



AN ASSESSMENT OF THE IMPACT OF ICTS IN DEVELOPMENT COMMUNICATION: A STUDY OF RESIDENTS OF OWERRI METROPOLIS

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ABSTRACT

The study assessed the impact of ICTS in development communication among residents of Owerri metropolis. The study was anchored on diffusion of innovation theory and participatory theory. Employing survey research design, sample size of 384 was derived using the Wimmer and Dominick sample size calculator from the population of 555,500. The multi-stage sampling technique served as the sampling technique with questionnaire as the instrument for data collection. Findings showed that the respondent's level of ICT literacy is moderate; their level of ICT usage is very high at 49.2%. At an average mean value of 3.5, respondent's knowledge level towards ICT as a tool for development communication was found to be very high. ICTs have been greatly impactful in fostering development communication on the practices of residents of Owerri Metropolis at an average mean of 3.4. Also, digital divide/illiteracy between the information rich and information poor; cost; the sophisticated nature of ICTs; and cryptic network connection/cryptic power supply are found to be the challenges against the impact of ICTs as a tool for fostering development communication at an average mean of 3.3. The study, concluded that, for development communication to be fully attained, the adoption and the use of the information and communication technologies becomes a necessary evil that will enhance development in different areas of human endeavour. The study, recommended inter-alia that, the government should intervene in mitigating the challenges bedeviling the use of ICTs in fostering development communication.

Keywords: ICTs, development, communication, development communication

Introduction

Today, new communication technology networks have seemingly become available in every field. In contrast to traditional media tools, the impact of these tools on the masses is controversial, enabling dialogue-based and two-way symmetrical communication. In the words of Okedi (2021), the global village thesis postulated by Marshall McLuhan is traceable to the technologically determined society that has served as a harbinger of possibilities occasioned by advances in the information and communication technology, ICT and its attended effectiveness in creating the platform for connecting and enabling long distance communication among widely dispersed heterogeneous audiences with ease. Obajuluwa et al. (2019) submit that we live in an information age characterized by the use of information and communications technology (ICTs) resources in nearly all aspects of human endeavours and these ICT tools have taken the centre stage in shaping the world communication system and will continue to do so far into the foreseeable future.

The above assertion is corroborated by Yin and Luan (2015) as they opine that, we therefore, live in a Marshall McLuhan's global village where ICTs have a direct impact on a nation's ability to improve the communication development and economic well-being of her people and as well compete globally to

meet the global standard. The use of information technology has become vital, as it is the major mechanism sustaining the information society. It is observable that the emergence of the internet has dramatically advanced communication and influenced professional practices. As well as cutting across all segments of the society. As of January 2021, there were 4.66 billion active internet users worldwide, which is 59.5 percent of the global population (Johnson, 2021) and as of January 22, there were 4.95 billion active internet users worldwide, which is 62.5 percent of the world's total population (Data Reportal, 2022).

Using ICTs to efficiently provide services to citizens is an important area where digital technologies can make a difference in generating broad-based gains. ICT is an inclusive term, covering all communication equipment or application software: for example, radio, television, mobile phone, social media, computer, network hardware and software, and satellite system, as well as various services and application software related to it, such as video conference and distance learning (Owe et al., 2023). The importance of ICTs is not the technology as such, but it's enabling function in facilitating enhanced access to information and communication across large distances in achieving development communication. ICTs have been used in many innovative ways to achieve social impacts, such as promoting access to basic services including health, finance, and insurance (Shao et al., 2022).

Inyang et al. (2019) assert that development is a process of positive change, transformation or improvement of the overall wellbeing of an individual, a people, nation or society at large. According to Israel (2018), development is a process that creates growth, progress, positive change, or the addition of physical, economic, environmental, social and demographic components. Todaro and Smith (2015) stipulates that development is a multidimensional process involving major changes in social structures, popular attitudes, and national institutions, as well as the acceleration of economic growth, the reduction of inequality, and the eradication of poverty.

