

SUSTAINING THE GAINS RECORDED IN THE INFORMATION AND COMMUNICATION TECHNOLOGY SUB-SECTOR IN NIGERIA

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ABSTRACT



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1.0 Introduction

The inability of Nigerian Telecommunications Limited (NITEL) to meet the telecommunications needs of the country prompted the deregulation of the sector with the establishment of Nigerian Communications Commission (NCC) by government decree No. 75 of 1992. The commission was to regulate the telecommunications industry, ensure the provision of adequate, effective and efficient telecommunications services nationwide at an affordable price, and to provide local and international communications service. Former President, Chief Olusegun Obasanjo during his eight years of administration reformed the sector and succour in terms of increase in business and employment generation was witnessed in the sub-sector. His successor President Umaru Musa Yar' Adua, as part of his seven-point agenda (Power, Electoral Reforms, Education, Agriculture, the Niger Delta, Health and Employment generation) during his electioneering campaign pledged to sustain the gains achieved through the various reforms of the former administration with special reference to Information and Communication Technology sub sector. In today's world, telecommunications has become a vital element in the building of

At the inception of the administration of President Umaru Musa Yar' Adua, he enunciated a seven point agenda among which is the sustainability of the gains recorded in the reform programmes of former President. One of the gains was in the Information and Communication Technology (ICT) sector which received foremost attention in the scheme of things. Presently in Nigeria, ICT infrastructure, accessibility and connectivity, vary greatly from area to area. For instance, the big urban cities enjoy to some extent fairly affordable internet access, the smaller sub-urban and rural areas by contrast, have little or no access to telecommunications infrastructure, little or no shared facilities for telecommunication access, erratic and mostly poor mobile wireless penetration and very poor or non-existent internet access. ICT is an enabler of broad based social and economic development and must therefore be accessible and affordable to all the citizens of this country. It is therefore the intention of the government and the regulating body to facilitate an enabling environment that will ensure availability and affordability of ICT infrastructure across all class levels in the society. In view of the exploitative tendencies of the GSM operators in their high tariffs, per second billing, drop calls and poor network service, the government should call them to order. Another challenge facing the GSM industry is the high-import content of the equipment, including handsets and accessories, used in the industry. It is therefore recommended that handset manufacturers be encouraged to build production plants in Economic Processing Zone (EPZ) and enjoy the benefits offered to companies operating in those areas. Importantly, they should be given some years of tax holiday in the medium term. All these will help to reduce the unit cost, generate revenue and boost employment in the country.

infrastructure of nations and economies. No modern economy can be sustained today without an adequate and pervasive ICT. The impact of ICT in the development of a nation spans across various aspects of a nation's socio-economic life. These include: economic activity, health care, education, transportation, rural development and conduct of Government. Importantly, the advances in information and communication technology (ICT) have compressed the world into a global village. With the deregulation of the Information and Communication Technologies sector in the Nigeria, from 1992 and more effectively from 1999, the use of ICT use has recorded impressive growth in the country.

In this era of globalization, this is a good development as ICT has become a very key component in the emergence of new economies of high reckoning. Although the country has great potentials, especially when its oil resources, mineral deposits and

other natural resources are taken into consideration, it is still lagging very much behind in the global effort to become part of the new, digital economy. Whereas the trend in the developed countries is that the information technological revolution is boosting growth of knowledge, in a developing country such as Nigeria the reverse is the case. A vast majority of the people, lack access to ICT services. This exclusion and missed opportunities have continuously become a frustrating bane in the nation's effort to bridge the gap in its human development quotient. Against this background, these developments have made ICT a vital engine of any economy as it is an essential infrastructure that promotes the development of other sectors such as education, health and banking among others. It is indispensable in times of national emergency and/or natural disaster. It considerably reduces the risks and rigours of travel and rural-urban migration.

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The rest of the paper is divided into four sections. Section 2 examines the conceptual issues in information and communication technology for national development. Section 3 discusses the level of private sector participation in ICT provision and the challenges facing it in the country. Section 4, however, reports the achievements so far recorded in ICT development in promoting the economic growth of the country.

2.0 Nigerian Communications Commission and the Telecommunication Industry

In furtherance of the objective of telecommunications deregulation, the Nigerian Communication Commission (NCC) was established by government decree No 75 of 1992 to regulate the telecommunications industry, ensure the provision of adequate, effective and efficient telecommunications services nationwide at affordable prices, and to provide local and international communications service.

