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ABSTRACT

Internet access and digital literacy is still lagging in the rural communities of Garun-Malam local government and there are needs to investigate the reasons behind this unfortunate situation in order to overcome this digital handicap. Of course, good access to information technology (IT) is the fundamental element of any rural development activities. Therefore, this study focuses in depth the Internet access and digital literacy (in terms of Internet technology applications skills) in the rural areas of Garun-Malam local government in Kano State, Nigeria. The purpose of the study is to investigate accessibility level of the Internet (the technological infrastructures being used), and the level of Internet technology applications skills among the rural communities. This study employes quantitative data analysis method, 150 questionnaires were distributed, collected and analyzed for the selected rural areas. From the results, it shows that many respondents have access to Internet, despite the fact that there are poor IT infrastructures used in all the rural communities. The study also reveals that majority of the respondents does not have basic skills of Internet technology applications.

Keywords: Digital divide, IT Skill, rural ICT, Internet access, Garun-Malam.

I INTRODUCTION

The origin of the term digital divide can be refer back to an unknown American source in the middle of the year 1990s and was first used in an official publication by the United State, Nigeria Policy for Information Technology. (2000). However, the term digital divide commonly refer to the gap between those who do and those do not have access to new forms of Information technology (IT). These forms refers to the computers and their networks, but still other digital equipment such as mobile telephony and digital television are not ruled out by some users of the term (Jan, 2006, Salimonu et al., 2013). On the basis of the above, technological infrastructure and the Internet facilities are the fundamental tools that can be used to bridge the divide not only in the rural communities but also the underserve areas within urban communities.

However, it’s through the effective utilizations of those tools, the socio-economic, political, education and social development can be measured with greater satisfaction.

Furthermore, Internet access refers to the ability to access the Internet without having restrictions placed on you door where you go while you’re online. On the hand, Internet access is the services that provide access to the global system of interconnected computer networks known as the Internet (National Telecommunications Cooperative Association. “NTCA” (2003). A lack of access to the Internet is a major element of the digital divide. Research consistently identifies ethnicity, income, age and education as significant predictors of access to technology, (France and Lemuria, 2006).

Therefore, the issue here is that by given total access of Internet to the rural communities, the socio-economic, education and political factors which the communities will surely be eradicated. Moreover, one of the great challenges of broadband is to provide service to potential customers in areas of low population density, such as to farmers, traders, and small towns and most of these issues are in the rural area. In cities where the population density is high, it is easier for a service provider to recover equipment costs, but each rural customer may require expensive equipment to get connected. While 48% of Nigerians had an Internet connection in 2011, but only 10% from the above figure are connected in rural areas, Bell, Reddy & Rainie (2014). Wireless Internet Service provider (WISPs) is rapidly becoming a popular broadband option for rural areas (Zulkhairi, et al, 2012).

However, the question here is that “does the rural communities digitally literate”? And “do they have basic skills of Internet technology applications”? Digital Literacy is the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyse and synthesize digital resources and construct new knowledge/media, (Casey and Bruce, 2010). Research around the digital literacy is concerned with wider aspect associated with learning how to effectively find, used, summarize, evaluate, create and communicate information while using digital technologies, not just being literate at using a
computer. Digital literacy encompasses computer hardware, software (particularly those used most frequently by businesses), the Internet, cell phones, PDAs, and other digital devices. Therefore, the digital divide is a complex and dynamic phenomenon, though despite the extensive studies on the digital divide and its impact by many researchers, developing countries in particular, are still searching for sustainable solutions to reduce the digital gap, more specially between urban and rural areas, to leverage their investments in Information Technology (IT) towards the attainment of greater economic and social benefits and increase global competitiveness (Anwarul & Keita, 2010). However, to bridge the digital divide, there is a need for establishment of technology driven e-government, which includes e-administration, e-commerce, e-agriculture, e-health and so on (Shittu et al, 2013).

