

## Political Economy of Deregulation: An Impact Analysis of Nigerian Telecommunications (2000-2014)

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**Abstract:** Telecommunications remain one of the strategic economic sectors that assume prominence in the current discourses on the growth and integration of national economies and transnational production. Effective telecommunication system enables countries to achieve impressive socioeconomic gains. However, the Nigerian telecommunications under state monopoly was characterised by gross inefficiency, financial mismanagement and non-profitable. Consequently, the government has put a conscious strategy towards regulatory reforms in the sector. The reform emphasised on market opening by allowing entry for private and transnational operators into the country's telecommunication market which eventually led to the transformation of the industry. Examining four factors, namely-tele-density, broadband penetration, revenue contribution to GDP and employment generation, this study finds that post-deregulation Nigerian telecommunication sector has shown evidence of efficiency and growth.

**Key words:** Deregulation, telecommunications, efficiency, growth, Nigeria, efficiency

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### INTRODUCTION

Economic growth depends on appropriate economic policies and their implementation in a country. Economic sectors are responsible for economic growth and one of them is telecommunications industry. Studies over the past decades consistently support the argument that effective telecommunication service aids economic growth (Narayana, 2011; Alleman, *et al.*, 1994; Roller and Waverman, 2001; Norton, 1992; Cronin *et al.*, 1991, 1993; Castells, 1989; Hardy, 1980). Now a days, advanced telecommunications assumes prominence in the current discourses on growth and integration of national economies and transnational production in the contemporary world (Aronson, 2011). Therefore, states put conscious strategies towards dramatic change in their telecommunications sector. Deregulation is one of the common strategies being employed in order to pave ways for efficiency and economic growth (Haskel, 1991). Currently, national communications are completely subjected to innovation, competition and inexpensive services (Laffont and Tirole, 2001).

Deregulation in telecommunications has been a common trend around the world over the past few decades. The United States has deregulated its telecommunications company the American Telephone and Telegraph (AT&T) in 1986. The British government

also privatized its telecommunications sector-the British Telecom (BT) in 1992. Earlier, the Japanese telecommunication sector was sold to the private operators in 1985. The successful cases of the US, Britain and Japan helped the International Telecommunications Union (ITU) to provide a framework through which liberalization program was implemented in other parts of the world, most especially in the developing countries.

In Nigeria, deregulation got its root through the guided adoption of the structural adjustment programme in the aftermath of the nation's experience with the 1980's global economic crisis and the eventual democratization process that paved ways to market reforms which consequently facilitated the liberalization and deregulation of various economic sectors including telecommunications. The prime motive and the driving force behind deregulation of Nigeria's telecommunication sector as stated in the Nigerian Communications Commission (NCC) report in 1992 are the inability and unwillingness of government to continue subsidizing public telecom company NITEL; the demand for more effective and advanced modern communication facilities especially by the business community and the demand for service improvement and faster growth in infrastructure.

In 1992, the NCC was established to begin the process of deregulation of the state's monopolized

telecommunications sector. The commission began with the granting of licenses to some private operators for fixed wireless operations in 1997. In 2001, licenses were granted to private corporations for the Global System for Mobile Communication (GSM) operations to promote competition in mobile telephony. Furthermore in 2002 and 2007 licenses were granted to other operators to increase the speed of development in the nation's telecommunications market.

The rate of development in all spheres of the nation, most particularly in the means of communications and its attendant market has been expanded, since the deregulation exercise began. By 2015, all the 774 local governments are connected to one or more of the five GSM and numerous fixed wireless networks making telephone accessible to every individual regardless of their socio-economic status. Now, it is time to see the economic effects of deregulation of telecommunication in Nigeria. Has deregulation in the form of privatization achieved its intended objectives.

This study attempts to examine the performance of deregulation program in transforming Nigerian telecommunication industry during 2000-2014. It intends to explore a relationship between market liberalization and growth to see if deregulation has had any effects on the sector. The study argues that state monopoly of telecommunication industry has been the key obstacle in realization of growth in the sector which resulted in poor performance, low productivity, financial burden and inefficient service delivery.

