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An Appraisal of Legal History of Telecommunication System in Nigeria

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Abstract
The paper focuses on the legal history of telecommunication system in Nigeria, starting from the point of approved traditional means of communication of the different ethnic groups in the Country. It discusses the means and methods of communication during the pre-colonial era which served as a foundation and a stepping-stone for the subsequent revamping and development of the modern communications regime. It further discusses the colonial and present developments which cellular telecommunications system has recorded, and provides concise profiles of the major GSM mobile operators and the regulatory body on communication system in Nigeria – the Nigerian Communications Commission. The paper adopted doctrinal method of research by consulting written materials on the area of research. The paper found out that despite the efforts of Nigerian government in regulating telecommunication system, more need to be done particularly in the area of network coverage and stability as well as customer satisfaction. The paper then suggests that the Nigerian government should encourage the network providers in acquiring the needed technology that would boost their stable network coverage to the remotest area of the Country thereby providing deserving products to their teeming customers.

Keywords: History, telecommunication, system, development, Nigeria

1. Introduction

This paper presents the historical development of telecommunication system in Nigeria. It discusses the means and methods of communication during the pre-colonial era which served as a foundation and a stepping-stone for the subsequent revamping and development of the modern communications regime. It further discusses the colonial and present developments which cellular telecommunications system has recorded, and provides concise profiles of the major GSM mobile operators and the regulatory body of the said operators in Nigeria – the Nigerian Communications Commission.

2. Historical Development of Telecommunication System

2.1. Pre-Colonial Period

Prior to the coming of telecommunications system, the tribal denizens of what constitute the present Federal Republic of Nigeria communicate between themselves through varied forms and ways. This is apparent considering that every human society from the most primitive to the most advanced, depends on some form of telecommunications network.[1] Without doubt, indigenous Nigerian societies had no newspapers, cell phones, computer systems, radio, internet, magazines etc., but had agencies and institutions which in several respects served the same purposes as the modern day communication and information dissemination facilities.[2]

In pre-colonial era, the traditional means of communication are numerous and have indeed served the purposes to the satisfaction of the rural people because they were in different forms – intrapersonal, interpersonal, group, and public which are all different means through which they interacted, associated, communicated, related, shared ideas, views, opinions, information, norms and values within themselves. These various traditional media of communication basically include the following: oral tradition, town crier, talking drum, age group, ivory horn and long brass, smoke signal, open market and organized; and spontaneous gatherings.[3]

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[1] G. A. Alabi, 'Telecommunications in Nigeria' (1996) African Study Center, University of Pennsylvania < http://www.africa.upenn.edu/ECA/aisi_inftl.html> accessed April 22, 2017.
[2] F. A. Omu, Press and politics in Nigeria 1880 – 1937. (Great Britain Western Printing Services 1978), p.56.
[3] <http://consumerdiscounts.org/mass-communication/final-year-project-topics/traditional-media-of-communication-as-tools-for-effective-rural-development-4257/project-topics> accessed April 6, 2017.

2.1.1. Oral Tradition

For Nigerian, oral tradition is the most common media for communication and contact with each other. History, cultural values and heritages were previously being exercised by word of mouth. Songs, proverbs legends, religious liturgy, ballads and invocations were practiced by word of mouth. This was the scenario before the prologue of Roman, Arabic, Amharic letters and scripts in Africa. In this way only all of these become omnipresent for generation after generation, area after area. In pre-colonial Nigeria oral communication is the most conquered among any other means of communication. It facilitates of knowledge sharing, expansion of culture and socialization.[4]

2.1.2. Town Crier

This is also a traditional media. The voice of town crier or village gong man is usually heard in the dawn. This is basically used for announcement of important get-together, discussions, occasions and forthcoming predicament. He is treated as the "significant village broadcaster" for directing aged people. For formulation of any plan, strategy as well as to track development this is being treated as an important source.[5]

Town crier also known as "society's journalist" is being treated as a medium of communication between administration, legal head of village and common people. The main credit of a town crier lies in the oratory skills and his knowledge about rules, regulations etc.[6] He has many names like:

- The Igbos, natively called "*Onye Ogene*".
- The Hausa, called "*Mai Shela*".
- Among Yorubas, he is known as the "*gbohun-gbohun*".

The town crier usually appointed through the head of a village. Villagers have real faith on his announcements. One of his primary duty is to announce the time and date of new moon- the beginning of the *Ramadan* festivities.[7] He is also responsible for making announcement about religious festivals like the *Egungun* and *Sango* religious festivals. He is being treated as one of the plausible and trustworthy people.This significance exists in today's Nigeria.[8]

2.1.3. Talking Drum

Among the rural communities talking drum is another traditional media of communication.[9]It is an extension over oral tradition. In the Igbo communities, this is also called as "*Ekwe Ikoro*".[10]
It helps to reproduce the tone of a sentence such that it can be listen from a very long distance. For both official and social functions, the taking drums serve important results. For making announcement of meetings, arrival and departure of important visitors to palace, acts of sacrilege and disasters, alarming events, it is very much useful. For announcing joyful events like festivities and ceremonies like New-Yam Festivals, weddings, and chieftaincy title taking, it is very popular. It also acts as a commentary during war and wrestling matches.[11]

2.1.4. Age Groups

By combining males of a particular age-group, this is being formed. This group ensures smooth operation of events. It is also acting as a tool for spreading information about development projects, execution of laws, collection of fines, the punishment of crime and the burial of the dead. This is also providing education to young and helps in the enhancement of culture.[12]

2.1.5. Ivory Horns and Long Brass

This is responsible for producing notes of various length and pitch. These are mainly responsible for communicating long messages. They have become states symbols.[13] The long brass horns are mainly found in Northern states of Nigeria while the Ivory horns are found in the South-east states of the Country.

2.1.6. Smoke Signals

For communities, which are far away from each other, smoke signals were one of the major sources of communication in the pre-colonial era. On the basis of agreed codes, they used to exchange information. It basically means

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[4] Ibid.
[5] Ibid.
[6] Ibid.
[7] Ibid.
[8] Ibid.
[9] L. C. Aziken and C. A. Emeni, 'Traditional Systems of Communication in Nigeria: A Review for Improvement' (2010) Vol. 24. No.4 Knowledge Review: A Multidisciplinary Journal <http://www.globalacademicgroup.com/journals/knowledge%20review/TRADITIONAL%20SYSTEMS%20OF%20COMMUNICATION%20IN%20NIGERIA.pdf> accessed April 28, 2017.
[10] Some other ethnic groups in Nigeria also have a variety of "talking drums". The Itsekiri call it Oji, Okha in Edo, Ogri or Igede in Urhobo and Isoko, Dundun in Yoruba, Kalangu or Ganga in Hausa.
[11] <http://consumerdiscounts.org/mass-communication/final-year-project-topics/traditional-media-of-communication-as-tools-for-effective-rural-development-4257/project-topics> accessed April 6, 2017.
[12] Ibid
[13] Ibid.

