

ICT AS ALTERNATIVE MODEL FOR POVERTY REDUCTION IN NIGERIA: AN APPRAISAL OF THE TELECOM REVOLUTION



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ABSTRACT

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Sustainable development.

The objective of this paper is to assess the impact of ICT, particularly, the telecommunications revolution on poverty reduction in Nigeria. Using historical approach spiced with empirical observation, the paper argues that previous poverty reduction initiatives adopted by successive governments in Nigeria failed to yield the desired result because the ICT was neglected as a critical and strategic component. The paper contends that with the massive impact of the telecom revolution on the Nigerian economy as well as its remarkable contributions to poverty reduction in terms of employment generation and creation of value chains within a relatively short-time frame in Nigeria, the ICT appears to offer more viable and sustainable option to poverty reduction than previous approach. The paper concludes that to sustain the gains of the telecom revolution in Nigeria particularly in the face of increasing globalization, there must be concerted efforts by the government, development partners and indeed all stakeholders to deploy the use of ICT in all sectors of the national economy in order to enhance productivity and reduce poverty.

Contribution/ Originality: This study contributes to the timeless debate on finding the most efficient, and sustainable way of reducing poverty in Nigeria. It is one of the few studies that conceive ICT not only as a strategy but an effective model for poverty reduction in low income and export dependent countries.

1. INTRODUCTION

Over the years, discourse on poverty has continued to engage the attention of scholars, development practitioners, politicians and international development agencies. The general opinion, however, is that poverty is a global challenge that adversely affect the well-being of victims be it in developed or underdeveloped countries. More specifically, it is considered as one of the symptoms or manifestations of underdevelopment, a vicious cycle, that keeps the poor in a state of destitution and low consumption level (Aluko, 1975) lack of food, illiteracy, lack of adequate nutrition, joblessness, inaccessibility to credit facilities, low life expectancy (Abiola and Olaopa, 2008) as well as general lack of future prospects and despair (Oshewolo, 2010).

Nigeria is a country enormously endowed with good weather condition for agriculture, and largely untapped human and mineral resources like petroleum, gas, among others. She was among the richest 50 in the world in the

early 1970's and once regarded as a model for African development (Gana, 1996). Years after independence, the country failed to record appreciable progress in terms of socio-economic development, and have retrogressed to become one of the world's poorest country (Obadan, 2001).

Igbuzor (2008) affirmed that in 1978 the World Bank ranked Nigeria among middle-income country with a per capita income of about 1,000 US Dollars per annum and an exchange rate of 2 US Dollars to the naira. World Bank report shows that by 1990, the country's per capita income declined from US\$1,000 to US\$290 and further slipped from a middle-income country to the 17th poorest country in terms of per capita income (Oladipo, 1998). Today, about 83.9 percent of the Nigerian population live on less than two US Dollars a day (UNDP, 2009).

The rising poverty profile in Nigeria has assumed a crisis dimension because more than half its population live in abject poverty (Federal Office of Statistics, 1996; Garba, 2006; Okpe and Abu, 2009; UNDP, 2010). Nwaobi (2003) and Akinyede *et al.* (2009) rightly observed that poverty in Nigeria presents a paradox. This is because in spite of the abundant natural and human resources and as the 6th largest oil producer in the world (having earned over US\$300 in oil revenue since independence), a significant number of its population lives in abject poverty.

Worried by this scenario, successive governments in Nigeria have explored various means and implemented several policies and programmes in order to address the rising profile of poverty in the country. Most of these efforts did not yield the desired result with respect to poverty reduction. These policy failures have challenged policy makers, researchers and development partners to adopt a paradigm shift, to think outside the box and develop new models of reducing poverty.

A recent World Bank report in 2006, considers ICTs as a crucial tool for poverty reduction in Sub-Saharan Africa. The World Bank report based on ICT model has since become an acceptable model for poverty reduction in both poor and advanced countries (World Bank, 2006). The success of the telecom revolution in Nigeria have giving currency to the emerging perception of the ICT as a more viable option to traditional development models (based on intensive labour and natural resource exploitation) in Nigeria Thus, the main thrust of this paper is to assess the impact of the ICT sector on the Nigerian economy and poverty reduction since the year 2000.