Therefore, the restriction for the development of Information Technology (IT) is not only financial limitation, but also absence of absolute attention and poor style of administrations by the government. The ability to access the technological and scientific information as well as social information does not just give the nation power, but also enables the nation and its people to live in a better life in all aspect of human endeavour (Anwarul and Keita, 2010). If you cannot access the technology, then you cannot access the information and you'll be left behind in almost all aspect of life (DiBello, 2005). Information Technology (IT) can have significant effects on various aspect of the life of individual, ranging from access to accurate and timely information to employment opportunities or even social inclusion (Prodromos & Eftichia, 2010).

A. Computer illiteracy and shortage of skilled Professionals

Most people are computer illiterate. There is a weak computer education infrastructure. Most of the computer training schools are situated in urban areas. Additionally, these few computer science and Information Technology departments are admitting a few numbers of students due to lack of resources for instance shortage of computers and high cost of Internet (Sofia and Caroline, 2010).

B. Lack of national effective guideline and consistent ICT policy

There is a need for national guideline policy for today's information society and utilization. Absence of it will really affect all aspects of human activity and lifestyle not only in rural communities or state level, but the country in general. By improving communication technology, we can increase communication and improve the life style of the society (Sofia and Caroline, 2010).

C. Poor quality of Internet services and facilities

The Internet access is affected by poor telecommunication services in most of the rural areas in Nigeria and unfortunately government’s long period of monopoly in the telecommunication industry had resulted in telecommunication backwardness. Not until recently, when monopoly jinx was (Nyakuma, et al. 2013). However, according to study conducted by Sofia and Caroline (2010), besides the facilities issue, there is a general lack of computer and Internet equipment. Earlier, in another study conducted in Nigeria by Shittu and Adedokun-Shittu (2008) showed that a few people have computers with Internet access, and is mostly available in some governmental offices, (in urban area, but even in local government offices, it will much difficult to find out one single computer with Internet connectivity), and other private companies. At the same time, the cost of computers, software and modems are more expensive than in most developed countries. The electric energy and the telecommunications infrastructure are very limited due to this reason; a lots rural areas and towns remain without electricity for days or even for months.

The Internet is the most effective tool for bridging the gap and Internet facilities are the pre-condition for bridging the digital divide. Information and communication activities are a fundamental element of any rural development activity. Anwarul & Keita (2010) said that the use of the ICT facilities is much higher in urban areas compared to rural areas. However in many countries, the developed communities from developed areas have gone into intricate networks and information superhighways; the indigenous communities of under-developed areas have not been heard of computers and Internet.

II THE NEED FOR DIGITAL OPPORTUNITY

The need of the hour is to bridge this gap between urban and rural in Garun-Malam that need to be created primarily due to the rise and dominance of Information Technology in urban areas. Today, the society is confronted with a digital opportunity, a chance for the disadvantaged groups to leapfrog ahead to equality in a short time, a few years, instead of going through the decade’s long social evolutionary process (Pandey, Goel & Gangal, 2008). We need to empower people with access to computing and the Internet and create a bottom-up uprising across Garun-Malam which will open up people eyes, especially the young, to the new ideas and new worlds. Digital opportunity will make people learn new skills, which could be bound in a numerous of different areas.
Time has now come to take computers and allied technological infrastructures to every village and to every countries across the world as table 1 below shows that there are still much infrastructure lapses in this rural community. Only through such a mass-scale deployment we can create a stage on which can be layered other programs whose power can now be enlarged vividly. From primary education to adult literacy, from providing a two-way flow of information to enabling transactions, from increasing governance transparency to reducing corruption, from jobs to marriages, computers can indeed be the manna for the world’s villages (Pandey et al, 2008, Idisemi, Ann & Robbert, 2011). By themselves, computers will do little. They need applications to make a difference. They need changes in governments processes. But by making computing available to every citizen, they will force a seismic change through the lines of governance. They will become the platform which can be built upon to layer a whole range of different services. Computing as a utility in every village will fulfill the vision of transforming Rural Community not only in Garun-Malam local government, but the country in general.

Table 1. Garun-malam Internet Infrastructure Growth Since 2010 to 2013.