"Any message sent through smoke must reach to the heavens surely and clearly.[14] Now it has become abolished from society. It was a sign of forthcoming danger. Different layers of smoke have different meanings.[15]

2.1.7. Open Market

Being situated close to village or town, the open market always remains one of the most powerful and important institutions in Nigeria. It is either opens in certain particular interval (in villages) or almost every day (in towns). These are being treated as the economic nerve centres- a primary source of all sorts of communication activities.[16] For Nigerian civilization, buy and sell was another informal media system, as it serves a means of entertainment, communication. Meeting with friends from a long distance can be possible in markets. Communication about trades with neighbouring states and the caravans and traders can be possible through this only. [17]

2.1.8. Organized and Spontaneous Gatherings

A common incident in Nigerian societies, organized and spontaneous gatherings is also being treated as a source of information sharing. News related to committal ceremonies, birth, death, festivals, meeting can be spread through this.[18] Various emotions like joy, tears, sobbing can be shared through this.[19]Today, modern facilities have been used for information sharing, but in pre-colonial period it was indeed very popular and widely used.

2.2. Colonial Period

Without doubt, technological developments in the late 19th century had been a turning point, in the way human beings react. From 1837 to 1876, Nigerians in particular were affected by the innovations and inventions in the communications sector; the development of telecommunications in Nigerian began in 1866 with the establishment of cable connection between Lagos and the colonial office in London.[20] In 1879, the breakthrough invention of telephone[21]by Alexander Graham Bell had reduced physical barriers to communication worldwide.[22] In fact, all nations including Nigeria had benefited immensely from the advent of the new telephony system. Hence, telecommunication can be said to be about a century old in Nigeria. This is because the introduction of telephone system in the Nigerian colonial state was linked to colonial era.[23]

In the year 1893, in order to extend further the communication channels for administrative purposes and to maintain economic hegemony over the commercial regions of the colony, government offices in Lagos were provided with telecommunication services which were later extended to Ilorinand Jebba in the hinterland.[24]To enhance communication systems, post offices were commissioned, with some located at Sapele, Forcados and Degema in 1896. From then on, rudiments of national telecommunications infrastructure were seen in major public working places. It became apparent that during the early colonial era in Nigeria, development of telecommunication was minimal. This was because the early use of telephone in the Country was restricted to promotion of administrative rather than socio-economic development of the colony. In addition to administrative function, the telephone was used more for military use than civilian. In fact, the protectorate government even established a telegraph battalion which later became nucleus to the success of telecommunication service in the Country.[25] Moreso, as at that period, there was a telephone connect-link between the Nigerian contingents of West African Frontier Force at Shaki with the colonial office in Lagos.[26]

The main transmission medium of telephone was an unshielded twisted pair of copper wire. The wire was strung on tall telegraph pole. These poles were mostly erected alongside major roads and railway tracks. Thus, in 1908 when telephone system was opened at Warri, the connection was through overhead telegraph lines that were installed in 1905 to connect Warri, Sapele, Benin city, Ifon and Owo. With this, telecommunications in the colonial era could be said to develop alongside the development of railway as the latter had evidently influenced the development of the former.[27] The overhead pair of lines was capable of carrying only one or two voice channels at a time. This placed profound limitations on connectivity speed, bandwidth and transmission. As such, the primitive rural carrier system on high lines was replaced by line carrier systems of twelve-channel capacity.[28] Much later, the colonial government devoted telephone to traditional economic sectors of agriculture and mining. This led to the establishment of the first commercial trunk telephone services

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[14] Oladejo K. A., 'The Centrality of Indigenous Media to the All-round Development of the Contemporary Society' <http://kabakaeasy.blogspot.com.ng/2012/12/indigenous-communication-systems-cla-706.html> accessed April 28, 2017.
[15] L. C. Aziken and C. A. Emeni, op cit.
[16] Ibid.
[17] F. A. Omu, Press and politics in Nigeria 1880 – 1937. (Great Britain Western Printing Services 1978), p.56.
[18] Ibid.
[19] Ibid.
[20] G. O. Ajayi and Others, 'A Century of Telecommunications Development in Nigeria—What Next'< http://www.vii.org/papers/nigeria.htm> accessed April 20, 2017.
[21] The word is from Greek, meaning "far (tele) and voice (phone). It is a telecommunication device that transmits and receives sound, most commonly the human voice. In other words, it is a point-to-point communication system whose most basic function is to allow people separated by long distances to talk to one another."
[22]<https://www.shoretel.com/content/alexander-graham-bell-and-history-telephone> accessed April 29, 2017.
[23] G. O. Alabi and others, op. cit.
[24] Ibid.
[25] A. C. Salubi, 'The Origin of Sapele Township' (1960) Vol. 2 No. 1 Journal of Historical Society of Nigeria 115-135.
[26] Ibid.
[27] G. O Ajayi, op. cit.
[28] Ibid.

between Itu and Calabar in 1923.[29] The invaluable nature of the telephone in the sub-sectors of manufacturing, distribution and management later became apparent in the colonial days. This informed the establishment of more telephone facilities and the subsequent expansion of the service. Although the colonial government had embarked on the development and expansion of the telephone services, there was no specific legislation then governing the sector. The only laws that were passed by the Colonial Legislative Council that could have affected the telecommunications sector were the Wireless Telegraph Ordinance of 1903 and the Telegraphy Ordinance No. 60 of 1916, which witnessed series of repeals in 1922, 1931, 1935, 1937 and 1950. The cited colonial statutes consequently empowered the Governor-in-Council to make regulations relating to the telecommunication sector.[30]

The year 1941 witnessed the creation of Post and Telecommunications (P&T) Department from the amalgamation of three distinct Posts and Telegraphic Departments i.e. Southern Telegraph Department, the Southern Postal Department and the Northern P&T Department; and in 1946, a line carrier system was introduced between Lagos and Ibadan in the south-west zone. It was a three-channel line carrier system. The system was later extended to Oshogbo, Kano, Benin and Enugu.[31]

Towards the attainment of Nigeria's independence, more government offices were brought on line as quickly as possible. Thus, the telephone service could be said to be witnessing expansion systematically. Only that it continued to be restricted to government agencies, institutions and businesses. Thus, non-governmental public rarely enjoyed the services as the telephone then was meant purposely to serve the administrative set up of the colony. It is clear that the telecommunications infrastructure was solely developed in the interest of the British colonial administration and not in the interest of the indigenous people. In the course of this, the quality and availability of the service was efficient judging by the purpose it was meant to serve and the state of technology at that period of time.[32]

