

# Impact of the Digital Divide on Computer Use and Internet Access on the Poor in Nigeria

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## Abstract

We recruited 20 community members in Ido Local Government Area, Oyo state and Yewa Local Government Area, Ogun state in Nigeria to explore experiences and perceptions of Internet access and computer use. Face-to-face interviews were conducted using open-ended questions to collect qualitative data regarding accessibility of information and communication technology. Twenty low-income community members volunteered to participate in the study. The results centered around affordability of computers and Internet access, exposure to information on the Internet, increasing access to the Internet, training on computer use, benefits for job searching, and networking. The results indicated the lack of Internet access, affordability of computers and Internet usage, poverty, lack of computer skills, and poor infrastructures were contributors to the digital divide.

**Keywords:** digital divide, information communication technology, Nigeria, Oyo and Ogun states, Nigeria Internet access

## 1. Introduction

Equitable access to information is an essential principle in a global information economy. No other country is a better example of the need for information technology than Nigeria (Meseret, Gebremichael, & Jackson, 2006). Rural communities in Nigeria, the most populous country on the African continent, have been victims of marginalization regarding Information and Communication Technology (ICT) that includes cell phones, personal computers, and Internet access (Hwang, 2006). Poor service caused by capacity constraints of the communication network, lack of infrastructure to support technology hardware and software, scarcity of financial resources, and an unreliable electric supply in Nigeria hinders ICT usage (Akanbi & Akanbi, 2012; Nwabueze, Nwabueze, & Egbra, 2013). In 2009, Okwor reported that connectivity of mobile broadband from Nokia Siemens Networks in Nigeria had the lowest usage and accessibility out of the fifty African countries.

The inequalities for Nigerians in accessing the Internet and the World Wide Web, the lack knowledge of search engines, poor Internet connection quality, limited proficiency in English, and the diversity of socio-economic levels contribute to the digital divide (Ani, Uchendu, & Atseye, 2007; Umukoro, 2014). Nigerians are deprived of information other developing countries have because of economic reasons and results in deprivation of political power and cultural skills (Nwabueze, 2010; Nwabueze et al., 2013). In 2010, 70% of Nigerians lived below the poverty threshold level of \$2.00 per day (World Bank, 2011). In 2010, unemployment was 21% with the rate of youth unemployment increasing at a greater rate in urban areas than rural area (Akanbi & Akanbi, 2012).

The Nigerian digital divide signifies the disparity among individuals who have Internet accessibility and computers and those who do not. Computers and the Internet are present in the homes of the rich but not the poor because of the high cost of computers and expensive Internet access (Eke, 2011). The digital divide is a fundamental wedge separating the *have* and *have-nots* in Nigeria for gathering information, communicating, and competing in a global economy.

## 2. Method

We recruited 20 community members in Ido Local Government Area, Oyo state and Yewa Local Government Area, Ogun state in Nigeria to explore experiences and perceptions of the Internet access and computer use using face-to face interviews with open-ended questions. The two states are located in the southwest region of Nigeria

and belong to the ethnic group called the Yorubas. Yoruba people are a large ethno-linguistic group whose primary language is Yoruba and secondary language is English. The Yoruba constitute approximately 12% of Nigeria's population of approximately 18 million individuals.

Yewa community in Yewa Local Government area can be described as densely populated area with poor infrastructures, high level of illiteracy, insufficient safe water, low per capital income, high unemployment, and other basics such as a highway or primary health care. The Ido community in Ido Local Government area can be described as compact, densely urbanized but with relative social opportunities, poor quality of living, and low standard of living. Most of the people in these two communities have jobs as traders, students, farmers, artisans, and civil servants. All of the participants in this study were low-income earners who lived below the poverty line.

Because of limited access to usual forms of communication such as computers, newspapers and the Internet, community leaders assisted in identifying participants who were low-income earners in the community and introduced the researcher to the participants. Study participants were selected via a collaborative random selection process. Collaboration transpired with the community leaders to identify a list of participants likely to participate based on socio-economic status, educational background, and the ability to understand and speak English.

