2019 SUBSCRIBER/NETWORK DATA REPORT

PREPARED BY:

POLICY COMPETITION AND ECONOMIC ANALYSIS DEPARTMENT

NIGERIAN COMMUNICATIONS COMMISSION

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Chapter One

1. Introduction

The Nigerian Communications Commission (NCC) is the national Regulatory Agency of the Communications Industry in Nigeria. The Commission is empowered by the Nigerian Communications Act 2003 which requires amongst others to:

- Facilitate private investment and entry into the Nigerian telecoms Market for the provision of telecoms services as well as supply of equipment and facilities
- Licensing companies to provide communications services
- Create much needed conducive environment for investors in the telecoms environment
- Ensure fair competition amongst players in the industry
- Ensure subscribers are protected from unfair practices by telecommunications providers

The 2019 Year End Subscriber/ Network Report for the Nigerian Telecommunication Industry was collated from Licensees that were responsive to the questionnaires administered by the Commission for the period ending December 2019.

The questionnaires were administered to four (4) Categories of operators which include:

1. ***Mobile (GSM)***
2. ***Fixed Telephony Operators (Fixed/ Fixed Wireless)***
3. ***Internet Service Providers (ISPS)***
4. ***Others Operators (Operators Other than Mobile & Fixed Telephony, ISP's)***

A synopsis of statistical highpoints in the report are stated below:

i. **Telecoms Industry Network/Subscriber Statistics** – Subscriber number increased with a total of **11,828,315** from **172,871,094** subscribers in 2018 to record high of **184,699,409** active voice subscriptions as at December 2019. This represent about **6.84%** increase in total subscription within the period under consideration. There are also a number of other operators offering a bouquet of services ranging from not only Voice and Data services, but also VAS, Infrastructure and collocations and other ICT Services.

ii. **Teledensity –** the measure of the level of adoption of telephony usage or the access to telecommunication services in Nigeria declined from 123.48% as at the end of December, 2018 to 96.76% as at December 2019.

The decline was as due to Managements' approval to apply the UN Population data of Nigeria as at December 2017 and adopted by ITU that Projected the Population figure which stood at **190,886,311 from 140, 000,000 initially applied for the calculation of teledensity as represented by the National Population Commission.**

iii. **Broadband Penetration** stood at 37.80%, representing a total of 72,153,824 subscription as at December, 2019.

iv. **Contribution to the (GDP) –** Telecoms industry contribution to the Nigerian Gross Domestic Products has been on a steady rise from **9.85% as at December 2018** to **10.60%** in the Fourth Quarter, 2019.

v. **Capital Inflow (Foreign Direct Investment)** into the Nigerian Telecoms Industry was approximately Nine Hundred and Forty Two Million Eight Hundred and Sixty Three Thousand Eight Hundred and Thirty Three US Dollars and Ninety Six Cents (**USD 942, 863,833.96** million) as at Year 2019. (Source CBN).

However CAPEX expenditure (domestic investment) was collated as Four Hundred and Ninety Four Billion, Seven Hundred and Twenty Seven Million, Four Hundred and Thirty Thousand, Six Hundred and Fifty Five Naira, Ninety Three kobo **(N494, 727,430,655.93)** based on submissions from responsive Licensees.

vi. **Infrastructural Development** - A substantial telecom infrastructure growth was recorded in 2019 by Telecoms providers, as seen below:

(1) A total of **58,755 Base Trans receiver Stations (BTS)** and **Colocation Towers** was recorded.

(2) **Microwave** coverage stood at 302,036.56km with 124 **Gateways** in use by the Industry.

(3) Fiber Optics Deployment stood at 104,397.32**km** (82,585.32 terrestrial fiber & 21,812km submarine cable).

vii. **Finance:**

2018 Year End Telecom Provider's Operating Cost and Revenue			
	Category	**Operating Cost (₦) 2018**	**Revenue (₦) 2018**
1.	**GSM**	**1,461,019,890,000**	**1,784,754,010,000**
2.	**FIXED**	**3,120,100,000**	**4,108,400,000**
3.	**ISP**	**36,861,669,324**	**43,829,309,568**
4.	**Other Telecom Operators**	**258,002,605,823**	**412,769,585,986s**
	Total	**1,759,004,265,147**	**2,245,461,305,554**
2019 Year End Telecom Provider's Operating Cost and Revenue			
	Category	**Operating Cost (₦) 2019**	**Revenue (₦) 2019**
1.	**GSM**	**1,392,001,130,000.00**	**1,961,582,490,000.00**
2.	**FIXED**	**3,704,500,000.00**	**4,304,900,000.00**
3.	**ISP**	**41,106,763,063.46**	**53,745,324,069.20**
4.	**Other Telecom Operators**	**319,927,316,381.14**	**449,138,465,530.00**
	Total	**1,756,739,709,444.60**	**2,468,771,179,599.20**

Table 1. Telecom Provider's Operating Cost and Revenue (2018 and 2019)

- **Revenue** increased from ₦ 2.245 Trillion in year 2018 to ₦ 2.468 Trillion as at the end of Year 2019. This represents a 9.93% increase in revenue Year on Year. (collation based on the submissions received)

- **Operating cost** declined slightly from N1.759 Trillion in year 2018 to N 1.756 Trillion as at end of Year 2019 representing a 0.2% loss within the period under review. (collation based on the submissions received)

viii. **Staff Count-2018**

GSM	FIXED	ISP	OTHERS	TOTAL
7,750	2,146	2,877	2,055	14,828

Table 2: Staff Profile as at Year End 2019

The Total number of staff for responsive licensees at Year end 2019 stands at 14,828 staff composition. A breakdown of the staff categories is disaggregated in the report of each category.

ix. **Analysis of Towers across the States-:** The top five states with highest number of towers are Lagos- 9,860; Ogun- 3,398; Rivers- 3,329; FCT- 3,034 and Oyo- 2,842; while the states with the least number of base stations are: Jigawa-316; Yobe- 422; Zamfara- 434; Gombe 521- and Kebbi- 561.

The number of existing base stations in the country invariably affects the quality of service (QOS) within the country thereby positively impacting the level of telephone penetration within the nation which equates to attracting foreign investment and growth in the telecoms industry.

This report is further disaggregated to the four (4) categories earlier listed above, to evaluate the performance of the Telecommunications Industry within Year 2019.

Chapter two

Telecoms Industry Review

TELECOM INDUSTRY REVIEW IN A YEAR- (December 2018- December 2019)

The year 2019 was quite an eventful year for the Nigerian Telecommunications Industry, having achieved and surpassed the National Broadband Plan's Broadband penetration target of 30% for Nigeria by 2018. The Broadband penetration rate has consistently increased year on year from 31.48% in December 2018 to 37.80% as at December 2019.

The industry witnessed substantial improvement in quality of service and network coverage across the country. Infrastructural deployment and upgrade was commendably improved, as most Mobile Network Operators (MNOs) embraced massive investments in 4G networks and rollout of services, which culminated in improved consumer satisfaction and increase in revenue streams as highlighted below:

- **Total Active Voice Subscriptions (December 2018- December 2019)**

  Total Active Subscriptions increased from **172,871,094** as at December 2018 to 184,699,409 as at December 2019. However, Teledensity declined from 123.48% to 96.76% respectively.

  The decline in Teledendity was due to the review of Population data of Nigeria of 140 Million to the ITU projected Population figure of 190,886,311 as at December 2017.

Segments by technology contained in active voice subscriptions reported as at December, 2019:

- The Mobile GSM segment has consistently maintained a lead over other technologies like CDMA, and Voice over Internet Protocol (VoIP) segments revealing the universality of GSM technology which has led to the reliability of cell-phone service and improved quality in both connection stability and ease of usage as per its mobility in nature. The GSM technology is the most popular subscription type used in the country.
- The Mobile GSM segment subscription has the larger part of the reported subscription as at December, 2019.
- GSM subscriptions grew from 172,485,805 in December, 2018 to 184,426,187 recorded in December, 2019. This indicates an increase of over 11.9 million subscriptions in the GSM technology translating to a 6.9% increase.

- Within the period reviewed, the CDMA segment seized to exist due to technical/ operational challenges reported by the Operators. However it is worthy to note that following the acquisition of Visafone by MTN Nigeria, all Visafone subscribers has been transferred to the GSM band.
- The Fixed Wired/Wireless segment also experienced a decline as subscriptions decreased from 140,491 in December, 2018 to 107,154 as at December, 2019.

An illustration of the Active Voice Subscription in the period under review is illustrated below in table 3:

Service Category	Active Subscriptions (December'18)	Active Subscriptions (December'19)	Difference between (December'18 and December'19)	Percentage Change (%)
Mobile (GSM)	172,485,805	184,426,187	11,940,382	6.9
Mobile (CDMA)	124,092	-	-	-
Fixed Wired	140,491	107,154	(33,337)	(23.7)
Voice over Internet Protocol(VoIP)	120,706	166,068	45,362	37.6
Total	172,871,094	184,699,409	11,828,315	6.8
Teledensity (140m)	123.48	131.93	8.45	6.8
Teledensity (190m)	90.56	96.76	6.2	6.8

Table 3: Active Voice segment (December, 2018 – December, 2019)

By technology, the Mobile (GSM) segment has 99.8, Fixed Wired 0.1% and VoIP 0.1%.

MOBILE (GSM)	FIXED WIRED	VOICE OVER INTERNET PROTOCOL (VoIP)
99.8%	0.1%	0.1%

Table 4: Active Voice Segment by Technology (as at December, 2019)

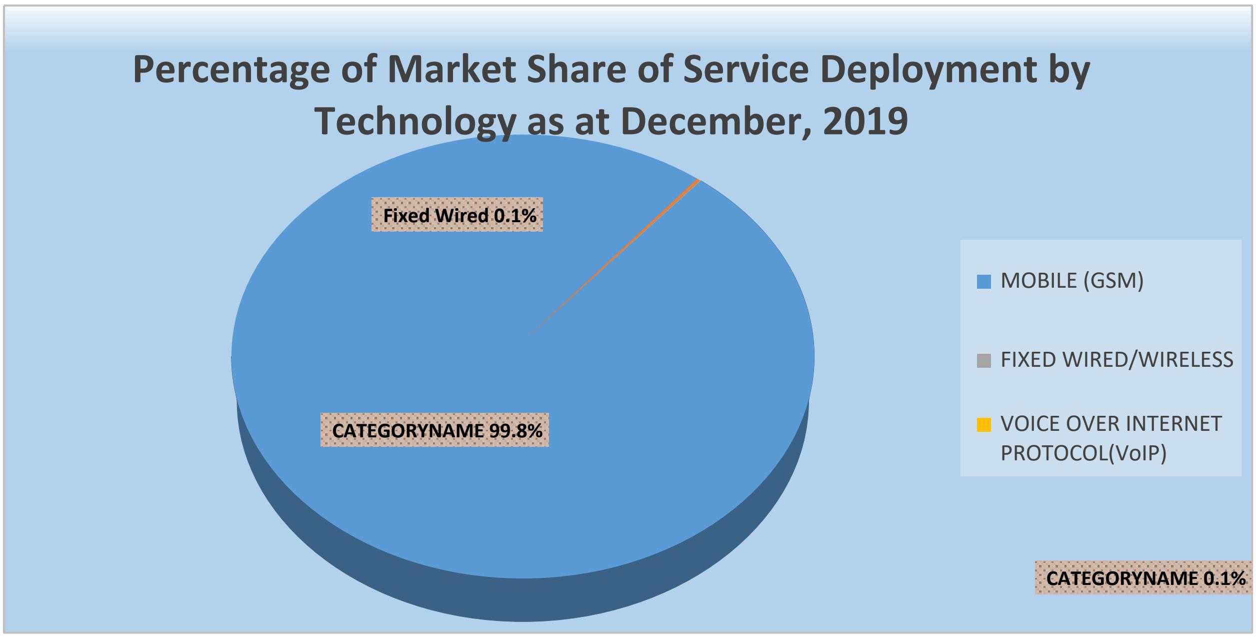

Figure 1: Percentage of Market Share of Service Deployment by Technology as at December, 2019

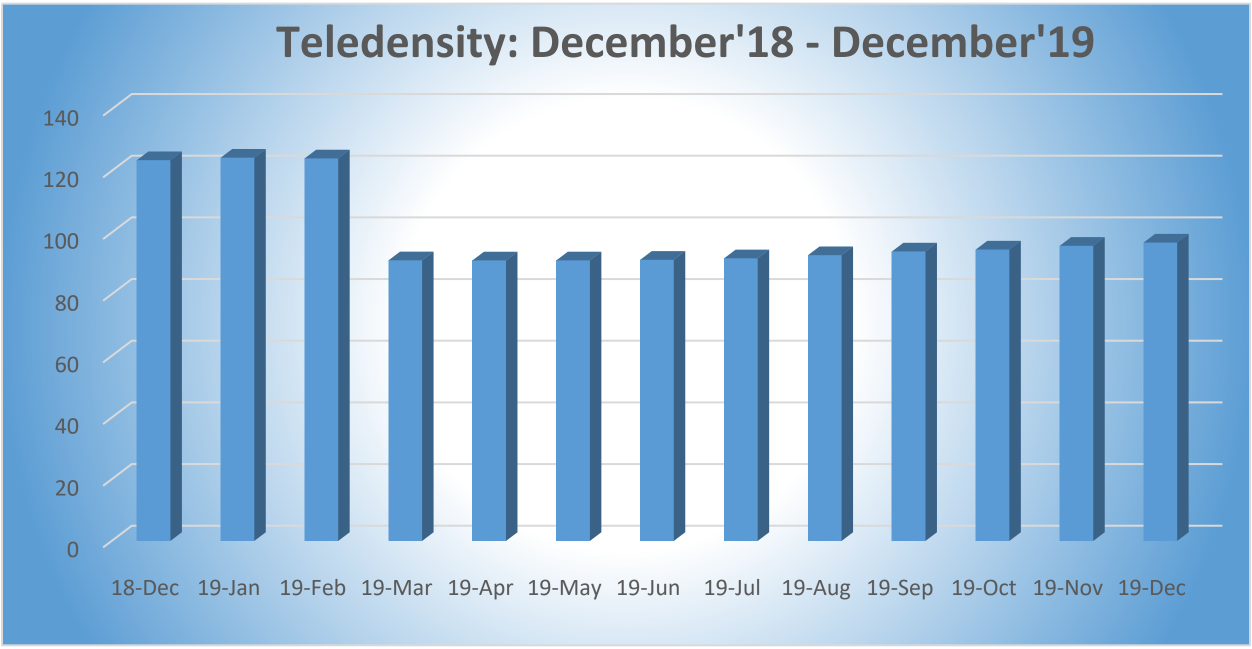

Figure 2: Total Active Voice Subscriptions (December 2018- Decembers 2019)

Trend of Teledensity (December, 2018 – December, 2019)

Teledensity decreased from **123.48% in December 2018** to 96.76% **% in December 2019.** Please not that there was a review on the formula to calculate the measure of the level of adoption of telephony usage or the access to telecommunication services in Nigeria which expressed a declined from 123.48% as at the end of December, 2018 to 96.76% as at December 2019.

The decline was as due to a review of the formula to apply the UN Population data of Nigeria as at December 2017 as adopted by ITU that Projected the Population figure which stood at 190,886,311 from 140, 000,000 initially applied for the calculation of teledensity as represented by the National Population Commission.

Teledensity from December, 2018 - December, 2019

YEAR	18-Dec	19-Jan	19-Feb	19-Mar	19-Apr	19-May	19-Jun	19-Jul	19-Aug	19-Sep	19-Oct	19-Nov	19-Dec
Teledensity	123.48	124.29	124.05	91.0	90.97	90.98	91.17	91.65	92.67	93.87	94.5	95.71	96.76

Table 5: Teledensity (December, 2018 - December, 2019)

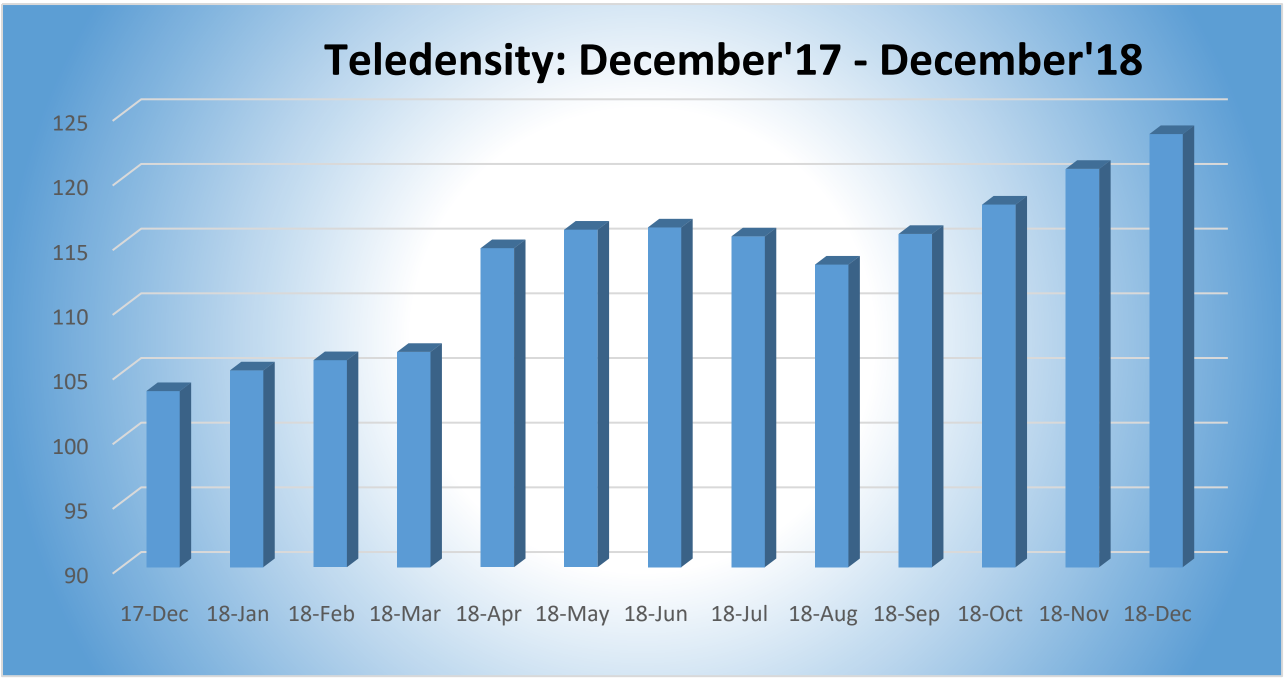

Figure 4: Teledensity (December, 2017- December, 2018)

Chapter Three

ANALYSIS OF 2019 YEAR END SUBSCRIBER / NETWORK DATA– MOBILE GSM TELEPHONY

A. NETWORK DATA

1a. Base Stations for Mobile: As at December, 2019 the total base stations owned by Mobile telecoms operating companies increased to 34,033 base stations from 30,637 in December, 2018 across all states of the Federation representing an increase of 11.1% from the previous year. As at December, 2019 MTN owned the highest number of base stations standing at 16,796 base stations; while others owned the following AIRTEL- 8,924; GLO- 7,516; NTEL- 675; EMTS- 120 and SMILE- 2 base stations.