As the expansion of telecommunication network progress, merchant companies such as the Royal Niger Company and Cadbury Bros. became subscribers to the telecommunication network. Other expatriate entrepreneurs and wealthy residents in Delta and Lagos equally subscribed the usage of the phone services. This tremendously boosted commodity trade in cocoa, cotton, groundnut, timber, palm oil and tin.[33] In spite of the development however, telecommunications continued to be in the hands of the British colonial government with no private partnership and the external telecommunication service then was through cable link. It was also through public telegraphic services linking Lagos by submarine cable along the west coast of Africa to Ghana, Sierra Leone, and Gambia and onto England. The overseas services then were carried by Cable and Wireless of the United Kingdom which was a colonial private company.[34]

Around 1955, Very High Frequency (VHF) and Ultra High Frequency (UHF) radio systems were introduced in the telecommunications system in the colony. This enhanced the bandwidth and the speed of the conventional transmission.[35] The exchanges in those days were actually manual and in the telephony sector, manual switch board of different sizes and capacities were used. The exchanges involved a group of operators working at a large switch board. Each incoming telephone call requires an answer from the operator before being connected manually to the party being called.[36]

Between the period of 1955 and 1960, about one hundred and sixteen (116) manual exchanges were installed. Among the types used were the *PhilipUR49*. Later, the Strowger Exchange got introduced. In particular, the Strowger Exchanges were installed into the national network of Lagos Island, Ikeja, Ebute Metta, Apapa and Port Harcourt.The installation of the Strowger Exchanges marked the beginning of automated telephone switching in Nigeria. However, up to the period of independence, in 1960, there were only five (5) automatic exchanges out of one hundred and twenty-six (126). This means that the remaining one hundred and sixteen (116) are of manual (magneto) type. Similarly, between Lagos and Ibadan, a Subscriber Trunk Dialing system (STD) was introduced. Such were the colonial infrastructure before Nigeria's independence.[37]

2.3. Independence to Date

As at 1960, with a population of roughly forty million, the number of land lines were meagre considering that Nigeria only had about eighteen thousand seven hundred and twenty-four (18,724) phone lines for use. By implication therefore, telecommunication services remained undeveloped.[38]

By 1965, there were about two hundred thousand telephone lines as against the planned target of about four hundred and sixty thousand. The telephone services were therefore clearly undeveloped. This perhaps is because outdated analogue was the one being used in the Country and almost all the exchanges too were analogue. Thus, instead of achieving the ITU recommendation of one telephone line to one hundred inhabitants in developing countries, Nigeria had teledensity of one telephone to four hundred and forty inhabitants.[39]

The attainment of independence however brought new dynamics to the telecommunications sector in the Country. Some structural and operational changes in the sector were witnessed through three successive National

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[29]Ibid.
[30] Ibid.
[31] Ibid.
[32] Ibid.
[33] Ibid.
[34] Ibid.
[35] Ibid.
[36] Ibid.
[37] G. O. Alabi, op. cit.
[38] F. C. Chidozie and Others, 'Deregulation of the Nigerian Telecommunication Sector: Interrogating the Nexus Between Imperialism and Development' (2015) Vol. 4, No. 2 Academic Journal of Interdisciplinary Studies 177.
[39] G. O. Ajayi, op. cit.

Development Plans. Between 1970-1975, additional coaxial routes were provided for Lagos, Ibadan, Ilorin and Kaduna. Also new automatic as well as manual telephone exchanges were constructed and the existing ones expanded.[40] So also are subsidiary radio routes to provide trunk services from toll centers. Moreso, there was construction of twisted pair carrier system to provide link to rural areas. All these progressions were recorded in the 1970-1975 National Development Plan which was aimed at reconstruction and rehabilitation of infrastructural damages during the Nigeria Civil War. It was this development plan that stipulated for the establishment of Nigerian Satellite Communication Earth Station at Lanlatein the south western part of the Country.[41]

The succeeding 1975-1980 National Development Plan turn out to be more ambitious than its predecessor in telecommunications development. This is because the plan was aimed at increasing the telephone facilities from fifty thousand (50,000) lines to seven hundred and fifty thousand (750,000) lines; an increase of about four hundred percent (400%). Accordingly, three remarkable contracts were awarded: in the first contract, forty-five (45) locations were to receive exchanges with a total installation capacity of one hundred and sixty-two thousand (162,000) lines and twelve (12) other exchanges were to be expanded by forty-eight thousand (48,000) lines. In the second contract, one hundred and forty-seven (147) locations were to receive external line plant switching equipment to add an additional one hundred and twenty-one thousand (121,000) lines. The third contact, covering mobile exchanges provided for installation of twenty-nine (29) mobile exchanges with eleven thousand three hundred (11,300) lines. Moreso, the National Development Plan considered the introduction of Nigeria Domestic Satellite (DOMSAT) which will not only provide television and sound broadcasting, but equally accommodate telephony and telegraphic services in Aerostat (Ballon) system, provision of coaxial cable between Lagos and Kaduna, expansion of the existing microwave radio line systems and promotion of new transmission links for the exchanges.[42] There was also a microwave radio transmission system that was installed to link the cities of Lagos, Ibadan, Enugu, Benin and Port Harcourt. The plan also witnessed the modernization of the telecommunication services in the Country. This was evidenced by the fact that international switching center was installed at the Nigeria External Communication (NECOM) house in Lagos. The DOMSAT earth station project was completed together with the second satellite antenna which was built at Lanlate.[43] Furthermore, one hundred and seventy-seven (177) locations were provided with telephone exchanges as well as twenty-nine (29) mobile exchanges. These increased the number of lines in the network from fifty-two thousand to two hundred and forty-one thousand.[44]

The National Development Plan of 1980-1983 stipulated providence of a total number of three hundred and seven thousand, five hundred and fifty (307,550) additional telephones lines. By 1980, the total number of subscribers to telephone lines was put at around two hundred and thirty thousand (230,000). Then, fifteen years after the Country had seven hundred (700) installed capacities out of which only four hundred thousand (400,000) lines connected were available to over one hundred million people (100,000,000).[45]