2.1 The Functions of NCC

The functions of NCC as stipulated in the Nigerian Communications Act, 2003 include:

The facilitation of investment in, and entry into, the Nigerian market for provision and supply of communications services, equipment and facilities;

The protection and promotion of the interests of consumers against unfair practices including, but not limited to, matters relating to tariffs and charges for the availability and quality of communications services, equipment and facilities;

Ensuring that licensees implement and operate at all times the most efficient and accurate billing system;

The promotion of fair competition in the telecommunications industry and the protection of communication services and facilities providers from misuse of market power or anti-competitive and unfair practices by other service or facilities providers or equipment suppliers;

Granting and renewing communications licenses whether or not the licenses themselves provide

for renewal in accordance with the provisions of this act and monitoring and enforcing compliance with license terms and conditions by licensees; among others.

2.2 Achievements of NCC

From inception, the NCC has embarked on the following:

Issuance of 4 Digital Mobile GSM licenses with several roll out obligations licensing of several Fixed Wireless Access (FWA) Operators for most states of the Federation with a primary objective of ensuring access to most parts of the country, including the rural, under-served and un-served areas. The NCC has established necessary structures and frameworks, including licensing procedures and requirements, operating conditions in terms of scope, limitations, obligations and other conditions governing the operation and/or provision of telecommunications services in the country, within the context and scope of its statutory mandate. Amongst the relevant frameworks for ensuring fairness amongst all stakeholders are the establishment of a Consumer Affairs Bureau, which champions Consumer-Operator Outreach Programs and the people's Parliament; various regulations to guide relationships between and amongst operators and their consumers, etc. According to industry statistics, as at March 2006, the current subscriber population was estimated at 1.2 million for fixed and 21 million for mobile telephone.

2.3 Reform within the Telecommunications Industry

Importantly, the bedrock of the information and communication technology is the telecommunication service. Telecommunication is now widely considered a strategic investment to maintain and develop competitive advantage at all levels national, regional and firm (Englana and Bamidele, 2002). The derivatives of information technology such as electronic banking, commerce, electronic mail (e-mail) and internet are built on the telecommunication technology. Telecommunication is an integral part of financial services, commodities markets, media, transportation and the travel/tourism

industry, and provides vital links among manufacturers, wholesalers and retailers.

Telecommunication services can substitute for other forms of communication (mainly postal service and personal travel) and are often more effective and more efficient than other forms in their use of time, energy and materials and in their effect on the quality of the environment. Moreover, telecommunication is an essential feature of globalization which affects international trade-flows of investment, technologies of the nation and the world economy as a whole.

2.3.1 Liberalization of the sector

In realization of the significance of ICT to the economic development of the nation, the Obasanjo administration set out to liberalise the communication sector. In September 2000, a national telecommunication policy was produced to provide Nigeria with the basic framework and primary building blocks for the much desired telecommunication revolution in the country. This effort was aimed at reviving and boosting the telecommunication industry. The total number of telephone lines at independence in 1960 was only 18,724 for a population estimated at about 40 million people resulting in a teledensity of one telephone line per 12.128 people. This was a far cry below the ITU benchmark of one telephone line per 100 people. The telephone network consisted of 121 exchanges of which 116 were of the manual (magneto) type and 5 were automatic.

Between 1960 and 1984, the provision of telecommunication services in the country was perceived as a social good and thus remained in the domain of the public sector. In addition, the demand level was low relative to the huge capital outlay required, and as such domestic private capital could not cope. Another factor that necessitated its being publicly provided was the consideration for national security. Consequently, government set up two organisations namely, the Department of Posts and Telecommunication (P&T) to take

charge of the internal network and a limited liability company, the Nigerian External Telecommunications (NET) to provide a gateway to the outside world. The installed switching capacity at the end of 1985 was about 200,000 lines as against the planned target of about 460,000. All the exchanges were analogue. The quality of service was largely unsatisfactory coupled with a low teledensity of one telephone line to 440 inhabitants. During this period, the quality of both internal and external telecommunications services was unsatisfactory. This was due to equipment obsolescence, unreliable and congested lines, and expensive service delivery cost.

Arising from the foregoing, the P&T Department was split into Postal and Telecommunication Divisions in January 1985. The latter was merged with NET to form Nigerian Telecommunications Limited (NITEL), a limited liability company, while the Postal Division was reconstituted into another organisation called the Nigerian Postal Service (NIPOST). The establishment of NITEL was intended to harmonise the planning and co-ordination of the internal and external telecommunications services, rationalise investments in telecommunications development and provide accessible, efficient and affordable services (FGN, 2000).