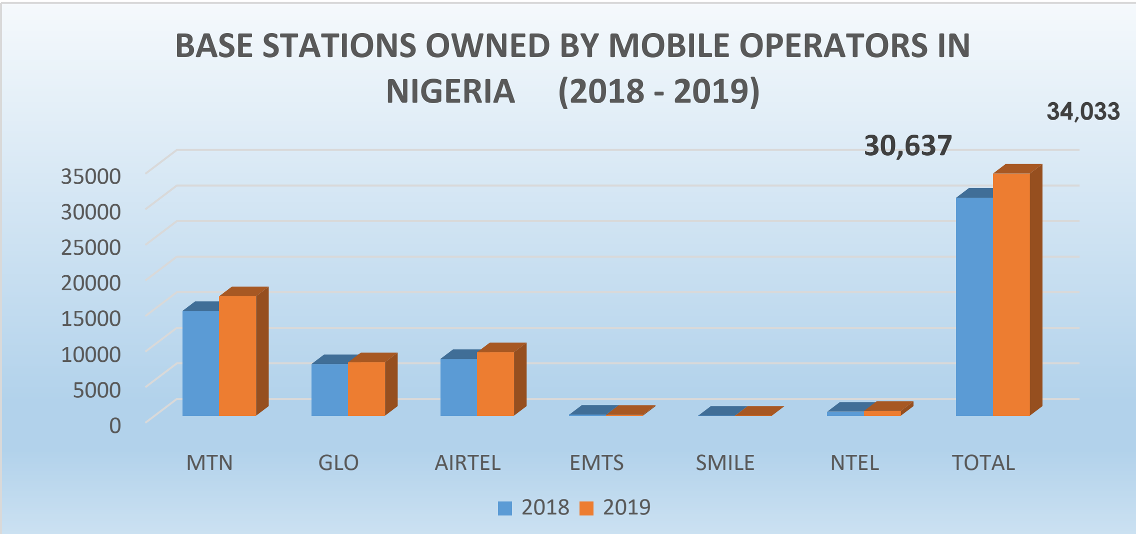

Figure 4. Number of Mobile (GSM/VOIP) Base Stations in Nigeria (2018 - 2019)

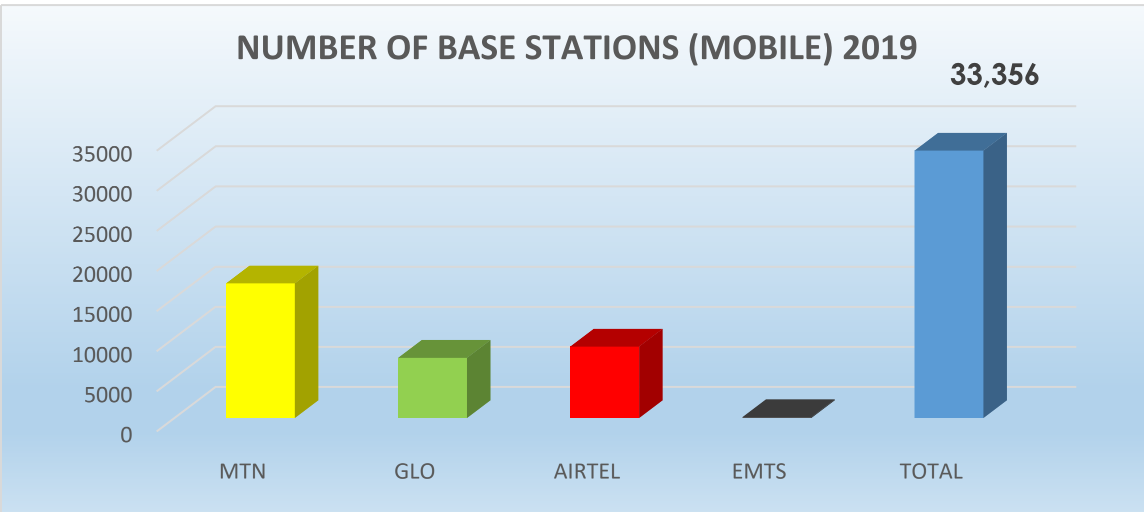

Figure 5. Number of Mobile (GSM) Base Stations in Nigeria (2019)

1b. Per State Base Stations Analysis for Mobile: The top five states with highest number of base stations are Lagos- 5,375; Ogun- 2,122; Rivers- 1,989; FCT- 1,826 and Oyo- 1,446 while states with the least number of base stations are: Yobe-244; Zamfara- 248; Gombe- 305; Jigawa 316; Ebonyi 328 and Kebbi- 330.

2. **Infrastructure Deployment in the Mobile Segment**; Includes all authorized operating telecommunications network designed, deployed, to provide, and operate telecoms network infrastructure as contained in their respective license document within the country. There are several technologies deployed and operating in the country as seen below.

2a. **Fiber Optics Deployment (km):**

i. As at December, 2019, **On-land** Fiber Optics in km was deployed as follows:- MTN – 14,612km; GLO - 13,255km; AIRTEL – 11,201km; EMTS - 4,650km and NTEL - 180km. In this segment, a total of 43,898.10km of fibre was laid in Year 2019 as against 40,370km laid in Year 2018. This is an increase of 8.74% of fibre outlay across the country in Year 2019. With the Commission`s engagement of the Nigeria Governors Forum (NGF) led by the Hon Minister of Communications and Digital Economy, Dr. Isa Pantami and the EVC of the Commission, Professor Umaru Danbatta most Governors have signed harmonized ROW charges of N145.00 per linear meter into law hence, the fibre outlay in Nigeria is expected to increase by the end of Year 2020.

	2018 (KM)	2019 (KM)
MTN	13,727	14,612
GLO	13,255	13,255
AIRTEL	8,558	11,201
EMTS	4,650	4,650
NTEL	180	180
TOTAL	***40,370***	***43,898.1***

Table 6: Fibre outlay by Operators in Year 2018-2019

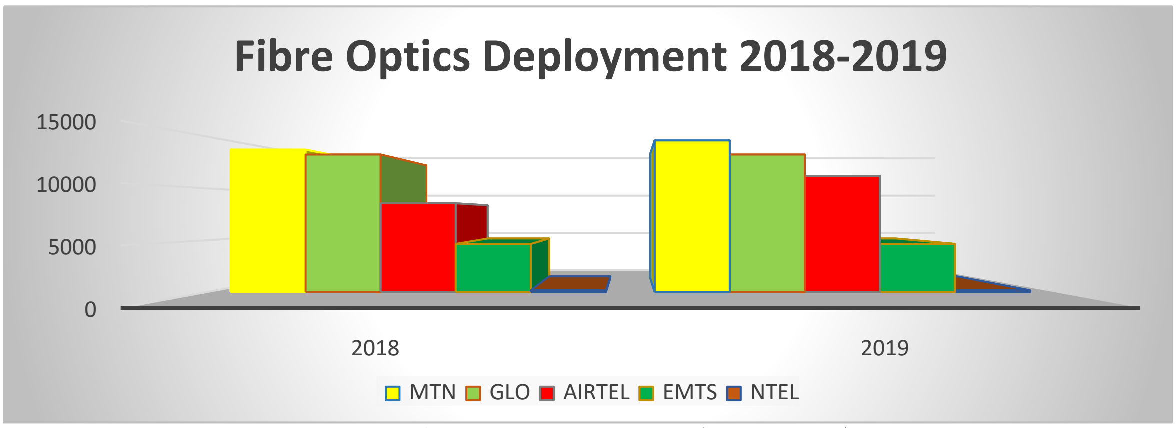

Figure 6. Fibre Optics On-Land Deployment in km (2018 - 2019)

ii. As at December, 2019, **Submarine** Fiber Optics in km was deployed by four Mobile operators as follows: - MTN-14,908km; GLO- 9,800km; AIRTEL – 14km and NTEL - 70km. The total submarine fibre deployment increased from 21,779km in Year 2018 to a total of 24,792km in Year 2019. This is an increase of 13.83% within the years under consideration.

iii. A further analysis of the **fibre Optics** deployed illustrates that of the total 55,712.4km fibre deployed as at December, 2019; 30,920.1km was used On-land while 24,792km was Submarine. MTN had the largest on-land and submarine deployment of 14,612km and 14,908km respectively as at December, 2019.

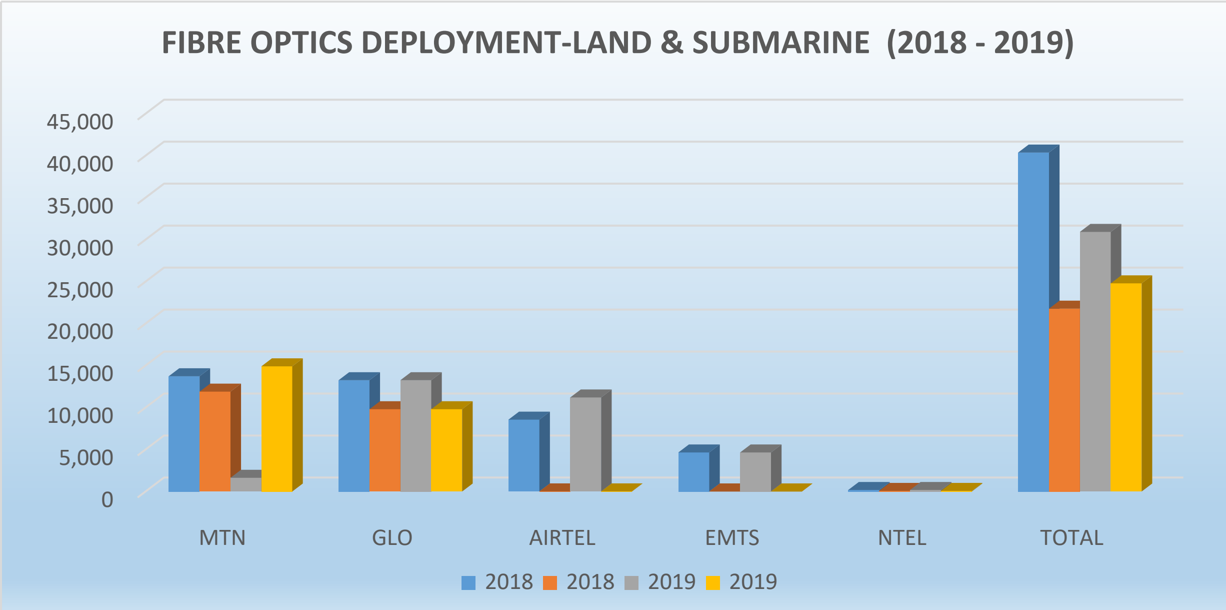

Figure 7. Fibre Optic On-Land and Submarine Deployment in Km (2018 – 2019)

2b. **Microwave Radio in (km)**: As at December, 2019 the Mobile operators had deployed a total of 301,740km of microwave radio links. This indicates a decrease from the 334,314km of microwave radio reported for 2018.
A further analysis of the microwave radio in km deployed illustrated that of the 301,740km links deployed as at December, 2019; MTN-114,996km; GLO had 57,382km; AIRTEL - 72,169905km; EMTS - 48,958km; NTEL - 4,552km and 2,948km.

GLO recorded a decrease in the microwave links because some of the backbone microwave links were decommissioned and the fibre core capacity increased to accommodate higher volumes of traffic.

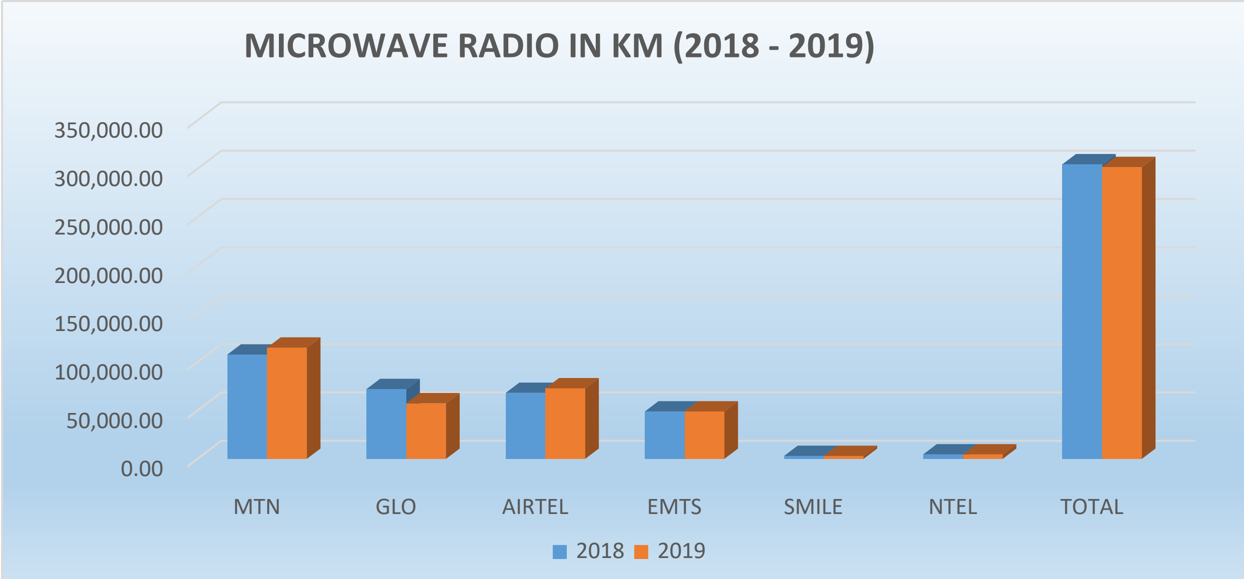

Figure 8. Microwave Radio in km (2018 – 2019)

2c. **Trunks in Use**: MTN, AIRTEL, GLO and EMTS had a total of 234,569 Trunks (E1) in use as at December, 2019 indicating a decline from 719,680 Trunks (E1) reported as at December 2018. Most Operators have implemented and evolved IP Capacities to carry volumes of data traffic hence the perceived reduction in E1.

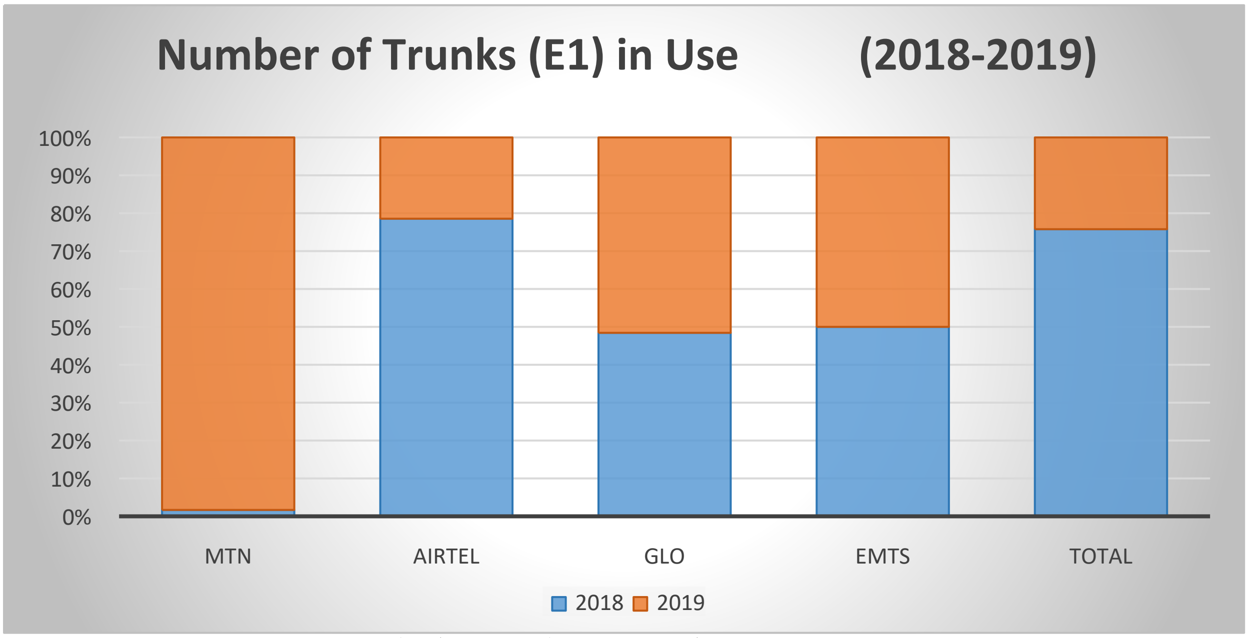

Figure 9. Number of Trunks (E1) in use (2018 – 2019)

2d. **Leased Lines in Use:** EMTS and SMILE had a total of 29 Leased lines in use as at December, 2019 indicating a slight decline from 37 leased lines reported as at December 2018. In summary, EMTS and SMILE each had 16 and 13 Leased lines in use respectively as at December, 2019.

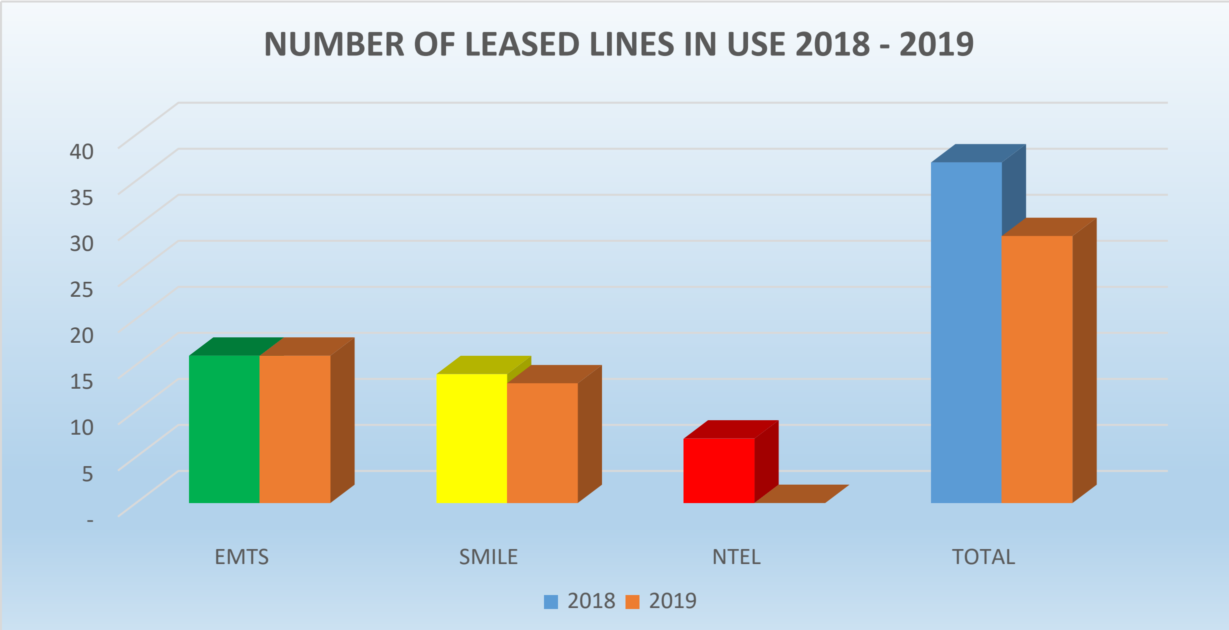

Figure 10. Number of Gateways in use (2018 – 2019)

2e. **Gateways in Use:** MTN, GLO, AIRTEL, SMILE and NTEL had a total of 63 Gateways in use as at December, 2019. A summary shows, MTN had 2; GLO -3; AIRTEL -16, EMTS – 39, SMILE -2 and NTEL -1 Gateways in use as at December, 2019.