Up until 1985, the institutions in the telecommunication sector were the Department of Posts and Telecommunications (P&T) which was responsible for the internal network; and the Nigerian External Telecommunication (NET) Limited, which was a Limited Liability Company responsible for the external network.[46] It was this National Plan that also witnessed the breaking of Post and Telecommunications Department of the Ministry of Communication that had started out as a postal branch of the British Post Office in 1867, into Postal and Telecommunication Divisions. The later division was merged with NET to form Nigerian Telecommunications Limited (NITEL)[47] which was created as an autonomous company under the Company Decree of 1968. The main object of establishing NITEL was to harmonize the planning and coordination of the internal and external telecommunications phone services, nationalize investments in telecommunications development and provide accessible, efficient and affordable services. The total number of subscribers to telephone lines as at the end of December 1986 was put at around two hundred and thirty thousand (230,000)[48] and in 1989, all the connections and broadcast facilities were of analogue system. NITEL has now efficiently introduced the digital system into the network with a total of over one hundred and sixty thousand (160,000) digital lines since this operation started.[49]In 1988, for supplying offshore industries, Nigeria joined the International Maritime Satellite Organization (INMARSAT) which operated a system of satellite to provide communications. Maritime mobile services as well as satellite mobile communications were being offered through INMARSAT system.[50] In 1992, Nigerian telecommunications industry had received two kinds of deregulation solutions. The first one was commercialisation of Nigerian Telecommunications Limited (NITEL) although no public shareholder other than government is present. So, the company continued to be owned by the government of Nigeria until it was sold to Transcorps by the Bureau of Public Enterprise (BPE), while the second was the establishment of the Nigerian

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[40]<http://www.vii.org/papers/nigeria.htm> accessed April 26, 2017.
[41] Ibid.
[42] Ibid.
[43] G. O. Ajayi and others, op. cit.
[44] Ibid.
[45] Ibid.
[46] F. C. Chidozie and Others, 'Deregulation of the Nigerian Telecommunication Sector: Interrogating the Nexus Between Imperialism and Development' (2015) Vol. 4, No. 2 Academic Journal of Interdisciplinary Studies 173
[47] G. O. Ajayi and others, op. cit.
[48] G. A. Alabi, 'Telecommunications in Nigeria' (1996) African Study Center, University of Pennsylvania < http://www.africa.upenn.edu/ECA/aisi_inftl.html> accessed April 22, 2017.
[49] Ibid.
[50] Ibid.

Communications Commission (NCC),[51] the telecommunications industry regulator. The establishment of NCC by law in November 1992 marked a turning point in telecommunication in Nigeria.[52]

In 1993, cellular telephony was first introduced in Nigeria with the formation of Mobile Telecommunications Services (MTS).[53] During this period, NITEL introduced the voicemail, the paging system, trunked radio and phone card.[54] That was the time NITEL's services were going wireless. The company, i.e. MTS is a joint venture between NITEL and Digital Telecoms of Atlanta. The two companies, with a joint subscriber base of twelve thousand five hundred (12,500), offered voice services over an analogue ETACS network[55] as well as basic value-added services such as voice service and paging from three switches (in Lagos, Enugu and Abuja). MTS operated a cellular line capacity based in Victoria Island, Lagos. At the time the cellular network by NITEL covered 3 areas of the Country, namely, Lagos, Enugu and Abuja with a capacity of 10,000 lines. In each of these areas, there was one mobile switching center. The arrival of cellular technology led to explosive expansion in the telecommunication network in the Country. The cellular phone service brought with it new service that improved the growth of telecommunications. Cellular technology is more recent considering that the fixed commercially automated cellular network (the IG generation) was launched in Japan in 1979, while the modern commercial cellular technology was developed in 1984.[56]

The first generation of the cellular communications in Nigeria refers to the period prior to the liberalization of telecom industry in the Country. The system and the phones used were generally analogue. The phones are mostly deployed by NITEL which then was the only national carrier. This means that cellular telecommunications system at that time allows voice communications only. Not only that, the system was too expensive that owning a cellular line is seen as status symbol rather than a necessity. Thus, it was embraced only by the rich percentage of the population. The emergence of Digital Personal Communications System marked the beginning of another generation of the cellular system. This was marked in Nigeria by the first and second bidding of the spectrum conducted by NCC. Since becoming operational, the NCC has taken aggressive steps to open the telecommunications sector to private investment and enterprise. In June 1994, the following services were open to private sector participation:

- Customer Premises Equipment (CPE);
- the provision and operation of public payphones;
- the provision and operation of private network links;
- the provision and operation of community telephones for rural areas and industrial parks;
- the provision and operation of value-added network services for the banking and airline sectors, including packet-switched networks;
- the repair and maintenance of telecommunications facilities; and
- Telephone cabling.

As of early 1995, NITEL maintained a monopoly over the provision and operation of public switches and trunks and their associated infrastructure and the provision and operation of international network links.[57]This period witnessed availability of more infrastructures in the telecommunications sector. There were two hundred and sixty-four (264) terminal stations and one hundred and seventy-two (172) unmanned repeater stations.[58] One of the major achievements of NITEL during this period was the expansion of the telecommunication network from two hundred and seven thousand lines (207,000) lines in 1985 to over five hundred thousand (500,000) installed lines. Major network expansions and modernization projects carried out during this period include providence of digital facilities in all stations and the Lagos "bond" forty-five thousand (45,000) lines digital local exchange at Odunlami.[59] NITEL also introduced a data transmission system which is known as *x25 Packet Switching*. The system is a vital and strategic tool required to launch the Country into a new phase of growth and international relations. During this period, Mobile Telecommunications Service (MTS) closed its operations due to its failure to pay interconnection charges to NITEL. M-TEL subsequently emerged as NITEL's mobile service provider; and had remained as the only national operator of cellular services in the Country until August 2001.[60] However, M-TEL's coverage was barely national as it covered only three cities; Lagos, Enugu and Abuja. It ran an analogue system with a capacity of two hundred and ten thousand (210,000) lines, with around forty thousand (40,000) of these connected to subscribers as at July 2001. However, as far back as the 90s, a cellular service that encompassed paging and electronic mail had become part of the services offered by M-Tel. Another mobile cellular operator in the Country was Motophone whose license was later revoked prior to the cancellation of GSM license process.[61] In addition to the two national operators, there were several small private operators serving Lagos. They include Intercellular Nigeria ltd, Multi-

[51]The Cable and Wireless Act of 1962 established the Ministry of Communications (the Ministry) as the regulatory body for telecommunications in Nigeria. The Ministry regulated NITEL until a decree in 1992 established the Nigerian Communication Commission (NCC), which was charged with the duty of regulating the telecommunications sector

[52] O. M. Sadiq and Others, '10 Years of Telecommunication Infrastructure Development in Nigeria' (International Conference on Innovations in Engineering and Technology (IET), August 2011)p.67.

[53] G. O Ajayi, op. cit.

[54]Adeyinka Tella and others, 'A Case Study of the Global System of Mobile Communication (GSM) in Nigeria' (2009) Vol. X, issue No. 2 UPGRADE; The European Journal for Informatics Professional 54,p.178.

[55] Extended Total Access Communication System (ETACS) is the analogue mobile phone network developed in United Kingdom.

[56]<https://support.chinavasion.com/index.php?/Knowledgebase/Article/View/284/42/1g-2g-3g-4g---the-evolution-of-wireless-generations> accessed May 3, 2017

[57] Ibid.

[58]<http://www.vii.org/papers/nigeria.htm> accessed April 27, 2017.

