

## **INFORMATION TECHNOLOGY IN THE DEVELOPMENT OF NIGERIA ECONOMY**

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### **Abstract**

*This paper discusses the relevance and importance of information technology to the economy development of country with particular reference to Nigeria. The paper observes that the availability and application of Information Technology has enabled both government, organizations and individuals to increase their level of productivity and by extension enhance the economic growth and wellbeing of the society at large. It however identified that lack of relevant infrastructure and enabling policy environment are major limitations to the growth of information technology in the country.*

*As a result of the immense benefits derivable from the use of IT, the paper suggests that adequate attention be provided in terms of provision of the enabling and stimulating environment for the development of information technology in the country.*

### **Introduction**

In recent years, both governments and people around the world have been paying serious attention to the importance and effect of Information and Communication Technology as an instrument for creating and stimulating a rapid development in all sectors of the economy. In Nigeria, the revolution in Information and Communication Technology becomes more prominent after the return to democratic rule in 1999. According to Ajayi (2003), the Nigerian government took the initiative to enhance the promotion of the sector as a catalyst for development by approving such policies for the major sectors of the industries in order to improve their performance. The government also approved the liberalization of the sector in order to create competition and growth as well as according priority status to the information and communication technology sector. All of these were to ensure that the

sector acts as a major drive for economic activity and subsequently economic development.

The diverse challenges confronting the Nigerian economy in this 21<sup>st</sup> century inspite of the country's enormous human and material resources have necessitated the need to explore available channel of improving the country's economy through the information technology. This is premised upon the belief that information and communication technology (ICT) sector holds the key to quick development and progress in modern societies (Ehikamenor, 1993). According to Ehikamenor (1993), ICT which is defined as the acquisition, processing, storage and dissemination of information by means of computers, office machines and telecommunications, etc has the potential for foreign exchange earnings and if well developed can reduce the country's dependency on petroleum sector as a mainstay of the economy.

However, there were strong fears that the emergence of new information technology will bring about an increase in the level of unemployment in the country. The feature of long-cycle on the contrary was the use in employment profile during the upswing of these new technologies. Thus in an attempt to balance the economy sector, a major feature of industrialization was the cumulative technical change that evolved over time thereby leading to growth in the economy.

#### **An Overview of the Nigeria Economy**

The Nigeria's economy is traditionally based on agriculture and trade. However, owing to the discovery of crude oil in the 1970s, agricultural development suffered from neglect. Years of mismanagement, inconsistent and poorly conceived government policies, as well as lack of basic infrastructure were the major factors that affected the growth of the agriculture sector in the country. Despite the decline, the sector still accounted for 26.8% of the Gross Domestic Product (GDP) and engaged two- third of the labour force. Today, Nigeria had given up its leadership in the production and export of major crops such as cocoa, groundnut, rubber and palm oil. Once the biggest poultry producer in Africa, corporate poultry output has been slashed from 40 million birds annually to about 8 million. Similarly, fishery, sawn wood and other agriculture activities have suffered from extremely low productivity due

to over reliance on petroleum and the use of antiquated farming methods. Although, overall agricultural production rose by 28 per cent during the 1990s, per-capita output rose by only 8.5 per cent during the same decade. Agricultural development was unable to keep pace with the rapid growth in population. This compelled the country to rely on import of food items to sustain the growing population.

The macroeconomic index for the country showed that in 2004, the gross domestic product (GDP) was \$72 billion. The GDP had varied widely, depending on the prevailing oil market prices. For instance, in the earlier years of 1985, 1981 and 1995, the GDPs for the country were \$ 81 billion, \$33.2 billion and \$40.5 billion respectively. In 2004, the GDP per capital was only \$560 which was among the lowest in the world and well below the average for sub-Saharan Africa. The poor have been mostly hit by the Nigerian economic problems consequent to the fall in the value of the local currency (Naira). This had led to the increases in the prices of import particularly food and increases in the cost of doing business. In 2005, Nigerian Gross Domestic Product was \$132.9 billion while the GDP rose by 5.6 per cent in real term over the previous year. GDP per capital was about \$100 using the purchasing power parity (PPP) method. Yet, about 57 per cent of the population lived on less than US\$1 per day. In 2005, the GDP was composed of the following sectors: agriculture (26.81), industry (48.8), and services (24.4%). The inflation rate was 15.6%.