Okunna and Omenugha (2012) opine that communication basically means to share ideas, information, opinions or experiences between people. Communication to Inyang et al (2019), is a very important tool in every human interaction which helps in the attainment of expected outcomes and could be seen as a vehicle which drives human, societal and by extension, global connections. This is why UNICEF (2015) corroborates with the above definition by submitting that communication lies at the heart of sustainable development. UNICEF (2015) describes development communication as 'a two-way process for sharing ideas and knowledge using a range of communication tools and approaches that empower individuals and communities to take actions to improve their lives. Inyang et al. (2020) citing Anaeto and Solo-Anaeto (2010) assert that development communication is concerned with the dissemination of relevant information that increases people's stock of knowledge and changes their attitudes and values to enable them to undertake and participate in their development process'. According to them, the concept seeks to mobilize the rural people for participation in development actions by ensuring a flow of information to all players in the development programme.

In a layman's term, development communication deals with the role of communication in the development process. Unarguably, development in Africa is hinged on the adoption and the use of the information and communication technologies. ICTs will enhance development in areas such governance, business, agricultural productivity, health, family relations, etc. (Oyero et al., 2012). That is why under the modernization theory and technology, it is believed by the theorists that new technology is the major sources of social change. Technology makes it possible for a more innovated society and broad social change. Modernisation theorists believed traditional societies needed Western assistance to develop (Sathyabama, n.d).

Statement of the Problem

Unfortunately, developing countries like Nigeria are at the receiving end of development in ICTs. While the developed world's make all the gains, our heavy dependence on these infrastructures have left us out, to a great extent, of its maximum gains. Seemingly, we entirely depend on the North for the hardware, software and content of ICTs and as a result, large amount of capital flight to the North in exchange for the technologies. Thus, the huge amount required to get these technologies have led to 'digital divide' because the weak state of our economy means resources are not always available or be speedily released for the relevant new or existing programmes of action. In other words, the current deep levels of poverty mean that the goals of universal access and utilization of ICTs for development are greatly hampered by inability to pay for them (Oyero et al 2012).

However, despite the potentials inherent in Information and communication technologies in achieving/attaining national development through development communication, ICTs have been criticised for being capitalist, expensive, and elitist and expanding the gap between the information poor and the information rich. This is the gamut against which the study seeks to assess the impact of ICTs in development communication among residents of Owerri metropolis.

Objectives of the Study

The main objective of the study is to assess the impact of ICTs in development communication among residents of Owerri metropolis. Specifically, the objectives are to:

1. Find out the level of ICT literacy and usage among residents of Owerri metropolis.
2. Determine the knowledge level of residents of Owerri metropolis towards ICT as a tool for development communication.
3. Examine the impact of ICTs in fostering development communication on the practices of residents of Owerri metropolis.
4. Identify the challenges militating against the impact of ICTs as a tool for fostering development communication among residents of Owerri metropolis.

Review of Related Literature

An Overview of Development Communication

Development communication can invariably be viewed from the perspectives of the definitions of the two-component terms. Drawing from their definitions, development communication can be seen as the process of sharing the message of improvement or transformation with the target audience to enhance their living standard (Inyang et al, 2020). There is a consensus among scholars that the name "development communication" was coined by Nora Quebral in 1972. In her subsequent work in 2001, Quebral defines the concept as the art and science of human communication linked to a society's planned transformation from a state of poverty to one of dynamic socio-economic growth that makes for greater equality and the larger unfolding of individual potentials. There is, however, a contention that there were notable Western scholars like Daniel Lerner, Lucian Pye and Wilbur Schramm who had earlier used the term "development communication" in their various works before it was espoused by Nora Quebral. Shahzad and Bokahari (2014) note that in the early 1960s, a professional information officer, Erskine Childers who was an employee of the United Nations Development Programme (UNDP) conceived the idea of "Development Support Communication" (DSC). Childers had suggested that for development programmes to be successfully carried out, the services of people who are knowledgeable in the art of

communication should be employed to complement the roles played by the planners and project developers in the area of mobilization to motivate the people towards successful development and change. He proposed a receiver-oriented approach to development that would make communication to be a support mechanism rather than a constraint to development. This proposal attracted widespread recognition in the United Nations (UN) and other multilateral development agencies.