[59] G. A. Alabi, 'Telecommunications in Nigeria' (1996) African Study Center, University of Pennsylvania < http://www.africa.upenn.edu/ECA/aisi_inftl.html> accessed April 22, 2017.

[60] Ibid.

[61] Ibid.

Links Telecommunications, Mobitel, VGC Communications, EM Telecommunications and Spar communication. These primarily displayed fixed wireless technologies and are used by business and high net worth individuals. Also, some large companies such as Shell, Chevron and NNPC have constructed their own private radio-communications networks. The inception of the cellular telecommunications offered Nigeria to attain a higher percentage of line connectivity. This is one of the advantages offered by the cellular network over the analogue telephony. Other distinctiveness includes larger coverage area, increase capacity, reduced power usage and reduced interference from other signals.[62]

By the year 1996, there were almost one million subscriptions (1000000) to telephone lines all of which was handled by standard "A" antennae facing both the Indian and the Atlantic Ocean regions. The telephone density was 0.35 lines per hundred people.[63] In 1998, Nigerian government adopted a national policy on telecommunications as a gradual and guided approach to deregulate the telecommunication sector and to modernize and expand the telephone network in the Country. By then, the growth of cellular services had begun to have a positive impact on teledensity in the Country.

In 1999, the then President of Nigeria, Olusegun Obasanjo made it a priority to privatize the sector totally, involving the Global System of Mobile Communications (GSM) service providers. By 2000, National Council on Privatization inaugurated the Telecom Sector Reform Implementation Committee which paved way for NITEL structuring and ultimate privatization. The NCC commenced full market liberalization and sector reform, got involved in the process of auctioning cellular licenses and released the National Telecom Policy (NTP) in September that year. Hence, full deregulation of the telecommunications sector began in 2000. Subsequently, the government decided to issue no more than four digital mobile licences. The earlier selection process however failed in February 2000. Therefore, in March 2000, it was decided that the licences would be awarded by auction. In January 2001, the Commission conducted an auction for digital mobile licenses and in August 2001, the first Global System for Mobile (GSM) communications call was made under a democratic government. This event heralded the dawn of a new era, "The era of GSM technology", which has completely changed the way of doing business in Nigeria.[64] The January 2001 auction was acclaimed locally and internationally as one of the best in the world due to its high level of transparency. The auction brought about the emergence of three mobile operators: Econet Wireless (now Airtel), MTN and M-Tel; an offshoot of the incumbent operator NITEL eventually emerged as winners having agreed to pay US$285 million fee each within the mandatory fourteen days period. In 2002, a fourth Digital Mobile License (DML) was issued to Globacom (Glomobile) through another transparent auction process. To further increase competition, a fifth mobile license (with GSM spectrum) was awarded to NEPSKOM (which is a company by NEPA and South African's EPSKOM) and was licensed as Long-Distance Operator (LDO), Emerging Market Telecommunications Services Limited, otherwise known as Starcoms, in 2005[65] and Etisalat (now 9mobile) in 2008. The bided GSM licences have been awarded for a period of fifteen years and it is renewable because it is regarded as a long-term license. The licences are operational on the 900 MHz and 1800 MHz spectrum bands. The implication of this is that whereas the licence provides for a potential upgrading of future networks to GPRS, they encompass third generation (3G) networks. Thus, the telecommunication industry that hitherto had only one telecommunication service provider, had 21 operators as at September 2008, and with the entrance of 9mobile in the last quarter of 2008, the number of telecommunication operators increased to 22.[66]Accordingly, Econet Wireless Nigeria (EWN)[67] was awarded 0802 prefix and it initially installed its network as a triangle between the urban cities of Lagos, Port Harcourt and Abuja. However, currently its services cover over one thousand five hundred (1500) towns and fourteen thousand (14,000) communities across the six geopolitical zones of the Country. MTN was awarded 0803 prefix. It made an initial roll out covering the cities of Lagos (South West), Port Harcourt (South South), Abuja (Central) and Kano (North West). By the year 2004, MTN's coverage had reached all the thirty-six (36) states and the Federal Capital Territory, Abuja. Currently, its network covers five hundred and fifty-two (552) local governments either wholly or partially, its signal reaching out some ninety-four million people, representing about 80% of Nigeria's total population being in 54,012.68 square km space. M-Tel (NITEL GSM) was awarded the 0804-number prefix. It started with existing subscriber base of forty thousand (40,000) which eventually grew into five hundred thousand (500,000). As at April 8th 2016, NCC approved the operations of Nigeria's new telecoms company, N-Tel with 0804 prefix.[68]The services started from Lagos and Abuja, granting customers access to fourth generation Long Term Evolution (4G LTE) network service.[69]

It is important to note that, more developments in the telecommunication sector were recorded in year 2004. The year witnessed the installation of mediation and interconnects billing system, installation of interface equipment for extension of SAT-3 cable network and maintenance of national optic submarine cable, installation Magnetic Optic Device (MOD) in all secondary centers[70] and pre-paid and voice-mail platform were launched and deployed nationwide by NITEL. Also, there was extension of digital optic fibre transmission links to about seven national locations. Equally, new software was introduced in 106 digital exchanges as well as seven billing centers.[71]

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[62] Ibid.
[63] Ibid.
[64] Ibid.
[65] Adeyinka Tella and Others, op. cit.
[66] A. M. Mohammed, 'Liberalisation of the Nigerian Telecommunication Sector: A Critical Review (2009) 7 (2) Journal of Research in National Development<www.transcampus.org/JORINDV7Dec2009/JournalsV7NO2Dec200930.html>accessed April 20, 2017
[67] Which later became Vee Networks of Nigeria (V-Mobile after a shareholder dispute, and then became Celtel Nigeria in 2006 after being purchased for US$1.005 billion. The company was further rebranded to Zain Nigeria Ltd.
[68] https://news.naijatechguide.com/ntel-begins-telecoms-operations-nigeria-april-8/ accessed on May 2, 2017.
[69] Ibid.
[70] G. A. Alabi, op. cit.
[71] Ibid.

