
BRIDGING THE DIGITAL DIVIDE: WITH SPECIAL REFERENCE TO NIGERIA

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Abstract

This paper describes the digital divide in Africa with special reference to Nigeria. It presents the causes of digital divided such as; the general poor economic conditions in Africa; local content; telecommunications constraints; lack of investment in ICT infrastructure, etc. Benefits derivable from bridging the digital divide such as making large regional, national and even global markets accessible to small enterprises; and increase the reach and efficiency of the delivery of government and social services among others were highlighted. Key features of the Nigerian government, development agencies and institutional initiatives aimed at bridging the digital divided were presented.

Keywords: Digital divide, ICTs; Africa; Nigeria, Initiatives

Introduction

Digital divide is a term used to describe the gap existing between developed and developing countries with regards to access to information and communication technologies (ICTs). Webopedia (2008) provides a broader concept of digital divide as the discrepancy between people who have access to and the resources to use new information and communication tools, such as the internet and people who do not have the resources and access to the technology, the discrepancy between those who have the skills, knowledge and abilities to use the technologies and those who do not have. The digital divide can exist between those living in rural areas and those living in urban areas, between the educated and uneducated, between economic classes and on a global scale between more and less industrially developed nations.

Digital divide is the gap that currently exists in the quality of access to ICTs between the developed countries of the North and developing countries of the south. This digital divide also exists within the countries of the south, between the majority of the rural based citizens who have no access to ICTs and the tiny urban-minority that has access to ICTs. Reddy et al (2004) have identifies nine categories of the digital divide to include;

- Infrastructural divide
- Access divide
- Literacy divide
- Language divide
- Information and knowledge divide
- Job divide
- Healthcare divide
- Entertainment divide and
- Demographic divide

In the same vein, Mutula (2008) identifies four types of digital divide including:

- Social divide: This may be seen through cultural factors that result into disparities in access to and effective use of various digital technologies between countries and within countries
- Economic divide: This relates to factors such as poverty and monetary constraints that make it more possible for some communities than others to have access to make effective use of digital technologies
- Linguistic divide: This arises when the language of digital technology or the content within the technology is foreign to certain communities, while it is familiar to other communities
- Content divide: This refers to gaps that exist between communities on account of inappropriate knowledge contained or flowing through digital technologies that certain communities cannot use, because it is created without their needs been taken into consideration.

In view of the benefits of bridging the digital divide, various governments, non governmental organizations and community based organizations as well as development agencies and partners across Africa and in developed countries have been strategizing with a view for Africa to leapfrog the digital divide and catch up with the digitally connected world.

Benefits of Bridging the Digital Divide

Mutula (2008) has given the following as benefits derivable from bridging the digital divide:

- **Employment and Economic Growth:** Bridging the digital divide by the deployment of ICTs offers the potential for commercial use by local entrepreneurs which may generate employment and economic growth. The entire gamut of the ICT sector can provide better paid skilled employment
- **Promote e-governance and e-commerce:** The effective integration of ICT into the society is capable of promoting e-governance with its associated benefits of timeliness. The integration of ICT in the financial sector is a key factor for economic sustainability and improved social conditions
- **Promoting academic excellence:** Access to technology driven instructional resources offers access to a wide range of information and the effective use of the knowledge gained through such use increases improvement at all levels.

Bridging the digital divide can significantly contribute to the attainment of the Millennium Development Goals (MDGs) in Africa as observed by Okot-Uma (2002), Murelli (2002), and Chetty (2005), in the following areas.

- **Education:** The application of ICT based platforms such as e-learning, can go a long way in solving some of the problems of shortage of teachers and the physical infrastructure at all levels of the education spectrum in most Africa countries because ICTs can reach many people spread across vast geographical areas.
- **Health:** Bridging the digital divide would enhance ICT based health delivery systems. Public health campaigns and basic hygiene can be more effectively delivered and accessed by all citizens including those in rural areas.
- **Eradication of Extreme Poverty:** The provision of telephony services (both fixed and mobile) as well as internet services occasioned by bridging the digital divide would create new opportunities for employment for many households. It has been discovered that the introduction of mobile phones had led to employment opportunities as well as boost small and medium

enterprises (SMEs) (Ugboma, 2010) Bridging the digital divide will help to fight against poverty in the agricultural sector by providing timely information to peasant farmers in areas such as weather patterns and forecasting.

