

INFORMATION COMMUNICATION TECHNOLOGY: VERITABLE TOOL FOR NATIONAL DEVELOPOMENT

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Abstract

The paper examined the emerging roles of ICT on national development of Nigeria. As the importance and value of information increases, Information and Communication Technology (ICT) is rapidly evolving and taking centre stage in everyday life in the 21st century; this is particularly evidenced in sectors such as agriculture, health, industries, education among others which has greatly influenced the welfare of the centenary. The emerging information and communication technologies help to overcome barriers of distance and time and acts as a key element in achieving development goals and mitigating the impact of unforeseen events such as natural disasters or outbreaks of disease. In light of the foregoing, the aims of this paper is to x-ray the concept of ICT, some of the benefits developing countries can derive from the application and adoption of ICT, as well as some of the challenges they encounter and what the government can do assist in the implementation of ICT.

keywords: Information Communication Technology, Veritable Tools and National Development.

Introduction

The term “Information communication technology (ICT)” has become a catch-phrase in the Nigerian education system for more than a decade ago, as in most economies of the world. The quest to achieve economic development and indeed national development often involve the development of agriculture, mining, industrial as well as the service sectors. The industrial revolutions in Europe and America generally had their tours on technological breakthroughs. According to (Harchaovi, 2002) Information and communication technology during the late 1990s, was the largest contributor to growth within capital and services for both Canada and the United States. Mafe (2002) posits that

similar trend has been observed with economic development of China Korea, Taiwan, India, South Africa and other emerging economic powers.

Information and Communication Technology (ICT) is an indispensable and irreplaceable part of the contemporary world. In fact, culture and society have to be adjusted to the challenges of the knowledge age. The pervasiveness of ICT has brought about rapid technological, divers awareness, social, political and economic transformation, which has eventuated into a network society organized around ICT.

As a result of the growing recognition, Nigeria, as a nation, has given prominence to the potentials of information communication technology in our school system. Just to buttress this, the year 2000, the federal government of Nigeria embarked on an aggressive drive towards the provision of a more efficient services in the nation through its privatization and deregulation policies. The policy thrives led to the establishment of national telecommunication police in December 2001. The policy, among other things recognized the need for the establishment of an enabling environment for deregulation and rapid expansion of the telecommunication services in the country. The mission statement of the government was to use ICTs for education, creation of wealth, poverty eradication job creation and global competitiveness (Sunday, 2006). The policy was designed to develop globally competitive quality manpower in ICTs and other related disciplines.

Information and communication technology (ICT) is a composite term comprising technologies such as the internet which is used to communicate and gain access to information. The internet is a network of computers that allows communication and passing of information around the world. It includes any communication device or application such as radio, television, hardware and software and so on as well as services and applications associated with them.

ICT may also mean any set or group of activities which facilitate by electronic means the processing, transmission and display of information ICTs and the creation, storage, manipulation and transfer of information. National development refers to any attempt to eliminate unemployment, illiteracy ignorance and poverty and improving the conditions of living of the people by means of providing them with amenities such as education, transportation, health care services, agriculture and commercial businesses. This is realizable by the use of ICT which helps in achieving development in an economy and ensuring steady progress in all the various sectors.

Despite the introduction of ICT in Nigeria over a decade now, one still notice a high baronetcy level of poverty and poor condition of living among Nigerians, re-stressed this however, may not be unconnected with poor funding and lack of seriousness on the part of the government to give ICT the requisite attention it is against this back-drop the researchers deemed its necessary to re-stressed the imperative nature of ICT as a tool for natural development.

Conceptualizing Information Communication Technology (ICT): ICT is indisputably the bedrock of any meaningful development in any nation. ICT connotes different things to different scholars and researchers. Information and communication technology encompasses related technologies defined by their usage in creating, storing, manipulating accessing and transfer of information from one location of the world to the other. Infact, ICT in a generic term could mean the technologies that are used for the collection, storing, editing and transmitting of information in various forms. The above definition and indicates distinction in the fields of ICTs and at the same time links them or tied them together so as to operate as an entity. This presupposes that different functions mutually occur in the store of ICT but are intricately together. Information and communication technology has been as “a broad based technology (including its methods, management and application) that supports the creation, storage, manipulation and communication of information”.

(French, 1996) according Nworgu (2007), information technology means a set with tools that helps you work with information and perform tasks related to information processing. From the whole cook, the definition given by French is more robust as it encompasses communication than of Nigeria which was limited to information processing and did not embrace to the communication of ICT. It is true that the term cam as “information technology” it was until recently when it was thought that the communication component ought to be highlighted because of its significance. It was then the concept changed and transformed to as “information and communication technology (Olusanja and Oleyede, 2003).