In spite of the re-organisation in the communications sector, many of the problems facing the sector prior to the re-organisation were still noticeable. Given the observed shortcomings, the government set out to deregulate the industry in order to make it more result-oriented. This began with the establishment of the Nigerian Communications Commission (NCC) by Decree 75 of 1992, which, since its inauguration in July 1993, set out guidelines for private sector participation. However, due to bureaucratic bottlenecks and insufficient political will on the part of successive governments, much progress could not be achieved in the liberalisation of the sector. Nevertheless, since the return to democratic rule in May 1999, the sector has witnessed much liberalisation resulting in increased private sector participation in ICT service provision. A major event was

the launch of Global System of Mobile (GSM) communication service in the country. Given the importance of ICT revolution to the social and economic development of the country, and the government's political will to liberalise and deregulate the sector, it may be necessary to critically assess the efforts of the Yar' Adua administration in fostering the advancement of information and communication technology in the country.

3.0 ICT AS A STRATEGY FOR ECONOMIC GROWTH POLICY

Nigeria is widely recognized as a major market for telecommunications equipment and services on the African continent. Nigeria's population makes it an attractive investment destination for potential investors. The Government of Nigeria has been conscious of the role telecommunications can play in national development and has therefore been committed over the last eight years to ensuring that the telecommunications facilities and services are expanded rapidly. Since the democratic governance was ushered in on the 29th of May 1999, the attention of the world has returned to Nigeria as the country with the highest potential for investment on the continent. As a way forward, Nigeria should aggressively pursue the following strategies to move the nation forward and be one of the largest economies in the year 2020. They include:

3.1 Continued increase in tele-density:

Owing to the advent of G.S.M in Nigeria, the inadequate and inefficient Nigerian telecommunication systems gave way to a more efficient telecommunication system such as G.S.M. The increase in tele-density which is the capacity content of telecommunication systems in relation to its subscribers, has had immense and continuing impact on the economic growth of Nigeria; it is evident that virtually all Nigerian homes have access to telecommunication facilities. These developments should be sustained and improved upon so as to create an effective and efficient economy in Nigeria.

3.2 Further Injection of Foreign Capital:

The Nigeria government has tremendously benefited from foreign direct investment that runs into billions of dollars through the improvement in the telecommunication industry. The FDIs have boosted the foreign reserve of Nigeria. They have also contributed to the development of Nigerian economy. It is therefore imperative that the Nigerian government woos foreign investors to come and invest in the lucrative markets available in Nigeria. Also, of great importance is the fact that a better conducive business environment should be created for these FDIs.

3.3 Stimulation of the Local Capital Base and ICT talents:

The pursuance of enhanced and adequate local capacity base and ICT talents should be made paramount. Stimulation of ICT talents will go a long way in creating employment opportunities for Nigerian citizens and consequently promote economic growth.

3.4 Creation of ICT-related jobs:

The ushering in of advanced telecommunication systems in Nigeria has paved the way for the emergence of various ICT related jobs. Repairing of telephone sets, selling of credit cards and telephone handsets has created jobs for a lot of unemployed Nigerians and has turned many Nigerians economically buoyant. These developments should be harnessed, sustained and improve upon.

3.5 New employment opportunities (Software & Network Engineering):

Nigerians with software and Network engineering talents are been sought for by the telecommunication industries in Nigeria. It has created many jobs in ICT and Network engineering industries. Telephone handsets are been assembled in Nigeria and telecommunication facilities are been installed and manned by Nigerians, thereby creating jobs for Nigerians and consequently improving the economy.

3.6 Cascading effect of income earned in newly created ICT-related Jobs:

Creation of employment opportunities by newly created ICT related jobs will increase the purchasing power of Nigerians. This implies that business will thrive.

3.7 Emergence of new economic frontiers:

Nigeria is experiencing emerging markets in many frontiers, mainly in the ICT related markets. The ICT industry is multi faceted and encompasses a lot of sub markets, creating new markets on daily bases (emerging markets). This in turn will widen the scope of the Nigerian government towards a new economic frontier and reduce her dependence on oil revenue as a result the much needed diversification of the economy will be achieved.

3.8 Additional Government taxation income:

a result of these overall changes in the economy, there are consequent increased activities in the economy. As the citizens get employed, and earn salaries, taxes are paid to the government. The operating companies also pay tax to government.

In summary, success stories are widely and readily available of countries that have used ICT to drive the economic growth of their nation. Such successes would not have been achieved without a properly focused and consistent ICT policy orientation.

To ensure the continuity of the above, the under listed strategic considerations must be accorded high priority:

Continuous building of ICT Infrastructure;

Focused capacity building in human resources;

Protection of the consumers;

Favourable enabling environment (Legal, Regulatory and Policy);

Availability of trusted systems and legal instruments;

Robust legal and financial framework to support e-commerce;

ICT Software development and digital content creation.