Participants were informed regarding the objective, scope, duration, and foreseeable risks about the study. A statement was read to the participants that informed them of their right to participate, decline to participate, or leave the research at any time. We recognized the limitation of language barrier and steps were taken to ensure participants could comprehend the scope and nature of the study before obtaining the consent to participate.

Individual interviews were scheduled with each of the participants who agreed to proceed with the interview. Interviews were conducted at Ido Market square in Ido Local Government Area, Oyo state and Yewa Community Town Hall in Yewa Local Government Area, Ogun state in Nigeria. The Market Square and town halls are public community gathering places that were conducive to interviewing participants. Each interview lasted approximately two hours. All interviews occurred during a consecutive 4-day period.

A single research question guided this research study: "How does digital divide affect the life of a sample of poor participants in Oyo and Ogun states in Nigeria?" The following information is a discussion of the findings as they connect to the study's specific research question.

### **3. Data Collection**

We collected data through transcriptions of audiotaped interviews that were confirmed by a secondary external reviewer. The one-on-one interviews allowed participants to speak freely and permitted in-depth questioning and rich data collection. We conducted face-to-face structured interviews with open-ended questions with 20 participants who ranged from 18 to 64 years of age. Ten participants were female and 10 participants were male. Fourteen respondents (70%), comprised of five male and nine females, did not have personal computers and who did not use computers. Eleven (55%) participants indicated they had access to the Internet.

### **4. Data Analysis**

Data analysis involved qualitative coding to interpret participant responses to open-ended interview questions. The data analysis involved the generic steps of organization and categorization of data, coding, and interpretation. The results of the face-to-face interviews were analyzed using NVivo10 qualitative software. Data were analyzed using pattern matching and thematic analysis to capture the details and meaning. Based on the responses from the 20 community members, we developed codes that resulted in five main categories.

### **5. Results**

#### *5.1 Affordability of Computers and Internet Access*

The subject of affordability of computers and internet access was a predominant issue that was persistent throughout responses to multiple interview questions. Only four of 20 (20%) could afford to buy a computer and pay the high cost for internet access. Eight participants reported having no access to neither a computer nor the Internet. Nine of the participants that did not own a personal computer reported accessing the Internet through Cybercafés or cell phones. Six participants had made no attempt to seek access to a computer or the Internet because of their low income and survival needs. One participant said, "I do not have any idea about computer and Internet." Another participant said, "It [my life] really wouldn't be that different. I don't really use computers. Computers wouldn't really have any impact on me if there weren't any around."

The problem of cost and high charges in accessing the Internet within the two communities were limiting factors in obtaining computer hardware and obtaining Internet connectivity. Despite lack of personal ownership of computers and personal Internet access, access was available via cell phones, libraries, and Cybercafés. The issue is not with the price of computers, which are comparable with prices in the United States, but with the low income of most Nigerians.

### *5.2 Exposure to Information on the Internet*

In response to the question, “Would you recommend computer access and skills for all households in Nigeria?”, all of the 20 participants responded with a *Yes*. Participants revealed that the use of computers and the Internet allowed for exposure to information and knowledge that was valuable for improving their economic well-being. Study participants described 31 instances of they believed were positive for their career growth and cost saving for business transactions. The 31 instances stated by the participants included various responses of multiple experiences to exposure to vital information for education and business.

Eighteen (90%) of the research participants responded with satisfactory comments and perspectives on their experiences with the use of computer and Internet as a positive influencing factor on their life. The most favorable response concerned the use and access of computers and in a general sense the accessibility of computer and Internet at the community libraries. Noteworthy terms were used to identify whether the exposure was positive included stating that it was a positive experience to use social media, and obtain information. One participant said that without computers and the Internet, “It will keep me in the dark and progress will be stunted. With computer and Internet, it made a huge difference. Also, life would have been so hard.” Fourteen of 20 responses, representing 70% of the participants, made reference to ICT as a convenience factor that created efficient way for resolving daily problems including communication, business transactions, increasing income, and opening career opportunities. One participant said, “The use of e-mail helped my employees not only to save substantial money that would otherwise have spent on long-distance telephone calls but also to speed up the process of information delivery.”