This study is significant on three accounts: theoretical, practical and policy making. Theoretically the study will be a value addition to the neoliberal economic theory. The finding of the study will help to show the prediction of the theory for economic variables. Practically, the study will provide an idea about the extent to which deregulation influenced the transformation of Nigerian telecommunication sector it will demonstrate the contribution of deregulation towards firm's efficiency, service effectiveness and market competition among the operators. In terms of policy making, the outcome of the study will be useful to the regulatory body, i.e., NCC to improve competition policy, the quality of the services being provided and income generation. In addition, the study will be useful for policy makers that may help them in re-evaluating the policies to make the sector even more efficient and productive.

**Literature review:** The theoretical literature on the relationship between deregulation policy and growth is enormous. Some of the literatures have argued for positive relationship while others have indicated negative

impacts. Parker and Kirkpatrick (2005) argue that deregulation enhances market efficiency through competition among market players where companies that cannot keep up with market competitiveness are left with no option but to exit from the market. Thus, market competition have a tendency to minimize inefficient practices by incompetent operators which ultimately lead to efficiency improvements and productivity expansion. Osotimehin *et al.* (2010) asserts that competition encourages firms to make their production and distribution of services more efficient through adoption of new technology.

Jho (2014) and Kumbhakar and Subrata (2003) maintain that deregulation leads to ownership causing to accelerate productivity through innovation and this is more extensive in industrial and service sectors. Innovation entails applying new business strategy and using advanced technology in the production process. Kagami and Tsuji (2000) in their comparative study on deregulation and efficiency found that it brings massive technological investment that would ultimately increase the sector's production capacity. Similarly, Djiofack-Zebaze and Keck (2009) hold the view that deregulation promotes cost efficiency arguing that in a competitive market a product will be offered at a price based on the competition among different suppliers while if there is no sufficient competition as in the case of a monopolized market, a single or few operators obtain dominant market positions that allow them to set higher prices in their favour, hindering allocative efficiency from materializing which in turn leads to lower growth rates. Also, the fight for and the defence of monopolies may lead to a misallocation of investments which further results in loss in market and economic efficiency. Therefore, deregulation is cost-effective by all means.

In contrast, others have argued that deregulation policy for growth and efficiency has rather more negative socio-economic consequences. Substantial number of studies condemn the idea of deregulation on exploitation ground. Gartzke and Rohner (2011), Ojo and Fajemisin (2010) argue that deregulation, exploitation and capitalism are inherently inter-related and this inter-relationship exists both at the global and local levels in a chain of interdependency. That is capitalism creates the division of the world into core, semi-periphery and periphery states for exploitation gains. The core states usually advice the semi-periphery and periphery ones to adopt certain policy prescription that must be implemented in their respective states as a condition to receive foreign aids from the international financial institutions, i.e., IMF and World Bank. These policies might not provide the most adequate basis for reforms, yet again,

the less developed countries do not often have any alternative and so, they comply with the exploitative directives.

Furthermore, the opponent perspective views deregulation policy as foreign paradigm that might not be applied universally owing to the fact that each country has a unique history and peculiarity that cannot be replicated by other countries. So, to have successful policy reforms, state must take into account its history, its level of development and the nature of its socio-economic conformation. Adebayo and Caroline (2016) found a positive impact of deregulation on Nigerian economic growth. Salisu and Emmanuel (2014) in their study of the period 1984-2011 found the reform “have significant effects on economic performance. Their effects on growth are found to be statistically significant both in the short-run and in the long-run. The effects, however, on unemployment and poverty are found to be significant only in the long-run, ....”. A study by Mamah (2012) concludes saying that “there is a general preference for the telecom industry after deregulation than before deregulation has brought about increased efficiency and effectiveness of telephone services and that it has increased the nations prospects in international trade”. A similar study by Abel and OkokondemOkon (2016) concluded that deregulation “has enabled Nigerians to transact their businesses easily by reducing so much transportation cost resulting in higher productivity”. Osotimehin *et al.* (2010) also found that development in telecommunication infrastructure in terms of teledensity and employment is positively correlated with economic growth in Nigeria. Similarly, Chindo (2013) has found positive relationship between deregulation and growth in Nigeria.

