



ICT and Its Sustainability of Individual Development in Nigeria

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ABSTRACT

In a dynamic society of today, information communication technology determines the level to which industrial development could be achieved and subsequently sustained for the overall development of the economy and the larger society. As the society and the world develop, things are no longer done the old way; new innovations are brought in to match up with modern day's concept. Information communication technology is a brainchild born out of technical vocational education and training for sustainable development of Nigeria and the world at large.

INTRODUCTION

The National Policy on Education refers to vocational and technical education as "that aspect of education which leads to the acquisition of practical and applied skills and basic scientific knowledge. Vocational technical education is designed to impart knowledge in terms of training experience that culminates in an industrial terms, environmentally gluing a sound sustainable development. Indeed, the roles of vocational and technical education is the nation's building cannot be over emphasized. Toews (1992), observed the important role this kind of education can play in a technological age. According to him, technical education has helped many countries of the world to become advanced in technology, for example Germany has for generations, been recognized as a symbol of superior quality in design, fabrication and manufacture. The types and the products of vocational and technical education also reflect the political, economic and social maturity of a particular country.

According to Nworgu (2007), 'information technology means a set of tools that help you work with information and perform tasks related to information processing'. French (1996) see information technology as "a broad base technology" (including its method management and application) that supports the creation storage, manipulation and communication of information. The definition of French is more encompassing than that of Nworgu, which is limited to information processing and did not extent to the communication of ICT.

The concept originated as information technology (IT) until recently when it was thought that communiation component ought to be highlighted because of its significance. It was then that the concept was transformed to information and communication technology. Olusanga&Oleyede (2003). The major thrust of the IT policy in Nigeria can be gleaned from its vision and mission statement. According to the then Honourable Minister of Science and Technology capable country in Africa and a key player in the information society by the year 2015, using information communication as the engine for sustainable information development and global competitiveness. The presence of ICT therefore has positive impact on Nigerians in the following areas: (i) education, (ii) wealth creation, (iii) job creation, (iv) poverty alleviation, and (v) global competitiveness. Technical vocational education and training (TVET) delivery systems are therefore well placed to train the skilled and entrepreneurial workforce that Nigeria needs to create wealth and emerge out of poverty. Another important characteristics of TVET is that it can be delivered at different levels of sophistication. This means that TVET can respond, not only to the needs of different types of industries, but also to the different training needs of learners from different socio economic and academic backgrounds, and prepare them for gainful employment and sustainable livelihoods. The possibilities for communication and processing of information available from ICTs means that developing countries like Nigeria cannot expect to base their development on comparative advantages associated with low cost unskilled labour. In a global economy, offering cheap industrial workers does not provide sustainable advantages. The comparative advantage that now counts is the application of knowledge. ICTs are responsible for creating new employment opportunities in Nigeria. Service industries such as; airlines and insurance that involve labour ICT is therefore pivot to sustainable industrial development, but some conditions have to be met. These conditions are strong human capabilities required if these new technologies are to be used to their best effect. Secondly, in order to ensure the ICTs will have a major contribution to sustainable development, a policy framework needs to be formulated.

JUSTIFICATION FOR THE STUDY

Challenges of ICTs for Sustainable Development in Nigeria are as follows:

Power Challenges: Lack of consistent and affordable electricity is the single greatest challenge in designing and computing infrastructure for rural health information (or nay other application for that matter). The vast majority of health facilities in remote parts of Nigeria have no main power and, where available, such power is usually extremely unreliable or so unstable that it possess a threat to unprotected electronic equipment.

Environmental Challenges: The physical environment in most rural and remote settings is characterized by some combination of heat that, if not properly dissipated, reduces CPUs generate can render these systems inoperable. Dust threatens sensitive electronics by shorting circuits and impeding airflow and heat dissipation.

Connectivity Challenges: Lack of affordable connectivity and bandwidth is the primary obstacle to several of the most promising health applications for rural areas, including tele-medicine and other real-time diagnostics support and training analyse health information. Lack of reliable connectivity complicates core IT functions, such as systems updates and virus control, thus increasing costs while reducing use value.

Human Resources and other Nontechnical Challenges: As important as these physical and infrastructural challenges, are the many human factor and institutional obstacles to sustainable health information solutions in underserved areas. A partial list of these include; (i) inexperienced computer users, (ii) lack of trained, technical support, (iii) absence of defined, action-oriented health indicators, (iv) uncoordinated and (vi) widespread poverty and associated security risk.

LITERATURE REVIEW

The concept of ICT for development can be interpreted as dealing with disadvantaged population anywhere in the world. It concerns itself with directly applying information technology approaches to poverty reduction. ICTs can be applied either in the direct sense, where directly benefits the disadvantage population or in an indirect sense, where the ICTs assist aid organizations or business in order to improve general socioeconomic conditions. The field is becoming reorganized as an interdisciplinary research area as can be noted by the growing number of conferences, workshops, and publications. Such research has been spurred up in part by the need for scientifically validated benchmarks and results, which can be used to measure the efficacy of current sustenance developmental projects in Nigeria.

Communication: Is derived from the Latin word “communis” meaning “common” thus, communication is the activity or process of expressing ideas and feeling or of giving people information. Example telephones, radios, computers etc.