On industrial development, Nigeria ranked 44<sup>th</sup> worldwide and 3<sup>rd</sup> in Africa's factory output. About 80% of government expenditure were recycled into foreign exchange. Industry's utilization capacity dropped to about 30% due to cheap consumer imports and high domestic cost of production which resulted from the failure of electricity supply. Most Nigerian companies would have closed except for the presence of cheap labour. Domestic manufacturing, particularly in pharmaceuticals and textiles, lost their ability to compete in the traditional regional markets.

In the service sector, the country was ranked 63<sup>rd</sup> in the world and 5<sup>th</sup> in Africa. The need to duplicate essential infrastructure, threat of crime and associated need for associated security measures, lack of effective due process, and non-transparent economic decision-making, especially in government and contracting business were the major factors which constrained the growth of the service sector.

However, the government privatization policy and programme have shown a sign of life and real promise with successful turn-over to the private sector such as in the state-owned banks, fuel distribution and cement production.

### **Some Challenges Facing the Nigerian Economy**

The challenges facing the Nigerian economy are enormous and diverse. This unacceptable state of affairs is glaring given the country's vast endowment in both human and natural resources. This is more so given the fact that most of the Asian countries such as Singapore and Malaysia with similar colonial antecedent and natural resources have recorded significant success in the development of their economy since 1965 when they were at par or even behind Nigerian economically. While the economy of these Asian tigers continues to grow, Nigeria economy declined from being a middle-income country (amongst the fifty richest in the world) to one of the 30 poorest within a period of 18 years (Matthew-Daniel 2006). For instance, Ehikamenor (2003) observed that the banking sector had gone through a traumatic period of mixed fortune of expansion and contraction. The banking sector floundered and became distressed. In an attempt to survive, the Nigerian banking sector seemed to have accepted the inevitability of investing in Information Technology. It therefore becomes evident that the role of information technology in the management of information and business is becoming more pronounced. Moreover, the challenges of providing the needed funds for the development of IT has imposed some restrictions on the economy. There is also the delay in the passing of Information Technology (IT) bill. The passing of IT bill will certainly give a legal backing to the establishment of the National Information Technology Development Agency which came into existence in 2001. The NITDA was to ensure the implementation of the IT policy and to provide for its sustenance. Thus, the challenge of using IT as a tool for development in Nigeria has been herculian. However, there is a positive paradigm shift towards the promotion of information technology in the country.

### **Information Communication Technology (ICT) and Economic Growth**

The Nigerian economic society (NES) observed that the nation's preparedness for the knowledge economy in terms of the four pillars of

knowledge: education, institutional effectiveness, innovation, and information technology is low (Mba 2006). The propagation of Information Communication Technology in Nigeria has been seriously impaired by the obvious lack of or insufficient capital, weak infrastructure, inadequate managerial skill and unskilled e-workforce. For IT to be sustained, the provision of initial capital is very important. Sustainable financing could come from either banks, equity participation, direct bank lending, ventures capital or international funding /financing cooperation (IFC) assisted funding, etc. It is important that such institutions and organizations pay a more serious attention to the development of ICT for the benefit of the economy in question. The Nigerian banks, for instance, disburse 10% of their profits before tax (PBT) by way of equity participation to small and medium scale enterprises (SMES). It is expected that ITs should benefit the country significantly. Similarly, World Banks and its various development agencies could assist highly indebted poor countries like Nigeria in funding IT project, given that each person in the HIPC survives on an average of \$ 1 per day (see Okoh, 2006).

The past two decades have seen the evolution of information as a strategic resource that governs the ways economies are run. Invariably, timely and accurate information or the lack of it has gone a long way in determining the success or failures of countries, organizations and individuals. Thus, information revolution triggered by the advent of computers has become a very significant factor in the way human activities are conducted. Information Technology (IT) has become the driving force for development all over the world. Governments, business and individual have realized the immense potentials of IT and are deploying IT facilities to solve national economic challenges. Consequently, the economic system uses IT as an important tool to improve the sub-economic systems such as defence, medicine, education, manufacturing, transportation, and so on. The internet and its communications standard –Transmission control protocol /Internet Protocol for (ICP/IP) had made it possible for millions of hardware users to communicate among themselves regardless of the operating systems on which they run or the geographical distance that separates them. Many nations had taken advantage of this revolution to stimulate growth of their economy. For instance, India whose rate of graduate unemployment was regarded as highly scandalous was able to