However, there are studies that show either mixed or negative impacts of deregulation. Godwin and Dagogo (2011) in their study on Nigeria found that “the deregulation of economy policy might have been successful in developed countries; it has been a failure in developing countries due mainly to differences in socio-political environment”. To him, economic policy must be grounded on an intelligent appreciation of the limitations of theoretical construction and consequential impact on the economic forces in the society. Ugochukwu and Korie (2006) and Chidozie *et al.* (2015) argue that even though during the post deregulation exercise the inflow by multinational corporations into the country increased this has only succeeded in exploring and exploiting the country’s resources by the Foreign companies without corresponding development. Awolaye *et al.* (2012) found that “telecommunication infrastructure measured by private investment in telecommunication statistically

significant and positively correlated with economic growth. However, it was found that telecommunication’s contribution to GDP has a negative relationship to the economic growth in Nigeria”. Similar conclusions are reached by other studies (Ugochukwu and Korie, 2006; Anyadike, 2013; Obiwuru *et al.*, 2012).

Even though there are many studies on the issue of deregulation of telecommunication in Nigeria suggesting either positive or negative impact, these studies are small-scale and not comprehensive enough. So, after about one and a half decades of telecommunications deregulation in Nigeria it is time to systematically assess if deregulation policies have had any impact on the country economic growth. The current article is part of a larger study on the topic and it assumes that deregulation of telecommunications has paved ways for the inflow of private and foreign firms into the sector which boosted the sector’s investment growth leading to transformation of the sector. The uniqueness of the current research is that it encompasses four broad and diverse areas to assess the impact. The four areas are growth rate of teledensity, broadband penetration, revenue as percentage to GDP and employment generation.

## **MATERIALS AND METHODS**

The relevant data for this study basically comes from primary sources. The primary source comprises official data from the governmental agencies specifically Nigerian Communications Commission (NCC), Bureau of Public Enterprises (BPE), National Bureau of Statistics (NBS) and Statistical Bulletin Central Bank of Nigeria. In addition, data from the offices of the private telecommunication companies such as the MTN, ZAIN, GLOBACOM, VISAFONE, MTEL and ETISALAT. The World Bank publications in respect to development indicators and the websites of the International Telecommunication Union (ITU) by exploring ICT development index of world telecommunication are also used. In order to explore the impact of deregulation on Nigeria’s telecommunication sector, the study analyses and interprets the collected data to see whether deregulation has influenced economic growth in Nigeria. The study analyses four indicators to see the impacts. These indicators are: growth rate of teledensity, broadband penetration, revenue as percentage to GDP and employment generation.

**Presentation of the data:** The prime motive and rationale behind adopting deregulation policy in many countries is the broad recognition of deregulation as a powerful instrument that aids growth, expands markets increases productivity and raises efficiency among others. In the post deregulation era, Nigerian telecom has apparently

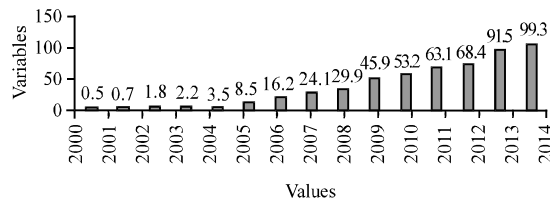


Fig. 1: Increase in Teledensity (2000-2014) (Millions).  
Compiled from NCC, available at [www.ncc.gov.ng](http://www.ncc.gov.ng)

witnessed rapid progress that signifies the influence of deregulation program in transforming the sector. This section of the article will present data on teledensity, broadband penetration, revenue as percentage to GDP and employment generation.