4.0 INTERNET SERVICE AS A COROLLARY FOR ECONOMIC GROWTH

Access to telecommunications and information technology holds the key to the nation's ability to respond to the demands of its position in the new world order. Access to modern telecommunications services should necessarily be within easy reach of every person that lives within the shores of Nigeria. The Nigerian Communications Commission is committed to ensuring a regulatory environment that will continue accelerating the creation of a robust, pervasive and ubiquitous Information and Communications Technology infrastructure across the nation over the next few years.

This is essential to drive socio-economic development and improve the living standards of the citizenry.

4.1 Internet

Electronic networks now make it possible for people to interact, co-ordinate action, gain access to and exchange information from mere desktop computers. The networks provide numerous services including the e-mail, the World Wide Web, information retrieval, e-commerce, news groups, intranets, games and chats. The most interesting thing is that people of all ages, race, creeds, and countries freely share ideas, stories, data, opinions and products.

Rapid expansion of the internet holds substantial promise for developing nations, which can benefit greatly from the internet's communication and information delivery capabilities to help meet their needs. The accelerating transition of information to electronic media is making information resources of the world available to an increasingly global audience through the internet. Nigeria has much to gain from that revolution in communication and information access. In contrast to the situation in developed world where transport and communication infrastructure are well established and make room for adequate delivery of physical goods and services, the

alternatives available in Nigeria are generally slow, expensive or non-existent. The communications and information delivery capability of the internet serves all sectors of society. Sectors like education, health, commerce and trade, government, agriculture, communications, and science and technology all benefit from access to information via the internet and e-mail. The correlation between information and communication, on one hand, and economic growth, on the other hand, is well known, making the usefulness of networks nearly self-evident. Electronic networking is a powerful, rapid, and inexpensive way to communicate and to exchange information. When networks are available, previously unanticipated collaboration seems to come into being almost spontaneously. Many banks in the country operate on-line through the use of VSAT (very small aperture terminal) technology. This helps to promote the goal of paperless economy and reduce the incidence of armed robbery on the nation's highways. Other customer-friendly services employed by the banks include smartcard technology that enables a customer to load any amount of money into a smartcard chip which he/she uses to purchase goods and services.

4.2 Global System of Mobile (GSM) Communications

The successful auction and launch of the GSM communication in January and August 2001 respectively has helped to boost revenue into the federation account, and more importantly it has enabled the country to meet the standard of one telephone line per 100 persons. Similar to the internet service, the GSM operators have boosted the employment profile of the country. Many Nigerians now operate GSM call centres; sell recharge cards, handsets and accessories.

Similar to the internet service, the GSM operation has boosted the employment profile of the country. Many Nigerians now operate GSM call centres and sales offices for handsets and accessories. In addition, many Nigerians, especially young men and women are now engaged in sales of recharge cards and GSM handset accessories.

Table 1: Validity Period of GSM and National Carrier Operational Licences

S/N	Name	GSM Licence		National Carrier Licence	
		Operative	Expiry Date	Operative Date	Expiry Date
1	MTN Nigeria Ltd	9 February 2001	8 February 2016	Not Applicable	Not Applicable
2	ECONET Wireless Ltd	9 February 2001	8 February 2016	Not Applicable	Not Applicable
3	NITEL Ltd	9 February 2001	8 February 2016	1 November 2002	31 October 2022
4	GLOBACOM Ltd	1 September 2001	8 February 2017	1 September 2002	31 August 2022

Source: Compiled from NCC Website: www.ncc.gov.ng

**TABLE 2: TELECOMS SUBSCRIBER INFORMATION
2001- MARCH, 2008**

	OPERATOR	2001	2002	2003	2004	2005
Connected Lines	Mobile (GSM)	266,461	1,569,050	3,149,472	9,174,209	18,295,896
	Mobile (CDMA)	N/A	N/A	N/A	N/A	N/A
	Fixed Wired/ Wireless	600,321	702,000	872,473	1,027,519	1,223,258
	Total	866,782	2,271,050	4,021,945	10,201,728	19,519,154
Active Lines	Mobile (GSM)	N/A	N/A	N/A	N/A	N/A
	Mobile (CDMA)	N/A	N/A	N/A	N/A	N/A
	Fixed Wired/ Wireless	N/A	N/A	N/A	N/A	N/A
	Total	N/A	N/A	N/A	N/A	N/A
Installed Capacity	Mobile (GSM)	N/A	N/A	N/A	N/A	N/A
	Mobile (CDMA)	N/A	N/A	N/A	N/A	N/A
	Fixed Wired/ Wireless	N/A	N/A	N/A	N/A	N/A
	Total	N/A	N/A	N/A	N/A	N/A
	[1]Teledensity	0.73	1.89	3.35	8.5	16.27