2. CONCEPTUAL AND THEORETICAL DISCOURSE

On the one hand, the concept of Information and Communication Technology (ICT) originated from the word Information Technology (IT). However, because of the revolution in science of communication, communication became a significant component of note. This led to the transformation of the concept to Information and Communication Technology, otherwise ICT (Olusanya and Olayede, 2003). Today, ICT connotes technological apparatus like the computers, peripherals, software, internet connections and other infrastructures required to support the processing of data and communication (Okwuenze, 2010).

According to Hang and Keen, information technology involves a set of tools employed to help in the performance of tasks related to information processing (Nworgu, 2007). Sesan (2001) conceptualizes it as the convergence of micro-electronics computing and telecommunications which has become global phenomenon of great importance and concern in all spheres of human endeavour, spanning across education, governance, business, market sphere, labour, productivity, trade, commerce and others. Attama and Owalabi (2008), identified the following as the primary ICT resources:

- i. **Computers:** over the years, computers have been transformed from a mere mathematical tools into an essential management resources. Today, different management operations can be handled more efficiently using computers. With the aid of computers, tasks such as information generation, processing, sharing, storage and retrieval are easily executed with speed, cost-effectiveness and efficiency.
- ii. **The Internet:** The internet has served as a valuable vehicle for sharing of information at a high speed. Ogbomo (2004) pointed out that it is a network of computers sharing information and communicating with each other, mostly frequently over telephone lines. It provides the platform for individuals and organisations to share

information on a global scale to support trade, investment, create awareness on goods and services, promote tourism, politics, and international cultural and scientific exchanges. In this context, actors with more current and relevant information are more empowered than otherwise.

iii. **Electronic Mail (E-mail):** The email is perhaps the most popularly used resource of the Internet in modern time. It is used for sending and receiving messages through electronic devices. E-mail has become the faster and cheaper means of communication among individuals and corporate organizations.

iv. **World Wide Web (WWW):** This is also an internet resource distinct from e-mail and significant for its hypertexts (Hypertexts-text containing links to other texts). A visit to a website helps individuals or organizations to locate products, information, pursue political or social agenda and transact business (Chiwetalu, 2003).

On the other hand, poverty involves a socio-economic condition in which those affected are not able to adequately cater for their basic needs such as food, cloth and shelter. It is characterized by inability to meet social and economic obligations that may arise from joblessness, lack of economic assets, skills and self-esteem. Other dimensions of poverty include limited or lack of access to social and economic opportunities such as portable water, sanitation, health and education (Central Bank of Nigeria, 1999).

In fact, the poor are those who are unable to find a stable employment, obtain adequate income, own property and maintain healthy living standards. They also lack adequate level of education and cannot satisfy their basic health needs. Consequently, most of them are poor in health, illiterate, ignorant and have short life span. They have limited access to basic necessities of life such as food, clothes and shelter and unable to meet most social and economic obligations. They lack skills to access and maintain gainful employment and have little or no economic assets as well as self-esteem.

Nigeria is one of the 20 poorest countries in the world with the highest rate of inequality. The Gini index which measures income or wealth distribution of national residents with an index of "0" representing perfect equality, while "100" represents perfect inequality. Nigeria Gini index stands at 50.6, one of the highest in the world. It compares poorly with other Third World countries like Rwanda (28.9), Jamaica (37.3) and India (37.8) (Igbuzor, 2008).

Many reasons have been advanced in the attempt to explain the factors that exacerbated the poverty situation in Nigeria. They include; unstable political history, lack of accountability, mismanagement and corruption, poor policy formation, poor policy implementation and evaluation culture, lack of involvement of the poor in policy process, dependence of the economy on oil, poor economic policies and management, poor revenue allocation and distribution, ethnic and religious conflicts, poor infrastructures inter alia. As a result, several strategies and policies have been experimented over the years in the bid to reduce the incidence of poverty in Nigeria.