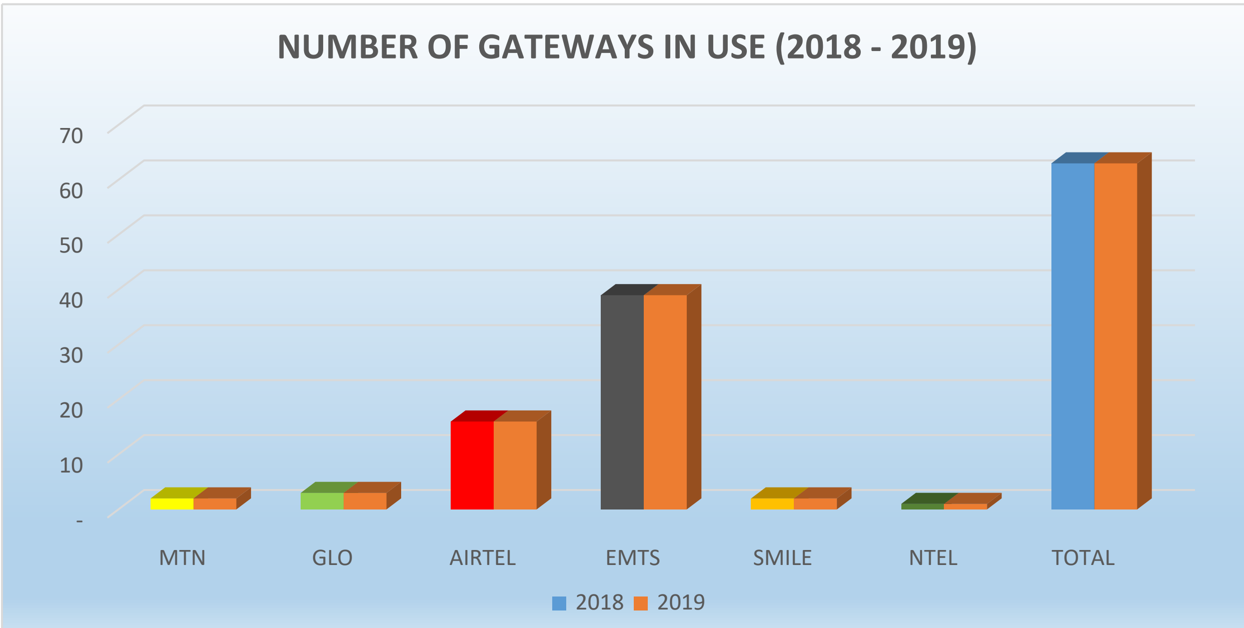

Figure 11. Number of Gateways in use (2018 – 2019)

B. SUBSCRIBER & SERVICE DATA – VOICE SUBSCRIPTIONS

1a. **Subscriber Voice Data & Teledensity (All Segments):** As at December, 2019 total active voice subscriptions for the entire service category was 184,699,409 while Teledensity was 96.76%. The active voice subscription increased from 172,871,094 subscriptions reported in December 2018 to 184,699,409 subscriptions as at

December 2019. However, Teledensity decreased from 123.48% as at December 2018 to 96.76% as at the end of December 2019.

The decrease in Teledensity was as a result of the change in the Population Figure used in calculating teledensity from of 140 million (census of Year 2006) to 190 Million as at March 2019.

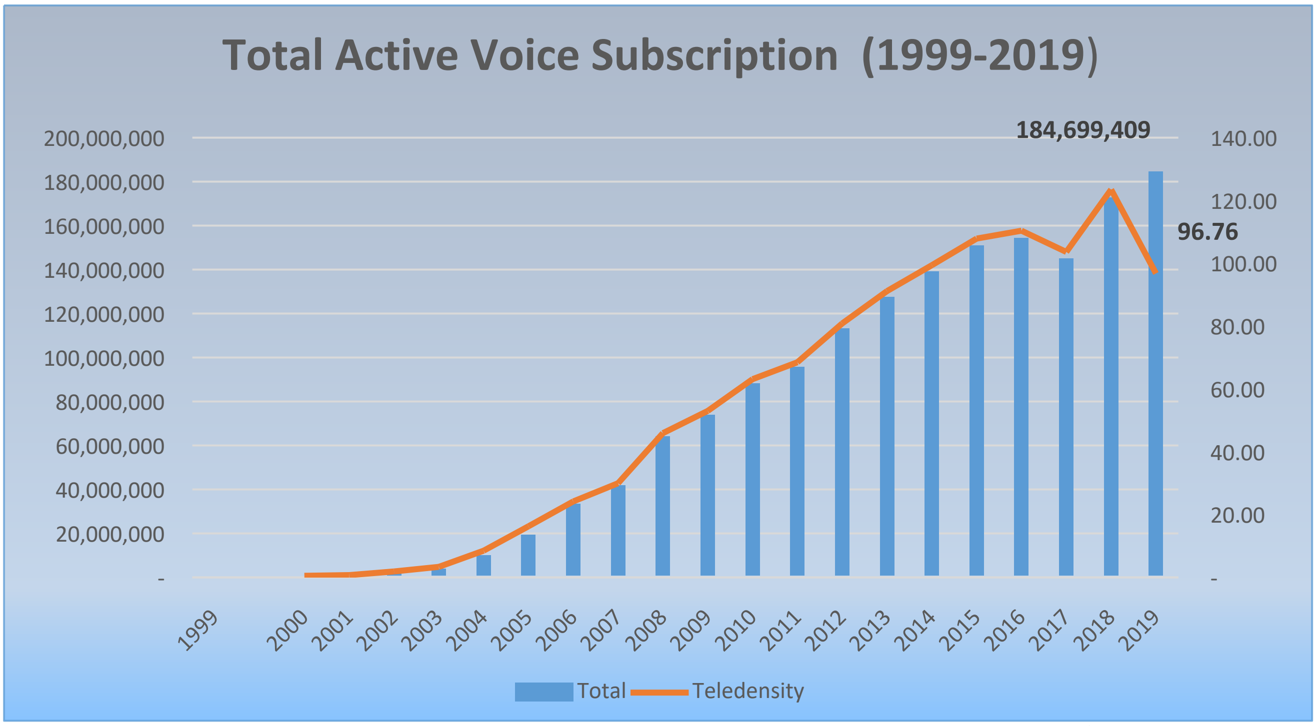

Figure 12. Subscriber Data- Active Voice Subscriptions &Teledensity (1999 - 2019)

1b. **Subscriber Voice Data & Teledensity (Mobile GSM- 2019):** In analyzing the annual Active Voice Subscription for Mobile (GSM) Segment, total active voice subscriptions increased from 172,485,805 subscriptions as at December 2018 to 184,426,187 as at December 2019. This indicates that there was a 7.0% increase year on year on the GSM Active Voice Subscriptions.

1c. **Active Voice Subscriptions of Mobile GSM Segment (2019):** Market Share of Mobile Operators was analyzed through the breakdown of operators each reflecting: ***MTN; GLO; AIRTEL; EMTS; & VISAFONE*** respectively had ***68,762,634; 51,700,052; 50,186,988; 13,641,995; 134,518;*** indicating that MTN; GLO; AIRTEL, EMTS & VISAFONE each had 37.3%; 28%; 27.2%; 7.4% &0.1% of the Mobile GSM Market Segment.

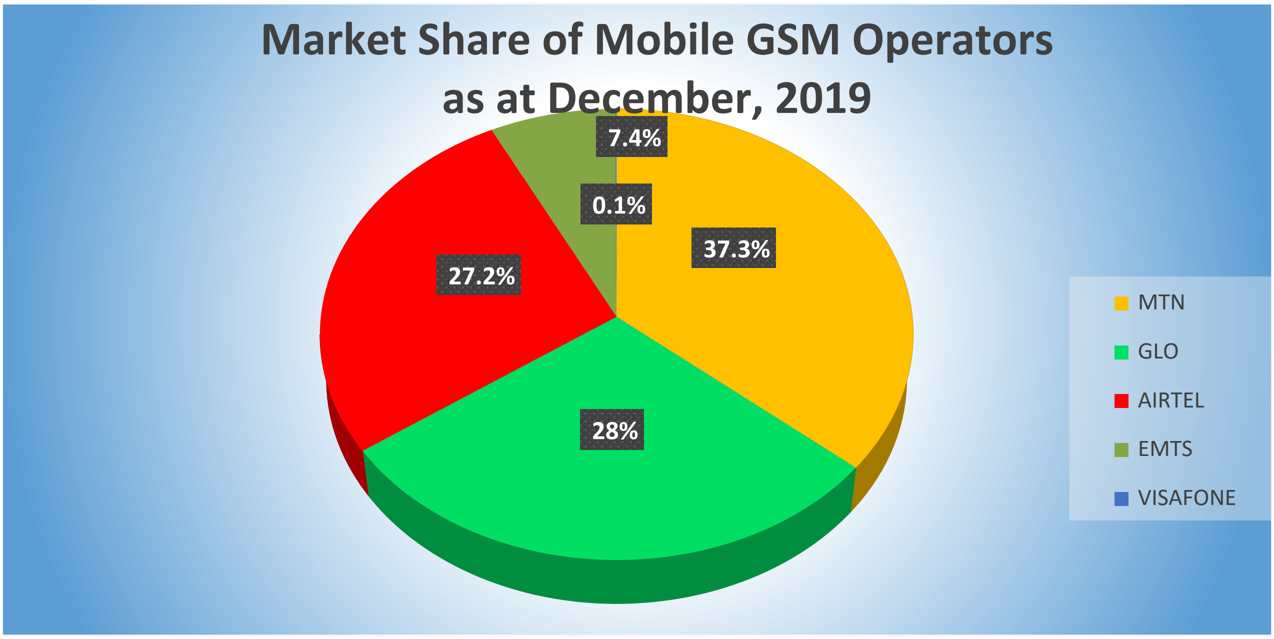

Figure 13. Market Share of Mobile GSM Operators – December 2019

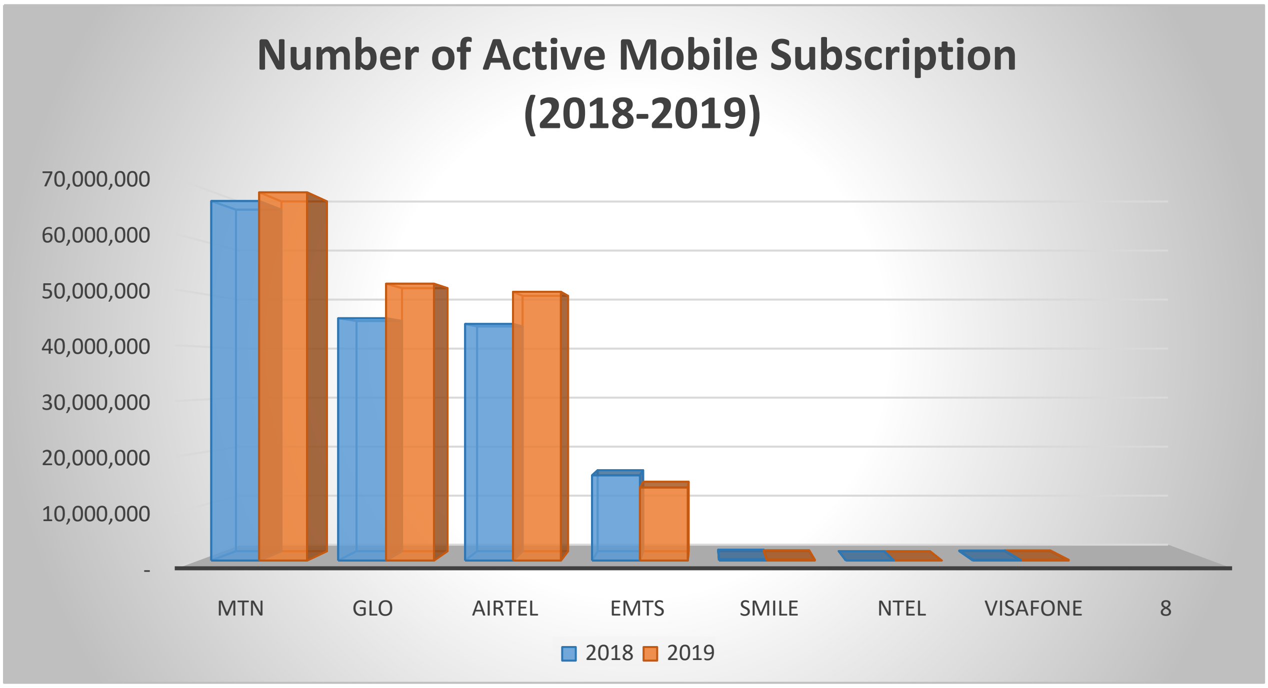

Figure 14. Active Voice Subscriptions of Mobile Segment, 2018 – 2019

1d. In analysing the annual trend of the ***Active Voice Subscription services in the country, for all market segments***;- the growth in voice subscription was ultimately driven by the mobile (GSM) market segment as this segment accounted for 99.8%, while, Fixed Wired and VOIP market segments each accounted for 0.1% each respectively of the entire market share in terms of technology deployment as illustrated in:-Table 1 and figure 13 below;

MOBILE (GSM)	FIXED WIRED	VOICE OVER INTERNET PROTOCOL (VoIP)
99.8%	0.1%	0.1%

Table 7: Percentage of Market Share of Service Deployment by Technology as at December, 2019

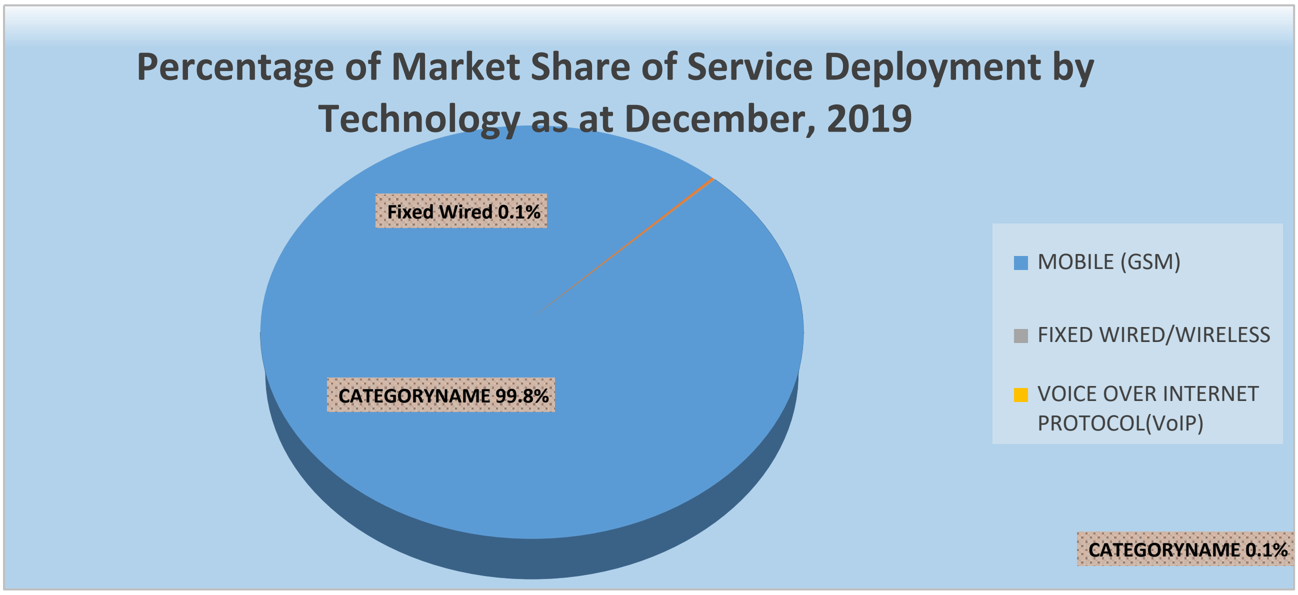

Figure 15: Percentage of Market Share of Service Deployment by Technology as at December, 2019

1e. **Prepaid & Postpaid Mobile Voice Subscriptions – 2019:**

i. Total prepaid voice subscriptions increased from 168,307,204 in December, 2018 to 179,383,423 in December, 2019 indicating a 6.6% growth in prepaid voice subscriptions in the year 2019.

ii. Similarly Postpaid voice subscriptions increased from 4,589,674 in December, 2018 to 5,208,832 in December, 2019 indicating an increase of 13.5% growth in postpaid voice subscriptions as at year end 2019.

iii. In summary, the above analysis indicates that about 97.1% of Mobile subscribers are prepaid subscriber while only about 2.8% are postpaid subscribers. As indicated in figure 13 below for each of the Operators.

iv. In Fig 14 below, 30% of the active subscription is in the southwest zone, while the Northwest has 18% of the Active Voice subscription, the Northeast has the least percentage of Active Voice subscription of 9%.

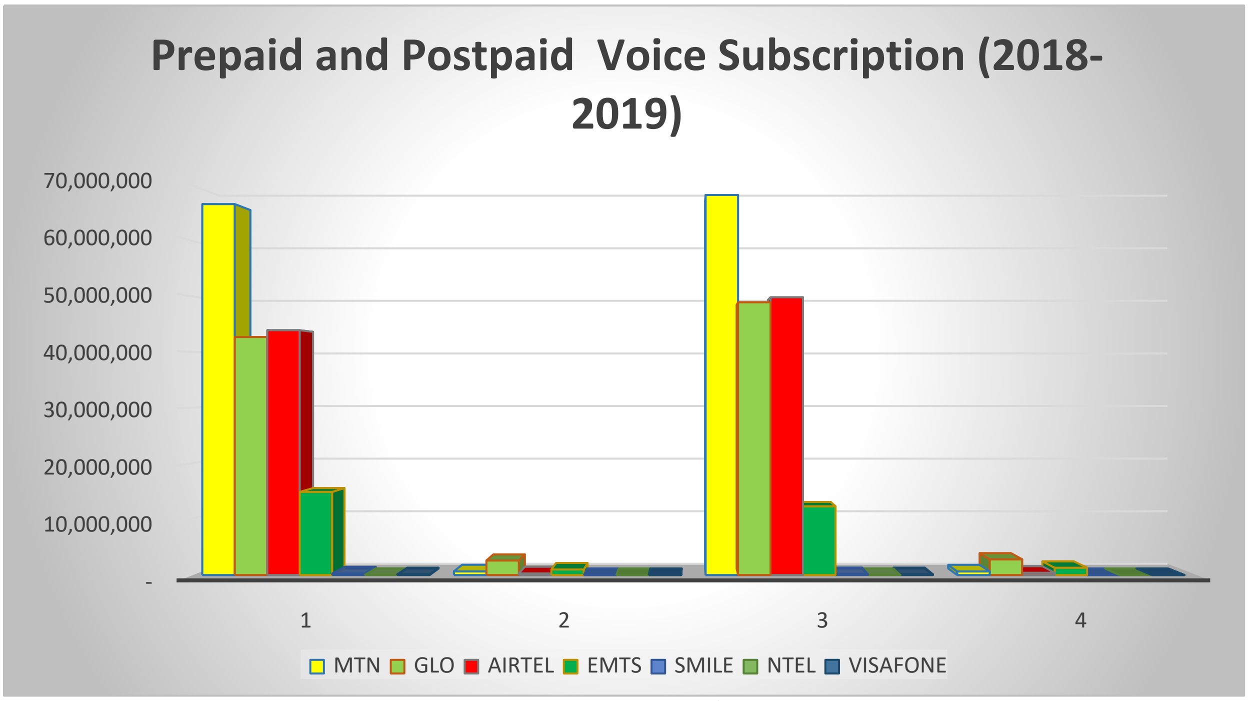

Figure 16: Prepaid & Postpaid Voice Subscriptions- Mobile 2018 – 2019

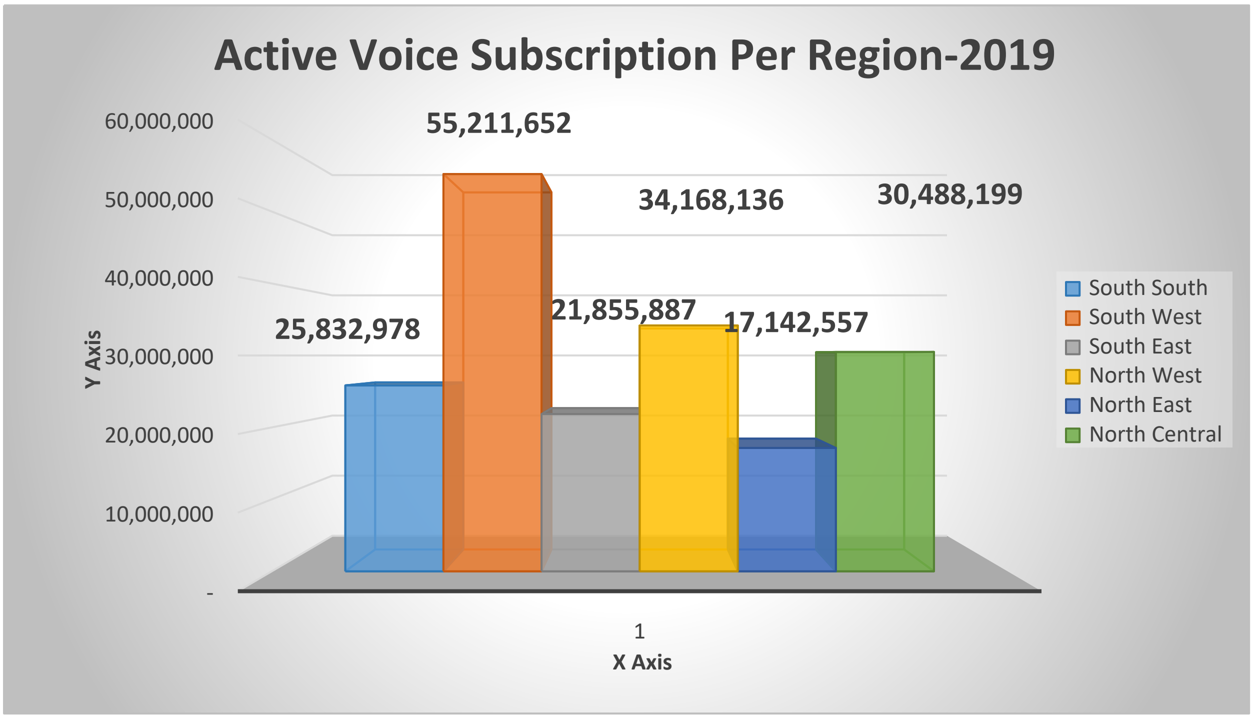

Figure 16a: Number of Active Voice Subscriptions per Region (2019)

