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### Digital Divide: The Identity of Information Centres in the Information and Knowledge Age Nigeria

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#### Abstract

*This paper is aimed at highlighting the digital divide context by explaining the meaning, and the level in Nigeria as compared to the developed nations. It looks at the factors that causes digital divide which includes the level of income, gender and geographical location among other things. It went further to highlight the categories of involvement in ICT access and usage that creates distinction between people ranging from actively involvement [cybernatives] to anti cyberworld [masochist]. Also, the paper listed various role information centres, professionals and other agencies can play in bridging the disparity in ICT dominated world. Finally, the paper recommended among others the improvement of basic infrastructure and education as a way to reduce and or remove the digital divide.*

**Keywords:** Digital Divide, Information Centres, Knowledge age, Nigeria.

#### 1.1 Introduction

Information and communication technology (ICT) has created new possibilities and ways things are done worldwide. It has led the world into an information and knowledge age where information has become a factor of production such as land, labour and capital; while knowledge economy is its economic counterpart, where wealth is created through the economic exploitation of understanding. The information and knowledge age according to Grant, (2003) entails the knowledge management of '3i' economy (the world of ideas, information and intelligence) which suggest a period of quest for competitive advantage. Through ICT advancement, information and knowledge has become indispensable pillar for the proper

functioning of the society or social system. It has provided wider prospects that drive all spheres of human endeavours. It benefits the poor by removing social, economic and geographical isolation, by increasing access to information and education, and by enabling poor people to participate in more of the decisions that affect their lives (The Human Development Report, 2001).

Information and Communication Technologies (ICTs) have also been viewed generally as important tools for national integration because they are capable of enabling greater access to health and education services and creating economic opportunities for underprivileged population groups. The age of information revolution at its best, is about expanding equality of opportunity for all in the society today. The

revolution has taken the world into information society where, according to Beniger (1996) is a society where the use, integration and manipulation of information is a significant economic, political, and cultural activity. Computers, networks, software, internet, mobile phones and other ICT technical equipment are enabling technology used in accessing and disseminating information in digital inducing age. Unfortunately, there exists unequal opportunities to the access and use ICT in the so called information society and this can be attributed to some observable variables.

## 2.1 Literature Review

*Klingenberg and Singh (2010)* opined that the capability to the use of technical equipment on one hand and information literacy skills on the other hand. A lack of information literacy skills may lead to digital divide between information literate 'onliners' and information illiterate 'nonliners'. In precise term, digital divide can be defined as an inequality in access, distribution, and use of ICT between two or more populations (Wilson, 2006). Some school of thought have argued that the phenomenon 'digital divide is used in different area; it could describe the less opportunities of older persons in antagonism to young people, it could describe the different of advanced countries and developing countries and it could describe divide between wealthy and poor. The term '*digital divide*' describes a gap in terms of access to and usage of information and communication technology. It was traditionally considered to be a question of having or not having access, but with a global mobile phone penetration of over 95% it is becoming a relative inequality between those who have more and less bandwidth and more or less skills.

Moreso, Norris (2001) categorizes this divide into its three constituent elements: the global divide between advanced industrialized countries and developing

countries, the social divide between information rich and information poor within advanced industrialized countries, and the democratic divide between those within the online communities who do and do not use digital resources to engage, mobilize and participate in public life. As cited by Avgerou and Madon (2005), Lee et al. (2003) opined that there are vast differences among developing countries' ability to produce or to effectively use ICTs and participate in the global economy. The disparity in the deployment of the internet is similar to inequalities of earlier forms of communication technologies like telephones and television.

In economic terms, impressive ICT innovation and use characterizes the information society. Some of the small economies of South East Asia, such as South Korea are a superfluity of examples of promising initiatives and opening up of opportunities. All the same, the overall image is one of concern about the growing digital divide (Norris, 2001; Castells, 2001). This is reflected in the literature from the World Bank, the OECD and individual agencies – 'The Digital Divide is one of the greatest impediments to development ... and it is growing exponentially' (Wolfensohn, 2000). Leaders in Internet penetration are Scandinavia and North America followed by Western Europe with about one in five online. Central and Eastern Europe, Asia, the Middle East and South America fall below the world average with less than one in ten online, with minimal diffusion in Sub-Saharan Africa (Kirkman et al. 2002b).