Definite target was set up for the GSM operators in terms of network roll out. It was set as one hundred thousand (100,000) subscribers each in first year of operation, one million five hundred subscribers (1.5 million) in five years and a minimum 5% geographical coverage in each of the Country's geopolitical states. Within the period of six months of the launch of GSM, there was over three hundred thousand connections in Nigeria. Thus, the breakthrough liberalization had changed the face of telecommunications of the Country. Prior to it, the Country's telecommunications industry was characterized by high costs, obsolete telecommunications infrastructure, poor maintenance, non-availability of telephone lines, lengthy installation time, epileptic service delivery, inefficiency and corruption.[72]

Cellular communication system is widely used today in Nigerian and without doubt dramatically changed the Country's telecommunications industry. Before the introduction of the cellular system in the Country there are less than five hundred thousand (500,000) lines in the Country. The coming of the cellular communication system boosted the telephone density to more than fifty million.[73]

Today, with the United Access Service License (UASL), the industry has gone past telephony as there are quite a number of mobile service providers such as MTN, Airtel, Globacom, 9mobile, N-Tel which provide a range of services that include internet, Small Messaging Services (SMS), multimedia services, internet access and mobile banking. With such development, new challenges are also arising such as ensuring conformity to best quality of service delivery; upgrading of infrastructures to meet international standard; security and maintenance of facilities, especially in the remote areas; ensuring the framework of broadband that can be accommodated by the ecosystem; and security of data in this digital world.[74]

3. Major GSM Network Service Providers

3.1. MTN Nigeria Communications Limited

MTN Nigeria is part of the MTN Group, African leading cellular telecommunication company. On May 16th 2001, MTN became the first GSM network to make a call following the globally lauded Nigeria GSM auction conducted by the Nigeria Communications Commission earlier in the year.[75] Thereafter, the company launched full commercial operations beginning with Lagos, Abuja and Port Harcourt. MTN paid US$285m for one of four GSM Licences in Nigeria in January, 2001. Since MTN was launched in Nigeria August 2001, MTN has steadily deployed its services across Nigeria. It now provides services in 233 cities and towns, more than 10,000 villages and communities and a growing number of highways across the Country, spanning the 36 states of the Nigeria and the Federal Capital Territory, Abuja. Many of these villages and communities are being connected to the world of telecommunications for the first time ever.[76]

On February 9, 2001, MTNN secured one of four available licenses to operate digital GSM (Global System for Mobile Telecommunications) telephony from the Nigerian Communications Commission (NCC). US$285 million was licence fee for 15-year period. This makes a provision for MTN Nigeria to provide and operate a 900 and 1800 MHz second-generation digital mobile service within Nigeria. On March 19, 2007, from the NCC a 3G licence was obtained which in the same year, made a payment of US$150 million before commencing 3G services. From August 2001, MTN Nigeria had shown efficiency in terms of performance, network quality, customer service and value-added services which truly augment customers' lives. MTN has also recorded several notable achievements in the telecoms industry and the business community in Nigeria and Africa. MTN Nigeria was first to laugh service across major Nigerian cities with expansive network coverage, spread across 3,340 cities, towns and villages in all 36 states of the Federation, including the Federal Capital Territory (FCT).On 10th February 2003, it was the first mobile company in Nigeria to record one million active subscribers on its network.[77] In 2007, MTN became the first Nigerian company to pay for a 3.5G licence and also the first to launch the service. The pre-paid Blackberry service and a fiber-optic network Pan-Nigeria was also being launch by them. In 2013, MTN became the first telecom operator to build a record 10, 000 base transceiver stations (BTS) in Nigeria.[78]MTN, as the first Nigerian telecommunications company, to encourage environmental and corporate social responsibility has also led them to establish a base. It has a huge investment in the education, economic empowerment and health sectors also. Upto date it has investment of over Ten Billion Naira (N10,000,000,000.00) in carrying out projects in 338 project sites in the 36 states of Nigeria and the FCT. It is also first to introduce bio-degradable recharge cards. It has also lessen paper use by reducing the use of paper, by introducing MTN E-charge (now known as MTN VTU Plus) which is an electronic way of loading airtime directly to phones, instead of buying recharge cards, free midnight calls for its subscribers, popular value-added services such as Caller Tunez, MTN AfriNolly and Share and Sell. It has coverage across 3,340 cities, towns and villages in all 36 states of the Federation, including the Federal Capital Territory (FCT). It also has network coverage to 89.24% of Nigeria's land mass, while over 86.46% of the population have access to its services.[79]As a consequence of these huge investments, MTN Nigeria now has the most expansive network coverage, spread across In 2005, MTN Nigeria expanded its network capacity to include a new numbering range with prefix 0806, making MTN the

[72] A. M. Mohammed, op.cit.
[73] Ibid.
[74] Adeyinka Tella and others, op. cit. p.179.
[75] <http://www.mtnonline.com/about-mtn/corporate-information> accessed April 3, 2017.
[76] Ibid.
[77] Ibid.
[78] Ibid.
[79] Ibid.

first GSM network in Nigeria to have adopted an additional numbering system, having exhausted its initial subscribe numbering range 0803.[80] It presently has the 0703, 0706, 0801, 0814, 0903 and 0906 prefixes.[81]

MTN Nigeria has provided a state-of-the-art network communications. Building the largest digital transmission backbone. On January 20, 2003, it commissioned the 1st phase of its digital microwave transmission backbone, Y'ello Bahnâ on January 20, 2003 were some of the memorable journey. Constructed at an initial cost of US$120million, the first phase of Y'ello Bahnâ spanned 3,500 kilometres. The 2nd phase of Y'ello Bahnâ which started in July 2003 extended the Y'ello Bahnâ project to cover a total of 4,500 kilometres. Presently, the total digital microwave transmission backbone has a length of 11,400km which interconnects with Cameroun in Borno and Cross Rivers states with Niger Republic in Sokoto State. For developing call quality on MTN's network, this has contributed a lot. It is Y'ello Bahnâ Africa's most costly digital transmission communications centre in terms of distance and capacity. To boost the transmission capacity on its network, it has used fiber optic cables for covering a total of 11,500 kilometres, as on October 2013. It has known as the longest privately-owned fiber-optic cable ever laid in Africa and definitely one of the most modern. In 2010, MTN Nigeria (in partnership with Ericsson) commissioned the largest network switch center in the world, competent of managing calls from up to 8 million subscribers at a time.[82]With 15 Service centers, 144 Connect Stores and 247 Connect Points located in every state of the federation, MTN is poised to lead the delivery of a bold, new digital world to the Nigerian market. MTNN is 75.81% owned by MTN International (Mauritius) Limited (MTNI); 18.7% held by Nigerian shareholders through special purpose vehicles; 2.78% owned by Mobile Telephone Networks NIC B.V and 2.71% owned by Shanduka Telecommunication (Mauritius) Limited.[83]

3.2. Globacom Nigeria

Globacom, or the popularly known Glo, is one of the leading Nigerian mobile network operators.[84]Globacom came in August 29, 2003 to bring succour, comfort and hope to Nigerians by offering low-cost prepaid and post-paid bundles for messaging, data, and broadband for private individuals and business developers. Today that revolution brought by Globacom has continued to positively grow the telecommunications sector in Nigeria. Like U.S presidential hopeful, Barack Obama's pay-off, yes, we can, Adenuga and his team in Globacom believed they could make the difference in the Country's telecommunications sector. In addition, from what happened those last five years, nobody is left in doubt as to Globacom's ability to grow the biggest and best telecom network in Africa. Globacom introduction of the per second Billing platform in 2003 was a landmark then, its crashing of SIM card price to as low as N200 appeared to be the most exciting thing that ever happened in Nigeria's telecommunication plane. Today, other operators cannot but run optional tariff platforms in their networks. SIM cards of all the operators are today almost purchased free of charge with free airtime in some instance. In just nine months of doing business, Glo Mobile, Globacom's cellular arm made history as the fastest growing network in Africa with an unprecedented 1 million subscriber's mark, covering over 87 towns in Nigeria.[85]