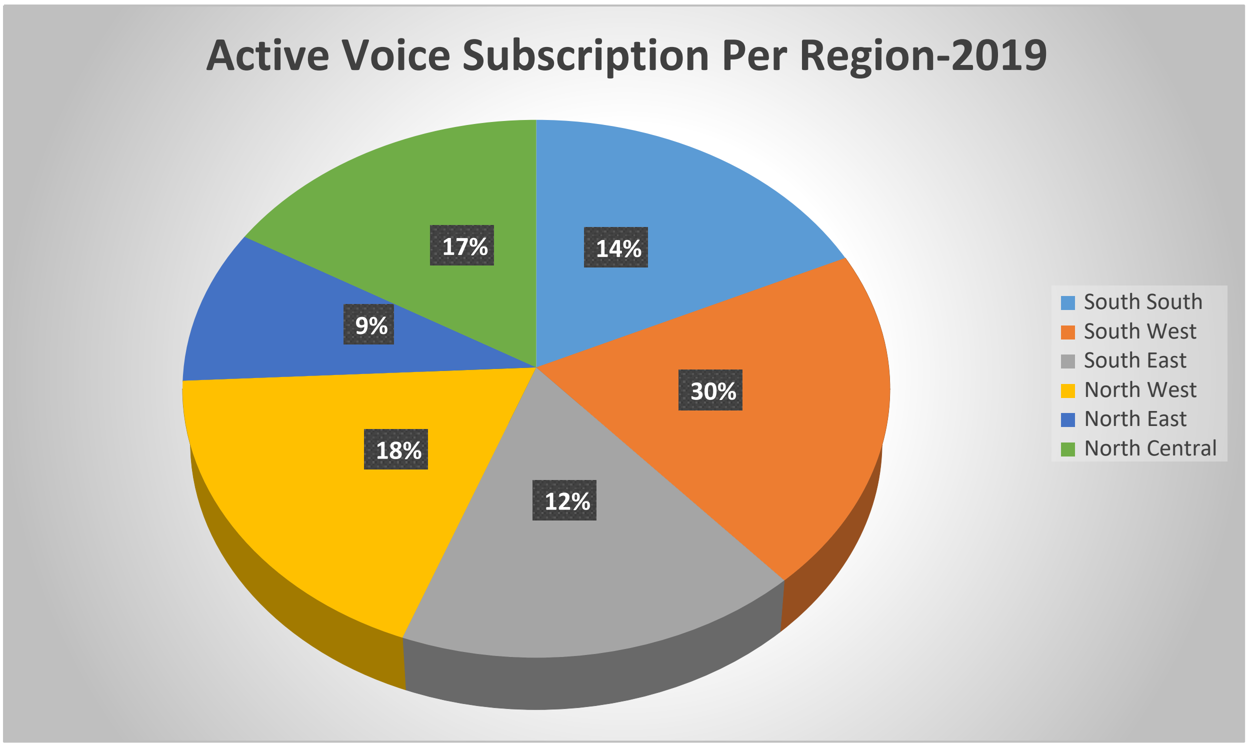

Figure 16b: Number of Active Voice Subscriptions per Region (2019)

1f. ***Total Number of Registered Mobile SIM-Based Subscribers:*** in line with the SIM Card registration exercise mandated by the Commission, Mobile Operators as at December, 2019 had registered a total of 260,173,997 subscribers in the country.

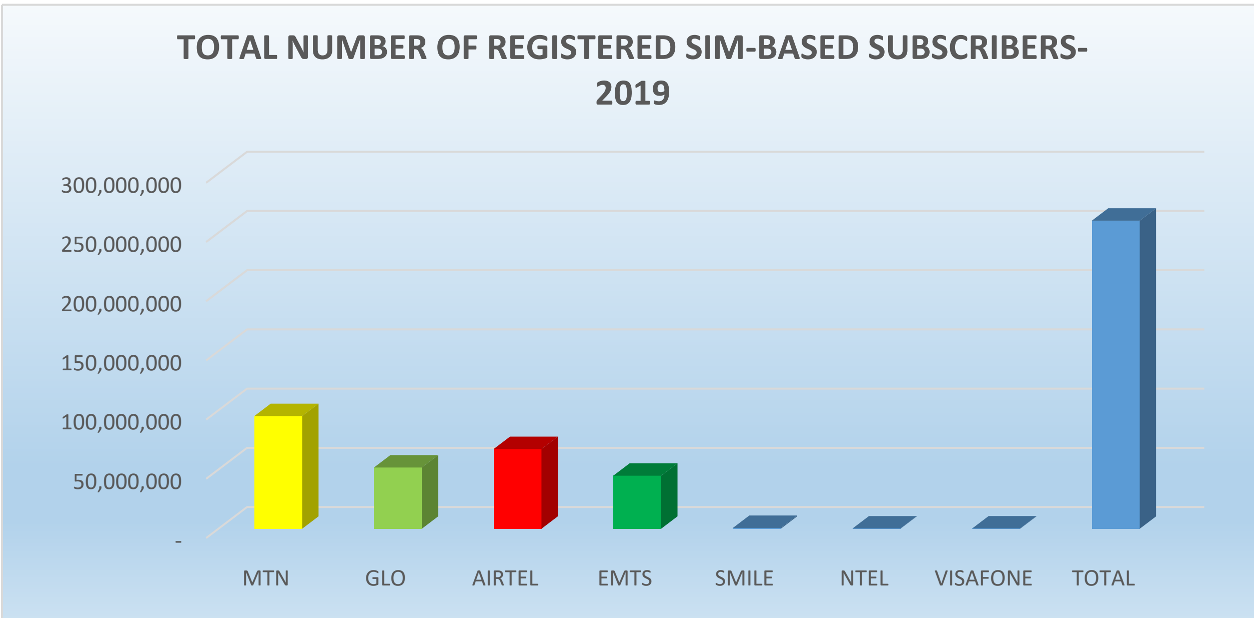

Figure 17: Total Number of Registered SIM- Based Subscribers (2019)

1h. **Machine to Machine (2019):** This refers to the number of Mobile-Cellular machine to machine subscriptions that are assigned for use in machines and devices for the exchange of data between networked devices, and are not part of a consumer subscription. As at December, 2019 the number of Mobile-Cellular machine-machine subscriptions as reported by **MTN, GLO, AIRTEL and EMTS** was 1,021,641. EMTS had the highest number of machine to machine subscriptions with 433,094 Airtel had 262,651, GLO had 196, 846 while MTN recorded the least subscriptions with 129,050 M2M subscription as shown in Figure 18 below;

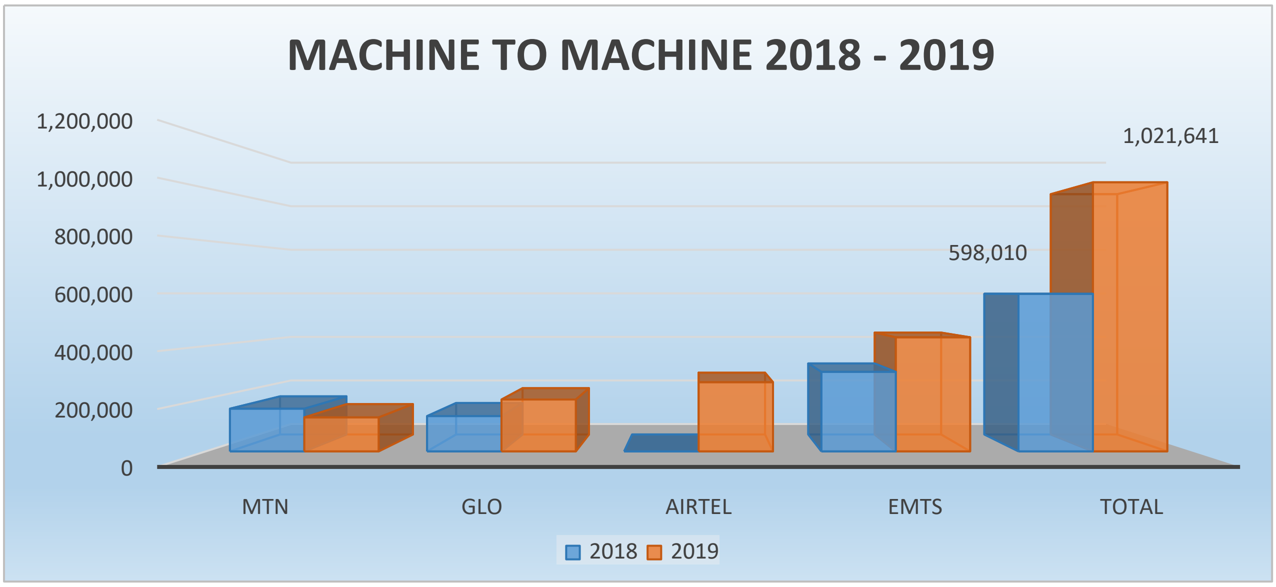

Figure 18: Machine to Machine Subscriptions (2019)

1i. **<u>Number of Data-Only Mobile-Broadband Subscriptions – Dongles (2019):</u>** This refers to subscriptions to mobile broadband services that allow access to the open Internet via hypertext transfer protocol (*HTTP*) and do not include voices services, i.e. Subscriptions that offer mobile broadband as a standalone service such as mobile-broadband subscriptions for data-cards, USB modem/dongle and tablets. MTN, GLO, AIRTEL and EMTS had a total number of 411,796 Data-Only Mobile-Broadband Subscriptions (Dongles) as at December, 2019.

In summary, MTN, GLO, AIRTEL and EMTS each had 99,667; 69,646; 225,806 and 16,677 Data-Only Mobile-Broadband Subscriptions (Dongles) respectively as at December, 2019.

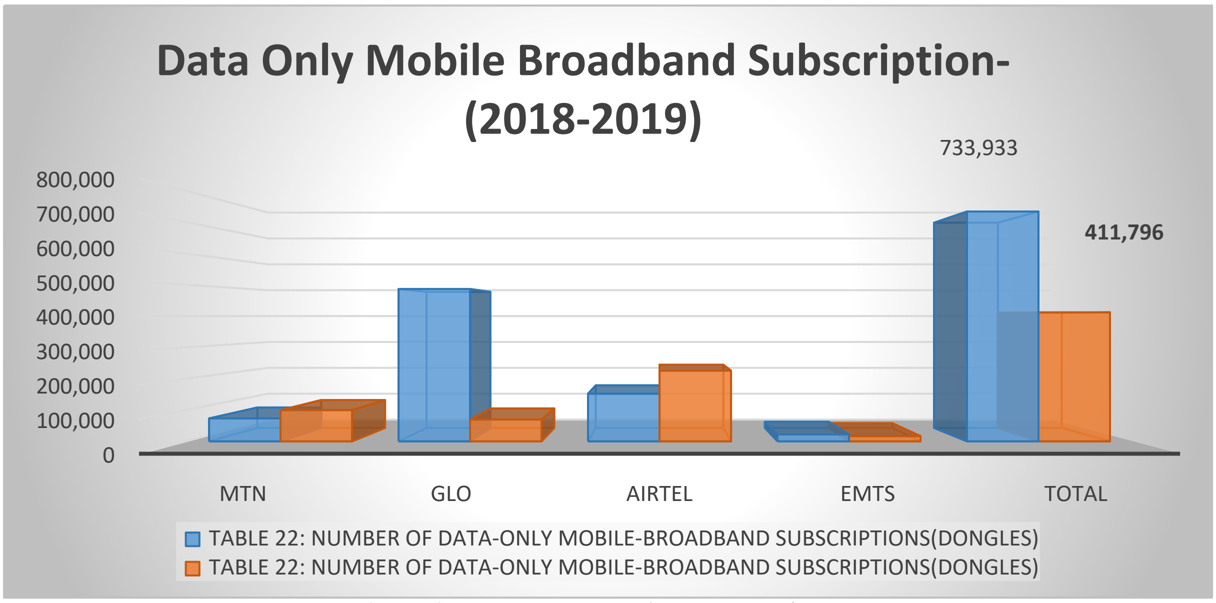

Figure 19: Data-Only Broadband Subscriptions (2018 - 2019)

1j. **Number of Data and Voice Mobile-Broadband Subscriptions – Smartphones (2019):** These are the subscriptions to mobile-broadband services that allow access to the open internet via hypertext transfer protocol (HTTP) and in which data services are contracted together with voice services(mobile voice and data plans)or as an add-on package to a voice plan. The number of Data and Voice Mobile-Broadband subscriptions increased from 47,663,680 recorded in December, 2018 to 65,223,080 as at December, 2019. MTN, GLO, AIRTEL, EMTS and NTEL each reported 26,937,125; 12,097,031; 18,137,426; 8,051,498 and 239,209 subscriptions as at December, 2019.

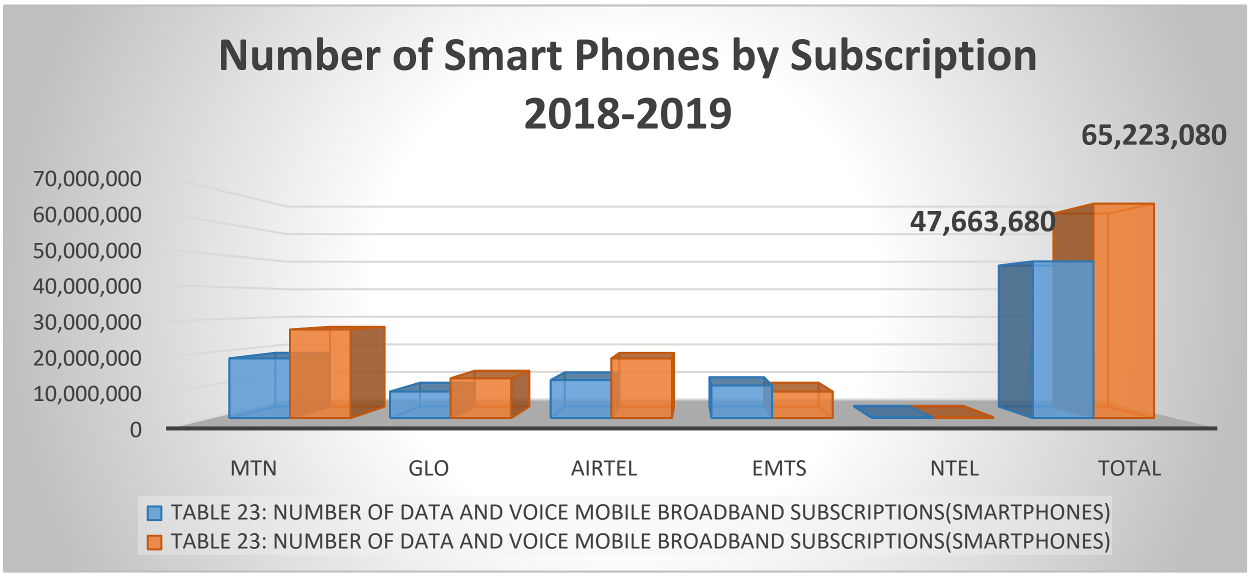

Figure 20: Number of Smartphones by Subscriptions (2018 - 2019)

1k. Mobile Voice Traffic Trend (2019): The table below represent the call traffic activities contained in the year 2019 as reported by Mobile operators in the county.

i. **Local and National Telephone Traffic in 2019:** As at December, 2019 total outgoing Local and National Traffic was 149,584,465,210 minutes while Total incoming Local and National Traffic was 137,443,737,222 minutes. MTN has the highest total outgoing and incoming Traffic of 97,291,656,781 and 98,822,793,320 minutes respectively in 2019.

NATIONAL TELEPHONE TRAFFIC 2019			
	Outgoing	Incoming	Transit
MTN	97,291,656,781	98,822,793,320	-
GLO	14,377,743,232	29,425,151	2,711,244
AIRTEL	32,852,157,562	32,928,895,996	116,821,689
EMTS	3,935,345,937	5,554,941,546	13,091,210
SMILE	276,607,911	37,785,628	-
NTEL	850,953,787	69,895,581	-
TOTAL	***149,584,465,210***	***137,443,737,222***	**132,624,143**

Table 8: Local and National Traffic in 2019

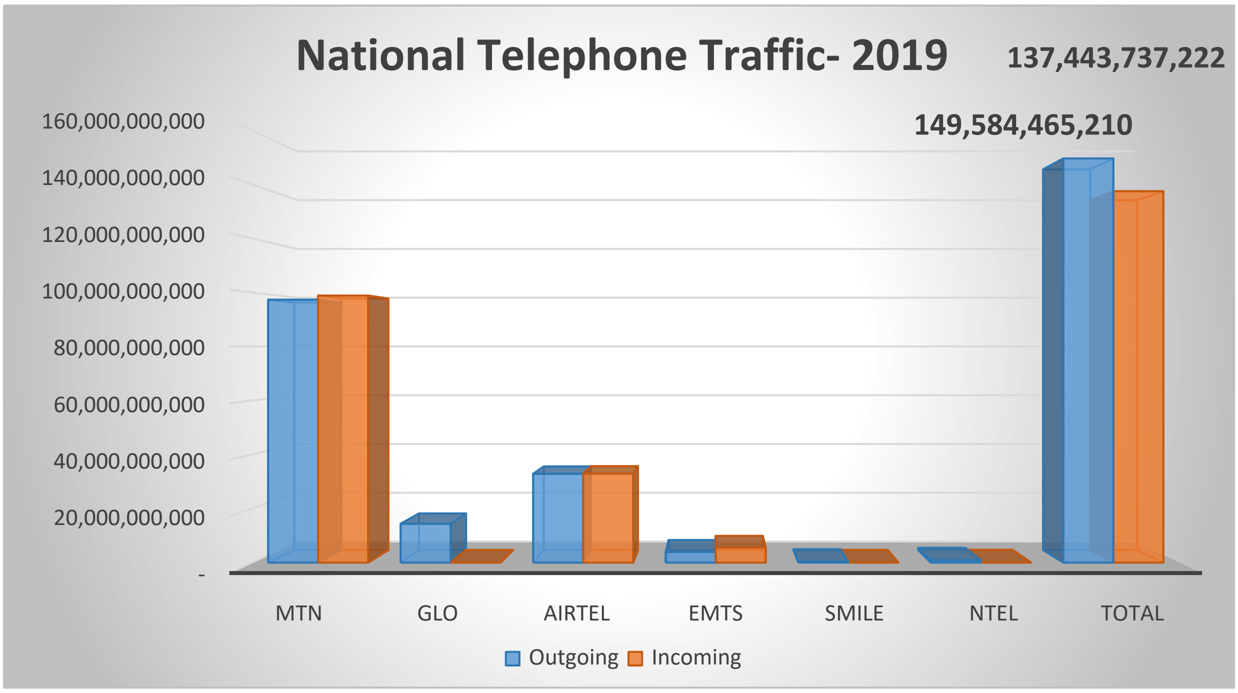

Figure 21: Local and National Telephone traffic – 2019

ii. **Outgoing and Incoming Mobile to (and) from International Traffic in 2019:** As at December, 2019 Total Outgoing Mobile International Traffic was 257,779,327 minutes while Total Incoming International

Traffic to Mobile was 1,704,807,799. MTN reported the highest Outgoing Traffic of 11,994,474 and the highest Incoming Traffic of 1,142,595,616 for the period under review.