Recently, there are vigorous arguments on the digital divide where the development of ICT is believed to have broadened more the gap between the haves and the have-nots. Digital divide refers to an extensive proportion between two or more population in the distribution and effective use of ICT resources. The digital divide

affects many nations of the developing world. The term encompasses inadequate funding, a lack of necessary computer and internet skills and a lack of English language proficiency that hinder expansion and use of digital information resources (Dubey, 2010).

Digital divide cannot be consistently apply, for instance, factors influencing digital divide vary from region to region, country to country, individual to individual; it is depending and the differences in the access and usage of communication resources between countries, regions, individuals. Singh (2012) maintains that digital divide is the gap between individuals, households, business and geographical areas at different socio- economic levels with regards both to their opportunities to access ICTs and to their use of the internet for a wide variety of activities. He argued further that internet has rapidly grown to underline almost all aspects of the global economy. The term “digital divide” most often has been referred to internet access, it is a divide that affects and reinforces fundamental economic and social divides between and within countries and is threatening to further exacerbate these inequalities

Information centres provide new possibilities to access information through the provision of computers, internet, even mobile phones that provide a link to numerous amounts of database, books, journals and pictorial information resources in a digital library. But, according to Klingenberg and Sigh (2012) there are two conditions which need to be true to use digital libraries: one must own or have possibilities to use a computer connected to the net and must be able to find, read, and use the digital content. In other word, digital divide revolves around the availability of ICT equipment to the users and the capability of its usage both to individuals and information centres.

In furtherance, employing ICT in all

information provision system would act as a key in transforming the traditional and archaic way used in cataloguing and classification, indexing, abstracting in information centres today. It is expected that all technologies that process, store and communicate information in libraries should be managed as integrated systems and be used as access tools for the digital libraries resources to bridge the gap in digital divide. In Nigeria today, imbalances of access to ICT exist among information centres, resulting in equitable service delivery and show clearly the distinction between libraries without walls and ones with walls and it reflect on the degree of effectiveness and competency in service provision.

Despite obvious challenges facing information centres in Nigeria the gap between the centres with access to ICT and those without are narrowing down as information age continue to enlarge the possibility through information services provision. On a general note, it can be rightly be argued that the wide gap between traditional and contemporary methods of processing, storing, analyzing, retrieving, providing and using information, unequal access to internet-related and other technologies associated with the provision and use of information services, and the imbalances of access to ICT among information centres in the developed and developing countries creates the digital divide. This paper through review of related literature look at the issue of digital divide and the identity of information centres to bridge the gap in the information and knowledge driven age Nigeria.

## **2.2 Digital Divide in Information and Knowledge Driven Age**

Globally, information age is a phenomenon characterized by the use of information as a means of production, marked by digital revolution, knowledge based-

economy, a shift from the traditional industry to information computerization, a world economy that replaces the industrial society, the inclusion of e-government in the socio-economic, cultural and political affairs of the citizenry and governance; in essence, the involvement of ICT in every spheres of human life. Unfortunately, the failure of political leaders and increasing poverty level in present day Nigeria (like many other developing countries) is manifesting in poor infrastructure and poor economy power of the citizenry and this have created loophole for the widening of digital divide.

Arguably, in Nigeria like other African continent, low level of education and poverty are dominant factors that inhibit access to the internet; with a resultant higher level of digital divide among the people (Akanbi, 2012). Fong (2009) assessed the impact of ICTs on Gross National Income (GNI) per capita in developing countries in 2005 and found a significant relationship between GNI per capita (in PPP international dollar) and adoption of each ICTs (mobile phone, personal computer, and telephone) but not for Internet technology. Despite the observed fact that internet usage in Africa has risen to 18 million in 2004, giving an internet user penetration of 2.1 per 100 inhabitants, compared to the African average of 1.6 per 100 in 2003 (Oyeyinka, 2004); thereafter, there are perceived widening gap in the access and use of ICT in the continent.

Digital divide has posited questions of: who has access? Who is able to read and understand? In a bit to provide answers to these questions, it is important to know that there is increase in the amount and varieties of information available in this age, and the source through which information can be obtained has shifted to include digital format; example, e-book, online journals, CD ROMs, digital television, online databases, newspapers, and magazines. The implication here is that, the abilities needed to access

information effectively and evaluate same is now on the increase and more complex couple with increase in the volume in formation and these has created a gap between those who can and those cannot- digital divide-.