According to Inyang et al (2020), the concept has evolved and gained global acceptance not only as an academic field of study but also as a workable paradigm adopted by national governments, international organizations and development agents, though identified by different nomenclatures such as: Communication for Development; Development Communication; Development Support Communication; Participatory Communication; Communication for Social Change; and Behaviour Change Communication.

According to Mefalopulos (2008), development communication is an interdisciplinary field based on empirical research that helps build consensus while it facilitates the sharing of knowledge to achieve a positive change in the development initiative. UNICEF (2015) describes development communication as ‘a two-way process for sharing ideas and knowledge using a range of communication tools and approaches that empower individuals and communities to take actions to improve their lives. Anaeto and Solo-Anaeto (2010) assert that development communication is concerned with the dissemination of relevant information that increases people's stock of knowledge and changes their attitudes and values to enable them to undertake and participate in their development process’. According to them, the concept seeks to mobilize the rural people for participation in development actions by ensuring a flow of information to all players in the development programme.

The Nexus between Communication and Development

There is an inseparable inter-connectivity between development and communication as they play complementary roles to bring about meaningful development in society. According to UNICEF (2015), Communication lies at the heart of sustainable development. Anaeto and Solo-Anaeto (2010) aver that communication helps in understanding the needs and realities of the people and mobilize them towards development goals. To properly understand this nexus between the two correlative concepts, it is important to contextually highlight the role of communication in the process of development. Communication plays the following roles:

- i. Instigates action by serving as the means to enlighten the target audience with the message of development.
- ii. Helps target audience or community to appreciate and accept the developmental plans, programmes and policies of the government or non-governmental organizations (Enor et al., 2019).
- iii. Aids in meeting the needs and aspirations of the people by addressing the peculiarities of their self-worth, cultural values, beliefs, identified challenges and priorities thus bringing about personal or societal wellbeing (McCormack, McLeod & Harrison, 2018).
- iv. It enables the target recipients to acquire and equip themselves with knowledge, values and skills that would encourage effective action/participation in the proposed project(s).

It is important to note that the knowledge of what the people need and their values help to shape the message to be communicated for development.

Features of Development Communication Approach

Scholars have identified some features which necessitate a successful application of development communication in the development process. These elements, according to Anaeto and Solo-Anaeto (2010) include:

- i.* **Responsiveness:** This entails the concerted effort geared towards eliciting a positive reaction from the target beneficiary. The predisposition of the target group towards positive change is one of the major determinants of success in development projects. Where that is obtainable, the development communicator finds it easier to assist the beneficiaries in identifying their areas of needs as against what may be imposed on them and this helps to generate a positive attitude towards the implementation of the remedial project(s). In this regard, development communication becomes the mechanism that aids in the planning and implementation of the life-changing programme(s).
- ii.* **Democratic participation:** Development communication promotes greater participation by involving the beneficiaries as active players in the process. The people take part in discussions, decisions and implementation stages of the proposed projects (Irek 2016).
- iii.* **Common ground:** Through development communication, the target audience or communities are better sensitized to work in synergy with the development agents and communicators to find common solutions to identified problems.
- iv.* **Education:** The use of awareness and sensitization campaigns helps to enlighten the people and enable them to make informed decisions to actively participate in programmes that would bring about positive change.
- v.* **Simple and relevant language:** Information is packaged in a common and simple language (sometimes in local languages) for easy comprehension of the development message to elicit acceptance, appreciation and participation.