It is crystal clear that bridging the digital divide in Nigeria will do more good than harm in Africa. In Nigeria, for instance, the envisaged cashless economy would be enhanced if every citizen has quality access to ICT. A World Bank (2002) report summarizes the benefit of bridging the digital divide in fighting poverty thus “access to telecommunications and information services and to ICTs in general, provides crucial knowledge inputs into the productive activities of rural and poor households; make large regional, national and even global markets accessible to small enterprises; and increases the reach and efficiency of the delivery of government and social services, thus gives the poor a voice, with which they can influence the decisions of policy makers and allows them to participate in the decision making process”.

Causes of Digital Divide

Mutula (2008) and Murelli (2002) have identified a number of factors that fuel the digital divide on the Africa continent and other developing countries including: the general poor economic conditions obtaining in most countries of sub-Saharan Africa; local content factors whereby most of the digital resources are irrelevant to the needs of Africans because they are dominated by foreign cultures and contexts; cultural and linguistic factors where digital resources are presented in foreign languages and depict foreign cultures and in addition, where the education system has also adopted foreign languages such as French and English as mediums of instruction in schools and for conducting of research; HIV/Aids, where financial resources are being diverted towards meeting the challenges of the pandemic in terms of procuring medicines and putting in place other mitigation strategies instead of investing in ICT infrastructure; telecommunications constraints which is summarized by Mutume (2005) and the ITU (2005), show that Africa has the most underdeveloped telecommunication infrastructure in the world characterized by having the lowest ICT indicators in terms of connectivity, access to radio, television, computers and the internet. Recent studies however show a positive growth in the telecommunications sector for the continent, as Africa has now

become the world's fastest growing telecoms market with an annual growth rate of 50%, an estimated 300 millions people owing cell phones in 2008, and a total subscribers estimated to reach the 400 million mark by the end of 2009 (Africa Business, 2009).

Other causes of digital divide identified by Mutula (2008) include the brain drain, where Africa's intellectual resources are constantly migrating to Western countries in search of greener pastures; education budgetary factors, where all the level of the education sector (from primary to tertiary) are under-funded and yet education is one of the pre-requisites to a sustainable adoption and application of ICTs; literacy challenges where a significant portion of the population, particularly in rural Africa is still illiterate, a situation that is incompatible with sustainable application of ICTs, institutional level of policies which have resulted in under-utilization of even the little available ICT resources, research and development factors, where the low ratio of scientists on the continents, relative to other region of the world, continue to hamper research and development activities on the continent to drive the creation, absorption, adaptation and application of new knowledge and technologies such as ICTs; national ICT policies and regulatory constraints that militate against creating a conducive environment for ICTs and; political factors that result in equitable distribution of national resources and development, leading to social and political instability.

Initiatives aimed at Bridging the Digital Divide in Nigeria

The various intervention to bridge the digital divide in Nigeria can be categorized into national, institutional and development agencies' initiatives. This discourse will however, focus more at national and institutional level initiatives.

Tertiary institution, especially universities across the country are developing projects to facilitate electronic networking and access to global information infrastructure by providing internet backbone that supports students and staff. Several development agencies are investing in infrastructure development in Nigeria. For example, UNDP is funding the improvement of internet connectivity in major countries in Africa including Nigeria in a project called the internet initiative for Africa (IIA). Nigeria is also a beneficiary of the Digital partnership-an initiative of the World Bank which aims at linking systems and organizations in

poor communities by way of disposing millions of computers from the developed world to developing countries (Knight, 1995).

On the other hand, the advent of GSM in Nigeria has helped to fuel internet connectivity, thereby attempting to bridge the digital divide. Many of the service providers such as MTN, Glo, Airtel, Estisalat etc. has put up satellite to cater for national telecommunications services. Some (MTN, Glo and Airtel) have even gone ahead to launch backbone network, configured to include a mix of optical fibre transmission system linking various states with high capacity terrestrial radio and satellite systems. The MTN hub in selected institutions is an e-learning centre to provide students and staff with access to affordable e-learning environment. The Glo network submarine fibre optic cable spanning several countries is a right step towards bridging the digital divide.