### 2.3 Causes of Digital Divide in Nigeria

Several factors pose as challenges to bridging the digital gap especially in Nigeria. According to Van Dijk and Hacker (2003), there are four types of barriers to ICT access and use: lack of “mental access” refers to a lack of elementary digital experience, lack of “material access” means a lack of possession of computers and network connections, lack of “skill access” is a lack of digital skills, The lack of “usage access” signifies the lack of meaningful usage opportunities. The digital divide central point access and use of information in this age cut across some paradigms and can be affected by some of these factors such as:

*Income and social status,*

*Living environment and geographical location*

*Gender and religion*

*Physical ability and disability*

Furthermore, that despite socio-cultural, economic, political and other obstacles that increase digital disparities and hinder global digital opportunity to all people in Nigeria; there are others such as:

*Technological divide:* A circumstance where there is a huge gap in infrastructure development between the two poles (i.e. between Nigeria and the developed countries)

*The gender divide:* A situation where boys/men are more explorative and enjoy more access to information than girls/women.

*Content divide:* where the content of information in internet or digital format are not important to the desire of the population.

It can be rightly argued that the combination or one of the above factors determines the level of individual, group, region and countries' participation and involvement in the information and knowledge-based age. Each of the factors may positively or negatively affect someone which creates the imbalance in the access and use of ICT and result in widening the gap of digital divide.

#### **2.4 Categories of Involvement in ICT Access and Use**

Despite the perceived high level of ICT advancement, the information age are categorized with different participation of people to the access and use of ICT. In essence, Ukoha, (2013) highlighted the three main categories of people that symbolize the information age in relation to digital divide thus:

*Cybernatives/residents:* Subjectively applied to the people born after 1980 where computer, internet, the arrival and rapid dissemination of digital technology has change the way people reflect on ICT tools in information process, access and use. They naturally have passion for ICT tools and gargets and use same with easy and convenience.

*Cybermigrants/visitors:* These are the set of people who are neither cyberphobia nor cybernatives, seemly born and educated before the ICT revolution and who struggle to fit into the cyber world through conscious learning and adoption of ICT/digital techniques.

*Cyberphobia:* This constitutes a set of people who are irrationally frightened for the use of internet, mobile/Smartphone, computers and other ICT related gadgets; sometime for the reason of age, illiteracy/

ignorance, exposure, handicapped and psychology and are usually characterised by avoidance of computers and other ICT gadgets. On the other hand, there exist

*Cybermasochist:* These category of people are different in the sense that they have flay for ICT and digital materials and then strive to obliterate and destroy any ICT related feature that may come their way.

#### **2.5 Constrains to Bridging Digital Divide**

Preliminary investigation have shown a lot of issues (both individually and/or collectively) that contribute to the widening the gap of digital divide especially between developed and developing countries of the world today such as:

- Poor facilities background,
- Attitudes and cultural influence,
- Illiteracy/ lack of education,
- Inadequate fund,
- Inadequate power supply,
- Lack and/or inadequate professionals in information service delivery and
- Unfavourable policies in government and education sector,

Each one of these seems equally sensible for digital divide and depends on the point pursued by the analyst .

#### **3.1 Digital Divide and the Identity of Information Centres**

The information professionals and centres have significance roles to play in bridging the digital divide. In the same vein, information centre according to online definition is a centre designed specifically for storing, processing and retrieving information for dissemination at regular interval, on demand or selectively according to express needs of users. This includes amongst other education resources

information centres, health and social care information centres, refugee and asylum information centres and rural information centres. The educational aspect provides information for students, researchers, teacher and general public to improve learning, teaching and a guide in decision making.

Digital information centres encompass computers, the internet and other electronic resources made available for public use, in conjunction with human resource that provide help to the user and opportunity to bring ICT to the clients who might not access to the internet in their place of work or homes.