Role of a Development Communicator

The development communicator plays a very significant role in explaining the development process to the common people in such a way that it finds acceptance. In order to achieve this objective, Sathyabama (n.d) submit that a development communicator:

- a. has to understand the process of development and communication;
- b. should possess knowledge in professional techniques and should know the audience;
- c. Prepare and distribute development messages to millions of people in such a way that they are received and understood, accepted and applied.

If they accept this challenge, they will be able to get the people to identify themselves as part of a society and a nation. This identity will help in bringing human resources together for the total welfare of the individual and the community at large.

The nexus between ICT and development

With the idea of “information world”, it is believed that no meaningful development can take place without the application of the new media technologies to development process. The World Bank (cited in FAO 1998) asserts:

The information revolution offers Africa a dramatic opportunity to leap frog into the future, breaking out of decades of stagnation and decline. Africa must seize this opportunity quickly. If African countries cannot take the advantage of the information revolution and surf this great wave of technological change, they may be crushed by it. In that case, they are likely to be even more marginalized and economically stagnant in the future than they are today

Development in Africa is then hinged on the adoption and the use of the new media technologies. The idea is that they will enable Africa to leapfrog into the future of buoyancy and progress in every dimension (Oyero et al., 2012).

Potentials of Information and Communication Technologies (ICTs) for Development Communication

The enormous benefits derived from them have and will continue to bring them to the fore in nearly every facet of life's activities. The experiences of the developed and fast developing countries demonstrate clearly that information and communication technologies (ICTs) can be exploited to improve various aspects of human life (Anorue et al., 2021). Some of these areas identified by Tiamiyu (2003) are:

- i. Poverty alleviation through creation of a more skilled work force and building capacity through the use of ICTs in literacy improvement, in mass information dissemination, in long distance education, and within formal educational systems.
- ii. Stimulation of local economies, small/medium enterprises (SMEs) and employment opportunities through value added ICTs.
- iii. Improvement of quality of health care through the use of ICT-based diagnostic and health status monitoring instruments in hospitals and health centres.
- iv. Provision of educational opportunities, particularly long distance education for people who would otherwise have been excluded by limited opportunities.
- v. Improvement in agricultural productivity and commerce by using ICTs to better predict and report weather conditions, to process agricultural research data, to disseminate agricultural productivity and marketing information to rural communities, and to enable direct communication between farming communities and produce markets or stage centres.
- vi. Provision of unlimited access to academic resources, online books, journals, research findings, CDs, e-books and participation in e-conferencing or video-conferencing, joining Usenet groups etc.
- vii. Access to significant individuals from across the globe for research collaboration, thus leading to production of knowledge globally and spread of knowledge on an interpersonal scale.
- viii. Creation of more dynamic family relations by breaking the barrier of distance and time, thus meeting the people's social and psychological needs. The use of social networks like Facebook, My Space, and Twitter etc. has been very successful in connecting people and improving social relations.
- ix. Improving public administrations by making easier economic planning through faster intra- and inter agency communication and coordination.
- x. Enhancing participatory governance: (the idea of public sphere) by deploying ICTs to provide information channels (e.g. websites, radio or TV, phone in programmes) for governments,

legislative houses, opinion leaders, and by using ICTs to facilitate timely access by citizens to government information, etc.

- xi. Enhancing anti-corruption efforts by providing access to information on government earnings and expenditure, thus making government accountable for the nation's expenses.

These, among others, are the benefits offered by the new media technologies.

Empirical Studies

Ihsaniyati et al. (2023) in their investigation entitled “The use of social media for development communication and social change: A review” which aimed at providing a review of research on the use of social media for knowledge sharing in the context of development communication and social change established that there are limitations and gaps in research on the use of social media for knowledge sharing in the context of development communication and social change.