use IT as a window of escape in providing employment to its teeming graduates. The country engaged in the training of her graduates in IT programme thereby making the country a world-class information technology-based nation. This development has consequently projected India as an emerging world economy giant. The country had therefore become a world beater in IT and software sector which has brought tremendous positive progress to the India economy in the past few years. According to the National Association of Software and Service Companies (NASSCOM), the Indian economy grew at 40 per cent annually for a decade due mainly to development in information technology. This made the country to earn \$9.2 billion in exports in 2004. The Association had predicted that India was to earn a whopping \$50 billion from IT export by 2009 ([http://www.neweconomyindex.org/states/2002/01/knowledge\\_02html](http://www.neweconomyindex.org/states/2002/01/knowledge_02html)).

The role of information technology is derived from the fact that success and survival depend on the ability to locate analyse and use information technology skillfully and appropriately to achieve targeted social and economic wellbeing. According to Ring (1991), the major potential benefits from information technology usage (not measurable by the traditionally-based financial evaluation techniques) include: improved customer service, communication and management information, cost avoidance, avoiding competitive disadvantage, improved supplied relationship, among other proposed benefits.

In Nigeria, the development of human capital initiative through a projected promotion of IT knowledge across the divide (developed and developing countries and between rural and urban areas) has drawn attention as a major issue of concern for the development of the Nation's economy. According to Ajayi (2003), human capacity building is one of the prong on which the IT policy is based. The other prongs are the infrastructural capacity building. In an attempt to achieve this capacity building goals of the government, the National Information Technology Development Agency (NITDA) forged a thriving partnership with public and private organizations to form what is now being referred to as the Public-Private partnership (PPP). An example of this Public-Private partnership is the Enterprise Technology Centre (ETC). The ETC is a partnership with NITDA and two private organizations saddled with the responsibility of providing IT training to civil servants.

The centre had provided training for top civil servants in government organization and is gradually extending same to staff in the junior cadre. According to Ndukwe (2006), information and knowledge acquisition is an important part of human development which had resulted in technological innovation and transformation of the global economies. Thus, a paradigm shift from the traditional resource-based capitals towards the knowledge-driven economies has made human capital (and its main component, education) a leading public policy option for economic progress. It is therefore of significance that given the policy relevance of human capital in a knowledge-based economy, its definition, measurement and specification in the context of developing economy is adequately captured and addressed both in theory and practice. Although there are practical challenges in bridging the digital divide between the rural poor Africans who are ill-equipped in terms of infrastructure and high level illiteracy, the collaborative efforts of government and the private sector could be an instrument for stemming the ugly tide. This will unequivocally limit the established pattern of the usual rural-urban population drift (brain drain) and thus improve the wellbeing of the populace in terms of the increased number of people that would be served.

#### **The Nigerian Government and the Promotion of it for Economic Development**

In Nigeria, a decisive interest towards IT development is very recent. Since the beginning of the democratic era in 1999, there had been concentrated efforts by government to improve IT development in the country. This have manifested in the form of supported workshops and conferences as an attempt to fashion out an agenda for National IT infrastructure development. This is where the Nigerian Communications Commission (NCC) has been playing a major role as a government agency in providing such enabling environment.

In realization of the need to revive and grow her economy, in the country of world economy dominated by globalization, liberalization and technology, especially in information technology, government had come to appreciate the imperative of investing in IT in order to attract local and foreign investments into the economy. The National Information Technology Development Agency (NITDA), a government agency for promoting IT for economic development, had

also collaborated with private organizations and institutions to provide specialized training in some train-the-trainer workshops. Examples of such collaborative institutions are UNESCO, International Centre for Theoretical Physics (ICTP), CISCO systems, etc. Specifically, NITDA collaborated with ICTP by leading the first African workshop on open source and Web Technologies for Development which was held in the 2003. There has also be collaboration with UNESCO on the virtual library and virtual laboratory project for Nigeria. The Nigerian government has demonstrated an unwavering commitment to the quest to build an all-inclusive information society by bridging the digital gap between the developed and developing economies, as well as between urban and rural areas so that no individual or community is left behind in the IT revolution. The development of the mobile Internet Unit (MIU), a locally made bus, has been converted into mobile training and cyber centre in the country. Its interior had been networked and connected to the internet to facilitate access to several IT resources. This MIU has been deployed to some primary and secondary schools in the country since it was commissioned by the President in 2003.