### 3.2 Roles of Information Centre and Information Professional in Bridging Digital Divide

The identity of information centre in the information age revolves around the roles it can play in bridging the digital divide and these according to Gautam, (2014) includes amongst others:

- i. Access:* Working information centre can now open the way to the web by providing people with the some access to internet resources. In effect, centres are connect to the Internet so that users can go online, and gain access to their local and international website or any other website that needs their needs.
- ii. Training and Education:* **Information** professionals can help working people get more comfortable and skilled with using computers and surfing the World Wide Web through regular training and exposure to ICT and digital resources. **Education:** Information centre can act as a place to provide adult education programme as literacy classes whilst the professionals engage in the normal coaching. All these resources in the centre offer wonderful opportunities for the professional and others to form

partnership for bridging the digital and information divide. Information professionals can also help working people to get online to use the web through access for those without computers, training and encouragement to help them get over fears of using new technology.

The information centres can also serve as community technology centre to set up for free web-email account and use of local web site to get information and for effective communications.

According to Bulent, (2003) the application of Information and Communications Technology (ICT) offers a tremendous potential such as:

Strengthened education management systems, through connecting educational administrations and providing real time data/indicators and,

Shared knowledge among policy makers and other stakeholders through well-organized knowledge management systems

Increased access to underserved areas through distance learning,

Improved quality of teaching and learning, through appropriate software aimed at providing information, tools and interactive learning, and using technology in constructivist ways to give students the looks to think critically and realize the power in developing their own media production,

On the other hand, the lack coordinated policies and other efforts such as media competent and initiative will continue to widen the digital divide especially in Nigeria and other developing countries. On the international sense, the Chartered Institute of Library and Information Professionals,

United Kingdom (CILIP) in their submission proffered certain measures to be employed as so to eradicate or bridge the gap in digital divide:

**Digital literacy:** Digital literacy, which is at the minimal base in Nigeria, is one of the core skills for digital inclusion. It gives us the confidence to find, critically appraise and manage information in our personal and working lives. Digital literacy also means we can create and contribute information and not just be passive consumers. People need to be motivated to continue to learn as technology and society changes. Digitally illiteracy brings economic and social disadvantages. It leaves people vulnerable to poor decision making and online threats including identity theft, cybercrime and exposure to hate sites.

#### ***Libraries and Information Professionals:***

Professionally led library and information services play an important role providing the skills, access, motivation and trust people need to get online and participate digitally. Services in a range of sectors can increase digital inclusion amongst a range of stakeholder groups including in health, government departments, Higher and Further Education, and commercial organisation. Library and Information professionals have the right skills and ethics to be an effective part of bridging the UK's digital divide and in Nigeria as well. They are trusted by their users and communities; they have experience working in partnership on programmes encouraging digital participation, they understand information and have the skills set to teach how to use, create and manage it in an ethical way (CILIP, 2014).

#### **The Role of Government and other Bodies in Bridging the Digital Divide**

Apart from the information centres and the professionals, other bodies and government agencies have a role to play in bridging the digital divide such as:

#### ***1. Promote Internet Use***

Some concrete actions such as promoting Internet use, investing in human resources and developing the Internet that is not too expensive, quicker and better protected must be taken into consideration as well. In public level; there must be taken some measures such as: Supplying Internet access points in every schools and libraries, offering low-interest loans for public equipment in rural areas and poor urban districts, taking steps to bring down equipment prices (lifting taxes, providing subsidies) and low interest loans for low-income families, organizing free web training sessions for the disadvantaged, offering free Internet addresses to all schoolchildren, fostering competition in telecommunications to encourage low charges and to courage unmetered Internet access tariffs.

#### ***2. Social Development***

In an effort to bridge the digital divide through social development; the Governing Board of International Federation of Library Association and Institutions (IFLA), in its 75 anniversary Meeting in Glasgow, Scotland on 24 August 2002 approved the following declaration (Anon 2002):

The IFLA supports the development of library information services worldwide, and ensures these services respect equity, the general quality of life for all people and the natural environment;

Library and information services provide access to information, ideas and works of imagination in various formats, supporting personal development of all age groups and active participation in society and decision-making process;

Library and information services provide essential support for lifelong learning, independent decision-

making and cultural development for all;

Library and information services contribute to the development and maintenance of intellectual freedom and help safeguard basic democratic values and universal civil rights. They respect the identity, independent choice, decision-making and privacy of their users without discrimination;

To this end, library and information services acquire, preserve and make available to all users without discrimination the widest variety of materials, reflecting the plurality and cultural diversity of society and the richness of our environments;

Library and information services are helping to tackle information inequality demonstrated in the growing information gap and the digital divide. Through their network of services, information on research and innovation is made available to advance sustainable development and the welfare of peoples worldwide.

