COMPUTER NETWORKS AS STIMULANTS FOR ECONOMIC DEVELOPMENT AND SELF-PRODUCTIVITY IN NIGERIA

By

MUSA LADAN

Department of Planning, Research & Information Technology,
Manpower Development Institute,
Dutse.

Abstract

Technological progress (particularly in ICT) is today considered as the most important driving force in drawing the line that divided developing from the developed world. Computer Networks and other digital technologies are increasingly playing important roles in economic development of nations. When the economy is stimulated and empowered, growth is promoted. This paper therefore attempts to unfold the increasing roles of computer networks (such as INTERNET, Local Area Network (LAN), Wide Area Network (WAN) etc) in stimulating the Nigerian economy.

It is beyond doubt today that the dividing line between developing and developed world lies in the mastery and utilization of technical knowledge. U.S.A, Britain, Germany, Italy and other developed countries, for instance, do not have more natural resources than Nigeria. Their development was rather a bye-product of their national capabilities in technology, particularly ICT (Ladan, 2011).

Nigeria as an emerging economy and a middle income country is not aloft all these developments. A number of developments occur in Information Technology which in turn impact positively on the economy. Computer networks have greatly affected educational, Health, Industrial, Financial and other sectors of the Nigerian economy (Badamasi, 2009).

Computer Networks: An Overview

A network, in general, is a connected system of objects or people. A computer network on the other hand, according to Morley (2001), is a collection of computers and other hardware devices connected together so that network users can share hardware, software, and data, as well as electronically communicate with each other. The largest computer network in the world is the internet. Computer networks are commonly used for a variety of purposes by both individual and businesses. Commonly used networks include Wide Area Network (WAN), Local Area Network (LAN), Metropolitan Area Network(MAN) and the internet.

Some Typical Computer Networks

Each of the past three centuries has been dominated by a single technology. The 18th century, for instance, was the era of mechanical system accompanying the industrial revolution. The 19th century was the age of the steam engine. During the 20th century, the key technology was information gathering, processing and distribution. Among other developments, was the installation of worldwide telephone networks, the invention of radio and television, the birth and unpresented growth of computer industry and the launching of communication satellites (Tanenbaun, 2006). According to summers [2012], computer networks are divided according to their type as follows:

1   The Wide Area Network [WAN] normally spans over a large geographical area, often a country or continent. It contains a collection of machines intended for running user programmes. These machine hosts are connected by a communication subnet. The hosts are owned by customers where as the communication subnet is typically owned and operated by a telephone company or internet service provider.

2   The Local Area Network (LAN). These are privately-owned networks within a single building or campus of up to a few kilometers in size. They are widely used to connect personal computers and work stations in company offices and factories to share resources such as printers and exchange of information. LANS run at speed of lOmbps to lOOmbps.

3.   The Metropolitan Area Network (MAN) covers a city. A good example of MAN is Cable Television Network available in many cities. This system grew from community antenna system used in areas with poor over-the air television reception.

3.   The Internet. The international network or simply internet is one of the many networks that are widely used today. It is a global system of interconnected computer networks that use the standard protocol suite to serve billions of users worldwide. It is a network of networks that consist of millions of private, public, academic, business and government networks of local to global scope, that are linked by a broad array of electronic wireless and optical networking technologies.

Role of Computer Networks in the Economic Development of Nigeria

Economic development, according to Aderinto and Abdullah! (1992), is concerned with among other things the attainment of a number of ideals of modernization such as rise in productivity, social and economic stabilization, improved institutions and values etc. Before looking at the roles and contributions of computer networks in the development of the Nigerian economy, let's have a snap look at the Nigerian economy.

The Nigerian Economy

Nigeria has a mixed and emerging market economy with well developed financial, legal and communication sectors, it was ranked 31st in the world in terms of

Gross Domestic Product (GDP) in 2009. The Nigerian GDP at purchasing power parity has more than doubled from $170.7bn in 2005 to $ 374,3bn in 2010. The economy of Nigeria is largely subsistence and has not kept up with population growth. Nigeria was once a large net exporter of food, but now imports a large quantity of its food. From 2003 to 2007, Nigeria attempted to implement an economic reform programme called the National Economic Empowerment and Development Strategy (NEEDS), to raise the standard of living of its citizens through a variety of reforms.