**Increase in teledensity:** A prime indicator of growth is teledensity or penetration rate. Teledensity of telephone services is the combination of GSM and fixed telephone subscriptions. GSM is the subscription of public mobile telephone service that provides access to the PSTN using cellular technology. This includes active number of post-paid and prepaid subscriptions. But it excludes subscription via data cards or USB modems, subscription to public mobile data services, private trunked mobile radio and telemetry services. Fixed telephone subscription refers to the sum of active number of analogue fixed telephone lines, Voice-Over-IP (VoIP) subscription, fixed Wireless Local Loop (WLL) subscription, ISDN voice-channel equivalents and fixed public payphones.

The obtained data on teledensity or telephone penetration in Nigeria shows impressive growth over the study period (Fig. 1). During the first quarter of deregulation program, the ratio of telephone penetration shows tiny progress that is from 0.5% in 2000 to 0.7% in 2001, 1.8% in 2002, 2.2 in 2003 and 3.5% in 2004. So, there was a huge gap in access to telephone service in the country, whereby, more than 95% of the population are non-telephone subscribers. However, a substantial progress began to appear in the second quarter; it increased by almost 90%; from 8.5% in 2005 to 16.2% in 2006, 24.1% in 2007, 29.9% in 2008, 45% in 2009 and 53.2% in 2010. During the last quarter, the growth in teledensity witnessed a massive and consistent increase from 63.1% in 2011-68.4% in 2012. The year 2013 marks the beginning of miraculous transformation in the sector where the percentage of people with access to telephone service hit 91% in 2013 and 99% in 2014. Currently, the telecommunication industry in Nigeria has been ranked as the largest in the African continent with the total number of 140 million subscribers.

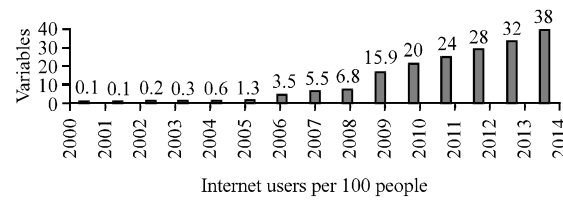


Fig. 2: Increase in Broadband Penetration (2000-2014) (millions). World Bank Development Indicators available at [www.worldbank.org/ng](http://www.worldbank.org/ng)

**Increases in borad band penetration:** Secondly, broad band penetration is indicator to assess the growth of telecommunication service. Broad band penetration refers to internet users (per 100 people) who have used the internet from any location in the last 12 months. Internet can be used via a computer, mobile phone, personal digital assistant, games machine, digital TV, etc. The presented data on the broadband penetration in Nigeria reveals that from 2000-2005 access to internet service in the country was scant with broad band penetration rate as <2% (Fig. 2). However, the story began to change in the second quarter, where the percentage increased to 3.5 % in 2006, 5.5% in 2007, 6.8% in 2008, 15.9% in 2009 and 20% in 2010. In 2011, the percentage of the people with access to internet service hit 24% and it slightly increased to 28% in 2012. Again significant progress was made from 32% in 2013, to 38% in 2014.

**Increase in revenue growth:** The third indicator to consider is the level of revenue contribution by the telecom sector to national GDP of Nigeria. The obtained data on the telecommunications' contribution to the total GDP shows in Table 1, a constant progress over the study period. As indicated, the sector's contribution to GDP during the first half of deregulation exercise was negligible as the ratio remained stationary at the rate of 1% to the total GDP. It slightly increased to 2% in 2006 and 2007. However, during the second half, the effect of deregulation in stimulating revenue generation began to upsurge. The ratio raised up to 3% in 2008 and ascended to 4% in 2009. Starting in 2010 a genuine economic miracle began to appear in the sector as it contributed 6% to the aggregate GDP of the country. From 2011-2014, the growth rate has constantly increased by an average of 1% every year- that is from 7% in 2011 to 8% in 2012, to 9% in 2013 and to 10% in 2014.