OUTGOING/ORIGINATING & INCOMING MOBILE TO/FROM INTERNATIONAL TRAFFIC- 2019			
	Outgoing	**Incoming**	**Total**
MTN	11,994,474	1,142,595,616	1,154,590,089
GLO	83,423,597	187,867,508	271,291,105
AIRTEL	116,755,030	264,694,065	381,449,095
EMTS	45,033,892	108,897,281	153,931,173
SMILE	451,318	239	451,557
NTEL	121,016	753,090	874,106
TOTAL	***257,779,327***	***1,704,807,799***	**1,962,587,126**

Table 9: Outgoing and Incoming Mobile to / from International Traffic in 2019

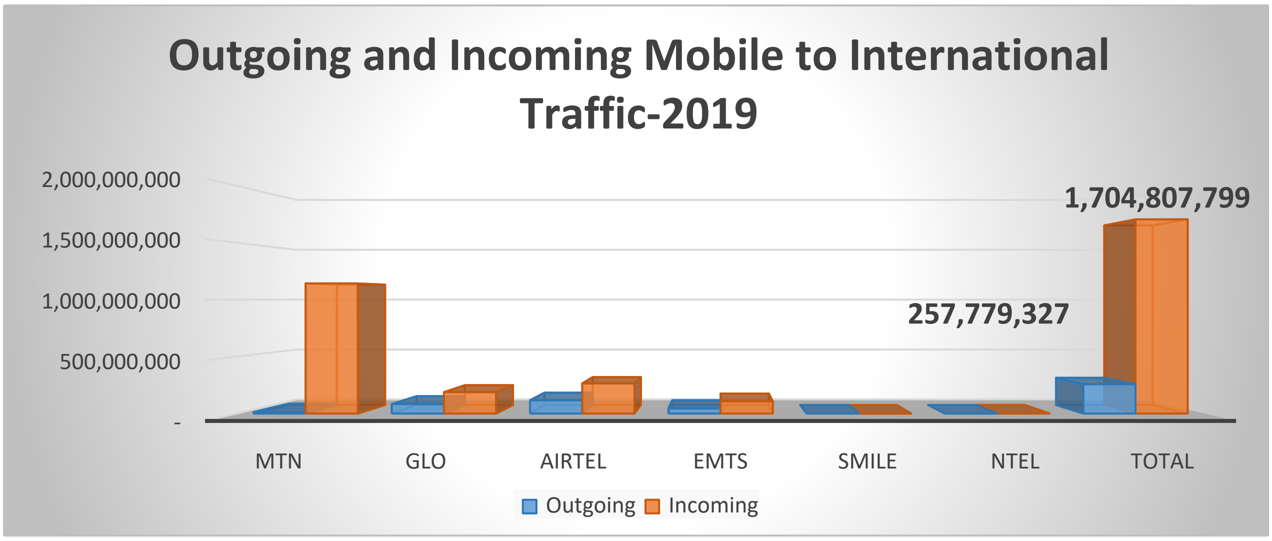

Figure 22. Outgoing and Incoming mobile to /from International traffic - 2019

iii. **<u>Mobile to Mobile Voice Call Traffic in 2019:-</u>** As at December, 2019 total outgoing traffic Mobile to Mobile minutes was 126,167,620,570 while total incoming Mobile to Mobile minutes was 83,310,690,945. MTN reported the highest Outgoing Traffic of 95,171,038,553 and the highest incoming Traffic of 62,181,849,345 for the period under review.

MOBILE TO MOBILE TRAFFIC -2019			
	Outgoing	**Incoming**	**Total**
MTN	95,171,038,553	62,181,849,345	157,352,887,898
GLO	10,538,413,800	28,717,720	10,567,131,521
AIRTEL	15,753,419,175	15,999,004,328	31,752,423,503
EMTS	3,505,326,595	4,992,582,884	8,497,909,479
SMILE	276,607,911	37,785,628	314,393,539
NTEL	922,814,536	70,751,039	993,565,575
TOTAL	***126,167,620,570***	***83,310,690,945***	***209,478,311,514***

Table 10: Mobile to Mobile Voice Traffic 2019

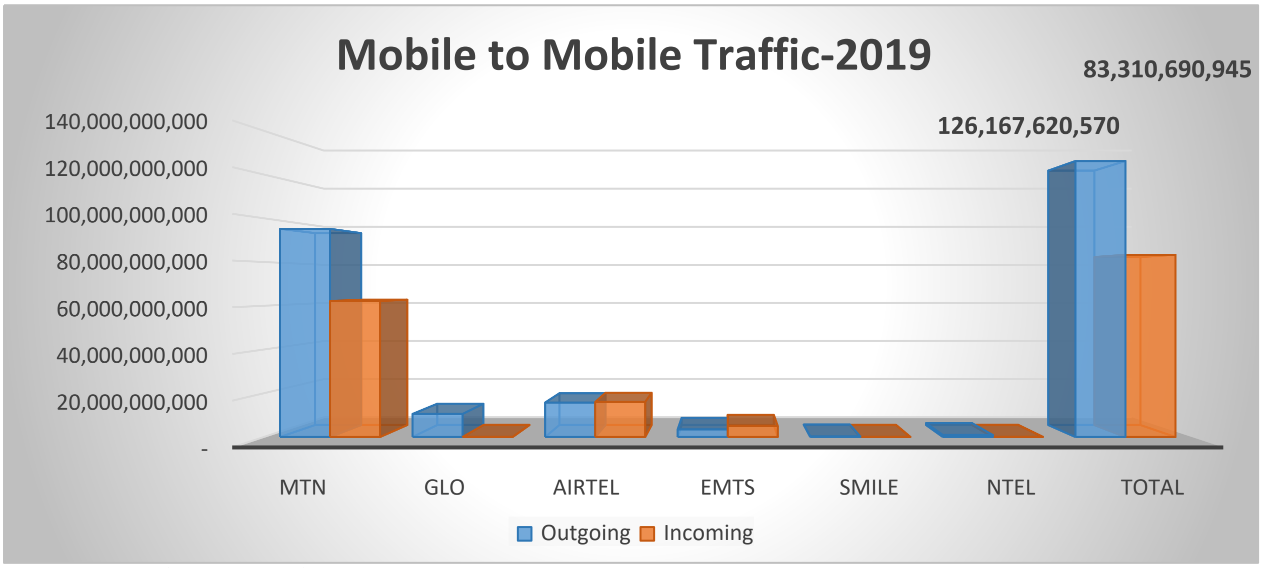

Figure 23: Mobile to Mobile traffic -2019

iv. **<u>Mobile to Fixed Voice Call Traffic in 2019:-</u>** As at December, 2019 Total Outgoing Mobile to Fixed minutes was *3,409,611,235* while Total incoming Mobile to Mobile minutes was 2,831,678,201. MTN reported the highest Outgoing Traffic of *3,371,528,214* and the highest Incoming Traffic of 2,767,861,963 for the period under review.

MOBILE TO FIXED TRAFFIC 2019			
	Outgoing	**Incoming**	**Total**
MTN	3,371,528,214	2,767,861,963	6,139,390,177
GLO	6,887,682	7,749	6,895,431
AIRTEL	25,789,150	55,936,043	81,725,193
EMTS	5,406,189	7,872,446	13,278,635
TOTAL	***3,409,611,235***	***2,831,678,201***	***6,241,289,436***

Table 11: Table of Mobile to Fixed Traffic in 2019

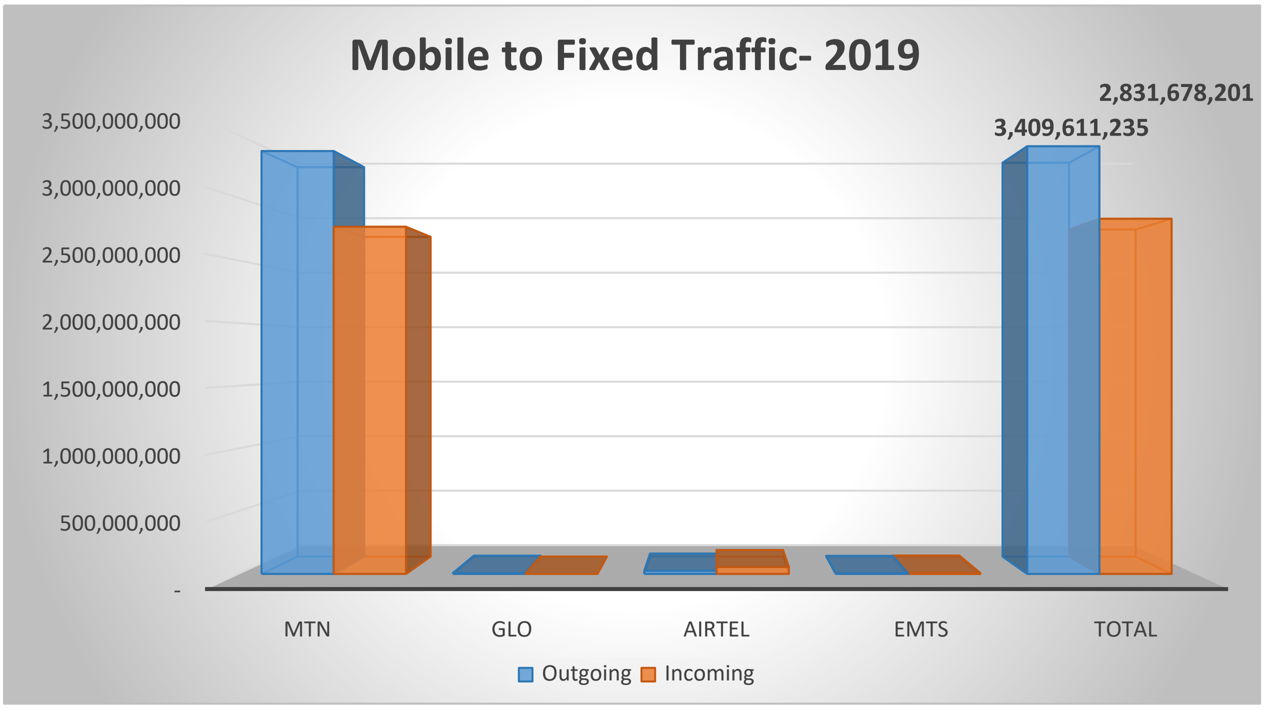

Figure 24: Mobile to Fixed traffic -2019

v. **<u>Number of Roaming Minutes in 2019:</u>** The Total Number of Mobile Roaming Minutes Outgoing and Incoming as at December 2019 for the Mobile Operators was 89,449,021 and 60,583,648 minutes respectively. MTN posted the highest incoming and outgoing minutes of 41,587,485 and 80,721,676 respectively. See Table 6 & Figure 23 below;

NUMBER OF ROAMING MINUTES 2019			
	Outgoing	**Incoming**	**Total**
MTN	80,721,676	41,587,485	122,309,161
GLO	1,947,583	8,382,761	10,330,344
AIRTEL	2,344,703	8,017,836	10,362,539
EMTS	4,435,058	2,595,566	7,030,625
TOTAL	***89,449,021***	***60,583,648***	***150,032,669***

Table 12: Number of Roaming Minutes (2019)

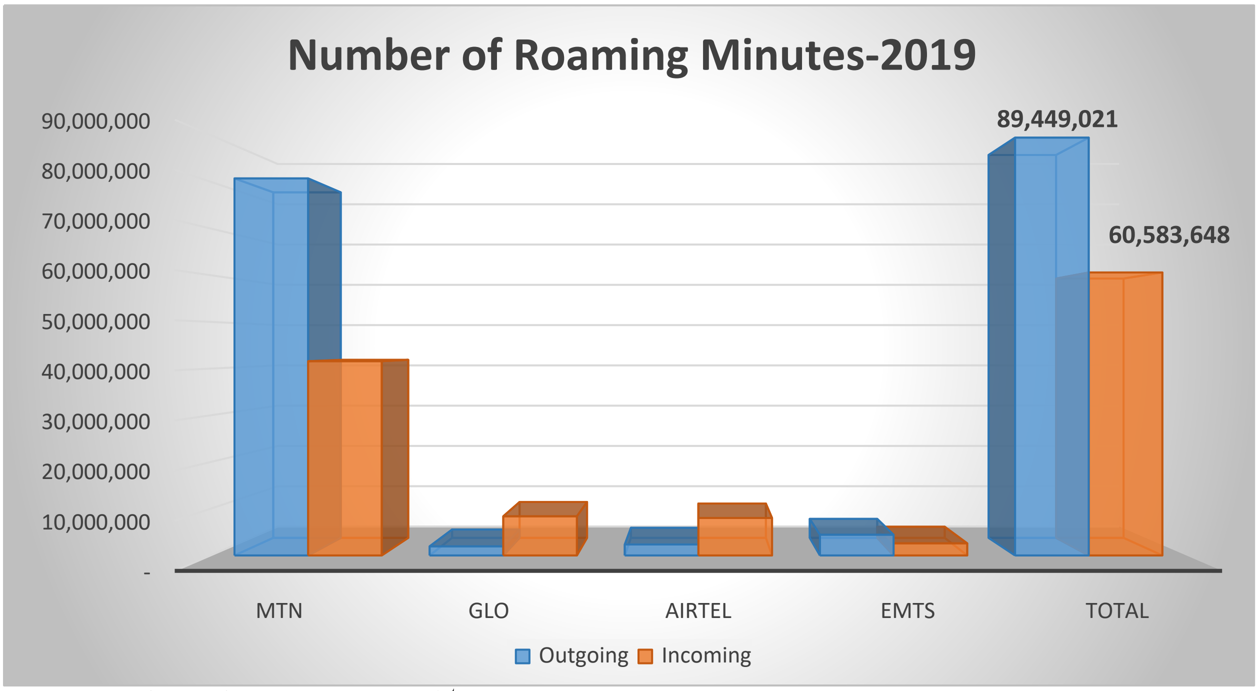

Figure 25: Number of Roaming Minutes-2019

vi. **National SMS in 2019:** The Total Number of National SMS **both** sent and received as at December 2019 was 30,769,238,165. This is an increase of 13.20% from that of the total SMS sent and received in year 2018 that stood at 27,185,938,325 SMS. There was a 3.30% decline in the number of SMS sent only in year 2019 (6,357,238,191) compared to year 2018 (6,578,246,199). Conversely, the Year 2019 count of Incoming SMS (24,411,999,973) is 18.46% higher than that of Year 2018(20,607,692,126).

GLO recorded the highest count of SMS received (18,441,693,811) in Year 2019 while MTN recorded the highest count of SMS sent (3,597,833,604) within the period under review. This is as indicated in table 7 and in figure 24 below;

SMS MESSAGES NATIONAL 2019			
	SMS Sent	**SMS Received**	**Total**
MTN	3,597,833,604	3,966,447,627	7,564,281,231
GLO	1,213,681,901	18,441,693,811	19,655,375,712
AIRTEL	1,126,882,431	1,595,359,468	2,722,241,899
EMTS	385,056,453	403,087,902	788,144,355
SMILE	29,571,303	1,852,458	31,423,761
NTEL	4,212,500	3,558,707	7,771,207
TOTAL	**6,357,238,192**	**24,411,999,973**	**30,769,238,165**

Table 13: Total number of Outgoing/Incoming Local/National SMS trend (2019)

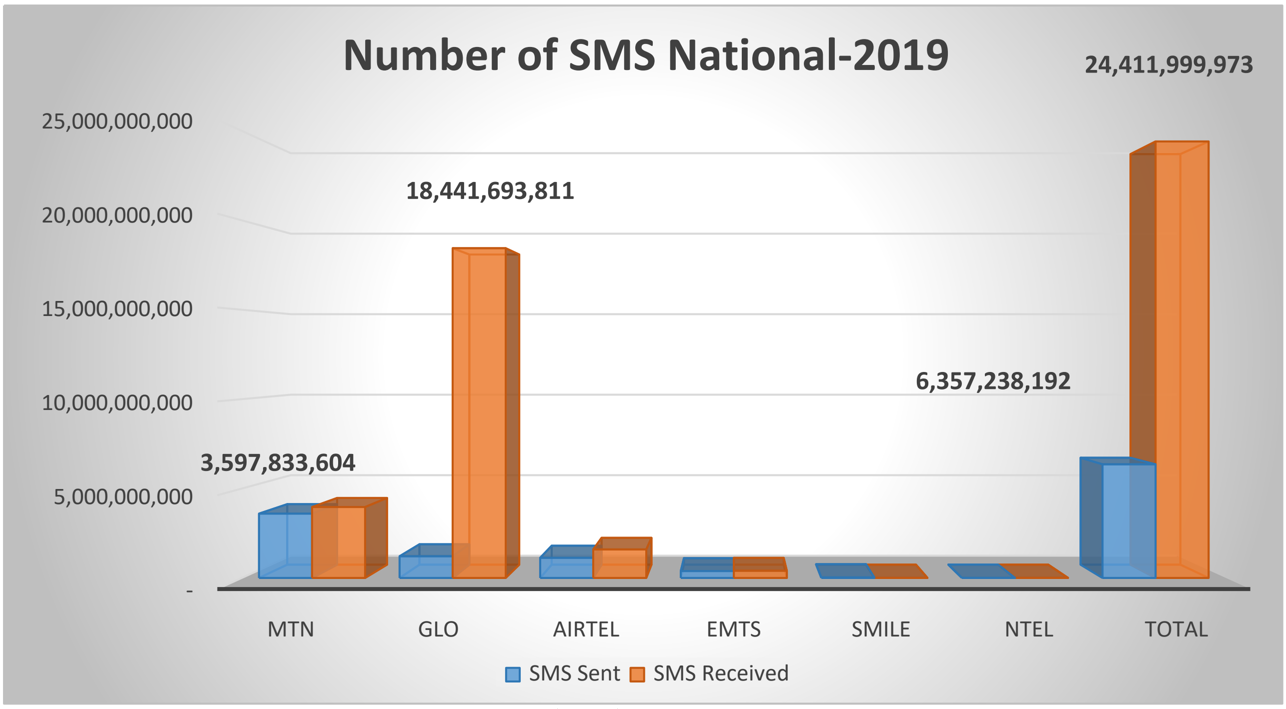

Figure 26: Total Outgoing / Incoming SMS, Mobile (2019)

vii. __International SMS in 2019:__ The Total Number of International SMS sent as at December 2019 was 56,205,299 while total number of SMS received was 183,518,472. See Table 8 & Figure 25 below;