### ***3. Political Participation***

In an unequal world, it may not be realistic to ensure that all institutions in all poor developing countries are linked to the Internet and able to afford the services (Williams, nd). Governments should therefore ensure sufficient financial and technical support to all a sundry as a strategy to ensure that information service providers are updated on ICT, and include them as key collaborators in seeking solutions to bridge the digital divide. In this era of ICT, Nigerians who are not information literate as Henriatta (2005), rightly pointed out, are potential national risks because they ceased to be information gain in the digital age, a development that make the widening digital gap parallel to the digital

divide. Additional strategies apart from education required to be advanced by all stakeholders, including governments include:

Putting in place continuous training programmes in ICTs for the benefit of all,

Enabling access by all people to information through use of ICTs,

Developing human capacity to exploit the benefits of ICTs

Building of public awareness on the capabilities of ICTs

Enhancing universal access through deployment of affordable ICTs.

Improvement of connectivity in libraries,

Providing technical assistance and support to ICTs and making available appropriate electric power sources. (Mutula and Mutula, 2007),

Every space, such as schools, libraries, and community centres should be used as primary location for accessing and teaching computer skills, for both adults and children. And, local content for all media and the creation of awareness about ICTs should be developed to enhance understanding of the use and potential of digital technologies (Mutula, 2008)

Also, government provision of ICT structure can help to bridge all the other divides, by helping to solve the basic problems of Nigeria when it is fully integrated into government policies and the social and commercial life.

### ***4. External Influence/Assistance:***

Developed nations need to help close the gap by funding grassroots projects that use communication technologies to improve the standard of living, building of infrastructure, and establishing technology start-ups in developing nations (World Telecommunication Development Report, 2002). The governments of developing



nations must play their role in formulating suitable strategies based on private sector participation, market liberalization and independent regulation (World Telecommunication Development Report, 2002) as cited by Bulent, (2003).

### **5. Gender Equality:**

Although various reports (Chamberlain 2002; Hafkin and Odame 2002) have highlighted the gender issue in the digital divide, the problem of women being disadvantaged is not peculiar only in ICT development, but also in many other fields. Furthermore, in planning their strategies to provide information access to all, information service providers must be aware of some of the social and cultural problems faced by women, especially those from developing countries. Hafkin and Odame (2002) highlighted seemingly trivial but important issues, such as the opening hours of telecentres. Women normally have multiple roles to fulfill, and the opening hours of telecentres must also cater for their convenience to allow them to use the facilities provided. Information service providers must remember that ICT skills are not gender neutral, and when planning for skill-upgrading should ensure gender-balance participation (Engelhard, 2002).

### **Conclusion**

In the information and Knowledge-based age, information service provision, access and utilization are more demanding than ever before. Information has become essential commodity and a major factor in production chain. The age has witnessed tremendous breakthrough and transformation in ICT which have affected every aspect of human endeavour regardless of the class, gender, nationality and geographical location. It has also brought many benefits to information gathering, storing, retrieval and dissemination. However, the trend in

information processes and provision has created an imbalance toward the access and use of it leading to digital divide especially between the developed countries and the developing ones. Though, efforts by different world bodies and agencies to narrow the gap are being made. The identity of information centres and information professional form it's features and the role geared towards providing solution created by the imbalance through the provision of access, digitalization of resource, education and training of both information professional and the population. It is duty for all to bridge the digital divide.

### **Recommendations**

Based on the finding through the review of related literature, the paper proffers the following recommendations:

1. To improve the facilities/infrastructural background that will form as a base to carry ICT equipment and tools.
2. Education, training and retraining of information professional that will help in providing technical support and access to information to all no matter the background
3. Establishment of more information centres with internet connection that will be open to people especially those who cannot afford it.
4. Further enhancement of technology transfer from the developed nations to the developing nations.
5. Involvement of NGOs and other governmental agencies in the process.

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