Today, Glo has astronomically risen to become Nigeria second leading GSM operator with over 20 million subscribers covering the widest of communities, towns and states of the Country. Glo is the first sole company to build US$800 million higher capacity fiber-optic cable known as Glo-1. It is the first in the industry to successfully connect submarine cable from United Kingdom to Nigeria; and it has the potential to decrease telecommunications cost and provide excess bandwidth to all the countries connected to this cable.[86]

Glo has sponsored several cultural and national events including the African Handball tournament in Benin Republic as well as the biggest cultural festival (FITHEB) held in the Benin Republic. Globacom has also sponsored the annual Confederation of African Football (CAF) Awards since 2005 as well as the Glo Lagos International Half Marathon.[87]

3.3. 9mobile

9mobile,[88] formerly known as Etisalat, was founded in 1976 as a Joint-stock company between International Aeradio Limited, a British company, and local partners. In 1983, the ownership structure changed – United Arab Emirate government held a 60% share in the company and the remaining 40% were publicly traded. In 1991 the UAE central government issued federal law No.1, which had the corporation the right to provide the telecommunications wired and wireless secured in the Country and between UAE and other countries. It also gave the firm the right to issue licences for owning, importing manufacturing, using or operating telecommunication equipment. This practically gives 9mobile both regulatory and control powers, which completed the monopoly of the telecom giant in the UAE. In order to safeguard the Country's economic development, the law made provisions for the development of the telecommunication sector in the Country.[89]

In 2008, the company was granted license to operate with a prefix of 0809. In this connection, the company promoted the "0809uchoose" campaign – a remarkable ad that lets customers customize their very own handpicked mobile number. This tradition of customer-focused innovation continues today, with a growing customer base of more

[80]<http://allafrica.com/stories/200505190304.html> accessed May 15, 2017.
[81]<http://5starsmsng.com/blog/all-nigerian-phone-network-prefixes-and-number-ranges/> accessed May 15, 2017.
[82]<http://www.mtnonline.com/about-mtn/corporate-information> accessed April 3, 2017.
[83] Ibid.
[84]https://techviews.com.ng/top-mobile-network-operators/> accessed April 20, 2017.
[85]<http://www.unn.edu.ng/publications/files/images/IGWILO%20ROSEMARY%20O..pdf> accessed April 20, 2017.
[86] Ibid.
[87] http://www.gloworld.com/ng/about-us/ accessed May 3, 2017.
[88]<www.premiumtimesng.com/news/headlines/237329-official-etisalat-nigeria-.formally-announces-9mobile-new-name.html> accessed May 17, 2017.
[89] Ibid.

than 21 million.[90] The company continues to pursue customer-centric innovations as it continues to grow internationally. It has also won a number of remarkable accolades. It has been recognized as the most innovative product or service launched in the last 12 months and the most innovative idea for driving mobile broadband use in Nigeria.[91]

The increase of exchange lines from 36,000 in 1976 to more than 737,000 in 1889 was one of the important indicators of 9mobile network's growth and development. The company witnessed profit growth rates of 80%. As of November 2009, 9mobile was the 13th largest mobile network operator in the world, with a total customer base of 94 million. On 26th September 2011, 9mobile launched its 3.75G HSPA+ network in Nigeria. From then on, its customers enjoyed super-fast broadband services for both personal and business use. this has led to unprecedented growth in the Nigerian telecoms industry.[92]

9mobile has received many awards for its dedication to quality and innovation. Barely six months into operations in Nigeria, the Nigerian Communications Commission (NCC) pronounced 9mobile as the best network based on quality of service indices. In November 2012, Etisalat again received another award from the NCC for excellent customer service. Other accolades include: brand of the year, fastest growing GSM company of the year, best marketing company, most innovative corporate social responsibility company, friendliest tariff mobile operator, best telecoms customer service and most innovative mobile operator, among others.[93]Today, 9mobile has network coverage in all 36 states of the Federation including Abuja, the Federal Capital Territory as it continues to build its network and expand to new locations.[94]

3.4. Airtel Nigeria Limited

Bharti Airtel Ltd is widely known as Airtel. It started its operation in 9th August 2001. Airtel is one of the largest Nigerian mobile network operator that is operating multinational. It is present in 20 countries across Africa and Asia. The company provides spectrum of network services like 2G, 3G, and 4G band and broadband solutions through Digital Subscriber Line (DSL), Internet Protocol Television (IPTV), and Direct to Home (DTH) services. Having Headquarter in New Delhi, the company is sharing 21% in Africa's market having over 26 million subscribers in Nigeria. Airtel has a broad menu of prepaid and business services for the public and private sectors. For only ₦100, you can start surfing the internet with Airtel.[95]

The company offers personal and business plans, including prepaid and post-paid services, mobile enterprise products and SMS services. The company was formerly known as Econet Wireless. After a shareholder dispute it became V-Mobile and then became Celtel Nigeria in 2006 after being purchased for US$1.005 billion. The company was further rebranded to Zain Nigeria Ltd and now Airtel.[96]

3.5. nTel

The Nigeria's one of the most popular telecommunications company is nTel. It gives Fourth Generation Long Term Evolution (4G LTE) advanced network that delivers superfast call-connect times, crystal clear voice over LTE and extraordinarily high internet access speed.[97] Being stared from April 2016, its focus is to reframe the Nigerian telecommunications landscape and enrich the lives of Nigerians by delivering the most advanced communications technology. To provide the most satisfying network is the main focus of this company. The fundamental LIVE principle-leadership, innovation, value and experience are the core idea behind providing services.[98]