**Increase in employment generation:** Finally, the last indicator is employment creation. The data on the indicator also suggest an increase in employment. Table 2 indicates that deregulation policy has succeeded in increasing employment capacity in the sector. The four

**Table 1: Revenue percentage to total GDP (2000-2014)**

Years	2000	2001-2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Growth rate (%)	0	1	2	2	3	4	6	7	8	9	10

Compiled from NCC and ITU World Telecommunication Development Report

**Table 2: Increase in employment generation**

Operators	Nigerian M	Nigerian F	Expatriate M	Expatriate F	Total
MTN	1,569	649	16	2	2236
GLO	2,673	1,187	191	4	4055
AIRTEL	507	226	27	-	760
EMTS	1,122	850	7	1	1980
Total	5,871	2,912	241	7	9031

NCC network data report for telecommunications operating companies

main service providers have created more than nine thousands jobs to staff their offices. And the sector has created few hundred thousand jobs in petty business such as selling of sim cards, servicing the mobile sets and mobile accessories. Though MTN is the largest operator among all, its employment ratio appears to be the second highest after the GLO. MTN recruited a total of 2,236 of whom 18 are expatriates and the rest are the citizens of the country. Whereas GLO being the second highest contributor provides 4,055 jobs out of whom only 195 are non-citizens but the rest are local people. EMTS has 1,980 employees of whom 1,972 are local residents and nine are foreigners. AIRTEL contribution to employment is the lowest among all. It has a total of 760 employees of whom 27 are expatriates and 733 are local residents.

## RESULTS AND DISCUSSION

The official data and statistical evidence on deregulation program in Nigerian telecommunications presented above portrays a quite rosy picture of achievement. As soon as deregulation began, the market climate continued to improve consistently with massive private investment where the sector attracted substantial number of private and transnational companies. The utmost fascination of these companies can be attributed to the size of the country's telecommunication market, being one of the fastest growing in the world and biggest in the African continent.

The research findings indicates that significant correlation exists between market competition and growth, whereas, market monopoly is viewed as counterproductive to growth. Prior to deregulation, the sector was one of the unproductive sectors that failed not only to deliver what it was designed for but also it caused huge financial drain on the country's national treasury as it was not able to generate enough revenue that could cover its operational expenditure let alone generate profits. Instead, the government had to inject a fixed capital investment to keep the sector operational. In terms of service productivity, the sector was able to produce

only 20,000 lines on an annual basis with 400,000 subscribers at a 0.4% teledensity per 100 inhabitants for an entire 40 years. However, by looking at growth rate of the selected indicators in the post deregulation era, apparently, the story is different.

Figure 1 measured the percentage of a country's population with access to telephony services be it GSM or fixed telephone as determined by active subscription. The presented figures shown a consistent increase in telephone penetration in the country. The benefits of growth in teledensity can be seen in many ways. For instance information about the market prices and availability or scarcity of goods are shared through telephone calls without physical presence. Now a days, traders in rural areas can order goods from the urban areas without traveling for such tractions. Also, an organization can hold a meeting for its employees from different locations through call conferencing which can help the organization save time and cost. Despite the sectors remarkable achievement in escalating the growth rate of teledensity ratio in the country, the growth of fixed telephone has not been positively affected by deregulation program. Through comparative analysis of the growth rate of the two, it is clear that the sector's performance in regard to fixed telephone is very much discouraging where the growth rate was not only slow but also it kept deteriorating over the study period.

The decline in fixed telephone or land phone subscription vis-a-vis GSM can be explained through two major factors based on service subscribers and service provider's point of views. From subscriber's point of preference, GSM is preferable for two major reasons: mobile phone is easier and more comfortable to carry compared with fixed telephone; people by nature are not meant to seat in one place, therefore, expected that service subscribers may prepare using mobile phone than fixed telephone because of its mobility. From operator's point of view, fixed telephone facilities are highly expensive compared to GSM. As such, service operators especially that of telecommunication sector do cost-benefit analysis on the amount of investment and anticipated returns whereby the often invest in the most promising segment of the market. Perhaps in Nigeria, the private telecommunication firms are not willing to sufficiently invest in fixed telephone facilities, since they can invest less and generate more profits by investing in GSM.