Chowdhury (2000) posited that ICTs encompass technologies that can process different kinds of information (audio, video, text, and data) and facilitate different forms of communications among human agents, and among information systems. ICTs can simply be described as an “electronic means of capturing, processing, storing and disseminating information”. (Duncombe & Heeks (1999).

Theoretically, two schools of thought explain the relationship between telecommunications and development. These are the technophilic and the technophobic views. The technophiles believe that ICTs impact positive effects on development. This perspective argues that in the various communities and sector of the economy, ICTs will expand productivity, improve employment opportunities and upgrade the quality of work in many occupations. Moreover, ICT will offer many opportunities for small-scale, independent, and decentralized forms of production.

Regarding developing countries, technophiles envision that technology will and developing countries to leapfrog stages of development (Mansell & When 1998; Nulens & Van Audenhove 1998).

On the other spectrum are the technophobes who regard ICTs as having negative effects on development and widening the information gap between the rich and the poor, the literate and the illiterate. While admitting that ICTs could have profound changes on a

society, Van Dijk (1999) contended that application of ICTs and their transformative nature have been greatly exaggerated. ICTs may destroy more jobs than they create the gap between the rich and the poor may widen.

Nigeria however, like most developing countries, has come to know the importance of information and communication technology (ICT) as a driver for sustainable socio-economic growth and development. According (Adebisi, 2014), this recognition is well captured in the national development plan – Nigeria’s vision 20:2020: “The increasing globalization driven by ICT makes it imperative for Nigeria as an emerging market to irreversibly consider the application and promotion of ICT strategy to facilitate its rapid growth and development. This will involve the development of a vibrant ICT sector to drive and expand the national production frontiers in Agriculture, manufacturing and service sectors. It would also require the application of the new knowledge to drive other soft sectors governance, entertainment, public services, media sector, tourism, etcetera”. If Nigeria therefore is serious about becoming one of the world’s leading economies in this era then it high time we realized that ICT is not a “nice to have” asset but a sine qua non for transforming Nigeria into a knowledge economy.

ICT for National Development: Information and Communication Technology has become a key player in national development of modern days. As noted earlier, information and communication technologies (ICT) entails the use of technologies by people to share, distribute, gather information and communicate via computers and other computer networks.

ICT includes such technologies as radio, television, video, DVD, telephone (both fixed lines and mobile phones), satellite systems, computer and network hardware and software) as well as equipment and services with these technologies such as video conferencing, e-mail and blogs.

National development can aptly put as the ability of a country or countries, nation or nations to improve or enhance the social welfare of the people by providing them with social amenities like quality education, potable water, medical care, transportations infrastructure etc. it means the ability of a nation to improve the lives of its citizens. It is holistic approach to reconstruct and develop the various facet of a nation and the development of the individuals’ person.

The contest here is that ICT can be used to improve general well being of a country and its inhabitants. The methods of gathering, processing and dissemination of information have tremendously changed in the modern society with the advent of ICT; it has an impact on our social, cultural, economic, administrative aspects of society.

Ways ICT can contribute to national development

ICT can be use to increase productivity goods and services for the benefit of man in the following ways:

- i) ICT in agriculture – ICT is applicable in this regard in many ways. This includes the promotion of modern machinery and equipment, provision, enhancing research on farming and animal husbandry, provides information on modern technologies in horticulture and in agro technology, promote awareness in the field of modern agriculture fertilizers pesticides, provides information on seeds that maximize harvest and preservation of products

- ii) ICT in banking sector – the application of ICT in the banking sector includes provision of ATM, credit cards, allows interbank money transfer, money grams services, on-line banking (e-banking) etc.
- iii) ICT in industry – the impact of ICT on industrial activities cannot be over-emphasized. This in no doubts includes provision of information on modern tools, machinery and machinery, helps to facilitates office automated systems, increases productivity, efficiency and accuracy provides software on designing and modeling, saves energy via the use of electronic processing provides facilities for advertising and marketing, provides know-how on the use of new techniques in various industries.
- iv) ICT in education – ICT can be used to improve the quality of teaching in our school system through hypermedia tools simulation, animatic, modeling, audio and video, modern learning/technology methodologies, huge collection of subject relate materials (lessons, tutorials etc)
- v) ICT in the health sector – ICT can assist in the health sector through E-channeling research and innovation, medical testing and reporting, in house management, maintenance of medical history records, surgery among others.
- vi) ICT in transportation sector – information and communication technology (ICT) holds the potential to dramatically change the way people drive and their mobility patterns, thus potentially reducing GHG emissions, air pollutants and facilities. It has the way of educating the driver towards a more sustainable travelling/driving behavior, might provide opportunities for energy savings and avoided emissions.

ICT can potentially be a powerful tool to promote change, namely by ICT applied to vehicles through on board user aid devices for educating the driver, improving efficiency, reducing costs etc. ICT deployed in the road network are the more traditional way of enforcing a change in behavior, by enforcing stricter speed limits. These stricter speed limits can be applied at all time by specific signalization or through variable speed limits (VSL) depending on traffic, infrastructure and weather information.