	OPERATOR	2006	2007	Jan. 2008	Feb. 2008	Mar. 2008
Connected Lines	Mobile (GSM)	32,184,861	54,413,784	56,492,255	57,720,782	57,622,901
	Mobile (CDMA)	N/A	824,741	621,604	702,146	780,938
	Fixed Wired/ Wireless	1,673,161	2,449,019	2,454,443	2,417,705	2,537,504
	Total	33,858,022	57,687,544	59,568,302	60,840,633	60,941,343
Active Lines	Mobile (GSM)	N/A	40,011,296	41,049,103	42,483,091	43,786,542
	Mobile (CDMA)	N/A	384,315	413,198	424,325	567,185
	Fixed Wired/ Wireless	N/A	1,579,664	1,453,566	1,430,616	1,545,984
	Total	N/A	41,975,275	42,915,867	44,338,032	45,899,711
Installed Capacity	Mobile (GSM)	N/A	76,545,308	77,545,308	77,545,308	79,625,308
	Mobile (CDMA)	N/A	1,540,000	1,520,000	3,720,000	3,170,000
	Fixed Wired/ Wireless	N/A	6,578,303	5,633,251	5,576,481	5,676,481
	Total	N/A	84,663,611	84,698,559	86,841,789	88,471,789
	[1]Teledensity	24.18	[2]29.98	30.65	31.67	32.79

(1) From Dec 2005, Teledensity was based on a population estimate of 140million.

(2) Teledensity from December 2006 was based on active subscribers.

Source: NCC website: www.ncc.gov.ng 2008

4.3 Nigersat 1 Satellite

Another major feat in ICT was the launch of Nigeria's first ever satellite into space in Russia in September, 2003. The satellite code-named Nigersat -1 makes Nigeria the third African country behind Algeria and South Africa to have a presence in space. The project which consumed more than \$11 million has been criticised to be unnecessary in a

country characterised by abject poverty and poor infrastructural facilities. The usefulness of the satellite is, however, predicated on its importance in mineral exploitation, weather forecasting, pipeline monitoring, monitoring of environment (coastal erosion, oil pollution and desertification), boundary monitoring to stem cross-border armed banditry, and identifying

underground water resources that could provide water to the rural populace. It is a well known fact that getting the right information about the quantity and quality of mineral deposits in the country has often been a problem, and the acquisition of the satellite is expected to help in this regard through a more efficient Geographic Information System (GIS).

Table 3: Gross Domestic Product at 1990 Constant Basic Prices (Naira Billion unless otherwise stated)