Reflecting on the foregoing, the logic behind low growth rate of fixed telephone is unacceptable. In recent

times, provision of fixed telephone service is considered to be one of the indispensable elements of national development. In administrative domain, fixed telephone is viewed as formal channel of communication whereas mobile is mostly used in informal related issues. Commonly, all organizations, be they public or private bodies are contacted through by the use of fixed telephones not mobile phones. Therefore, it can be logically argued that countries with more access to fixed telephone tend to have more effective administrative and business process. For this reason, escalation of fixed telephone in Nigeria justifies supervisory attention from the regulators to put more pressure on the service operators to supply sufficient service of fixed telephone in the country.

Secondly, the number of internet subscribers in Nigeria has significantly increased which signifies considerable appreciation of broadband penetration. Deregulation has been successful in increasing the number of people with access to internet services especially mobile broadband internet as GSM network coverage is available nationwide, people get access to internet service via mobile data subscription. What makes mobile internet the most widely used in the country can be attributed to the ongoing evolution of telecommunication services where new generation of cellular standards continues to emerge from 1G network in 1982 to 3G 1998 and 4G in 2008, each generation transported new frequency bands and high-speed internet.

However, going by developments worldwide, the internet accessibility through mobile phones is not enough, home broadband internet service is equally important. In Nigeria, the number of internet users through fixed broadband is very low and this has been a policy concern by the government and regulatory body. In 2013, the national Broadband plan was introduced, aiming to increase penetration of fixed broadband services to 20% and mobile broadband to 80% of the population by the end of 2018. The policy outlines the means through which targets can be achieved such as facilitating rapid rollout of wireless and wireline infrastructure, the release of more spectrum for broadband service and providing incentives to the operators as an encouragement to develop a national 3G wireless coverage.

Even though, the broadband penetration in Nigeria has significantly increased when compared with some other African countries or with non-African countries, the country's broadband penetration fits the middle range. In this regard the top three in the ranking are Malaysia being the highest with 67%, Brazil is the second with 57% and Morocco is the third with 56%. The middle range

countries are South Africa with 49%, Mexico 44%, Kenya with 43% and Nigeria with 42%. The lowest in the ranking are Pakistan and Bangladesh. It is also observed that there is significant variation within the country's geopolitical zones, the southern states especially Lagos, Enugu and the cities around the oil-rich Niger Delta seems to be more metropolitan than the northern states and therefore have more access to internet services. Likewise, urban areas have more access to internet than the rural ones.

Thirdly, telecommunication industry appears to be one of those sectors that require huge capital investments, especially in the area of infrastructure as telecommunication services necessitate use of high-tech machineries. So, adequate investment in infrastructure and technology are not only essential components for effective telecommunication system but also it becomes an indispensable requirement. In Nigerian telecommunication, ever since deregulation began, the investment climate of the sector especially, FDI continued to improve constantly as a result, the sector is one of the most effective industries in the country with huge economic output which translated into job creation and huge revenue generation.

During pre-deregulation era, the sector was not able to generate sufficient revenue that could cover its operational expenditure let alone to generate profits. Instead, it required fixed capital investment by the government which caused huge financial drain on the national treasury. However, in the post deregulation, the sector was not only able to abolish its financial burden on the government but also it has significantly contributed to the country's total GDP. Since, one of the motives behind privatizing the sector was to reduce sector's financial burden on the government, so it can be argued that the implementation of deregulation program in the sector has succeeded in attaining the desired outcomes and the policy objectives of the program by allowing private operators to enter the market that paved ways to eradication of monopolistic structure of the telecommunication market.