Every successive government in Nigeria since independence (both military and civilian), have implemented one programme or the other aimed at reducing poverty. These programmes include: The Directorate of Food, Road and Rural Infrastructure (DFFRI), Poverty Alleviation Programme (PAP), National Directorate of Employment (NDE), Operation Feed the Nation (OFN), People Bank of Nigeria (PBN), National Agricultural Land Development Authority (NALDA), Primary Health Care (PHC), Federal Urban Mass Transit Scheme, Better Life for Rural Women, Community Banks, Family Economic Advancement Programme (FEAP), National Poverty Eradication Programme (NAPEP). In spite of the turnover and high number of the poverty reduction initiatives (some of them with well enunciated strategies), poverty still persist among majority of Nigerian population.

Suffice it to say that all the policies developed over the years revolves around intensive human labour, import substitution, exportation of minerals and primary products all of which are based on natural resource model. One obvious fact that is common to all the successive poverty reduction strategies is that the application of ICT was very limited. Indeed, ICT was not embraced as important strategic component.

3. TRACKING THE DEVELOPMENT OF INFORMATION COMMUNICATION TECHNOLOGY IN NIGERIA

Information and telecommunication technology as conceived today is a recent and alien phenomenon to Nigeria. It is a way of life that was introduced to Nigeria through contact with the Western world. Telecommunications which is arguably the oldest element of ICT, came first when trunk telephone service was introduced in some parts of Nigeria in 1923. It received further boost in 1950, when the Very High Frequency (VHF) radio systems, 116 manual and five automatic telephone exchanges were introduced. Aside from broadcasting, publishing especially print media also took root. The international political atmosphere charged by the agitation for self-governance provided some of the impetus for nationalist leaders to establish broadcasting and publishing outfits for the purpose of mobilizing native people against colonial forces. However, no major policy on the print media was achieved because of strict government control. The full awareness of the importance of ICTs was absent and most of the ICT initiatives were undertaken by private concerns (Longe and Boateng, 2009).

There was no significant development in the ICT sector until 1984 when the Nigeria Telecommunications Limited (NITEL), was formed following the merger of the Post and Telegraph Department with the Nigerian Telecommunications Limited in order to enhance better service delivery. The establishment of NITEL led to a significant growth in the number of automatic switching centres up to 227 in 1986. Telex network also grew to 12, 800 lines with only one international exchange to about 1, 500 trunks (Ogunsola and Aboyade, 2005). In the area of space technology, the first and second Satellite Earth Station was launched in 1971 and 1975 respectively. This helped to facilitate Nigeria's communication in areas such as telephone, telex, facsimile, and television with the outside world.

With increasing globalization, particularly since the beginning of the 1990s, the availability and usage of computers have become widespread with corporations like the Nigerian National Petroleum Corporation (NNPC), mounting large scale communications network connecting its offices and sites with teleconferencing, facsimile, telex, as well as automatic voice dialing facilities. Several institutions like the universities, government departments and agencies, banks, and private concerns deployed various types of computer systems to aide their operations.

Despite the deployment of these ICT facilities, they were grossly limited in access as only few wealthy individuals and organisations could afford them. Internet facilities and services were not common and for a long time, facsimile (i.e. Fax) remained the only means of international communication. Similarly, there was generally low level of public awareness of ICT and its application.

A significant milestone in the development of the ICT industry in the country came with the approval of the National Information Technology Policy (NITP), in 2001 by the Federal Government. This was followed with the establishment of the National Information Technology Development Agency (NITDA) in the later part of 2001. The NITDA, is responsible for the implementation of IT policies and the promotion and sustenance of healthy growth and development of the IT sub-sector in Nigeria (Isoun, 2003).

The year 2000 can be regarded as the historic watershed of ICT development in Nigeria particularly in the telecommunications sub-sector. Many national institutions today (both public and private) have acquired ICT capabilities with wide range of network and resources including websites through which relevant information about goods and services are delivered to the public. Added to the foregoing, is the introduction of the Global System Mobile (GSM) Communication which led to the exponential growth and revolutionized the ICT sub-sector.