Activity Sector									Share in Total (per cent)							
	2000	2001	2002	2003	2004	2005	2006	2007 1/	2000	2001	2002	2003	2004	2005	2006	2007 1/
1. Agriculture	175.88	182.66	190.37	203.01	216.21	231.46	248.60	267.06	42.65	42.30	42.14	41.01	40.98	41.19	41.72	42.20
(a) Crop Production	156.21	162.15	168.88	180.71	192.45	206.18	221.62	238.27	37.88	37.55	37.38	36.51	36.48	36.69	37.20	37.65
(b) Livestock	11.45	11.79	12.36	12.88	13.72	14.64	15.65	16.74	2.78	2.73	2.74	2.60	2.60	2.61	2.63	2.65
(c) Forestry	2.56	2.61	2.62	2.66	2.84	3.01	3.19	3.38	0.62	0.60	0.58	0.54	0.54	0.53	0.53	0.53
(d) Fishing	5.66	6.11	6.50	6.76	7.20	7.64	8.14	8.67	1.37	1.42	1.44	1.37	1.37	1.36	1.37	1.37
2. Industry	122.06	128.74	123.91	150.25	156.49	159.16	155.17	149.76	29.60	29.82	27.43	30.35	29.66	28.32	26.04	23.66
(a) Crude Petroleum	106.83	112.42	106.00	131.34	135.67	136.35	130.19	122.48	25.96	26.04	23.46	26.53	25.72	24.26	21.85	19.35
(b) Mining & Quarrying	1.03	1.13	1.18	1.24	1.38	1.51	1.67	1.84	0.25	0.26	0.26	0.25	0.26	0.27	0.28	0.29
(c) Manufacturing	14.20	15.19	16.72	17.67	19.44	21.31	23.31	25.44	3.39	3.52	3.70	3.57	3.68	3.79	3.91	4.02
3. Building & Construction	5.45	6.11	6.37	6.93	7.62	8.54	9.65	10.91	1.32	1.41	1.41	1.40	1.44	1.52	1.62	1.72
4. Wholesale & Retail Trade	53.77	55.11	58.68	62.06	68.08	77.28	89.08	102.69	13.04	12.76	12.99	12.54	12.90	13.75	14.95	16.23
5. Services	55.18	59.17	72.46	72.75	79.18	85.48	93.33	102.44	13.38	13.70	16.04	14.70	15.01	15.21	15.66	16.19
(a) Transport	10.60	11.09	13.06	13.21	13.99	14.88	15.91	17.01	2.56	2.57	2.89	2.67	2.65	2.65	2.67	2.69
(b) Communication	2.14	2.69	3.85	5.24	6.69	8.59	11.38	15.11	0.52	0.62	0.85	1.06	1.27	1.53	1.91	2.39
(c) Utilities	11.37	12.87	16.45	17.03	18.88	20.14	21.12	22.06	2.76	2.98	3.64	3.44	3.58	3.58	3.54	3.49
(d) Hotel & Restaurant	1.51	1.57	1.68	1.76	1.95	2.16	2.43	2.75	0.37	0.36	0.37	0.36	0.37	0.38	0.41	0.43
(e) Finance & Insurance	17.14	17.91	23.17	20.96	21.53	22.14	23.25	24.41	4.16	4.15	5.13	4.23	4.08	3.94	3.90	3.86
(f) Real Estate & Business Services	6.22	6.53	6.74	6.95	7.71	8.52	9.49	10.56	1.51	1.51	1.49	1.40	1.46	1.52	1.59	1.67
(h) Producers of Govt. Services	3.81	3.88	4.48	4.53	5.02	5.29	5.60	5.94	0.72	0.90	0.99	0.92	0.95	0.94	0.94	0.94
(I) Comm., Social & Pers. Services	2.39	2.63	3.02	3.06	3.40	3.75	4.15	4.59	0.78	0.61	0.67	0.62	0.64	0.67	0.70	0.73
TOTAL (GDP)	412.3	431.8	451.8	495.0	527.6	561.9	595.8	632.8	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
NON-OIL (GDP)	305.5	319.37	345.78	363.67	391.91	425.59	465.63	510.38	74.09	73.96	76.54	73.47	74.28	75.74	78.15	80.65
TOTAL GDP GROWTH RATE (per cent)		4.72	4.63	9.57	6.58	6.51	6.03	6.22								
OIL GDP GROWTH RATE (per cent)		5.23	-5.71	23.90	3.30	0.50	-4.51	-5.92								
NON-OIL GDP GROWTH RATE (per cent)		4.54	8.27	5.17	7.76	8.59	9.41	9.61								
Of which Agriculture (per cent)		3.86	4.22	6.64	6.50	7.06	7.40	7.43								
Industry (per cent)		5.47	-3.75	21.26	4.15	1.71	-2.51	-3.48								
Services (per cent)		7.23	22.46	0.41	8.83	7.96	9.18	9.76								
Finance & Insurance (per cent)		4.48	29.42	-9.56	2.73	2.85	4.98	5.00								
Manufacturing (per cent)		6.95	10.09	5.66	10.00	9.61	9.39	9.16	-86.67							
Mining and Quarrying (per cent)		9.89	4.32	5.44	10.85	9.53	10.28	10.51	-86.42							
Communication (per cent)		26.06	43.04	35.87	27.77	28.38	32.45	32.80								

1/ Provisional

Source: National Bureau of Statistics (NBS) 2008

Compared to the years before the deregulation, from 2003 to 2007, the Communication sub sector has grown significantly from 1.27 per cent, 1.53 per cent, 1.91 per cent and 2.39 per cent for the years 2004, 2005, 2006 and 2007 respectively.