Information Technology: This is the study or use of electronic equipment, especially computers, for storing and analyzing information.

Sustainable: Is involving the use of natural products and energy in a way that does not harm the environment.

The Nature of ICTs

Information and communication technology represents an amalgam of rapidly advancing technologies which give individuals new capabilities for accessing information as well as for inter-personal communication.

The Importance of ICTs

Human beings have a need to communicate with each since all social and economic activity involves coordination as well as the sharing of knowledge and experience. ICTs are about satisfying the needs for communication and information which contribute to knowledge building.

ICTs and Human Capacities

There is not likely to be much benefits from information and communication technology at either the national or global levels if the necessary human capacities required for their application are not properly developed.

Information and Communication Technology Resources

1. **Computer:** Computers are no longer just mathematical tools but essential management resources. As we all know, different operations can be handled more efficiently as information generation, processing, analyzing, and storage for sustainable development to be easily executed. The greatest assets of the computer are speed, cost effectiveness and optimal utilization of available resources. Some other computer accessories worthy of mentioning are CD ROM, diskettes, flash drives etc.
2. **The Internet:** This has proven to be the most valuable vehicle for accelerated information flow. According to Ukodie (2004), it is a network of computers that communicate with each other. The potentials of the internet lie in the provision of global platform for information sharing among organizations and individuals. Information shared creates awareness, ensuring continuous use of products and services, provides feedback and support for organizations. The contentions here is that any organization or government that has current and useful information is empowered to enhance productivity of good governance.
3. **Electronic Mail (e-mail):** This is the most widely used resources of the internet. It is provided for sending and receiving mails (messages) through electronic devices. Intra and inter organizational communication has been made faster and cheaper. E-mail has become the life-wire for many business and organization communication.
4. **World Wide Web (www):** World Wide Web is also an internet based resources. It is a utility based on hypertexts (Hypertexts simply documents through key words in document or page) a visit to a website helps individuals or organizations to locate products, information, pursue political or social agenda and transact business Chilvetalu, (2003). From the above, we can conclude that being on the web would put any nation or organization on the right course of speedy and sustained development in line with emerging changes in technology, economic and political pattern. Consequently, many organizations, ministries and parastatals in Nigeria have their own websites through which they make relevant information available to members of the public.

Impacts of ICT on the Nigerian Society

Faster Communication Speed: In the past, it took a long time for nay news or messages to be sent. Now with the internet, news or messages are sent via e-mail to friends, business partners or to anyone effectively. With the capability of bandwidth, broadband and connection speed on the internet, any information can travel fast and in an instant. It saves time and it is less expensive.

Lower Communication Cost: Using the internet is cost effective than the other modes of communication such as telephones, mailing or courier services. It allows people to have access to large number of data at a very low cost. With the internet, we do not have to pay for any basic services provided by the internet, furthermore, the cost of connection to the internet is relatively cheap.

Reliable Mode of Communication: Computers are reliable. With the internet, information could be accessed and retrieved from anywhere and at any time. This makes it reliable mode of communication. However the input to the computer is contributed by humans. If the data passed to the computer is faulty, the result will be faulty as well. This is related to the term garbage in, garbage out (GIGO).

Effective Sharing of Information: With the advancement of ICT, information can be shared by people all around the world. People can share and exchange opinions, news and information through discussion groups, mailing list and forums on the internet. This enables knowledge sharing which will contribute to the development of knowledge based society.

Technology for Good Governance: The potential attribute or benefit of ICT to policy makers in the society has been accepted as imperative paradigm. In all intents and purpose, ICT is the acclaimed engine room of modern day global development and sustainable growth. In the same vein, Anehobi (2007) maintains that, 'no institution or organization can still rely only on the traditional printed information resources to perform efficiently' thus ICT has contributed a lot to good governance in Nigeria.

Information and Communication Technology Application in Education

Most of the discussions and initiatives on ICT in education tend to focus on the use of ICT for teaching and learning. This emphasis on the instructional applications of information and communication technology in education has its antecedent from the earliest times of educational interest in technology to improve teaching and learning. The case of the computer provides a perfect illustration of this point. Long before the emergency of information and communication technology, educational interest in the computer centered on its instructional applications as exemplified by Computer Assisted Instruction (CAI), Computer Aided Testing (CAT), etc.

It is perhaps easy to understand why the emphasis of the basic and secondary education levels should include research application of information and communication technology. The primary responsibility of the teachers at these levels is defined exclusively in terms of teaching. However, at the higher education level, teacher's primary responsibility is of a tripartite nature involving teaching research and community services. In effect, it can be suggested here that any approach to information and communication technology adoption at a higher education level that stresses only on instructional applications and ignores research applications, will be grossly inadequate in meeting the needs of both students and teachers.

CONCLUSION

Information and communication technology (ICT) is an essential part of national infrastructure and factors greatly in public, private sector and business enterprises. It creates business opportunities, and improves links among firms, suppliers and clients. ICT can make management and operation more efficient. Atama&Owolabi (2008:8) confirm if this is properly applied, "Information and Communication Technology is very useful in corporate environment because it promotes performance and improves efficiency.

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