Acquisition of core telecom assets previously owned by Nigeria's national fixed and mobile operators-NiTel/MTel- by NatCom Development & Investment Ltd. (NatCom) in a liquidation process, supervised and approved by Nigeria's Bureau of Public Enterprises and a court-appointed liquidator gave birth to nTel.On May, 2015, NiTel/MTel core assets were wholly transferred to NatCom. It has a cellular spectrum on 900/1800/1900 MHz and shared microwave. ntel's international connectivity has a share of the SAT-3/WASC/SAFE submarine cable system and full ownership of the Lagos Cable Landing Station and its local connectivity has a metro-fiber ducts and intercity fiber rights of way.[99]The name 'ntel' is the brand name under which NatCom trades. Although its trade is currently limited to 3 of Nigeria's largest commercial cities: Lagos, Abuja and Port Harcourt, there are already plans in motion to expand to more cities and meet its projected coverage of 85% of mobile broadband spending within 3 years and about 95% within 5 years.[100]On Monday, January 18, 2016, ntel initiated a new beginning in Nigeria's telecoms industry by making its first on-net test data call in Lagos. This landmark event was followed by the first Voice over LTE (VoLTE) call in Lagos on Thursday, February 25, 2016 achieved in partnership with Original Equipment Manufacturers, Ericsson of Sweden and Sony Mobile of Japan. Since then, further VoLTE calls have been successfully completed with Samsung Electronics of South Korea, ZTE of China and Tecno of Nigeria.[101]

nTels's Offering, Total Telecoms ntel's LTE Advanced network is designed on 900/1800 Mhz frequency bands which, in combination with Carrier Aggregation and Multiple Antennae (4X4) technology, enable maximum and average

[90] http://etisalat.com.ng/corporate-information/ accessed May 3, 2017.
[91] https://techviews.com.ng/top-mobile-network-operators/> accessed April 20, 2017.
[92] <http://etisalat.com.ng/corporate-information/>accessed May 3, 2017.
[93] Ibid.
[94] https://www.linkedin.com/company/etisalat-nigeria> accessed May 3, 2017.
[95] <http://www.africa.airtel.com/wps/wcm/connect/africarevamp/nigeria/home/about> accessed April 3, 2017.
[96] <https://www. bloomberg.com/research/stocks/private/snapshot.asp?privcapId=2068521> accessed April 4, 2017.
[97] <http://www.ntel.com.ng/about-ntel/> April 20, 2017.
[98] Ibid.
[99] Ibid.
[100] Ibid.
[101] Ibid.

throughput rates of 230Mbps and 60Mbps respectively. Their 'total telecoms' approach to service delivery affords them 360-degree touchpoints to cater for their customers' needs. Specifically, they offer National Bandwidth. Hence, ntel offers capacity and dark-fiber on its network of 1,100km metro-fiber ducts across six major cities and 4,000km of inter-city fiber rights-of-way; International Voice Termination which enables direct exchange of Nigeria-bound or originating International Direct Dialing (IDD) traffic with regional and global partners, over SAT-3; International Bandwidth which offers the direct exchange of international bandwidth and Internet Protocol (IP) connectivity with global carriers and major corporates between Nigeria and international destinations; Mobile Network Services which offers LTE Advanced mobile services including VoLTE, high-speed internet access, messaging and video services; Fixed Network Services which provides fixed line telecoms services across voice, high-speed internet access and messaging, to homes and businesses in Nigeria's key cities and towns.[102]

With no doubt, the previous networker providers are at the moment the major telecommunication companies, the most subscribed and the top Nigerian mobile network operators. They are popular for local as well as outside the borders of Nigeria. They offer a broadrange of messaging plans, data bundles, and broadband settlements from low-cost to high-priced values.[103]

4. Nigerian Communications Commission

The Nigerian Communications Commission (NCC) is being treated as the independent National Regulatory Authority for the telecommunications industry in Nigeria.[104] Being established in November 1992, the NCC is one of the most important telecommunication of Nigeria.[105]From September, 1993, the NCC became operational.The NCC is responsible for the following:

- licensing telecommunications operators;
- encouraging private sector contribution and speculation in the telecommunications sector;
- ensuring the augmentation of Nigerian telecommunications penetration;
- establishing and supervising technical and operational standards and practices for network operators;
- supervision the quality of service provided by operators;
- setting terms for the interconnection of carrier networks; and
- Ensuring that the interests of telecommunications consumers are protected by promoting competitive pricing and guarding against abuse of market power.[106]

It is charged with the responsibility of monitoring the evolution of competition in the sector, preventing hostility against new entrants by those already existing in the market, and protection of the public against the manipulation of the market by the firms via practices such as inflated prices, reduced quality and quantity of services provided. Again, it is in charge of licensing telecommunications operators, engendering of private sector participation and investment, tariff regulation, interconnection disputes, supervision of technical and operational standards and practices for network, and other matters affecting the industry; and it is meant to perform these functions without bias and with all sense of autonomy, on the basis of transparency, equity and fairness.[107]It is also empowered to license private-sector operators, draw up technical standards and rules as well as approve rates charged by operators.[108]

NCC developed guidelines on installation of telecom masts and towers in 2004 and the amended copy in 2009, aimed at ensuring environmental safety and sound practice in the sector. The guidelines provide standards to be adhered to by telecom operators, designers, fabricators and installers of telecom towers towards ensuring environmental safety and sound engineering practice in the sector. The introduction of this document in the industry brought about sanity in the indiscriminate placing of towers in unauthorized areas and more importantly resolution of disputes between operators and land owners of base stations.[109]

Consistent with Section 89 of the Nigerian Communications Act 2003 which mandates the Commission to monitor all significant matters relating to the performance of all licensed telecoms service providers and publish annual reports at the end of each financial year, the NCC has developed Compliance Monitoring and Enforcement strategies to prosecute the above mandate and achieve the Commission's objective of fair competition, ethical market conduct and optimal quality of service in the Nigerian telecommunications industry.[110]

5. Findings and Suggestions

From the foregoing discussion, it is found out that Nigeria as a country has been exerting effort in regulating communication system for a very long time. However, more need to be done particularly in the area of coverage and stability of network as well as customer satisfaction.

It is therefore suggested that the network providers should be encouraged to cover many remote areas. This is achievable if Nigerian government can provide sustainable power supply all over the country. Likewise, the network providers should

[102] Ibid.

[103]https://techviews.com.ng/top-mobile-network-operators/> accessed April 20, 2017.

[104] O. M. Sadiq and Others, op. cit. p. 69.

[105] Ibid. p.67.

[106] G. O. Ajayi and Others, op. cit.

[107] F. C. Chidozie and Others, op. cit. p.178.

[108] A. M. Mohammed, op. cit.

[109] O. M. Sadiq and Others, op. cit. p.69.

[110]<www.ncc.gov.ng> accessed May 3, 2017.

be made to advance technologically in order to stabilise their networks, thereby providing good product to their various customers.

6. Conclusion

The paper clearly highlighted that cellular telecommunication is on the agenda of Nigeria, as such, strategies have been gradually implemented to integrate the development process of the telecommunication sector from pre-colonial period to present. The paper gives an overview of the telecom sector in the Country ranging from policy processes, to significant reforms undertaken by the Country. These include privatizing companies, liberalizing and ending monopolies in the sector. The many operators clamouring for stakes in the telecommunications sector were highlighted and the major ones were discussed. It equally demonstrated the ever-increasing importance of the sector to national development.

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