Government has also formulated relevant Telecommunications, Information Technology and Space policies for the improvement of facilities in the country. In addition, government set up relevant regulatory and implementation agencies such as the National Communications Commission (NCC), the National Information Technology Development Agency (NITDA) and the National Space Research Development Agency (NARDA) to given direction to the industry and create an investor friendly economy. Moreover, according to report (<http://www.vanguard.com/section/technology.html>), the federal government of Nigeria made a commitment towards implementing the recommendations of the World Summit on Information Society (WSIS). Consequently, the country commenced the initiative of connecting communities, vital agencies and institutions at all levels with IT and provided telecommunication infrastructure in all the 343 local governments area in the country that lacked telephone facilities through what it called the National Rural Telephone Programme (NRTP). Additionally, many government universities have been connected to the internet. Government also had established the Public Service Network (PSNET) which was intended to provide internet service to all government ministries in the country linked to a central



hill in Abuja and connected to the internet. A specific case in point of the effort of government in making the country IT compliance for an effective economic growth was the case of Jigawa State. The then state government under Saminu Turaki used information and communication technology (ICT) revolution as an effective and strategic tool to convert poverty, promote sustainable economic growth and empower individual and communities to participate more fully and creatively in the economy.

### **Social and Economic Benefits of IT**

As information communication technology continues to permeate the economy, its benefits continue to emerge both for the individual, the organizations and the society at large.

Firstly, states or organizations with larger share of trained or skilled personnel in the use of information technology do better than states with smaller share of the use IT. The employment of IT professionals is not restricted to computer and software companies alone, but is spread over all the sectors of the economy. For instance, a sizeable number of IT professionals are in the banks, insurance, health, education and other administrative offices rather than those that produce or provide IT services. Thus, the availability and use of IT has helped in reducing the high unemployment profile among youth in the country by engaging thousands of IT professionals and users.

Secondly, the use of IT has helped to improve the economic wellbeing of those who are involved in its usage. Many employed IT professionals had earned substantial amount of income from the knowledge and application of information technology. The employment and high-income generating advantage of the use of IT has helped to reduce the social unrest that is usually associated with unemployment.

Information technology can help to increase the foreign exchange earning of the country. Although, the application of IT in most developing countries like Nigeria is still at its early age, its usage had not only helped in preserving the country's hard-earned foreign exchange, but also a source of foreign exchange earning for the country. Brainpower displayed in IT usage is already emerging as a major engine for economic growth among countries which utilize it. The impact of information technology on the domestic economy cannot be quantified.

The use of IT is important in meeting targets or organizational goals. Many organizations compete among each other to gain larger share of the economic market and subsequently larger profits. Information technology is a tool for achieving this objective. The use of IT enables organization to keep abreast with new technologies and innovations and take advantage of it. It enables organizations to take advantage of available manpower for timeliness in service delivery, for increased responsiveness, better customer service and satisfaction, as well as for training and improvement of skills. It aids simplicity in operations and transactions, or accuracy in data, record manipulations, prevention of fraud reduced used of papers, improved organization's image, on-line access and transactions for e-commerce, etc.

### **Conclusion**

Technical changes are regarded as the most important factor in the process of economic growth. These technical changes are related to innovations in the method and techniques of production which are as a result of research. Technical changes lead to increase in the productivity of the labour force, capital and other factors of production. The Nigerian economy is fast growing into the IT world with the standard economic benefits attached. Nigeria has those attributes which have attracted IT companies such as Microsoft to invest in IT industry in country like India. These attributes include large domestic market, skilled labour and extensive of the English language. The administrative success or otherwise in implementing the nation's economic agenda will to a large extent determine the nature of Nigeria's participation in the 21<sup>st</sup> century emerging global and technology-driven economy. The role played by information technology industry on the domestic economy will certainly make an impressive response to the economic progress of the country. Employment opportunities and economic growth are mostly guaranteed upon the availability and utilization of information technology.

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