Ukpong (2016) in the study “The role of social media in development communication” sampling the opinions of 200 respondents using the survey research design revealed that: Akwa Ibom State University students are aware of the use of social media for development communication to a large extent; over half of the respondents use Facebook to send and receive information more than any other social networks; education messages were mostly communicated through the social media followed by messages on rural development; the use of the social media to communicate development was constrained greatly by lack of access to computers and high cost of subscription for internet access. Drawn from the findings, it was recommended that more enlightenment should be done in terms of using the social media to trigger development consciousness among the citizens.

Shani (2020) in the investigation entitled “The importance of social media in community development (Lusaka)” indicated that the use of social media and networking can conform to and even complement the principles of the community development society. The use of these tools has the potential to promote the fundamental tenets of the society and influence how practitioners act and interact in the future. Result further showed that the use of these tools has great potential to transform the community development discipline in ways that are likely unanticipated.

Darshan and Kalyani (2021) in another study “Social media participatory development communication during COVID-19 by elected women representatives (EWR) of Panchayati Raj institutions (PRI) in India” found out that the participants experienced instances of positive outcomes, overcoming the limitations caused by the COVID-19 pandemic and fighting against it. It was also found that the elected representative became more accountable and sensitive to the development issues arising in their constituency and looked for ingenious ways to solve them. Apart from the administrative and Panchayat related activities, social media platforms are also used to extend help and services to the poor and disadvantaged sections of the society during this difficult time. Critical development issues such as water and environment protection are also dealt with effectively through social media platforms.

In a study by Rawool (2018) entitled “The impact of social media on social development” in which the hypothesis result revealed that social media is an effective platform for social development. Similarly, in the study of Tyagi (2012) entitled “Media in development communication” established that media plays an important role in development communication through circulation of knowledge, providing forum for discussion of issues, teach ideas, skills for a better life and create a base of consensus for stability of the state. Today television in our country is also used as a medium for social education, weapon against ignorance and awareness among the people, through different programs like “Educational Television” (ETV), “Countrywide Classroom” (CWC), teleconferencing etc. Experiments in Satellite technology has been conducted in recent years to bring about Social change and development. This has

been done in the form of SITE Program and Kheda Communication Projects. The study further indicated that the new technologies have also been put to serious use for development communication. New technologies like mobile, website and internet are interactive in nature. Interactivity, instant feedback and persuasion capability are used to rope in people into the process of development. Today government has different websites and call centers that provide instant information or answers queries to questions of development.

Shao et al. (2022) in their study “The impact of information and communication technologies (ICTs) on health outcomes: A mediating effect analysis based on cross-national panel data” found out that there are significant associations between ICT factors and national health outcome indicators, while only some of the partial mediated effects are proved. ICT environment and ICT usage can influence both the under-five mortality rate and adolescent fertility rate via ICT social impact. It was also revealed that ICT factors improve national health outcomes, which can help global policymakers drive the next phase of the implementation of the Sustainable Development Goals (SDGs) and continue to improve the overall health at the national level. Also, the result further indicated that the mediated effect of ICT on economic impact has not been proven.

However, in a different result, Inyang et al (2020) in “Development communication process and theories: An Overview” noted that change agents still grapple with the challenge of rejection or avoidance due to either suspicion or ignorance which invariably impedes the objectives of many development projects hence the need for more robust and pragmatic communication strategies to elicit acceptance and enhance goal attainment.

Theoretical Framework

The study is hinged on two relevant theories:

Diffusion of Innovations Theory

The diffusion of innovations theory has been of interest to communication scholars and formed the core of their research based on the highly technological innovations witnessed in the media industry. According to Rogers (1983), “diffusion” is a process by which an innovation is communicated through certain channels over time among the members of a social system. It is a special type of communication whereby messages are concerned with new ideas whereas “innovation” is the introduction of something new like a project, practice or an idea. Wogu (2013) opine that the theory postulates that when new technological innovations are introduced, they will move across a series of stages before they are generally adopted.