### *5.3 Increasing Access to the Internet*

Participants referenced concerns with high cost of computer hardware, lack of infrastructure, low income, lack of computer know how, poor technical support, slow Internet speed, and the expense of high-speed Internet. Nineteen out of 20 (95%) expressed the need for setting up of more Cybercafés (Computer Centres), expansion of the existing infrastructure, training on computer use, and lower tariff charges. More computers should be made available in public places like community libraries and Internet access should be affordable.

The only two places that I know of are the Cybercafés and the community library. The community library does not have enough computers for the public to use. A lot of people go to the Cybercafés to get on the computer, they only have four computers. Sometimes the wait can be two to three hours to use a computer. If the community library was open all the time, I would use the computers there.

The subject of poor infrastructures and quality high-speed Internet access were fundamental issues that were prevalent all through the responses to the interview questions. Participants expressed undesirable feedback on the poor state of infrastructure and frustrating slow speed of the Internet. Participants referenced concerns with inconsistent connectivity and slow website loading speed. The participants expressed a sense of frustration, which revealed poor technical support during connectivity. The communities’ libraries did not have enough computers to meet the needs of the users.

All 20 participants requested that government should assist in establishing more computer centers, which would be government owned and make Internet access affordable. The Nigerian government should expand the existing ICT infrastructures in community libraries, buy more computers for community use, and increase the existing bandwidth to increase the speed of the Internet. Although provider competition and more bandwidth from additional international submarine fibre optic cables has enhanced commerce, banking, government services, and other e-applications in coastal cities, penetration to rural states such as Oyo and Ogun has been slow.

### *5.4 Training on Computer Use*

Eighteen (90%) participants advocated for training on the use of computer and Internet. Participants expressed the need to provide training that will sensitize and create awareness among both the young and older community members on the benefits and use of computers and the Internet. As a single response to the interview questions, without being combined into other themes, computer training was the second top response by all participants as the main method used to assist how to use and access the Internet in the communities. The most profound

response concerned the impact of Internet access as a resource tool and for education. Another concept that was exposed in terms of education was the use of computer and the Internet to write online examinations and checks results. One participant noted the following:

There are a lot of people in the communities that have no clue about computers whatsoever. I think it would be handy if the government could make use and access to a computer and internet affordable and attractive. I have come in a several times and people didn't know how to print things off or use Word. I had to help them. I think it would be appropriate if they had classes to help the community.

### 5.5 Benefits for Job Searching and Networking

Research respondents' revealed the use of computers and the Internet was mainly linked to communication, especially social networking communication. All study participants responded with favorable impressions and perspectives on their experiences with access and use of computers and the Internet as a major force for effective communication with business associates, families, and friends. Access to the Internet allowed for real time messaging and sending of information to friends and families on the other side of the world. Participants revealed that the communities would be ordinarily disconnected from the rest of the without information from Internet access.

Thirteen (65%) participants reported using the computer for job hunting, business transaction and social media (e.g., WhatsApp and Facebook). Study participants answered with satisfactory impressions and perspectives on their experiences with computer and Internet as a positive force in influencing career advancement. Participants expressed that they used the computer as a tool for career opportunities and information about expanding their horizons.

Participant #7 said, "I cannot imagine not having access to computer and Internet because it is the major work tool for business transactions and communication to my customers." Another thought provoking response was as follows: "The biggest influence computer and Internet have had on me is the exposure to important information that have assisted on my career path."

## 6. Discussion

The purpose of this qualitative multiple exploratory case study was to explore experiences and perceptions of access and use of ICT of a purposeful sample of 20 community members in Oyo and Ogun states in Nigeria. The literature review revealed an unequal effect regarding the digital divide and minority populations in Nigeria. The digital divide is influenced by low level of income, lack of access to computers and the Internet, and limited proficiency in English (Brooks, Donovan, & Rumble, 2005). The economic disparity among groups who adequately have computers and Internet access (i.e., *the information haves*) and individuals with insufficient or no access (i.e., *the information have-nots*) illustrates one facet of a digital divide (Doczi, 2000).