TABLE 8: NUMBER OF SMS MESSAGES INTERNATIONAL				
	2018		2019	
	SMS Sent	SMS Received	SMS Sent	SMS Received
MTN	31,270,494	16,628,738	31,763,227	8,014,285
GLO	5,387,480	4,218,995	6,527,919	3,285,046
AIRTEL	10,449,140	43,724,017	15,349,064	135,442,243
EMTS	3,972,938	28,256,218	2,386,805	36,536,376
SMILE	348,016	20,395	23,800	85,968
NTEL	106,541.00	106,589	154,484	154,554
TOTAL	***51,534,609***	***92,954,952***	***56,205,299***	***183,518,472***

Table 14: Total number of Outgoing /Incoming International SMS trend (2019)

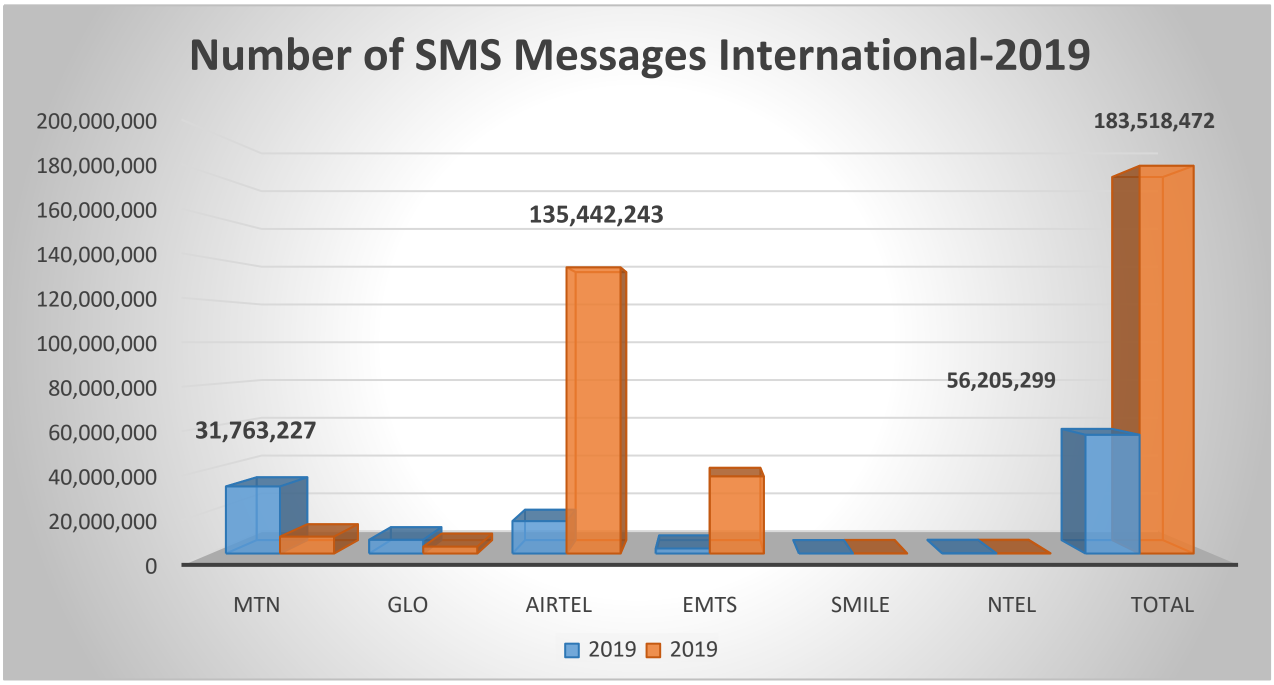

Figure 27: Total Outgoing / Incoming SMS International, Mobile (2019)

- Total Number of International SMS received increased from 51,534,609 in year 2018 to 56,205,299 as at Year 2019; this indicates a 9.1% increase in SMS international received in year 2019. Similarly, the Number of international SMS sent in year 2018 increased from 92,954,952 SMS to 183,518,472 SMS. This translated to 97.4% increase in the number of SMS in year 2019.

- Airtel recorded the highest count of incoming SMS 135,442,243 while MTN recorded the highest count of SMS sent 31,763,227 in year 2019. This is as shown in table 14 above.

C. SUBSCRIBER & SERVICE DATA – INTERNET SUBSCRIPTIONS

1a. Mobile Subscriber Internet Data- 2019: As at December, 2019 the total active internet subscriptions increased from 112,065,740 Subscriptions as at December 2018 to 126,078,999 subscriptions in December 2019. This indicates a 12.50% increase in Total Active Internet Subscriptions Year on year.

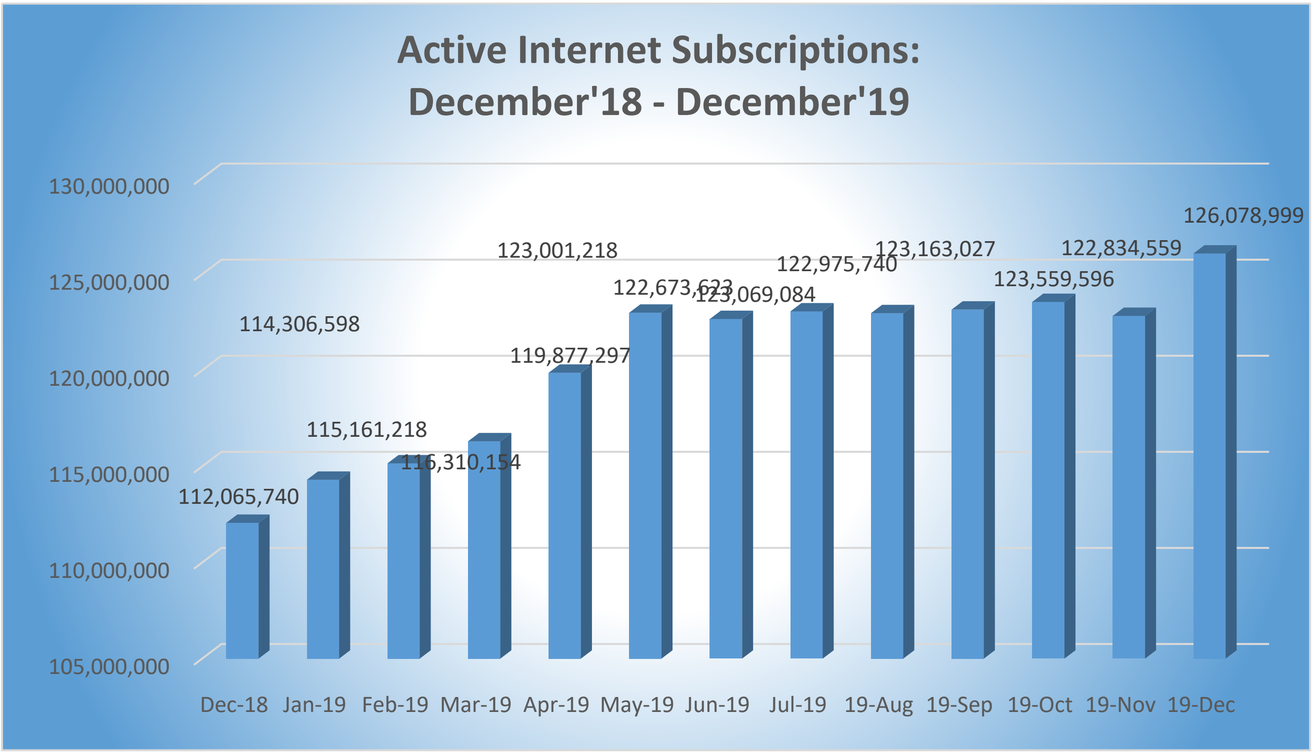

Figure 28: Active Internet Subscriptions: December, 2018 to December, 2019

For the Mobile GSM Operators the Active Internet as at December 2019 is as shown below:

Operators (GSM)	Active Internet Subscriptions December'18 (GSM)	Active Internet Subscriptions December'19 (GSM)	Difference	% Change
MTN	43,899,957	54,113,148	10,213,191	23.26
GLO	28,054,948	28,934,439	879,491	3.13
AIRTEL	29,757,791	34,522,392	4,764,601	16.01
EMTS	9,919,820	8,068,175	(1,851,645)	(18.67)
VISAFONE	-	90,174	90,174	-
TOTAL	111,632,516	125,728,328	14,095,812	12.63

Table 15: Active Internet Subscription (GSM) Operators 2018-2019

- In view of the figure 28 and table 9 above, the mobile GSM Operators accounted for 99.7% of the Active Internet Subscription in the Industry.

- MTN recorded the highest percentage increase of Active Internet Subscription of 23.26%.

- EMTS recorded a decline of 18.67% in Active Internet Subscription from 9,919,820 subscriptions in Year 2018 to 8,068,175 subscriptions at the end of Year 2019.

- Visafone Communications Limited recorded the least number of Active Internet subscriptions as at December 2019 as indicated in table 9.

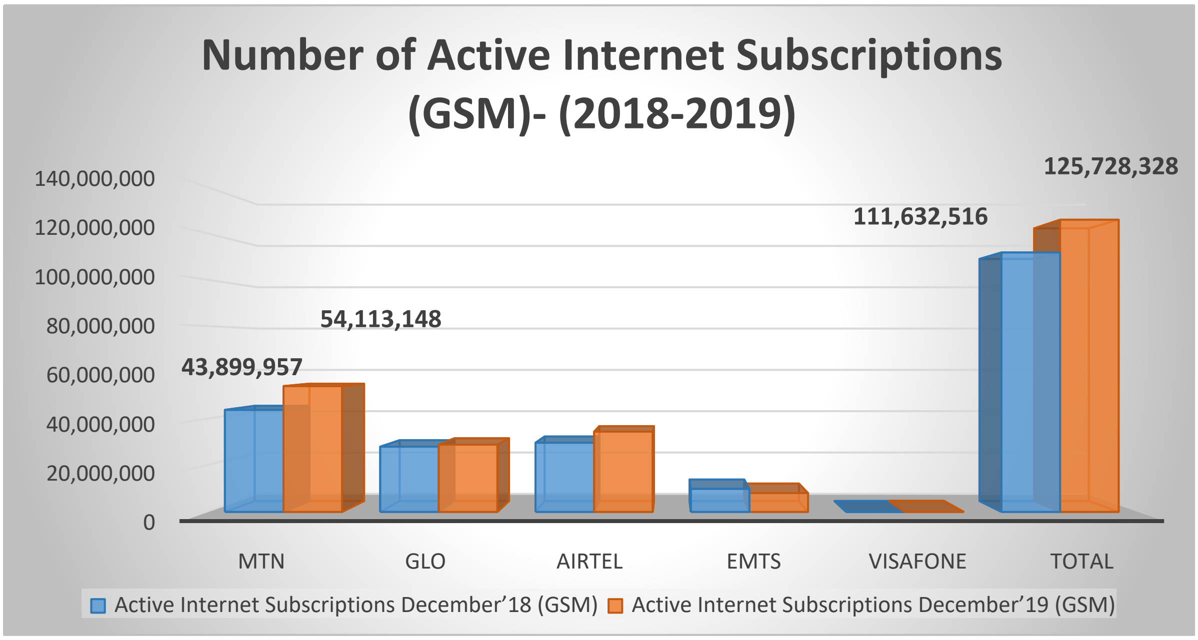

Figure 29: Total Number of Active Mobile Subscriptions – (2018 - 2019)

1b. **Active Subscriptions to Broadband/Broadband Penetration (2019):** As at December, 2019 Active Mobile Broadband Subscriptions was 72,153,824 as reported by **MTN, GLO, AIRTEL, EMTS, SMILE & NTEL.** The subscriptions indicate that Broadband penetration stood at 37.80% as at December 2019. The graph below represents Broadband Penetration within during the period under review. The Commission met and exceeded the Broadband target of 30% penetration as at December 2018 and has articulated initiatives to meet the new target of 70% Broadband penetration by year 2025 as contained in the new Broadband Plan.

BROADBAND PENETRATION RATE DECEMBER 2018 – DECEMBER 2019				
	3G Subscriptions	4G Subscriptions	Total 3G & 4G	BB% Penetration
Dec-18	47,325,726	12,761,473	60,087,199	31.48
Jan-19	48,061,230	13,670,900	61,732,130	32.34
Feb-19	48,831,374	14,305,604	63,136,978	33.08
Mar-19	49,129,323	14,275,766	63,405,089	33.22
Apr-19	49,526,365	14,806,609	64,332,974	33.70
May-19	48,124,421	15,120,189	63,244,610	33.13
Jun-19	48,006,997	15,586,332	63,593,329	33.31
Jul-19	48,090,894	16,275,884	64,366,778	33.72
Aug-19	49,691,254	17,318,517	67,009,771	35.10
Sep-19	49,765,378	17,814,669	67,580,047	35.40
Oct-19	53,284,938	19,004,451	72,289,389	37.87
Nov-19	51,792,195	20,189,742	71,981,937	37.71
Dec-19	50,441,608	21,712,216	72,153,824	37.80

Table 16. Total Active 3G &4G Internet Subscriptions December 2018- December 2019

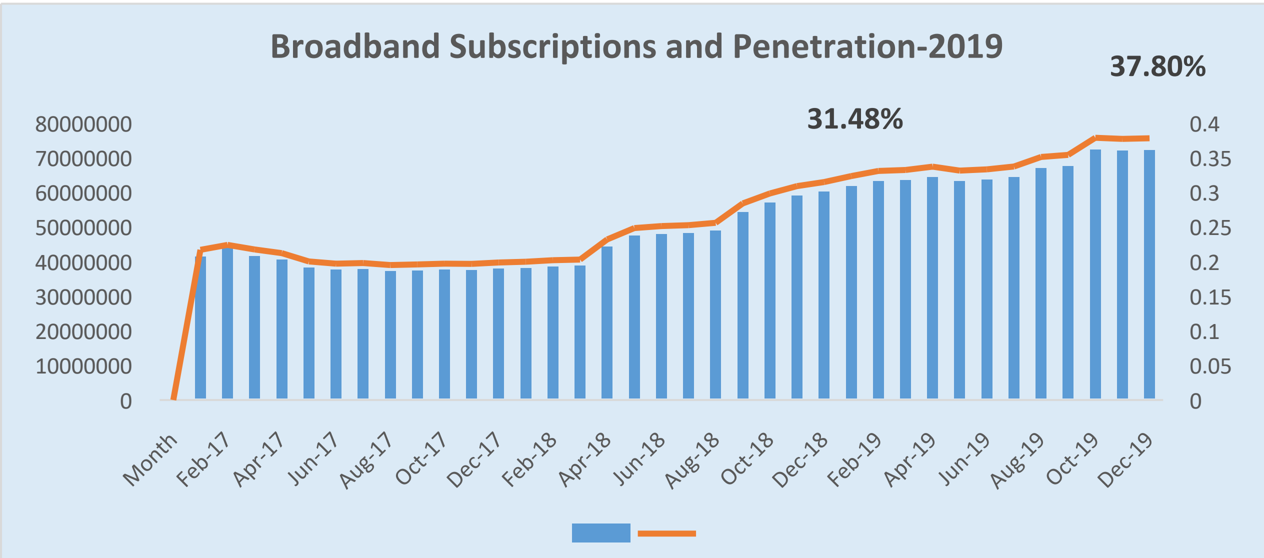

Figure 30: Active Broadband Subscriptions (2019)

1c. <u>Internet Usage Statistics – December 2019:-</u> The total volume of data consumed by subscribers increased from 68,154.12TB in December, 2018 to 125,149.86TB as at December 2019 indicating a percentage increase of 83.62% year on Year.

The increase in data usage is directly linked to the increased Broadband penetration in the country within the year. The Commission provided the necessary regulatory support for Operators to implement the various initiatives within the year that increased data usage in the country.

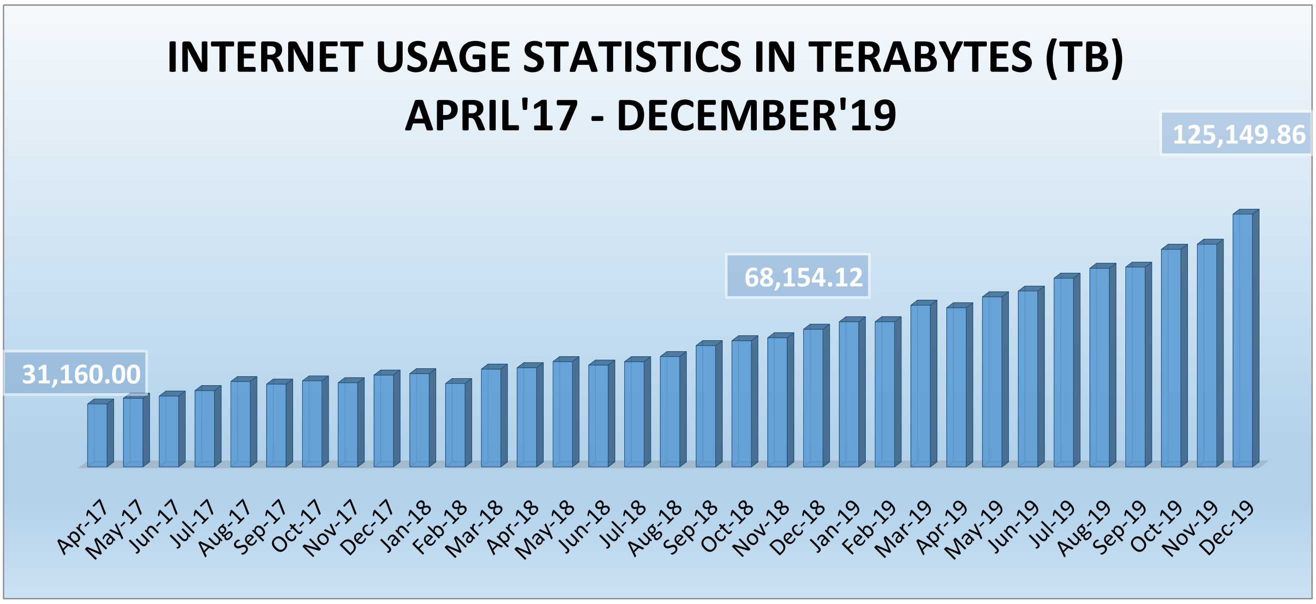

Figure 31: Internet Usage Statistics December, 2018 – December, 2019

D. SUBSCRIBER & SERVICE DATA – PORTING TREND IN NIGERIA AS AT DECEMBER, 2019

1a. The Mobile (GSM) Number Porting Activities: - this segment reports porting activities across the various Mobile GSM networks ***(MTN, GLO, AIRTEL & EMTS)*** in the country and analysis of these activities is as shown below:

i. Table 11 below shows the trend of Nigeria's porting activities from inception (May, 2013 to December, 2019) for the four (4) major GSM Operators. The analysis above illustrates that EMTS had the highest count of Port-in subscribers [599,491] while AIRTEL, MTN and GLO respectively recorded the following counts of Port-in as follows [252,838]; [114,628] & [96,360] .

ii. Similarly, our analysis from May, 2013 to December, 2019 reveals that MTN had the highest number of subscribers that ported-out [403,596] to other networks while AIRTEL, GLO & EMTS are as follows [268,595]; [217,694] & [137,457] respectively.