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
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<tbody>
<tr>
<td>Internet Access</td>
<td>1</td>
<td>-</td>
<td>2</td>
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<tr>
<td>Service Providers</td>
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<tr>
<td>Wireless Access</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>5</td>
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<tr>
<td>Internet/e-mail</td>
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<td>subscribers</td>
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<tr>
<td>Dial-up Internet/e-</td>
<td>20</td>
<td>11</td>
<td>56</td>
<td>-</td>
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<tr>
<td>mail subscribers</td>
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<tr>
<td>VSAT International</td>
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<td>-</td>
<td>3</td>
<td>2</td>
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<tr>
<td>data gateways</td>
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<td>Public Internet</td>
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<td>-</td>
<td></td>
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<td>Service providers</td>
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III RESEARCH METHOD

This study is concerned with how variables are associated, the quantitative survey is used. More so, the unit of analysis in this study is the individual, i.e. each individual response is considered as an independent data source, since the survey having the individual as a unit of analysis are the most generally used (Punch, 2003). The data collection procedure is based on the self-administered questionnaire. According to Punch (2006) this type of data collection method is generally the most commonly used in quantitative survey study. A questionnaire was designed and distributed to the respondents. One hundred and fifty questionnaires were distributed across the four rural communities of Garun-Malam local government which includes, Garun-Malam, Chiromawa, Yadakwari and Grun-Babba This gives guidance and support for constructing the effective analysis and recommendations for bridging the divide. One hundred and forty seven were collected back from the respondents which exactly met the target number.

IV RESEARCH FINDINGS

The descriptive analysis of the respondents’ demographic characteristics is presented. Furthermore, demographic profile includes the age, gender (Sex), occupation and highest educational qualification of the respondents. Highest number of the respondents were in the age of between 30 years-40 years which is 33.8% (N=50), between 20 years-30 years is 32.4% (N=48), between 40 years-50 years is 20.9% (N=31), below 20 years is 12.2% (N=12) and above 50 years is 0.0% (N=0). Figure 2 illustrates the age of the respondents using bar chart.

Majority of the respondents were senior secondary school certificate holders with 31.1% (N=46), Diploma/NCE/IJMB categories 25.7% (N=38), Degree/HND 23.6% (N=35), Others (M.Sc. or PhD) 12.8% (N=19) and the least were Primary school certificate holders 6.8% (N=10). Figure 2 below figure illustrate qualifications of the respondents.
Internet Access

The table 2 below shows that the majority of the respondents have access to the Internet 92.6% (N=137), while only 7.4% (N=11) do not have access to the Internet.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage Valid</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Yes</td>
<td>137</td>
<td>92.6</td>
</tr>
<tr>
<td>No</td>
<td>11</td>
<td>7.4</td>
</tr>
<tr>
<td>Total</td>
<td>148</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Although, highest number of the respondents were using the mobile phone to access Internet 39.2% (N=58), while 36.5% (N=54) of the respondents were using computer, and 23.6% (N=35) of the respondents were both using mobile phone and computer. Similarly, the finding also shows that the majority of the respondents access Internet using Cellular Broadband, followed by wireless network and Cable modem, while only 12.8% uses Dial up access method.

Internet Technology Literacy

Digital literacy level (in terms of Internet technology) of the respondents and the computer skill level in using various Internet applications based, shows that 39.9% indicated that poor in terms of Internet technology literacy,

29.1% of the respondents were fair, while 24.3% were good and it’s only 6.8% out of 148 respondents were Very good. This shows that majority of the respondents doesn’t have Internet technology literacy, despite having access the Internet. This will lead us to the next finding

Skills of Using Internet Applications

In an attempt to measure their literacy level, question on how skilled they were at using Internet applications were asked, the data reveals that the majority of the respondents were not Internet applications savvy. However, majority of the respondents were only very skillful using Internet to send/receives’ messages with 40.5% (N=60) out of the total number of 148 respondents. Furthermore, 42.6% (N=63) were average, 12.2% (N=18) not very skilled, while only 3.4% (N=5) never used Internet to send/receives’ messages. Moreover, this shows that almost 40% of the respondents were illiterate in terms of Internet technology applications.

V CONCLUSION

There is indication that there is no significant relationship between Internet access and age. There is no significant relationship between Internet technology literacy and access to Internet services. Also between Internet technology literacy and IT infrastructures and Internet Service Providers (ISP).

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