4. ICT AS ALTERNATIVE MODEL FOR POVERTY REDUCTION IN NIGERIA: AN APPRAISAL OF THE TELECOM REVOLUTION

Information technology (ICT) is the fastest growing technology in the world. United Nation Development program (UNDP, 2005) pointed out that ICT has become an indispensable tool in the fight against world poverty. Since the liberalization and deregulation of the ICT sub-sector in 2001 and the establishment of Universal Service

Provision Fund (USPF) in 2003, there has been an exponential growth in the telecommunication sector in Nigeria. These has translated into unprecedented socio-economic development. In 2004, the Nigerian telecom sector was globally acclaimed to be one of the fastest growing mobile markets in the world; this trend have continued to date. In 2005, just five years after its liberalization, the telecom sector became the third largest contributor to the country's GDP in the non-oil sector, after agriculture and trade (Ojo, 2011).

From about 0.886 million lines at the end of 2001, the number of connected telephone lines increased to about 98.67 million as at April 2010. This represented an average annual growth rate of about 115%. The number of active lines increased from 41.9 million in 2007 to 78.85 million as at April 2010. The carrying capacity increased from 84.7 million in 2007 to over 146.6 million by the beginning of second quarter in 2010 (Urama and Oduh, 2012). Similarly, access and utilisation of internet services recorded commensurate growth. The number of people using internet increased from less than 500,000 in 2002 to about 1.8 million in 2004, representing an increase in access rates of 0.3 in 2002 to 1.4 in 2004 (Urama and Oduh, 2012). As at end-December 2011, the combined active subscriber base of the telecommunications sub-sector had increased by 8.0 per cent, over its level in December 2010, to a total of 95,886,714 active lines (719,406 fixed wired/wireless and 95,167,308 mobile lines (CBN, 2011). Thus, the tele-density increased from 0.72 in 2001 to 68.5 lines per 100 inhabitants in 2011 (Ndukwe, 2008; CBN, 2011). This has consistently exceeded the International Telecommunication Union (ITU) minimum standard of 1:100. In addition, the sub-sector grew by 35.0 per cent in 2011 and accounted for 5.6 per cent of the GDP (CBN, 2011). See table below:

Table-1. The Nigerian Telecommunications Market Statistics, 2007 - 2011

	2007	2008	2009	2010	2011
No. of Active Fixed Wired/Wireless Lines (000)	1,580	1,308	1,481	1,050	753
No. of Active Digital Mobile Lines (million)	55.24	62.99	73.1	87.29	94.63
No. of National Carriers	2	2	2	2	2
No. of Operating ISPs	117	83	-	-	-
No. of Active Licensed Fixed Line Operators	29	20	22	-	-
Number of Licensed Mobile Operators	4	9	8	8	8
Tele-density	29.98	45.93	53.23	63.11	68.13
Cumulative Investment (US\$ million)	11,500	12,000	18,000	-	-

Source: CBN (2011).

NCC (2005) report indicates that the ICT sector attracted an equity investments of about 56% of total investments made by local banks under the Small and Medium Enterprises Investment Scheme (SMEIS). Similarly, the International Finance Corporation (IFC) [a subsidiary of the World Bank Group], facilitated a syndicated loan of US\$395 million to MTN-Nigeria in addition to a contribution US\$100 million representing more than a quarter of the total foreign direct investment in Nigeria within the period. Furthermore, this contribution was it's the second largest investment in Africa so far. Other investors in the sector include African Export-Import Bank (AFREXIM), Development Bank of South Africa (DBSA), African Development Bank (ADB), the Export-Import Bank of the US (US Exim Bank) and DMO Germany (NCC 2005).

