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# Utilization of the Internet in Promoting Scientific and Technological Development in Nigeria

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## Abstract

*The paper discussed how Internet (an aspect of Information Technology) can be utilized to promote scientific and technological development in Nigeria. Internet is an electronic (computer) network that centers on information dissemination resulting in the world becoming a global village. Based on its role in the development of human society, the Internet can be applied in science and technology to enhance national development. The paper pointed out that Internet can serve as a useful electronic system for the acquisition of education, handling of information and transacting of business needed for the promotion of scientific and technological development in Nigeria. Some recommendations were made in the paper to support the use of Internet in the development of science and technology.*

Nigeria is a developing nation. In Nigeria, there are series of problems in satisfying her economic, social, cultural and political needs and so the educational system should be such that can meet the needs of the people in the society (Chike-Okoli, 2004). A means of improving economy in Nigeria is effective use of Information Technology.

Information Technology has transformed the human world into a “global village” where people can easily communicate with one another in multimedia electronically, from any point in the globe and the technology affects socio-economic activities (Inyiama, 2004). Information Technology is mainly concerned with Internet services. In other words, an important and prominent electronic technology embedded in Information Technology is the Internet. Internet stands for “International Network” and it is the largest computer network such that each computer in the network can communicate one another from any part of the world, irrespective of the geographical distance (Nwosu, 2006). Internet, being an electronic system concerned with information, can be very useful in the field of science and technology.

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Nigeria, as a developing nation, seriously needs to advance in science and technology for the achievement of socio-economic development. Idowu (1992) and Mogbo (2004) rightly noted that one of the factors for the low socio-economic status and poverty in Nigeria is the poor state of science and technology in the nation. In this modern time, there is urgent need for Nigeria to make effective use of the Internet in scientific and technological advancement needed for development.

### **Internet as a Useful Electronic Network**

An aspect of electronic technology that has greatly influenced human activities is computer technology. The use of computer is such that it has taken over almost every sphere of life and people can use satellite communication and computer to make economic transaction and transmit information to each other (Adedeji, 2004). Today, computer technology has brought about the existence of the Internet as the largest computer network in the world.

Internet is an electronic network that supports activities involving the creation, storage, manipulation and communication of information and so it is a broad-based technology needed to support information system. Information is very important in man's activities and it is needed to ensure that a changing society make wise decisions and have desirable revolution (Chijioko, 2005).

Nwosu and Chijioko (2005) noted that Internet provides information that goes a long way in enhancing the socio-economic development of its users because it enables one to be knowledgeable and enlightened and also develops ones potentials and capabilities. Internet makes it possible to have E-mail, E-commerce, E-library, and E-learning which can be employed for nation building. It can be said that Internet is very much needed in human society because it is a technological system for socio-economic growth and development.

An essential aspect of national economy in which the Internet can be applied is science and technology. In fact, no nation can achieve viable development without a cling to science and technology. Thus, Internet can be employed in the field of science and technology to enhance national development.

### **Role of Science and Technology in National Development**

Effort to achieve national development is the major struggle in human society. National development ensures that there is satisfaction in individual and societal standard of living. Low involvement and development in science and technology is one of the factors responsible for poor economy in a nation. In other words, a reasonable exposure and participation in science and technology in a nation can increase the well being of people in the nation. Having a strong focus on science

and technology will improve the socio-economic wellbeing of the people and enhance the achievement of national development.

Science is an organized knowledge obtained by objective and empirical study of natural phenomena and it helps in the discovery of concepts that promote national development (Nwosu, 2010). According to Obianwu and Azubike (1994), technology is the knowledge of scientific principles applied to practical tasks with the purpose of reducing human suffering or for improved productivity. It can be said that technology is the practical application of scientific phenomena in production of materials or devices for making man's environment more conducive to live. Transport system, communication system, electricity, pipe-borne water, hospitals and schools are some products of science and technology. Based on the relevance of science and technology in making human environment more pleasant, it is an axiom that science and technology is a vital resource greatly needed for socio-economic development.

Societies that are strongly rooted in science and technology are economically developed. Also, social and infrastructural amenities are well provided and maintained in an economy where science and technology are highly appreciated and utilized. For example, nations like China, Japan, Britain, and America have good exposure in science and technology that have enabled them achieve socio-economic development. It is self-reliance in the advanced (developed) nations that enabled them produce varieties of goods and services for themselves and for export; thereby matching towards sustainable development.

High level of scientific and technological advancement in a nation encourages self-reliance; self-reliance promotes sustainable development. Self-reliance is a developmental strategy by which individuals or nations use their own material and human resources in ensuring wellbeing of individuals in the society. Sustainable development is advancement for the well being of people in a manner that is favorable to both the present and future generation (Nwosu, 2010). The World Commission on Environment and Development (1987) is of the view that sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their needs.

Science and technology can foster self-reliance for employment opportunities. There are a lot of people, especially the youths, in Nigeria who are unemployed. With knowledge of science and technology such people can be creative and get self-employed in various works needed for socio-economic development. It is an axiom that a nation's extent of self-reliance and technological development determine her level of greatness. Nwosu and Nnabuenyi (2006) noted that "the level of technological know-how of a nation determines its developmental level and

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viability. High degree of viability accords a nation more respect in international affairs". For Nigeria to lose focus on self-reliance and technological development and depend on another nation for importation and survival is not the best. Obviously, there is the need to enhance the level of self-reliance in Nigeria by the nation becoming strongly rooted in science and technology.

