

Data and Telecommunication Problems in Sub-Saharan Africa

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Abstract

Telecommunication being the process for transferring information from one location to another has made life easy and more comfortable. This paper aims to determine the major data and telecommunication network challenges in Sub-Saharan Africa. The paper source of data is extensive literature analysis of some countries and uses qualitative method of data collection from the case studies.

Keywords: Telecommunication, Data, Technology, Network, Sub-Saharan Africa

1.0 Introduction

Data refers to the information that is processed, operated and stored in a computer in form of text document, images, audio, video and other types of data. Data is transferable from one computer to another, through media devices or through the Internet. A telecommunication network refers to collection of different media that support communication between two or more end points (Traynor, McDaniel, & Porta, 2008). Service providers maintain the telecommunication network by deploying physical equipment and configure the transfer of data between the networks.

Sub-Saharan Africa refers to the countries found to the south of Sahara Desert. It is subdivided further into regions and includes countries found in Central Africa, East Africa, West Africa, and the Southern Africa. Most of the countries in Sub-Saharan Africa are extremely economically people. Telecommunication and phone technology has penetrated this part of Africa but at a slower rate than in other parts of the world (Noll & Shirley).

The other form of data and telecommunication introduced if Africa is internet connectivity. Internet was introduced in Sub-Saharan Africa from the 1990's. Some countries include Kenya in 1993, Uganda and Nigeria in 1995 and Togo in 1996 (Akue-Kpakpo, 2013). Internet connection in most of these countries began with the introduction of analogue telephone lines. Despite the introduction of telecommunication coming several years ago, the countries are yet to fully have and integrate in every part of the countries.

2.0 Reported Case Studies of Data and telecommunication network problems in Some Sub-Saharan African Countries

2.1 Telecommunication challenges for Nigeria

In Nigeria today, there are about 700,000 telephone lines indicating that the subscriber base has grown at an average of 10,000 lines annually in the whole country for a period of the last forty years. Cellular service commenced in Nigeria in the 1980's but the country has only connected 20,000 cellular lines representing an annual growth rate of 1,250 subscribers annually (Ndukwe, 2000).

Though Nigeria has highly embraced telecommunications technology, the country does not have adequate infrastructure that is affecting the economic life of the nation to some extent. Mobile phones introduction solved the problem of having few telephone lines and has highly improved the level of communicating in the country. However, not everyone in the country has access to cellular phones, and other various parts of the country do not access to other telecommunication services and devices. Though telecommunication network grew in the country, the rate was too low comparing to the rate of population growth (GSMA Intelligence, 2014).

For several years, several companies has received licenses to offer services like mobile telephone services, fixed satellite services, internet services, payphone services and other telecommunication related services. Despite the number of licenses issued, the subscriber base in the country is still low compared to the population in the country.

The case study identified the reasons for this to be lack of funds to improve the telecommunication infrastructure, the preference by banks to offer credit to traders importing commodities or cars than those importing hitech devices, and congestion and degradation of services caused by inadequate links to the existing networks.

Fixed and mobile wireless systems offer high speed of accessing Internet services. These systems have been deployed in the country at a very fast rate and people can now access internet services through their mobile

phones. The fast deployment leads to faster Internet connections. However, the wireless deployment in the country has saved several challenges which include unreliable power supply that do not have back-up systems, and inadequate funds to finance a large deployment to achieve the economies of scale.

2.2 Data and telecommunication services in Ghana

The world is still undergoing a telecommunication revolution since the 1960's when a television was the widely used media of communication. This period in history marked the realization that the world was on the way to becoming a global village (Salami & Usman, 2008). Ghana's telecommunication industry realized revolution when the government deregulated the industry in a bid that aimed at attracting investments and improving competition in the industry (Goni, 2011). This move by the government led to an increase in private providers of cellular network.

The main challenge facing data and telecommunication in Ghana is lack of proper regulation (Nanevie, 2012). Lack of proper regulation has led to providers offering poor services in comparison to other countries. The poor quality limits the growth capability of the industry. Ghana also undergoes the challenge of attracting loyalty from customers. The challenge also includes the challenge to demonstrate continuous and customer focused services than before and ultimately customer loyalty (Boohene & Agyapong, 2011). Customers in Ghana are becoming harder to please, have become more price conscious, and can move from one provider to another. The use of data and expansion of the telecommunication industry in Ghana also faces the challenges of stagnation caused by high cost of internet usage. The high costs are not matched with good quality of services and this has discourages customers from accessing the services.

2.3 Major data and telecommunications challenges facing the industry in Kenya

The first challenge that is facing the companies offering data and telecommunication services in Kenya is internal environment challenges. The organizations require adopting strategies to overcome their internal weaknesses which may include poor corporate management, wrong organization culture, slow business growth, poor quality of services, and poor financial management. This will help improve the services and competitive advantage to prevent external companies from entering into the market.

