacom and ZAIN), Mtel and Globacoin (which initially lost out in the license bid as Communications Investment Limited over its failure to meet up with the paid up sum of 285 million dollars but later joined the train as a second national carrier two years later).

Until the issuance of digital mobile licenses, Nigerians had no hope of owning a phone as the service provider then (NITEL) made things very difficult. There were many hurdles to cross before getting a line apart from the exorbitant cost of telephone that showed telephone was not meant for the poor.

Since the licensing of Digital Mobile Operators (2001), fixed wireless access operations (2000), Long Distance Mobile Operators (2000), Internet Service Providers and a second national carrier, competition has ensued in all segments of the Nigeria telecommunications market which has immensely contributed to the development communication.

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