Some may argue that the domination of the sector by foreign operators has caused huge lost through capital flight as they take the profits back to their respective countries. The fitting example of this is the financial report made by MTN that it has generated a profit of \$1 billion in 2014, after paying the corporate tax and operational cost. It is estimated that its total expenditure was not more than 25% of what has been generated as a profit. Even if the generated revenue remains in the country, only the small portion goes to the national treasury whereas the ruling political elites take the lion share of the benefits. To some

extent, the foregoing argument is logical and therefore it cannot be totally rejected. The economic corruption and misuse of power in the process of implementing deregulation policy exist. Yet again, economic and political corruptions in Nigeria are deep rooted in the country socio-economic and political culture. And so, deregulation cannot be held as a factor causing corruption.

In terms of job creation, the impact is clear. Virtually, when an industry operates at its highest production capacity, it is anticipated that its labor market would be expanded. Simply because enough capital stock has been invested; the vital equipment for effective production has been properly channeled; sufficient expertise and managerial skills are well devoted and this is the likely experience of Nigerian telecommunication sector. During the post-deregulation era, new jobs were created which resulted in massive employments in the industry. As affirmed by NBS report in 2010, the telecommunication industry in the post deregulation has created more than 100,000 employment. This remarkable achievement is driven by the fact that the operators engage in a rigorous market competition in which each operator strives to dominate the market by expanding its production capacity. Consequently, this has led to massive investment especially in technology and infrastructure that paved ways for expansion of the industry where the service coverage turned out to be nationwide.

Currently, the sector is described as one of the highest sectors that employs both skilled and unskilled manpower in the country, especially the emergence of GSM network which succeeded in creating direct and indirect job opportunities. The direct employment is recognized by looking at substantial number of unemployed youths and jobless graduates that happened to be given a job opportunity by the various private telecommunication companies. The indirect employment was also generated where many people are self-reliant doing their own GSM businesses the famous among which are selling recharge cards and chargeable phone calls. This is evidenced by mere looking at the GSM mobile business centers in both rural and urban cities. The business are everywhere using small shops, umbrellas and kiosks. The advantage of such businesses is that it requires little capital to start up. All that is needed to set this business is an umbrella as a shade, a table and a mobile phone set loaded with calling airtime. As such, it is very much attractive area of business opportunity in the country. Moreover, making of shops for repairing and selling mobile phones in the country can also be considered as indirect employment of GSM market segment. Where many youth are not only engaged in

selling mobile phones but also they have learnt the basic technical aspect of mobile phones that enable them to fix some technical issues with the mobile phone through which they earn living.

In light of the above analysis on the impact of deregulation program on Nigerian telecommunication industry, the program is evidently assessed as successful one, yet again, there still need for improvement, especially in the area of market competition and service efficiency. It is observed that the level of competition among the operators is not up to the ideal standard of telecommunication market competition and this has resulted in market domination by few operators. The most noticeable example of this domination is anticompetitive feature which dominated the GSM market segment in which a few large operators have the total control of the market. MTN appears to be the largest operator in the mobile market segment controlling 44% share, followed by GLO with 21% share, AIRTEL with 20% and EMTS with 15%. Bearing in mind that mobile segment has the highest growth rates compared to the other segments it accounted for 98.30% of the entire telecommunication market. The Fixed Wired/ Wireless segments recorded a decline indicating 9.36% decrease and the Fixed Wired/ Wireless decreased by 0.14%. Therefore, empowering the existing operators or allowing new firms to operate in the industry, are vital in order to abolish the anticompetitive tendency and market dominance.

Going by international telecommunication standards, quality of service is one of the key indicators in determining service efficiency. A service provider is evaluated based on subscriber's experience, if the majority of subscribers have unfavourable experience, then the quality of service is poor. In Nigeria, considerable number of subscribers complains about the quality of the service. To them, the operators have been reluctant to invest in technology that is required in having efficient service. The ineffectiveness of the services appears more often in poor network coverage that causes intermitting connectivity, data traffic, call drop and call congestion. According to, the report by Ericsson Mobility in 2015 telecoms operators in Nigeria experienced an increase of 65% growth in mobile data traffic that happened between the fourth quarter of 2014 and fourth quarter of 2015. Another survey was conducted by NCC about call set failure. The assessment reveals that only less than half of the subscribers on each of the three major operators do get their calls through on the first or 2nd dial which means the majority of the subscribers have to dial 3 or more times.