At the national level, the federal government approved the National Information Technology Policy in 2001, with the establishment of the National Information Technology Development Agency (NITDA), with a view to making an IT capable country in Africa thereby bridging the digital divide. The objectives of the policy as enunciated in the Nigerian national Policy for Information Technology (2001) includes;

- To ensure that information technology resources are readily available to promote efficient national development
- To guarantee that the country benefits maximally and contributes meaningfully by providing the global solutions to the challenges of the information age
- To empower Nigerians to participate in software and IT development
- To encourage local production and manufacture of IT components in a competitive manner
- To improve accessibility to public administration for all citizens, bringing transparency to government processes
- To establish and develop IT infrastructure and maximize its use nationwide
- To improve judiciary procedures and enhance the dispensation of justice
- To improve food production and food security
- To improve healthcare delivery systems nationwide

- To promote tourism and Nigerian arts and culture
- To enhance planning mechanism and forecasting for the development of local infrastructure
- To enhance the effectiveness of environmental monitoring and control systems
- To re-engineer and improve urban and rural development schemes
- To empower children, women and the disabled by providing special programs for the acquisition of IT skills
- To empower by the youth with IT skills and prepare them for global competitiveness
- To integrate IT into the mainstream of education and training
- To create IT awareness and ensure universal access in order to promote IT diffusion in all sectors of our national life
- To create an enabling environment and facilitate private sector (national and multi national) investment in the IT sector
- To stimulate the private sector to become the driving force for IT creativity and enhanced productivity and competitiveness
- To encourage government and private sector joint venture allocation
- To enhance national security and law enforcement
- To endeavour to bring the defence and law enforcement agencies in line with accepted best practices in the national interest
- To promote legislation (Bill and Acts) for the protection of on-line business transactions, privacy and security.
- To establish new multi-faceted IT institutions as centres of excellence to ensure Nigeria's competitiveness in international markets.
- To develop human capital with emphasis on creating and supporting a knowledge based society.
- To create Special incentive programs (SIPs) to induce investment in the IT sector.
- To generate additional foreign exchange earnings through expanded indigenous IT products and services
- To strengthen National identity and unity
- To build mass pool of IT literate manpower using NYSC, NDE and other platforms as "train the trainer" scheme(TTT)for capacity building.

- To set up Advisory standard for education, working practice and industry.
- The following institutional strategies have been put in place to achieve the above stated objectives:
- Establishment of a coordinated program for the development of a national Information Infrastructure(NII), State Information Infrastructure(SII) and local Information Infrastructure(LII), backbone through VSAT, fibre optic networks, high speed gateways and broad band technologies
- Providing adequate connectivity to the Global Information Infrastructure (GII)
- Addressing open standards for further liberalization and the fiscal measures including incentives to substantially improve telephone teledensity and make IT more affordable to the citizenry
- Establishing IT parks as incubating centres for the development of software applications at national, state and local government levels.

Conclusion

The digital divide concept denotes the existence of a widening gap between the ICT “haves” countries of the South and the ICT “have not” countries of the North. It is much more encompassing, involving technologies in the physical, social, human, economic, linguistic and other spectrum. This digital divide is caused by several factors ranging from economic, cultural, educational, technical, social and infrastructural factors. To bridge this widening gap is to ensure quality access and use of ICTS by individuals, communities in the rural and urban areas of Africa. This can be done by adequate provision and use of VSAT, fibre optic networks, high speed gateways and various multimedia technologies as well as emerging ICTs in all ramifications.

Nigeria’s initiatives in bridging digital divide cuts across various levels. Various development agencies, tertiary institutions and GSM providers are deploying infrastructure in this regard. The federal government IT policy is aimed at bridging the digital divide. In view of the enormous benefits, huge assistance in the march towards attainment of the Millennium Development Goals (MDGs), transformation agenda as well as Vision 20:20:20, it is important for Nigeria to leapfrog and bridge the ever widening digital divide between Africa and the rest of the world and within and between African nations, communities and individuals.

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