Table 4: ICT Services Operative in Nigeria

S/N (1)	ICT Service (2)	Total No. of Approved Licences (3)	Licences Approved During the Fourth Republic (4)	(per cent) (5) = (4)/(3) * 100
1	Community Telephone Service (CTS)	27	13	48
2	Fixed Wireless Access (FWA)	24	24	100
3	Global Mobile Personal Communication by Satellite (GMPCS)	1	1	100
4	Global System of Mobile Communication (GSM)	4	4	100
5	Internet Services	363	330	91
6	National Carrier (NC)	2	2	100
7	Voicemail Service (VS)	29	10	34
8	Private Network Link (International) (PNL(I))	48	12	35
9	Private Network Link (Domestic) (PNL (D))	60	55	92
10	Microwave Radio	38	15	39
11	Non-Commercial	5	5	100
12	Pre-paid Card Calling Service	91	91	100
13	National Long Distance Operation (NLDO)	2	2	100
	Total	694	564	81

Source: NCC website: www.ncc.gov.ng

The increase in approved licenses has helped to improve the flow of information in the country, and has positively impacted on the economy in terms of reduction in travels and delay in decision making. It has also helped in spreading the business of ICT services to other parts of the country apart from Lagos and Abuja. Out of the 36 states of the federation, ICT providers have their corporate head offices physically located in 20 states of the federation.

4.4 Nigeria SAT-2

The country has also completed

arrangements with Surrey Satellite Technology Limited (SSTL), UK, the maker of NigeriaSat-1 to commence the Nigeria Sat-2 to be launched in 2009. It is a Critical Design Review (CDR) of spacecraft and ground segment as well as plans for the full satellite manufacture. The 300 kg satellite will provide Nigeria with valuable geographically referenced high-resolution satellite imaging for similar tasks as NigeriaSat-1. This will help SAT-1 by complimenting the quantity and quality of surface and underground water, rainfall prediction, as well as integrated water resources management on drought

and other disaster forecast.

In addition there would be training satellite to be called NX, which is an integral part of a know-how transfer programme that is providing the Nigerian engineers with hands-on experience in all aspects of spacecraft analysis, build, integration and test. NX will carry a 22-metre multi-spectral imaging system with ultra-wide 600km swath. On completion, the engineers will fully manage the complete life-cycle of the satellite, with responsibility for the delivery of the spacecraft to full flight specification.

Table 5: Spatial Distribution of ICT Providers in Nigeria by State

S/N	State	GSM	NC	Internet	CTS	FWA	GMPCS	MR	VS	PNL(I)	PNL(D)	NLDO	Total
1	Abia			3						1	2		6
2	Adamawa										1		1
3	Akwa Ibom				1								1
4	Bauchi			1	1								2
5	Benue			1		1							2
6	Cross River			3									3
7	Delta			3						1	1		5
8	Edo			2							1		3
9	Enugu			9		1		1		1			12
10	Imo			3									3
11	Jigawa										1		1
12	Kaduna			7	2						2		11
13	Kano			8		2							10
14	Lagos	3	1	261	15	13	1	31	28	37	45	2	437
15	Nassarawa					1							1
16	Niger					1							1
17	Ondo			2									2
18	Oyo			4		1				1			6
19	Plateau			5									5
20	Rivers			9	4	1				1	1		16
21	FCT	1	1	41	4	3		6	1	6	6		69
22	Total	4	2	363	27	24	1	38	29	48	60	2	694

Source: NCC website: www.ncc.gov.ng 2007

5.0 Challenges, Recommendations and Conclusion

5.1 Challenges

There are ongoing and concerted efforts by the Nigerian Federal Government to commence provision of cheap telephone services through the recent launch of a rural telephony program for the country. This program which took off in the Kwali axis of the Federal Capital Territory will subsequently be spread across 343 (Three Hundred and Forty Three) local government areas of the country. With this take off of rural telephony in the country, other value-added services like internet, e-mail etc. will penetrate the rural communities. The Nigeria Development Gateway will definitely be in a position to play a role using these facilities to provide services such as distance learning (e-Learning), telemedicine, dissemination of relevant information to the rural people in these rural areas. In spite of the ICT prospects in the

country, there are a number of issues which the present administration needs to address in order to make the ICT services more efficient and catalytic for economic growth in the country.

5.1.1 Lack of technical know-how and awareness

When viewed against the background of the growth of cybercafé in the country, the situation is better than it was five years ago, though there is still a shallow understanding of the workings of the internet by average Nigerians. Coupled with this is the fact that the level of awareness in terms of using e-mails facilities in communication is still low.

5.1.2 Inadequate telecommunication and electricity infrastructure

In spite of a large capacity submarine optical fiber cable in five satellite earth stations and 19 domestic satellite

earth stations (DOMSAT) installed in the country, the telecommunication infrastructure is inadequate. In some areas, digital exchanges are not available, even the analogue lines available are far less than the demand. The service is grossly inefficient due to lack of maintenance and upgrading of the equipment. Many Internet users link up to internet Service Providers (ISPs) through telephone lines although some richer Internet user companies or cyber cafés use wireless radio access to the internet.