The diffusion of innovation theory analysis how the social members adopt the new innovative ideas and how they made the decision towards it. Both mass media and interpersonal communication channel is involved in the diffusion process. According to the theory, innovations should be widely adopted in order to attain development and sustainability. (Rogers, 2003). Rogers in Baran and Davis (2009) further asserts that when new technological innovations are introduced, they pass through a series of stages before being widely accepted. It is, therefore, expedient to note that the adopters of digitization consider the knowledge and usefulness of digital technology of great importance since it is a global innovation meant to improve the functionality of broadcast operations. More so, digital technology will thrive if its adopters are conversant with the way it works. Eze, et al. (2017) citing Rogers (1995) enumerate five stages of the adoption process. These include:

- i. **Awareness:** This stage is concerned with the introduction of innovation to a person who does not have ample information or either sees the need to get more information or considers buying or using the product or service.
- ii. **Interest:** Here, one decides to seek more information about the innovation but does not know how or if it can be useful in their own life.
- iii. **Evaluation:** This relates to the individual making decisions about innovation. If the innovation appears to be useful, he could try it.
- iv. **Trial:** At this stage, the innovation is used to a limited extent
- v. **Adoption stage:** Here, the decision to adopt an innovation is informed by the information gathered in the interest and evaluation stages as well as the outcome of the trial stage.

Diffusion of innovation theory is relevant to this theory in that its emphasis is on the process by which an innovation is communicated through certain channels over time among the members of a social system with the end result being that people, as part of a social system, adopt the newly communicated idea, behaviour, or product.

Participatory Theory

This theory was propounded by Waisbord. The theory assumes that meaningful development can only be achieved when the target group is involved from the inception to the post-implementation stage of the development process. The participatory school of thought encourages the use of the mass media, interpersonal communication and traditional media to mobilise and sensitize the people and communities to play an active role in identifying their problems, prioritizing their needs, conceptualizing remedial projects and applying the change or development options as stakeholders in the development process (Inyang et al., 2020). Participatory theorists, according to Waisbord (2001), consider development communication as the systematic utilization of communication channels and techniques to increase people's participation in development and to inform, motivate, and train rural populations mainly at the grassroots. The involvement of beneficiaries at the different stages helps to better prepare them to take up ownership of the projects. Rather than see the projects as government-owned, the people will see it as theirs and volitionally ensure that they are safeguarded and sustained. This theory prefers two-way communication to the top-down process. Instead of "talking at or talking to the people", the theory encourages "talking with the people". This means that dialogue and purposeful participation are crucial elements in the successful implementation of social programmes (Inyang et al., 2020).

In her study, Okunna (2002) argues that the participation of beneficiaries in the development process should not only involve sending feedback about the project but should equally involve taking part in discussions and decision-making.

In application to this study, that is to say, meetings between change agents and the beneficiaries should not be an avenue to inform them of decisions already taken but an interactive forum to enable them to air their views and jointly take decisions on the proposed projects. Mefalopulos (2008) also notes that no matter how technically advanced the media may be, the messages skillfully packaged, and the information very relevant, they are not enough to bring about meaningful and sustainable results except the stakeholders are part of the process.

Methodology

The survey research design was employed for the study. Survey, according to Ohaja (2015), is a study of the characteristics of a sample through questioning that enables a researcher to make generalisations concerning his population of interest. Hence, the method was ideal for the study in order to facilitate the production of an accurate and identifiable picture of the chosen population to be sampled. The target population for this study was the residents of Owerri metropolis in Imo State. According to the National Bureau of Statistics (2016) report, Owerri metropolis consist of three local governments which include, Owerri North, Owerri West and Owerri Municipal, and has a population of 555,500.