### **Using the Internet for Development of Science and Technology in Nigeria**

Internet offers many benefits to human society and so it is a great technology that the human society is becoming increasingly addicted to. Unfortunately, there is ineffectiveness in utilization of Internet in Nigeria and the poor use of the Information Technology (Internet) is one of the technological problems in the nation (Nwosu, 2006). Inyiama (2004) believed that Nigeria is not doing well in the use of Information Technology and so she is not making enough impact towards the evolution of the appropriate learning process for the future. Emenari (2004) asserted that a wide gap exists between the use of Internet in African countries like Nigeria and in the developed world because much of Nigerian population has not experienced the technology.

If Nigeria can effectively use the Internet, it can enhance her scientific and technological development. This is because Internet can serve as a great means for acquisition of education, handling of information and transacting of business that will aid scientific and technological development.

A means of demonstrating deep consciousness for improvement of science and technology in Nigeria is by ensuring effective science and technology education in the nation. It is a fact that quality of education in a nation affects her level of human and national development. "To educate a man means adding to real capital, therefore, increasing his productivity or real income. Hence, education has come to be regarded as an investment in human capital" (Nwaogo, 1985).

Fortunately, Internet provides some facilities for acquisition of science and technology education. For instance, by browsing through the Internet, scientific and technological education can be acquired for development.

Internet has brought about the existence of electronic learning (E-learning). Electronic learning enhances distance education. Anigbogu and Umeh (2003) pointed out that E-learning is a technology that makes information available to learners, researchers, etc. irrespective of the distance and the technology enables one acquire education even without a physical teacher, thereby leading to cost reduction in instructional delivery.

It is expected that there should be quality and functional education in science and technology that will usher in development in Nigeria inculcated into the youths.

For the youths to appreciate science and technology, their interest should be enhanced. Fortunately, Internet provides multimedia like music, animation, educational games, e-learning, browsing, etc that can enhance their interest in the study of science and technology. Inyiama (2004) pointed out that Internet provides multimedia that facilitate acquisition of knowledge and skill in a manner that enables students learn and grasp much more easily, even when the subjects are considered difficult using conventional techniques.

With the existence of the Internet, virtual library, which is a computerized library, is made possible. A computerized library has important advantages over the conventional library for it is easily accessible, richer in context and cheaper (Inyiama, 2004). The virtual library can be utilized in promoting science and technology in Nigeria.

Internet also serves as a means of modern communication, which can be utilized to enhance science and technology in the nation. For instance, Internet has made communication of scientific and technological knowledge and skills, from any part of the globe, possible using electronic mail (E-mail). E-mail provides a fast, economic, convenient means of sending messages to and receiving messages from people across the globe. Other uses of Internet in communication are its application in facsimile, electronic bulletin board, data base records, files transfer, online phone. Thus, globalization of scientific and technological ideas is possible using the Internet.

Internet also has economic value for it can foster business transaction relating to science and technology in Nigeria. For instance with E-commerce (using the Internet) business activities relating to science and technology can be achieved. It should be noted that E-commerce creates global medium that can dismantle distance and boundaries in business transaction. With E-commerce, it is possible to bring together customers, vendors, suppliers and employees on-line for scientific and technological business.

Another form of business transaction in the Internet is using the Internet for employment. By engaging in various activities concerned with Internet services, people can get employed in scientific and technological works. The employment opportunities can create entrepreneurship for Nigerian youths who are not yet working. It is well known that employment helps people to generate income for a happy and healthy living and prevent idleness that causes social vices. The use of Internet is a means of minimizing transportation hazards. Such reduction of transportation problems is necessary for fostering science and technology in Nigeria. For instance, people involved in science and technology can stay in their

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residences or working places and interact with one another without travelling. Thus, transportation hazards like traffic congestions and road accidents can be avoided.

For the Internet to serve well in scientific and technological development there is need to avoid computer crime in Nigeria. Computer crime is the use of computer system to commit illegal and unauthorized acts. It is expected that people using the Internet for scientific and technological activities should be of good moral behaviour. According to Nwosu (2003), “good moral life is a means of societal or national development. A nation known for moral ethics commands respect but it is a shame to the image of a nation with picture of moral decadence”.

### **Conclusion**

Science and technology is greatly needed for national development in Nigeria. So, scientific and technological advancement, as a resource for development, should be highly cherished in Nigerian society. Based on the relevance of science and technology in development, part of the efforts required in fostering science and technology for nation building is effective use of the Internet.

Internet, as a part of Information Technology, is a communication super highway that has many advantageous features for promoting development in science and technology. It is expected that Nigeria should make serious effort in the use of Internet for national development. In fact, Internet is a great resource that can bring positive impact in scientific and technological development of Nigeria. This is because Internet can serve as a useful electronic system for acquisition of information, knowledge and skills needed for the development of science and technology in Nigeria.

### **Recommendations**

For effective use of Internet in scientific and technological development in Nigeria, the followings are recommended:

- All stakeholders concerned with science and technology should work very hard to provide materials and resources needed to encourage the use of Internet in promoting science and technology in Nigeria.
- Institutions and organizations concerned with science and technology in Nigeria should get networked into the Internet for active involvement in globalization.
- Nigerians should display good moral conduct in the use of Internet so as to avoid committing acts that retard scientific and technological development.
- Academic institutions should provide quality education to staff and students on computer and Internet usage.

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