5.1.3 Promoting education

Since ICT has been proven to be a very effective tool for distance learning, poverty alleviation, dissemination of information on health care issues/services, job creation, etc. it is very obvious that its use as a medium for the promotion of socio-economic development in Nigeria, will go a long way in nudging the country towards realizing its

potentials among the community of nations.

5.1.4 Extending Services to Rural and Underserved Areas

In general terms while ICT human resource base in the country is growing, in the urban areas, its huge potentials are yet to be taken full advantage of. On the other hand the rural and sub-urban areas, actually form the majority in this diverse and vast country, but due to economic constraints, ICT use, awareness and literacy is still very poor and in most cases non-existent.

5.1.5 Improvement in Sector Efficiency and Quality of Service

Improved telecommunication services in Nigeria will be a very useful platform and medium for e-Learning. It will also be a very effective platform for e-Government, e-Business, creating public awareness and enlightenment on civil society activities, a platform for feedback from the public on government policies, socio-economic activities and programs through e-Discussions.

5.1.6 Training so as to ensure technology transfer

Majority of ICT users in the country, have at several fora and through several media, called for thorough and comprehensive ICT human resource development. Presently, ICT education in the Nigeria exists only in tertiary educational institutions, private training institutions and perhaps a negligible number of elitist privately owned primary/secondary educational institutions, mainly patronized by the elite in the country who form a very small minority among the total population of the country.

5.1.7 Favourable macroeconomic environment

Moreover, efforts should be made to encourage local production of many of the ICT equipment, including handsets and accessories, needed in the country. A strategy to achieve this objective is to encourage handset manufacturers such as Nokia, Motorola, Samsung, etc., to site production plants in the country. This development will generate employment opportunities for

Nigerians, increase the revenue profile of government and lead to reduction in the unit price of the handsets as the companies will enjoy economies of scale in their production given the large consumer market in existence in Nigeria the most populous country in Africa. In addition, it could aid technological advancement in the country.

5.2 RECOMMENDATIONS

5.2.1 Medium-Long Term Policy measures

It is advocated that the government should encourage foreign direct investment in Economic Processing Zone (EPZ) to allow them enjoy all the benefits offered to companies operating in EPZ. Also, they should be granted some years of tax holiday in the medium term, and assuring them of unrestricted transfers of profits to certain level, import duty waivers on imported raw materials for manufacturing but not for assembling. Companies should be tasked to make commitment to ensure that they achieve above 60 per cent local content in five years. Appropriate regulatory agencies should be set up to monitor the quality of their products to ensure that they are of high stand and that their prices are competitive. Once their products are proven to be comparable with respect to quality and price with other ones manufactured by their parent company, then in the long run, government should discourage the importation of telephone handsets by imposing high tariffs or outright ban. The telephone companies of the Global System of Mobile communication operators (GSM) can form joint venture companies or partnership with these telephone manufacturing companies to set up their handset manufacturing plants locally. By this, they would be the major outlet from where the companies sell their products through different arrangements. One of such arrangements could be that as you buy their sim cards you would also buy their handset and so on. All these would assure that the handset manufacturing company has a local market and so would spur them to set up their plants promptly.

5.2.2 Others

As a matter of urgency, the Nigerian

Communication Commission (NCC) should ensure the protection of consumer's interests. This can be achieved by enforcing the providers to standardize and reduce charges, improve on interconnectivity, quality of service and service provision. NCC should also improve on monitoring and enforcing compliance with rules by providers especially ISP to ensure that they give quality service to their customers. It should equally review the license charges. This will also help reduce the tariff charge to telecommunications consumers. They should ensure that those who did not obtain license or permit do not operate. This will help guarantee the quality of service provided as the licensed providers would always work within the dictates of NCC in order to avert license revocation. Furthermore, to facilitate the provision of quality service by providers, NCC should ensure that their technical officers that supervise the facilities used by the providers are well trained and retrained to be abreast with recent developments in the industry. NCC should equally be more firm with the providers that default in any of the aspects of service provision as this will serve as a check and thus help guarantee quality service. Further liberalization of the sector is encouraged. This will facilitate the entrance of more providers and healthy competition and the rendering of quality service.

5.3 Conclusion

The prospect for information and communication technology development in Nigeria is bright provided the challenges facing the sector are quickly resolved. The NCC in partnership with the government should provide an enabling environment for all ICT stakeholders, especially investors, to operate.

Furthermore, NCC should instruct all ICT operators in the country from undue exploitation of consumers. Nigeria's quest for enhanced ICT is dynamic. In order to make this service more efficient, there is need for improved power generation in the country coupled with the need to have a stable and democratic system of governance that guarantees economic prosperity within a culture of the rule of law.

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