In determining the sample size for the study, the Wimmer and Dominick online sample size calculator was used at a threshold of 95% confidence interval and 5% error limit. The sample size was 384 for the study. The sampling technique used for this study was the multi-stage cluster random sampling technique and the purposive sampling technique. At stage one, the purposive sampling technique was used to divide the Owerri metropolis into three local government clusters: Owerri North LGA, Owerri West LGA and Owerri Municipal. At stage two: With the random sampling technique, two communities from each local government area were randomly selected considering the literacy level of the people, ICT literacy, proximity and accessibility of the researchers to the communities. These communities were Amakohia and Orji (Owerri North LGA), Nekede and Obinze (Owerri West LGA), Umuoyima, Umuororonjo (Owerri Municipal). In stage three, the researchers using simple random technique, chose six villages and distributed the questionnaire proportionately to each community ($384/6 = 64$). As a result, the researchers applied the purposive sampling technique and distributed 64 copies of the questionnaire to respondents in these communities.

The instrument for data collection used for the study was questionnaire. The instrument was drafted in a closed-ended format containing. Questions like yes” “no” “can’t say; and Likert scale questions such as “very high” “high” “moderate” “low” “strongly agree”, agree, “disagree” and “strongly disagree” were framed. The four-point Likert scale was utilised in this study. The simple percentages and mean analysis were used to analyse the data.

Discussion of Findings

The researchers distributed 384 copies of the instrument. Out of the total number of the instruments distributed, 372 (96.9) copies were retrieved and found valid. While 12 (3.1) were inappropriately filled and thus, found invalid for the analysis. This means that the return response rate was 96.9%.

The first objective of this study was to ascertain the level of ICT literacy and usage among residents of Owerri metropolis? Having ascertained that the respondents were ICT literate, analysed data shows that the 49.2% of the respondents affirmed that their level of ICT usage is very high. From the data, majority of the respondents use computer/laptops, mobile phones, social media platforms, email etc. to a very high extent. Rightly stated, result of the findings indicated that 100% of the respondents are ICT literate; their level of ICT literacy is moderate. It was also found that 49.2% of the respondents use computer/laptops, mobile phones, social media platforms, email etc. to a very high extent. In line with the findings of Ukpong (2016), it was found that Akwa Ibom State University students are aware of the use of social media for development communication to a large extent. The same can also be said about residents in Owerri metropolis as the result further indicated that over half of the respondents use Facebook to send and receive information more than any other social networks. This also goes to show that development interventions can reach the target audience through ICT as the respondents are largely active with ICT usage.

Again, findings on the knowledge level of residents of Owerri metropolis towards ICT as a tool for development communication revealed that, at a mean value of 3.5, respondents in Owerri metropolis

knowledge level towards ICT as a tool for development communication was found to be very high. This infers that residents of Owerri metropolis have a very high knowledge about ICT as a tool for development communication. To further buttress their knowledge towards ICT as a tool for development communication, result also showed that the respondents affirmed that digital media/ICT can be used to disseminate information for individual development, employment opportunities, health related messages for individual's well-being, gender development, agricultural development, economic development, education, political development etc. this result is in tandem with the findings of Ukpogon (2016) which showed that education messages were mostly communicated through the social media followed by messages on rural development. Shani (2020) indicated that the use of social media and networking can conform to and even complement the principles of the community development society. Tyagi (2012) indicated that the new technologies have also been put to serious use for development communication. New technologies like mobile, website and internet are interactive in nature. Interactivity, instant feedback and persuasion capability are used to rope in people into the process of development.

This result supports the participatory theory which assumes that meaningful development can only be achieved when the target group is involved from the inception to the post-implementation stage of the development process. The participatory school of thought encourages the use of the mass media, interpersonal communication and traditional media to mobilise and sensitize the people and communities to play an active role in identifying their problems, prioritizing their needs, conceptualizing remedial projects and applying the change or development options as stakeholders in the development process (Inyang et al., 2020).