Most of the participants acknowledged the benefits on computers and Internet access whereas a few participants expressed no interest in computers or the Internet. Van Dijk (2006) described this phenomena as "there are not only 'have-nots', but also 'want-nots'" (p. 226). Among the poor in Nigeria, the focus needs to be on innovation and understanding how computers and the Internet offers greater benefits over the existing tools and methods presently used. The value of computers and the Internet is relevant to the learning environment of the people of Yewa and Ido communities (Straub, 2009). Leaders in the community and government should bring more opportunity to members of rural communities with computer awareness training, expand existing infrastructures, wireless communication facilities, mobile telecommunication networks, and make computer and Internet use affordable (Nwabueze et al., 2013).

In general, Nigerians are deprived of information other developing societies have mainly because of poor economic conditions (Nwabueze, 2010). The affordability of computers and high tariff charges for Internet access were dominant issues prevalent throughout the interviews. Eke (2011) espoused that the high percentage of Nigerians living below the poverty level makes the purchase of a computer virtually impossible. Other than Internet access in universities, libraries, cell phones, and Cybercafés, Internet access in most Nigerian homes is either unavailable or too expensive. A small fraction of the Nigerian population enjoys unprecedented wealth amidst widespread and extensive poverty that may possibly get worse in the future. The growth among the marginalized poor in Nigeria and limited access to ICT is of grave concern (Cann, 2014). The inequality in access and use of ICT is a disparity factor that contributes to the differences in wealth and the digital divide in Nigeria. The hedging of growth among the marginalized poor in Nigeria is worrisome because they are at risk of

not benefiting from the positive impacts of ICT, which includes increased innovation, economic competitiveness, and greater social inclusion (Cann, 2014).

Access and use of Information and communication technology has the ability to make a positive impact on the economy of Nigeria and create new sources of employment (Shirazi, Gholami, & Higón, 2009). Communication technology tools can assist in decreasing poverty. Many poor Nigerian populations including Yewa and Ido communities in Oyo and Ogun states are located in rural areas that cause constraints on the ability to transport products and services to the market efficiently. Rural areas, as opposed to their urban counterparts, remain very low when measuring social opportunities, quality of living, facilities, the standard of living, and human development (Akpan, 2012). Agriculture remains high in rural areas in Nigeria and is mainly dependent on manual and local efforts. Nigerian rural areas remain very poor and neglected by the government (International Fund for Agricultural Development, 2011).

The lack of adequate training on using a computer and Internet searching was a foremost issue that was persistent throughout responses to multiple interview questions. Van Dijk (2006) noted that the lack of skill and usage access in both Yewa and Ido communities in Nigeria was wide and deep. The skills needed to search, select, and process information in computer and network sources and the capacities to use resources are unequally divided among the populations of both Yewa and Ido communities. Socioeconomic factors such as poverty, illiteracy, inconsistent employment, and lack of education perpetuates social inequity (Watts, 2011).

Eke (2011) stated a huge number of the Nigerian population are incapable to read and write because of lack of education. The Nigerian government must make efforts to bring information technology to the Yewa and Ido communities and these efforts must not focus only on providing infrastructures but on developing the e-literacy skills and knowledge needed to use, maintain, and further develop those technologies.

The shared perceptions and experiences among the participants indicate the need for government to increase the availability of training programs in the communities. Participants expressed they needed minimal technical training to use information-seeking tools. Participants referenced concerns in regard to connectivity problems, a lack of service provider competition, and the expense of high-speed Internet. Van Dijk (2006) stated that narrowing the digital divide gap could not be achieved without addressing attitudes toward technology.

The problem of low income and the relative high cost of computers, limited Internet accessibility, slow Internet speed, lack of computer knowledge within Yewa and Ido communities are limiting factors for the general population. The perception expressed by the participants was that computers and access to the Internet are for the Nigerian affluent. The apparent digital divide in Yewa and Ido communities is characteristic of divide between the rich and poor, the illiterate and educated, and urban and rural in Nigeria. Although Nigeria has made great strides during the past decade in mobile communication with smartphones and other smart mobile devices, broadband Internet penetration as grown at a slower pace and even more so in rural areas. The challenges of closing the digital divide in the rural communities of Yewa and Ido is multifaceted and will require cooperation of community, state, and national leaders in Nigeria. The Nigerian government should embrace cultures and policies that will promote access and use of ICT that will improve social inclusion among citizens and stimulate a more effective, accountable, democratic government with freedom of information and expression.

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