Data from CBN statistical bulletin and NCC website indicated that the sectoral growth of the telecommunications component of the GDP increased from 8% to 30% between 2000 and 2004. The contribution of the telecommunications to GDP increased from 0.55% in 2001 to 2.75% in 2008 (Urama and Oduh, 2012). In the same vein, the telecommunications sector contribution to GDP increased from 0.11% to 1.14% while total telecommunications revenue constituted 3.5% in 2004. This represented a significant increase from 0.8% in 2000 (Urama and Oduh, 2012).

Indeed, GSM, an important part of telecommunications has emerged as an integral and indispensable part of the cultural life of Nigerians. In addition, it has created numerous opportunities for small and medium businesses in

dealerships, franchises, retailer-ships and many others in the value chain of the GSM market since 2001. For example, not fewer than 10,000 people gained directly employment as GSM operators in 2003, alone. An estimated 1,000,000 others secured indirect employment through retailing GSM accessories (Recharge card hawking, Resellers, etc.). Also, over 10.5 million Nigerians now have a convenient way of communication. These impacted on the Nigerian economy in many positive ways. One major area the impact is most felt is the creation of employment opportunities and jobs for both skilled and unskilled manpower.

Telecom business has been proven to have high return on investment and has provided affluence for many who have ventured into it. It is estimated that over 10 million smart devices worth \$1billion (N195bn) were sold in Nigeria in 2013, alone (<http://mobilityarena.com/2014-is-nigeria-becoming-a-smartphone-market/> emphasis mine). Estimates also show that over 30 million handsets have been sold so far, and over 130 million active mobile lines exist in Nigeria (<http://www.techsuplex.com/2014/12/08/many-smartphones-use-nigeria/>). All these are indicators of the viability and high prospects of the telecom business.

Many Nigerians, particular the youths have ventured into different segments of the telecom business with rewarding outcomes. A visit to the Computer Village, Ikeja, Lagos, the largest phone market in Africa speaks volume of the lucrative nature of the telecom business. It also validate statistical estimates and research findings about the contributions of ICT to job creation and poverty reduction in Nigeria (Omeruo, 2009). A great number of people especially young graduates have gained employment with GSM companies notably; *MTN, GLO, Airtel, Etisalat* etc. The establishment of subsidiary firms especially those engaged in manufacturing mobile phones, phone accessories, recharge cards and telecom masts also provided employment opportunities for teeming number of youth. Apart from direct employment, other job chains have been created leading to exponential growth in small and medium scale businesses such as dealership and vending of phone accessories such as, chargers, memory cards, earpieces and batteries inter-alia. Many others have ventured into sales and repairs of mobile phones, music downloads to mobile phones and unlocking of phones or evening setting up call centres.

Today, there is hardly any city, town or village in Nigeria that you walk two hundred metres without locating a call centre. It is noteworthy that unlike other small scale businesses which requires reasonable capital outlay to start, telecom call centres are relatively cheaper to set up. Most call centres requires less than \$50 to set up since in most cases they hang on the street and do not need to pay rent on shops. In fact, in order to set up an average call centre, what is required, is an umbrella to provide shade, a stool to sit, a table and a phone loaded with calling credit of US\$2. Another value chain in terms of employment creation are those of companies supplying generator to power telecom masts, those supplying diesel to power generating sets, security companies responsible for maintaining law and order at base stations and offices, and employment opportunities in regulatory agencies such as the NCC (Ojo, 2011).

The revolution in the telecom sector as well as the value chains created, have no doubt provided a means of livelihood for many people who otherwise would have remained unemployed. It is needless to state that these has led to remarkable improvement in the socio-economic conditions of many Nigerian population and contributed significantly to Gross Domestic Product (GDP). The International Monetary Fund (IMF) estimated that out of the total GDP of \$206.66 billion in 2011, the contribution of the telecom sector was \$15.7 billion amounting to 7.6 percent of the GDP (Ojo, 2011). Telecom companies also pay taxes annually to States and the Federal Government, apart from licensing fees they pay before commencement of business. It will be recalled that two telecom companies paid the sum of \$285 million and \$400 million in 2001 and 2007 respectively to the Federal Government coffers. This funds were used by government to provide social infrastructures like roads, bridges, schools, hospitals, water, and electricity etc., for the purpose of improving the quality of life of the citizenry.