Further findings on the impact of ICTs in fostering development communication on the practices of residents of Owerri metropolis revealed that, at an average mean of 3.4 (N=372): the respondents have sent and received developmental messages through the digital media; they have been impacted by information on social change; health-related messages for well-being, gender and cultural development messages through digital media; the respondents have learned new skills for human development through ICTs at low cost; the respondents engaged in the communication for change in social issues such as human rights, child labour, female genital mutilation, gender based violence, gender inequality etc. as a result of their ICT knowledge; and it was shown that ICTS have been impactful in enlightenment messages/information on development. Supporting this findings, Shani (2020) found that the use of ICT tools has the potential to promote the fundamental tenets of the society and influence how practitioners act and interact in the future. Result of the findings of Shani further showed that the use of these tools has great potential to transform the community development discipline in ways that are likely unanticipated. Similarly, Darshan and Kalyani (2021) found out that the participants experienced instances of positive outcomes, overcoming the limitations caused by the COVID-19 pandemic and fighting against it. It was also found that the elected representative became more accountable and sensitive to the development issues arising in their constituency and looked for ingenious ways to solve them. Darshan and Kalyani further revealed that social media platforms are also used to extend help and services to the poor and disadvantaged sections of the society during this difficult time. Critical development issues such as water and environment protection are also dealt with effectively through social media platforms.

In another supporting study, Rawool (2018) revealed that social media is an effective platform for social development. Similarly, Tyagi (2012) showed that media plays an important role in development communication through circulation of knowledge, providing forum for discussion of issues, teach ideas, skills for a better life and create a base of consensus for stability of the state. To further buttress this result, Shao et al (2022) found out that there are significant associations between ICT factors and national health outcome indicators, while only some of the partial mediated effects are proved. ICT environment and ICT usage can influence both the under-five mortality rate and adolescent fertility rate via ICT social impact. It was also revealed that ICT factors improve national health outcomes, which can help global policymakers drive the next phase of the implementation of the Sustainable Development Goals (SDGs) and continue to improve the overall health at the national level.

Theoretically, this result underscores the diffusion of innovation theory of Rogers (1983) which emphasis is on the process by which an innovation is communicated through certain channels over time among the members of a social system with the end result being that people, as part of a social system, adopt the newly communicated idea, behaviour, or product.

Furthermore, from the analysis on the challenges against the impact of ICTs as a tool for fostering development communication, result showed that, at an average mean of 3.3 (N=372): digital divide/illiteracy between the information reach and information poor; cost; the sophisticated nature of ICTs; and cryptic network connection/cryptic power supply are found to be the challenges against the impact of ICTs as a tool for fostering development communication. Corroborating this result, Ukpong (2016) indicated that the use of the social media to communicate development was constrained greatly by lack of access to computers and high cost of subscription for internet access. Also, in another study by Ihsaniyati et al. (2023), it was established in their study that there are limitations and gaps in research on the use of social media for knowledge sharing in the context of development communication and social change. Inyang et al (2020) indicated that change agents still grapple with the challenge of rejection or avoidance due to either suspicion or ignorance which invariably impedes the objectives of many development projects hence the need for more robust and pragmatic communication strategies to elicit acceptance and enhance goal attainment.

Conclusion

Information and communication technology in the 21st century has had many breakthroughs; one of which was the discovery and emergence of the new media. Information and communication technologies have turned out to be more of a boon than a bane for development communication. ICTs is perceived as beneficial and effective for better involvement in engendering development communication. The core goal of development communication is the dissemination of relevant information that is capable of increasing people's knowledge and changes their attitudes and values to enable them undertake and participate in their development process. However, the study concludes that for development communication to be fully attained, the adoption and the use of the information and communication technologies becomes a necessary evil that will enhance development in different areas of human endeavour.

Recommendations

Based on the findings of the study, the following recommendations were put forward:

1. The study recommends the compulsory inclusion of ICT as tool for development in all level of education in Nigerian educational system.
2. It is recommended that more enlightenment should be done in terms of using ICTs to trigger development consciousness among the citizens
3. Given that the impact of ICTs in fostering development communication is undeniable, the need to be digital savvy by all and sundry in the society is recommended.
4. Government should intervene in mitigating the challenges bedevilling the use of ICTs in fostering development communication.

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