The Roles of Computer Networks

1. **Business Applications** Computer networks are applied in business endeavors in areas Such as accounting, secretarial administration and office management. LAN and Internet are particularly important in this area. It aids messages/documents communication. Another important role of the computer Networks in stimulating the economy is in the area of marketing. Computer network have aided in e-marketing where transactions and purchases are done on-line. Payments are also effected on-line. Only the delivery requires some human labour. It further helps in advertising products through the internet (e-advert). Computer network service providers in Nigeria that take advantage of networks to perform business include Sahara computer networks, Leolard network, Zenox computers, viniyard computers, Pramark consult etc.

   This networking advantage helps in improving the economy by simplifying access to business information, easing and reducing communication protocols and simplifying the whole transaction system by cashless means as well as reducing transport costs and hardships.

2. A large number of people in Nigeria have in recent years got employed in the computer networking and other digital related industries. Youths in particular, are the major movers of this business. Many are engaged in software installation, engineering, maintenance, design and development etc.

   A related role to employment generation is e-adverts where organizations with job vacancies place their call for application on the internet to reach millions of job seekers.

Through this, youth unemployment is reduced.

3. **Educational Applications**: Computer networks are used today in Nigeria to aid teaching and learning. The network such as the internet has greatly assisted in areas such as Joint Admissions and Matriculation Board (JAMB) applications, result checking and admissions. Other agents such as West African Examinations Council (WAEC), National Examinations Council (NECO), National Business and Technical Examinations Board(NABTEB) and higher institutions of learning are more relying on computer networks in their activities.

The Federal Ministry of Education is using computer networks in what is known as Education Management Information System (EMIS) to reach, interact & share information with its parastatals and State Ministries of Education nationwide.

4. **The Banking Sector**
    The banking sector is actually one of the most important sectors that benefited from the developments in computer networking. It is this development that gave birth to e-banking. Branches of all banks are electronically connected to their main/head officers for proffer monitoring of daily operations round the clock. This has led to cleaner and smooth bank operations. Customer services that mean more market for the banks were also introduced through the use of networks. A case example is the bank alert system.

5. **The Health Sector**
    The health sector, through the 'Health Management Information System' has also benefitted from computer networking. Production, dissemination and shearing of health information such as disease outbreak, has greatly increased over the past few years.

6. **Agriculture and Environment**
    Agriculture, the main sector of the Nigerian Economy is not aloft these developments. Research findings from Agricultural research institutes are disseminated through computer networks. Agricultural products are also marketed through the internet. Environmental changes such as drought, desertification, and weather forecasts are also possible with the aid of networks.

7. **Other Sectors of the Nigerian Economy**
    Other sectors such as transport, manufacturing and aviation are also stimulated by the developments in computer networking. Flight schedules and bookings, traffic control, and other flight information are all made available through the use of computer networks.

Conclusion

Computer networks such as LAN, WAN, MAN and the INTERNET are seen as major stimulants for the economy and their roles cannot be overemphasized. In recent years, Nigeria's economic programs of macroeconomic stability, increase in industrial capacity utilization, raising standard of education, food sufficiency, reduction in child and maternal mortality etc have all received a push from computer networking and other digital technologies.

Recommendations

Based on this, the following recommendations are offered for possible - consideration:
1. Graduates of computer science should be empowered in order to make them self reliant.
2. Computer skills should be adopted as general studies courses in higher

institutions of learning to improve computer literacy and bridge the digital divide.

References

Aderinto, A. & Abdullah, S.H. (1992). *Comprehensive Certificate Economics.* Ibadan University press.

Badamasi, J. (2008). Computer machine: an instrument of imparting skills, empowerment and competence. *Zobe journal of sciences,* 1,(1) Page 61-65.

Ladan, M, (2011).The role of technical and vocational education in poverty eradication and job creation. *Journal of teacher perspective.* 5, (1) Page 126-131.

Morley, D. & Parker, C.S. (2007).*Understanding computers.* Boston.Thompson course technology.

Summers, C. (2012). *Computer networks.* Retrieved from http://ezenearticles.com (29/2/2012).

Tanenbaun, A.S. (2006). *Computer networks.* India Prentice-hall. India.