Benefits of ICT in National Development

Information and communication technology (ICT) as a sector can contribute immensely to the national GDP of a nation and that ICT, acting as an enabler, can result in improved market competitiveness of a nation's products and services. ICTs can impact positively on governance and other sectors of the economy. In turn ICT can effectively assist international economic integration, improve living standards and poverty reduction addressed through effective and focused utilization of ICTs in key sectors such as education, industry and agriculture (Bellow and Aderbigbe, 2014).

ICT has a significant role to play in development efforts around the world. However, "there was a time when the benefits of applying ICT in fighting poverty and promoting economic growth were not widely understood. Lately however, this view has given way to an understanding of ICT as an essential component of broader efforts to harness the free of information to increase voice, accountability and economic development" (2006 information and communications for development: Global trends and policies) in (Bello and Aderbigbe, 2014).

Specifically, the usefulness of ICT includes:

- i) **Globalization** – it has not only brought the world closer together, but it has allowed the world's economy to become a single interdependent system. This means that we can not only share information quickly and efficiently, but we can also bring down barriers of linguistic and geographic boundaries modern information and communication technologies help to overcome the barriers of distance and time, and greatly improve the accessibility of information and knowledge. Due to this fact, the sharing information and knowledge quickly and effectively becomes feasible and acts as a key element in achieving national goals and development.
- ii) **Cost effectiveness** – information technology can help to computerize the business process thus streamlining businesses to make them extremely cost effective money making machines. This in turn increases productivity which ultimately gives rise to profits that means better pay and less strenuous working conditions. Moreover, the use of ICT can help firms increase their overall efficiency in combining labour and capital or multiple factor productivity (MP). More rapid MFD growth may also be linked to network effect arising from use of ICT, as there can lead to lower transaction costs and more rapid innovation.
- iii) **Ridging the cultural gap** – information technology has helped to bridge the cultural gap by helping people from different cultures to communicate with one another, and allow for the exchange of views and ideas, thus increasing awareness and reducing prejudice.
- iv) **Absence of time lag** – It has made it possible for businesses to be open everyday through the week all over the globe. This means that a business can open anytime, anywhere, making purchases from different countries easier and more convenient. It also means that you can have your goods delivered right to your doorstep without having to move a single muscle.
- v) **Creation of new jobs** – probably the best advantage of information technology is the creation of new and interesting jobs. Computer

programmers, systems analyzers, hardware and software developers, technicians, engineers and web designers are just some of the many new employment opportunities created with the help of it.

ICTs Challenges

Despite the lofty benefits of ICTs one still wonder there has remained tremendous challenges especially in developing countries such as Nigeria facing ICTs. According to (Bello and Aderbigbe, 2014). Developing countries are now becoming aware of the benefits derived through the adoption and use of ICT but there are many serious challenges which must be addressed and chief among them are:

- Inadequate communications and power infrastructure
- Shortage of ICTs facilities and ICTs skills
- Inadequate institutional arrangements
- Limited financial resources
- Inadequate public private partnership
- Limited data management
- High capacity cost of internet access.

Conclusion

ICT can be termed as a vehicle of development in various sectors of human endeavors. It is not a misplace that almost all the countries of the world over are buying into this system which promotes national development. ICTs can aid sustainable national development when used appropriately, with the all the stakeholders participation to use ICT to realize national development especially in the developing economies. The potentiality of ICT does not only includes easing information and communications but also engender growth and development. In a country like Nigeria, where vast majority of the population is below the poverty line, ICTs create a chance to empower the residents and transform them into more productive human capital.

There are some challenges, however, militating against the smooth development of ICTs in Nigeria. These include erratic power supply, inadequate of ICTs facilities, lack of ICT skills/technological know-how, inadequate access to computers, inadequate public and private partnership among others. The government at all levels should awake to these challenge to ensure they put in proper policies system that will serve as impetus for the ICT of the country to thrive and realized the utmost benefit therein.

Recommendation

In the light of the critical issues raised on the paper, the following recommendations were made:

- a) There is the need for well-equipped ICT centres in all educational institutions to enable them live up to their social and political responsibility
- b) Every Nigerian should develop personal interest in the use of ICT and government should provides adequate funding
- c) The use of ICT should be made compulsory in all the various sectors of the economy and proper training and orientation should be given on the effective use of ICT

- d) A stable power supply should be made available for the effective use of ICT in Nigeria
- e) ICT should be promoted all over the country and be made available and affordable for Nigerian
- f) There is should be public private partnership to aid the acquisition of ICT equipment and its application in the country
- g) ICT professionals such as software and computer engineers should be employed to manage and maintain the ICT equipment that are used for national development.

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