Telecommunication industry also faces the challenge from political environment (Omae, Ndungu, & Kibet, 2013). The issues from the political side include tax policies, labour laws, and regulations on environment conservation, import tariffs, trade regulations, and country leadership. These political factors may sometimes disfavour an organization affecting how effectively it conducts its business. Kenya also faces the challenge of misuse of the telecommunication. There are several cases of terrorists and criminals who use mobile phones to undertake criminal activities (Murungi, 2011). The companies have not been able to identify measures to stop the criminals' activities. The failure by companies to prevent the use of mobile phones by criminal has forced the government to put stringent measures for the company.

3.0 Materials and Methods

This literature reviews uses case studies earlier conducted and documented in books and journals. The method of data collection for this paper is qualitative method using the literature analysis.

Title of material	Summary
A survey of internal and external challenges experienced by Kenya's telecommunication industry	The challenges facing the telecommunication includes both internal and external for the telecommunications companies. Internal challenges refer to the running policies of each organization that affect the operations of the company and the kind of services the company will offer. The external challenges facing telecommunication companies are the perception that the regulator favors the competitors, use of outdated equipment, and failure to meet the customer expectations. Other challenges include economic, social cultural, competitions and government policies.
Assessing the operational performance of Vodafone Ghana company limited in the Ghanaian telecommunication industry	Telecommunication has undergone a massive revolution in Ghana. The government removal or regulations encouraged private provider, but this has reduced the quality of services offered in the country. Ghana telecommunication faces the challenge of lack of growth in the industry due to lack of customer loyalty. Due to the several providers who offer poor qualities, customers move from one provider to the other which makes the industry unstable limiting its growth. Telecommunication and data usage also face the challenge of high costs which discourage consumers from using the service.
Telecommunications challenges for Nigeria in the 21st century	This case study identified that Nigeria's main challenges are inadequate infrastructure to expand telecommunication, lack of adequate financial resources, and unreliable power supply.

4.0 Results

The main challenges facing data and telecommunication in sub-Saharan Africa are inadequate funds, political

influences, competition from international companies, and the economic conditions in the countries.

4.1 Insufficient funds

Telecommunication infrastructure requires a lot of capital to operate. Most of the countries in the sub-Saharan Africa do not have the resources necessary to make such enormous capital expenditures. The companies that offer telecommunication services also do not get enough revenues from the services they offer to be in a position to buy the necessary equipment. As the technology continues to advance, the new technology also becomes more expensive. Due to the unstable state of the telecommunication industry, banks are not willing to offer credit to the investors ready to invest in this industry. The financial institutions prefer providing credit to other sectors. The lack of funds offers the biggest challenge.

4.2 Inadequate infrastructure

Due to the insufficient funds, the countries are unable to acquire the necessary support. The most affected area is the mobile phone services. People living in the remote areas of these countries can use mobile phones because such areas do not have network coverage.

4.3 Political influences

The most common feature about the sub-Saharan countries is that they are politically unstable (Hentz, 2013). The causes of political instability include dictatorship, failure to observe the laws, and unethical political competition. The political instability discourages foreign and domestic investors from investing in the country leading to underdevelopment of telecommunication. The political instability also causes war, and that leads to the destruction of telecommunication infrastructure.

The other political influences are the laws and policies passed by the governments. Some of the laws may touch on the amount of corporate tax to pay, import tariffs charged on imported devices, and general rules governing companies. These laws have led to the providers being in constant conflict with the regulators which has highly affected the level of telecommunication development. Some of these laws have forced the providers to charge their services at very high prices of the providers are unable to offer quality services which have led to constant conflict between the suppliers and customers.

5.0 Discussion

African Countries received independence several years ago. However, the period between independence and now has seen several sub-Saharan countries face several challenges ranging from economic, political and social. These challenges have been the primary reason the region has not developed well. The political instability is the leading cause of the underdevelopment. Several investors are willing to invest in the telecommunication in these African countries, but the uncertainty discourages them since they mind about the security of their staff and infrastructure.

Telecommunication and internet use have highly widely spread in the region and several people in can now access mobile phones and the internet. The use of mobile phones has widely spread among all age groups compared to a few years back. However, there are still thousands of people who cannot afford to purchase the mobile phones because they live in poverty stricken areas. Also, people living in the remote areas also cannot use the mobile phones because such areas do not have good network coverage.

6.0 Conclusion

The Sub-Saharan Africa remains one of the most underdeveloped and economically weak regions. This poor development is a cause of several challenges that face data and telecommunication. Despite the area being a safe place for investment, the industry is not yet developed to the best level because challenges like inadequate financial resources, political instability, poor economic conditions, and inadequate infrastructure. Though telecommunication and use of data have significantly improved in the region, there is still need for more investment to overcome these challenges and build a proper infrastructure like that found in developed countries for the area to take full advantage of the use of advanced telecommunication.

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