Telecom companies also engaged in the provision of social amenities and infrastructures as Corporate Social Responsibility (CSR). These include, among others, sinking of boreholes, construction of blocks of classrooms, supply of computers and laboratory equipment to schools, donation of health equipment to health centres, award of

scholarship to indigent students, sponsorship of social events like football and dancing competition. The CSR activities of telecom companies have touched many lives in several positive ways.

The telecommunications revolution also impacted positively on ways businesses are conducted. Access to communication has reduced the risk and cost of traveling long distances. Individuals can transact businesses from their living rooms using mobile phones. This has made humanity ubiquitous with businesses conducted at the speed of thought like Bill Gates envisaged. Cooperate Organizations such as banks, for example, have integrated the GSM technology into banking operations known as Mobile Banking where customers have full access to their bank accounts using electronic devices such as mobile phones. Examination bodies and educational institutions have also incorporated these technologies enabling candidates to apply for admission and check their results on their mobile phones. Internet can now be accessed from mobile phones in addition to other value added services like picture messaging, music downloads etc., giving the users an exciting experience.

Mebawondu (2012) aptly summarized the gains of the telecom sector in poverty reduction in Nigeria since 2001 as follows:

- Increase in Foreign Direct Investment (FDI) of over \$8 Million.
- Creation of massive employment opportunities: white collar as well as small and medium scale enterprises as a result of the deregulation of the ICT sector.
- Creation of value chain leading to the emergence of many private broadcasting firms, private telephone operators, internet service operators, Information Technology (IT) firms, support services like telecentres, cybercafés, prepaid card producing companies, consulting firms, dealer in phone accessories etc.
- Aided the development of the informal sector like the Otigba market in Lagos (the largest ICT market in Sub-Saharan Africa), and various others scattered all over Nigeria.
- A source of wealth creation with GSM call centres netting up to 15.40 USD per day, against a monthly average gross national income per capita of \$24.17.
- Not fewer than 10,000 people gained direct employment as GSM operators.
- Over 1,000,000 people gained indirect employment opportunities.
- Opportunities for Nigeria workers to serve as expatriates to other countries (Foreign input to GDP).

The foregoing clearly shows positive correlation between economic advancement and poverty reduction. Economic growth and development manifest in the increasing ability of a country to produce more goods and services to its citizens and possible export. Thus, ICT speed up the process of production, enhances efficiency as well as quantity and quality of production. These qualities are not present in previous poverty reduction models based on export of oil, agricultural produce, exploitation of human labour and import substitution strategies etc. This largely account for their failures in reducing poverty despite the huge revenues that accrued to the Federal Government from 1960 to 1999.

5. CONCLUSION AND RECOMMENDATIONS

In spite of the many drawbacks of the telecom revolution in Nigeria, especially with respect poor services provided by the operators and the weakness of the regulatory agencies to enforce quality compliance, there is no gainsaying that the GSM revolution in Nigeria over a period of less than 16 years has made tremendous impact on poverty reduction. Since independence in 1960, no sector of the Nigerian economy outside agriculture and oil and gas has contributed so rapidly to national economic growth and development like telecommunication. In fact, it can be safely argued that the failure of most poverty reduction initiatives in Nigeria since 1960s stemmed from the non-inclusion of the ICT as a strategic component.

The huge impact of the ICT on poverty reduction in Nigeria within a relatively short period is a testament to the fact that ICT has come to stay not only as a viable and sustainable development model, but also as a better alternative to previous poverty reduction strategies. ICT therefore hold the key to turn around Nigeria's economic

fortunes and reduce poverty by more than 50% if properly harnessed. With increasing globalization, ICT has become indispensable at all levels of social, economic, political and cultural lives of most people in many parts of the world. It is therefore imperative for Nigerian policy makers, development partners as well as stakeholders to sustain the gains by exploring further ways of deploying ICT to all sectors of the economy for the purpose of engendering national development through poverty reduction and improvement the living standards of majority of Nigerians.

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