From the operators point of view, the issue of poor quality of service cannot be totally divorced from number

of challenges that are mainly responsibly of the state to address them. According to Ajayi, the President of ATCON, the poor power supply in Nigeria has made the telecom operators to depend on alternative power supply that cost them a lot. There are places which are not connected to the National Grid, the operations are 100% powered by generators in those locations. Currently, there are almost thirty thousand Base Transceivers Stations across the country, each base station requires minimum of two generators. Each operator uses an average of 24000 L of diesel every month. In addition to the cost of diesel, cost of logistics appears in procuring and transporting the diesel as well as the cost of servicing the generators.

Another challenge being faced by the operators is the destruction of telecommunication infrastructure in many part of the country. A lot of cases have been reported where base stations were destroyed by militant group, or equipment being stolen. The technical implication of this is that once a base station is destroyed, call transmission in that location would automatically be transferred to another nearby base station which will lead to network congestion. In addition, the lack of security of infrastructure pushes the operators to invest heavily on recruitment of security personnel at their base station. The direct implication of this is the fact the cost incurred on these security guards goes into the total cost of operation and subsequently leading to increase in service charges. Civil works especially the constructions reported to be uncoordinated so, a succession of works such as underground installation of power cables, building roads and water pipes are part of the challenges that operators face. Service operators complain about this issue as it creates long periods of service disruption or no network coverage at all in that specific area where the construction is taking place. It is also widely believed by operators that some cuts are a form of commercial destruction designed to damage competitor operators. To the service operators, if the issue of power supply and security are fixed, the amount being spent by the operators in power supply, safekeeping and other unnecessary expenditure could have been used in upgrading network facilities and increasing number of base stations and substituting centres, this would ultimately improve service efficiency by resolving intermitting connectivity, call congestion, data traffic among others.

## **CONCLUSION**

Substantial studies have been undertaken to empirically investigate the nature of correlation between deregulation policy and growth in all sectors of economy including telecommunication sectors. The findings of the present study suggest that Nigerian telecommunication

industry witnessed tremendous progress that signifies the impact of deregulation program in transforming the sector. The extent of this transformation is examined through four measurable indicators; sectors revenue generation as to percentage of total GDP; growth rate of teledensity; broadband penetration and employment generation by the sector. Through the comparison of the growth rate of the selected indicators during pre-deregulation period and the aftermath apparently the desirable outcome of deregulation has been effectively materialized. Prior to deregulation, the sector contributed 0% to GDP but today the sector's revenue to GDP extended to 12% which made the sector the second major source of national income after the oil sector in the country. An unprecedented telephone penetration was achieved with the total number of 140 million subscribers rising teledensity from 0.4% to 99%. Also, significant progress was made in regards to broadband penetration that from 0.1% to 38%. In terms of employment generation, the emergence of GSM network has created considerable job opportunities in the country. It can be argued from the analysis that the notable achievements of deregulation policy in the sector within 14 years is an evidence that market competition not monopoly is the driver to growth and efficiency.

## **RECOMMENDATIONS**

Despite the fact that the program pronounced a success to the larger degree, there still need for improvement. In so doing, the regulators should step up more effective competition policy in order to achieve sustainable efficiency gains. This has become concern in the view of the fact that the number of operators is not sufficient enough as MNT became a single dominant in the key segment of the market. So, market rivalry among the service providers and unrestricted market entry can be instrumental in intensifying market competition. Furthermore, the inadequate networks capacity in terms of number of base station, network switching centres and transmission network capacity contribute greatly to the poor quality of the services. Since, solving this problem requires huge financial investment, it is therefore recommended that both government and operators should allocate adequate fund in network infrastructure and technology that can enable operators to provide sufficient services.

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