	MTN ***May '13-December'19***	***GLO*** ***May '13-December'19***	***AIRTEL*** ***May '13-December'19***	***EMTS*** ***May '13-December'19***	***TOTAL*** ***May '13-December'19***
Cumulative Port-In	114,628	96,360	252,838	599,491	1,063,317
Cumulative Port-Out	403,596	217,694	268,595	137,457	1,027,342
Total Porting Activities (Port-in and Port-out for the period May, 2013- December, 2019					***2,090,659***

Table 17: Cumulative Mobile Number Portability (May, 2013 – December, 2019)

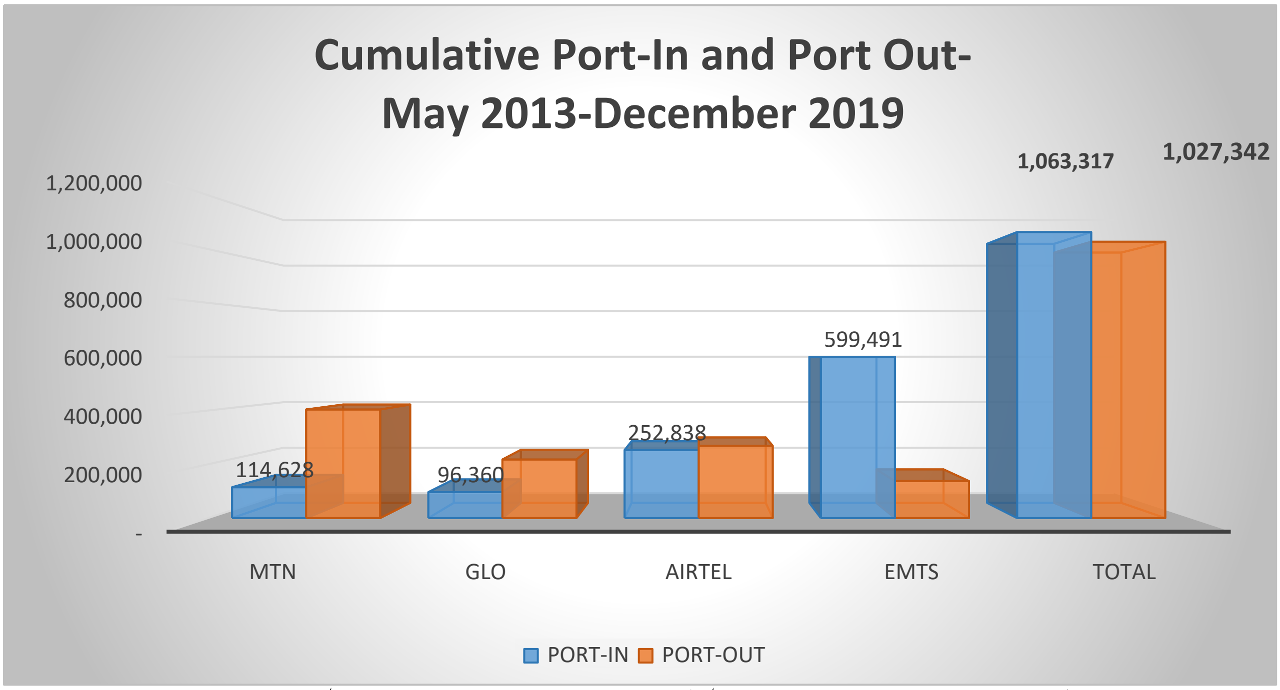

Figure 32: Cumulative Mobile Number Portability (May, 2013 – December, 2019)

1b. Port- In activities from December, 2018 – December, 2019:- The count of Port-In activities increased from 86,978 in year 2018 to 139,022 as at the end of year 2019. This indicates an increase of 60% in the total port-in between 2018 and 2019 year on year.

EMTS recorded the highest count of Port-In from 35,642 in Year 2018 to 77,492 Port-In as the end of Year 2019 indicating a percentage increase of 117% year on year. MTN recorded the lowest percent decrease of the number of Port-in year on year while GLO recorded 7,653 port-in in Year 2019 and has the lowest count of Port-In in year 2019. This is as indicated in table 12 and figure 31below;

	Port-In Activities Jan-Dec 2018	**Port-In Activities Jan-Dec 2019**	**% Increase /Decrease**
MTN	28,174	23,851	(15)
GLO	7,866	7,653	(3)
AIRTEL	15,296	30,026	96
EMTS	35,642	77,492	117
TOTAL	**86,978**	**139,022**	60

Table 18: Port-In Activities-2018-2019

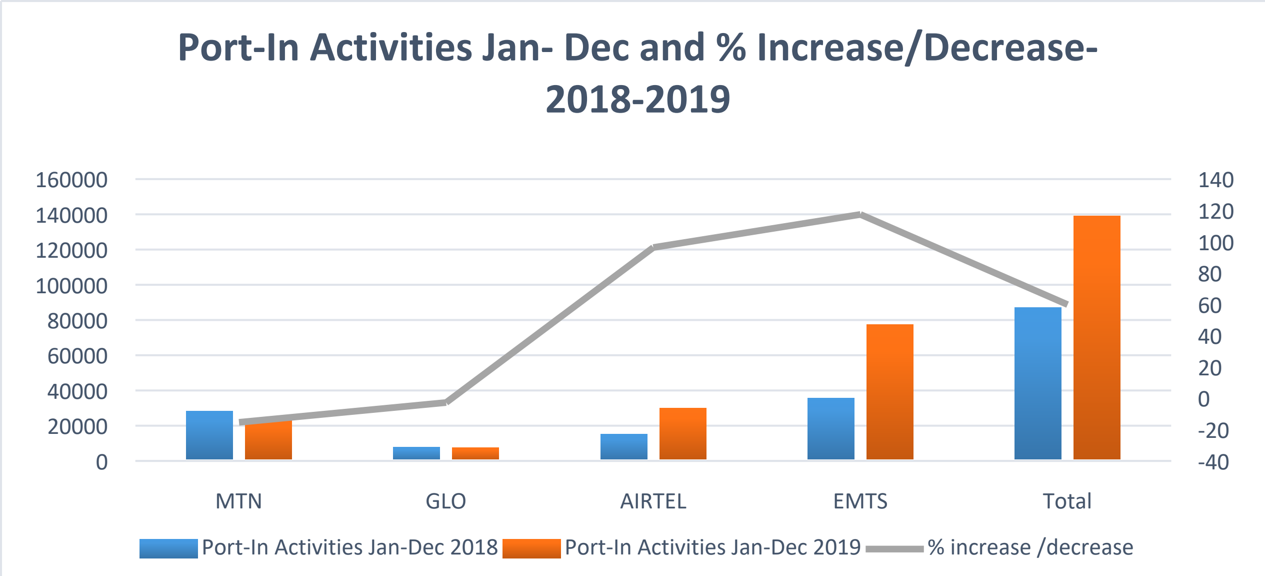

Figure 33: Port-In Activities Jan-Dec and Percentage Increase/Decrease of Port-In-2018-2019

1c. <u>Port-Out activities from December, 2018 – December, 2019:-</u> The Count of Port-out increased from 85,726 port outs in Year 2018 to 121,154 port-outs in Year 2019 indicating an increase of 41% year on Year.

Airtel recorded the highest port-out of 49,867 and a percentage increase of port-out when compared with the preceding year at 130%. GLO recorded a 43% increase in the number of port out in year 2019 when compared to year 2018.EMTS recorded the lease relative port out in Year 2019 with a negative percentage decline. This is indicated in the table 13 and figure 32 below;

	Port-Out Activities Jan-Dec 2018	**Port-Out Activities Jan-Dec 2019**	**% Increase /Decrease**
MTN	20,380	19,535	(4)
GLO	22,624	32,327	43
AIRTEL	21,680	49,867	130
EMTS	21,042	19,425	(8)
TOTAL	**85,726**	**121,154**	41

Table 13: Count of Port-Out Activities-2018-2019

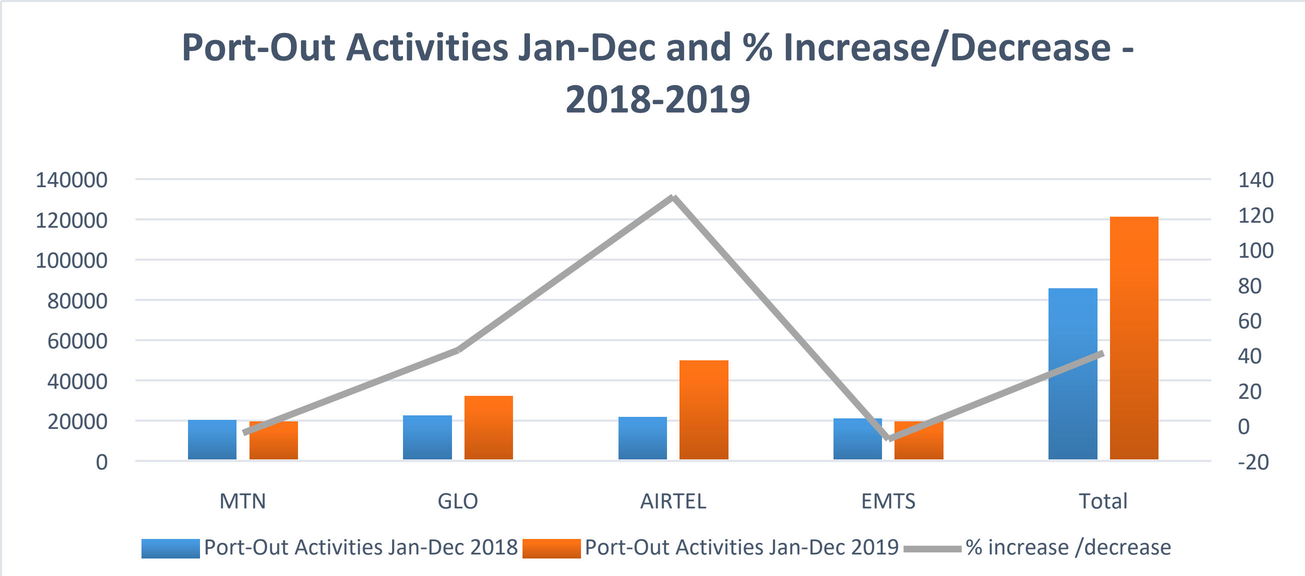

Figure 34: Port-Out Activities and Percentage Increase/Decrease of Port-Out Activities-2018-2019

E. FINANCIAL DATA – MOBILE (2019)

1a. Revenue: The Mobile operators as at December 2019 recorded a total revenue of N1, 958,343 Million as against N1, 764,109 Million recorded in Year 2018. This reflects an increase of 11.01% of total revenue from the Mobile Network Operators. See table 14 and figure 33 below:

MTN recorded the highest revenue in Year 2019 of N1, 167,419 Million Naira while Ntel recorded the sum of N4, 614 Million Naira as at the end of year 2019. EMTS recorded a decline of 18% in revenue generated Year on Year. EMTS revenue declined from N169, 148 Million in year 2018 to N138, 666 Million Naira as at the end of Year 2019.

REVENUE (N Million)		
	2018	**2019**
MTN	1,037,068	1,167,419
GLO	162,614	170,516
AIRTEL	382,096	468,862
EMTS	169,148	138,666
SMILE	11,064	11,506
NTEL	4,348	4,614
Total	***1,766,338***	***1,961,582***

Table 14: Mobile Operators Revenue (2018 – 2019)

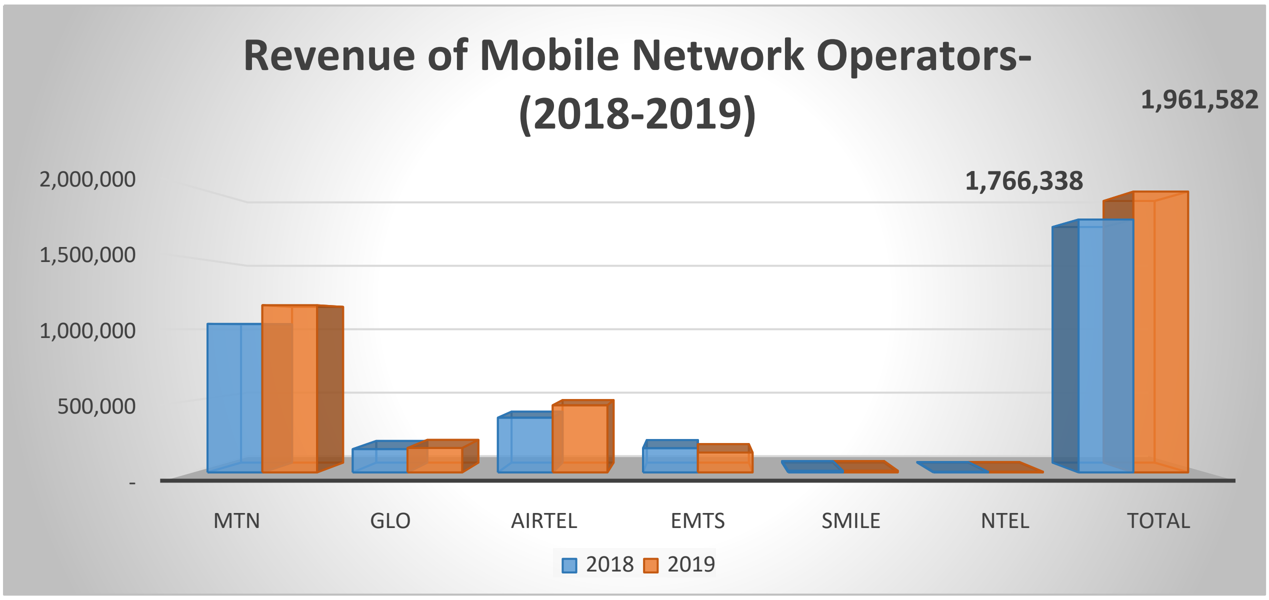

Figure 35: Mobile Network Revenue (2018 - 2019)

1b. <u>Operating Cost</u>: Total Operating Cost for the Mobile Network Operators declined from N1, 399,471.12 Million Naira in Year 2018 to N1, 392,001.13 Million Naira as at the end of Year 2019. This illustrates a slight decline (reduction in operational cost) of 0.53% from the figures reported in 2018, see table 15 and figure 36 below. The reduction in operating cost may have been as result of investment in CAPEX that are more efficient.

Smile and Ntel recorded the highest percentage decline of 22% and 16% respectively in Operating cost Year on Year.

OPERATING COSTS (N Million)		
	2018	**2019**
MTN	768,421	767,700
GLO	162,413	169,857
AIRTEL	281,893	285,734
EMTS	159,804	146,945
SMILE	12,336	9,517
NTEL	14,604	12,248
Total	***1,399,471.12***	***1,392,001.13***

Table 15: Mobile Operating Cost (2018 – 019)

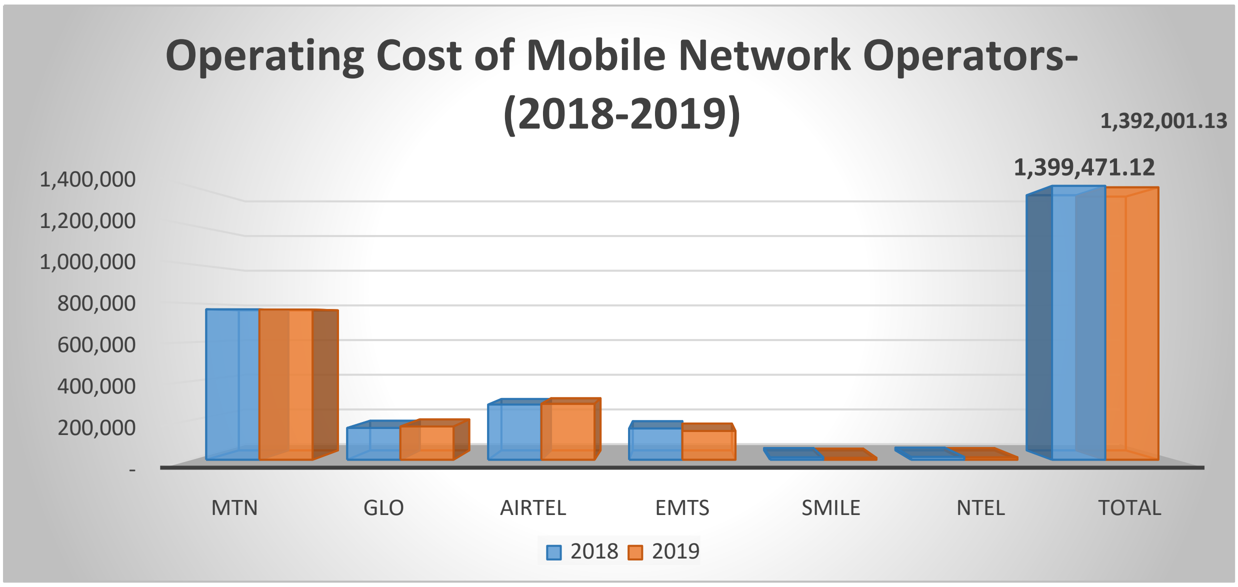

Figure 36: Mobile Operating Cost (2018 –2019)

1c. <u>Assets:</u> The total value of Assets reported by the Mobile Network Operators increased from N2, 109,048.25 Million Naira in year 2018 to N2, 913,137.80 Million Naira as at end of Year 2019. This represents a slight increase of 0.38% increase in the value of assets reported in Year 2018.

MTN reported the highest value in Assets in Year 2019 of N1, 533,441 Million Naira while GLO and Airtel reported N598, 168.31 Million naira and N510, 998.00 Million Naira respectively.

See table 16 and figure 37 below;

ASSETS (N Million)		
	2018	**2019**
MTN	939,555.00	1,533,441.00
GLO	592,076.56	598,168.31
AIRTEL	357,746.00	510,998.00
EMTS	162,636.00	217,050.00
SMILE	22,801.00	22,897.00
NTEL	34,233.69	30,583.49
Total	***2,109,048.25***	***2,913,137.80***

Table 16: Mobile Assets (2018 – 2019)

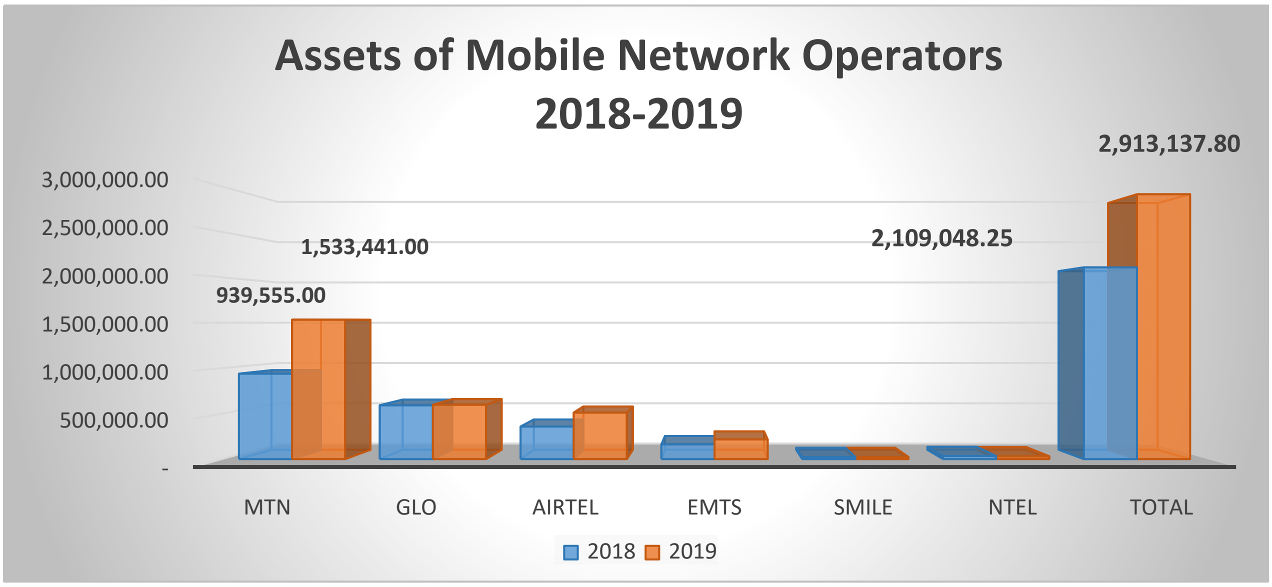

Figure 37: Mobile Assets (2018 – 2019)

1d. <u>CAPEX-Local Investments in the Industry (2018-2019):</u> As the end of Year 2019 the following Mobile Network Operators reported Capital Expenditures (CAPEX) within Years 2018 and 2019. The Mobile Network Operators reported a total CAPEX of **N310, 142 Million Naira (i.e. Three Hundred and Ten Billion One Hundred and Forty-Two Million Naira) as against the N316,094 Million Naira (Three Hundred and Sixteen Billion and Ninety-Four Million Naira) spent in Year 2018.**

This is as shown on the table 17 and Figure 38 below:

INVESTMENT (N Million)		
	2018	**2019**
MTN	201,021	197,591
GLO	31,922	34,233
AIRTEL	80,708	74,361
EMTS	2,306	3,910
NTEL	137	47
Total	***316,094***	***310,142***

Table 17: CAPEX by Mobile Network Operators (2018-2019)

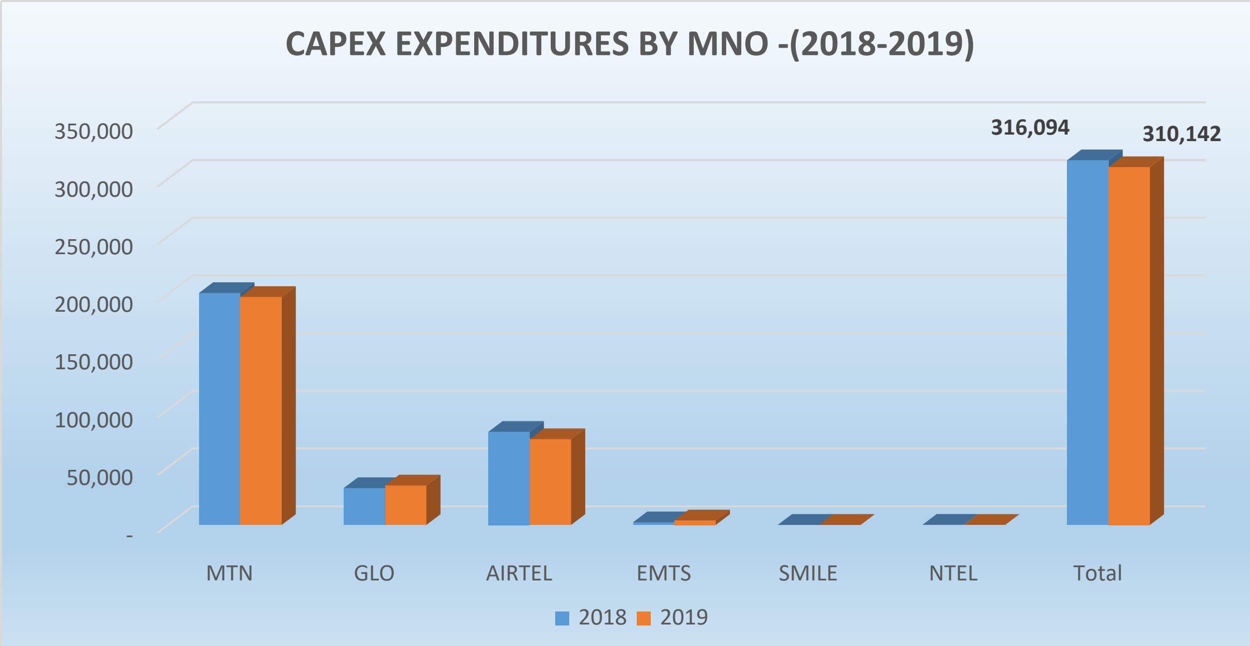

Figure 38: Capex Expenditures by MNO-(2018-2019)

F. STAFF PROFILE – MOBILE (2019)

The total number of Staff reported by the Mobile operators (MTN, GLO, Airtel, EMTS, Smile and Ntel) as at December, 2019 was a total of 7,750 recording; 189 expatriates and 7,561 Nigerians. Further breakdown in this category reveals that 4,986 of the Nigerian Staff are Male while the outstanding 2,575 are female. Similarly, 185 are male expatriates and 4 are female expatriates. See table 18a-d and figures below;

NUMBER OF STAFF (2018)				
	Nigerian		Expatriate	
	Male	Female	Male	Female
MTN	1,130	568	15	1
GLO	2,199	941	160	2
AIRTEL	416	157	6	-
EMTS	809	595	1	-
SMILE	123	83	3	-
NTEL	249	109	-	-
Total	***4,926***	***2,453***	***185***	***3***

Table 18a: Mobile Operators Staff profile (2018)

NUMBER OF STAFF (2019)				
	Nigerian		Expatriate	
	Male	Female	Male	Female
MTN	1,263	607	13	2
GLO	2,122	1,041	159	2
AIRTEL	442	163	7	-
EMTS	773	542	1	-
SMILE	107	73	5	-
NTEL	279	149	-	-
Total	***4,986***	***2,575***	***185***	***4***

Table 18b: Mobile Operators Staff profile (2019)

NUMBER OF STAFF (2019)			
	Nigerian		
	Male	Female	Total
MTN	1,276	609	1885
GLO	2,281	1,043	3324
AIRTEL	449	163	612
EMTS	774	542	1316
SMILE	112	73	185
NTEL	279	149	428
Total	***5,171***	***2,579***	7,750

Table 18c: Mobile Operators Staff profile (2019)

	Total Number of Staff Reported @ December 2018	Total Number of Staff Reported @ December 2019	% Increase/decrease
MTN	1,714	1,885	10
GLO	3,302	3,324	1
AIRTEL	579	612	6
EMTS	1,405	1,316	(6)
SMILE	209	185	(11)
NTEL	358	428	20
TOTAL	**7,567**	**7,750**	2

Table 18d: Mobile Operators Staff profile (2018-2019)

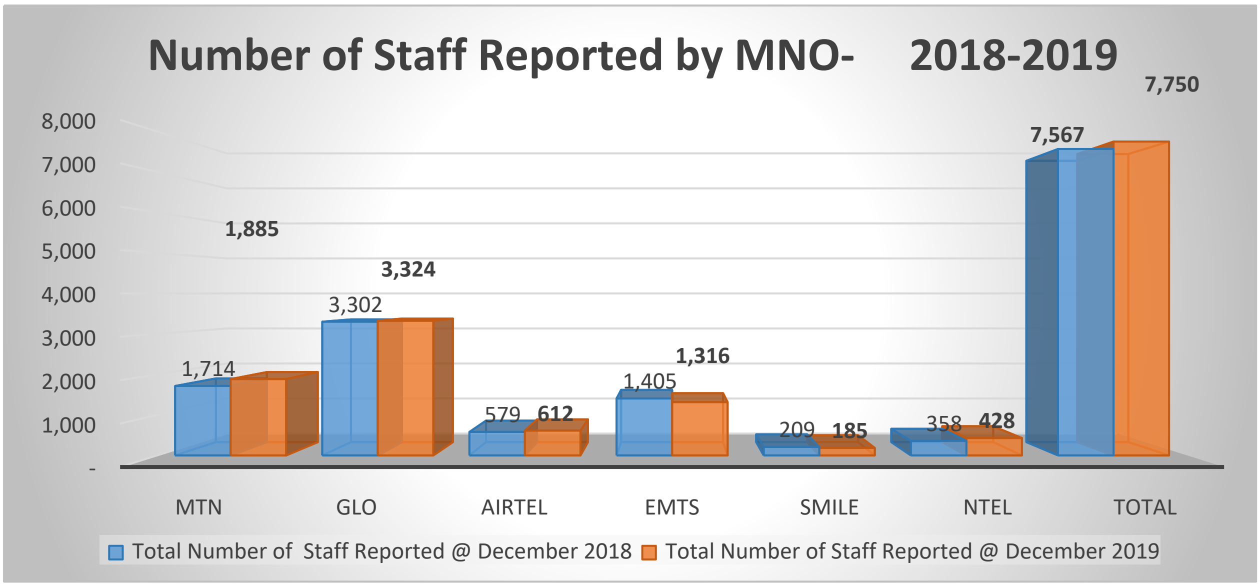

Figure 39: Mobile Operators Staff profile (2018-2019)

The Total Number of Staff reported by Mobile Network Operators Increased from 7,567 staff in Year 2018 to 7,750 staff as at the end of Year 2019.NTEL, MTN, Airtel and Glo had slight increase in the number of staff workforce reported in Year 2019 while Smile and EMTS had slight percentage declines in the number of staff year on year.

The Telecom Industry is still male dominated as over 62% of the workforce in the industry are males while the remaining are females.

Expatriates in the industry did not change significantly year on year as can be comparatively deduced from the Year 2018 and Year 2019 company staff profiles in tables 18a and 18b above.

Chapter 4

ANALYSIS OF 2019 YEAR END SUBSCRIBER/ NETWORK DATA-FIXED WIRED TELEPHONY OPERATORS

The Fixed Wired segment's Yearend performance report depicts the analysis of the market as at December, 2019 which is as follows:

A. NETWORK DATA

1. **Base Stations**: As at December, 2019 MTN, 21st Century & Ipnx had a total of **424, 55 & 50** Base stations respectively, equating to **529** base stations. In 2018 Ipnx was the only operator with base stations in total of **51** base stations.

B. INFRASTRUCTURE DEPLOYMENT

1. **Fiber Optics: As at December, 2019** 21st Century deployed **8,035km** on land and **33km** fibre optics while ipNX deployed **1063.5km** of on land fibre optics. This makes an aggregate of **9,633.5km** of On-land Fiber Optics deployed as at December, 2019 by fixed network operators. An aggregate of **33km** Submarine fibre optics was deployed by 21st Century during the period under review.

FIBRE OPTICS NETWORK (in Km)		
2019		
	On-Land	Submarine
21ST CENT	8,030	33
IPNX	1603.531	-
TOTAL	**9,633.5**	**33**

Table 19: Fibre Optics Deployed in 2019

2. **Microwave Radio:** IpNX reported a total of **296km** in Microwave Radio deployment for 2019.
3. **Trunks in Use:** 21st Century and IPNX under the fixed telephony segment reported a total of **671km** Trunks (E1) in use as at December, 2019.
4. **Gateways in Use:** 21ST Century and IPNX reported a total of **6 Gateways** as at December 2019 with each operator using 3 gateways each.

C. SUBSCRIBER AND SERVICES DATA

1. **<u>Total Active Voice Subscriptions</u>**: During the year under review two operators under the Fixed/ Fixed wireless segment; Globacom, 21st Century & IPNX reported a drop in their active subscriptions. While MTN had **5,955** subscriptions as at December 2019, the total active voice subscriptions for the Fixed wired Telephone operators totaled ***107,154*** showing a decline of 0.5% from ***107,742*** recorded in December, 2018.

TOTAL ACTIVE FIXED VOICE SUBSCRIPTIONS		
	2018	***2019***
MTN	*5,450*	*5,955*
GLOBACOM	2,879	2,852
21ST CENTURY	103,016	96,221
IPNX	*2,133*	*2,126*
TOTAL	***107,742***	***107,154***

Table 20: Total Active Fixed Voice Subscriptions 2018 and 2019

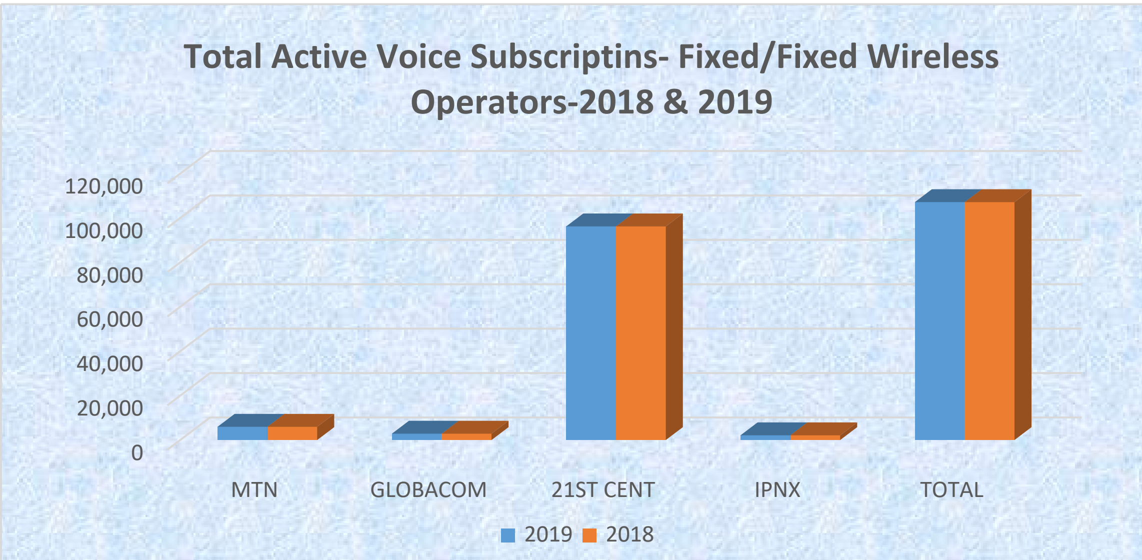

Figure 40: Total Active Voice Subscriptions (2018-2019)

2. **<u>Total Active Internet Subscriptions</u>**: As at December 2019 the **Active Internet subscriptions** for MTN, 21st Century and ipNX was totaled at **9,670.** This indicated a further decrease from 2018 which was **9,868** subscriptions. The operators each recorded the following: Ipnx with the highest ***4,775***, MTN ***2,096*** and 21st Century with the lowest **2,799**. Our analysis show that the internet usage for the fixed wired network is being relegated and the likelihood that most subscribers have switched their lines to GSM lines.

TOTAL ACTIVE FIXED INTERNET SUBSCRIPTIONS		
	2018	**2019**
MTN	*3,132*	*2,096*
21ST CENT	*2,851*	*2,799*
IPNX	*4,941*	*4,775*
TOTAL	**9,868**	**9,670**

Table 21: Total Active Fixed Internet Subscriptions (2018- 2019)

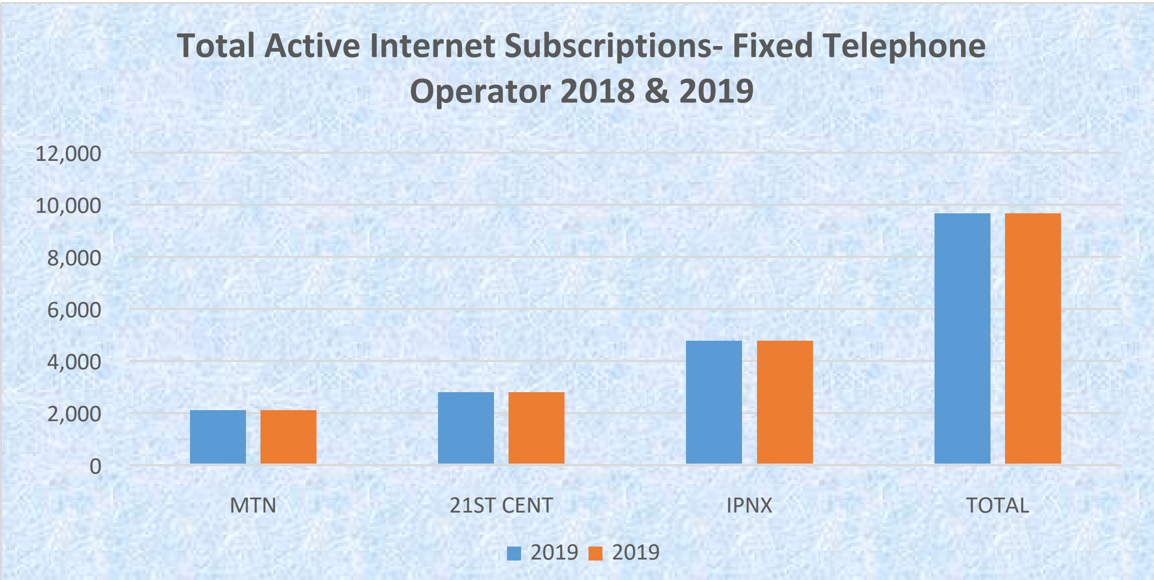

Figure 41: Total Active Internet Subscriptions (2018 - 2019)

Fibre to the Home/ Building Subscriptions: As at December 2019 ipNX, MTN and 21st Century respectively installed **9,509km, 3,748km** and **635km** of Fibre to Home / Building. This is a total of **13,892km** of fibre deployed by these operators.

FIBRE-TO-THE-HOME/BUILDING SUBSCRIPTIONS		
	2018	**2019**
MTN	-	*3,748*
GLOBACOM	*248*	-
21ST CENT	*580*	*635*
IPNX	*7,650*	*9,509*
TOTAL	**8,230**	**13,892**

Table 22: Fixed Fibre to the Home / Building Subscriptions (2018 – 2019)

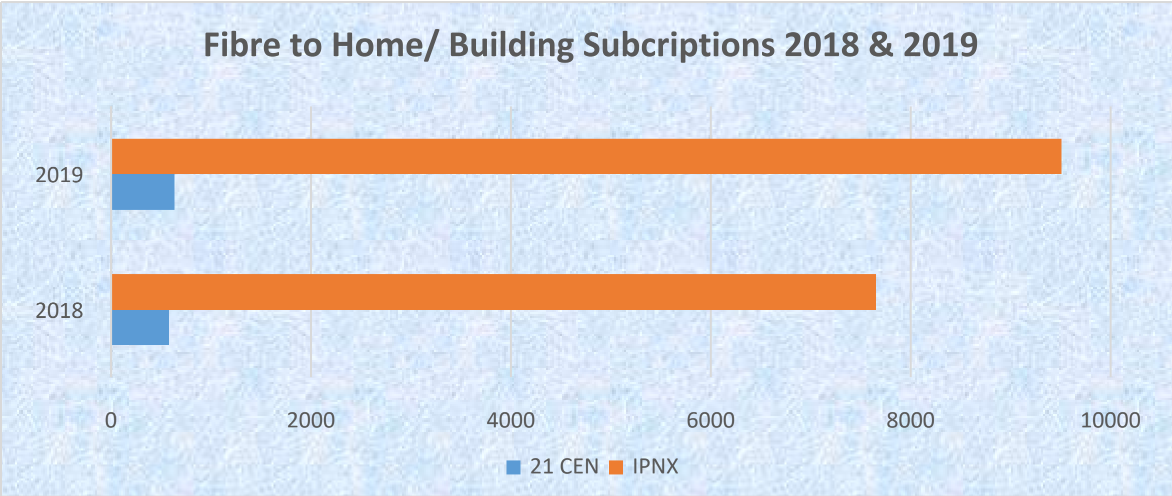

Figure 42: Fibre to the Home/Building Subscriptions (2018 &2019).

<u>Number of subscriber by Internet Speed:</u> As at December 2019, **254 users** fell into the **256kbs – 1Mbps** category; **2,064** users subscribed to speeds between **2mbps-10mbps; 10,631** users between **10Mbps – 4G**, category. There was no subscriptions in the **4G & above** category as reported by ipNX and 21st Century.

NUMBER OF SUBSCRIBERS BY INTERNET SPEED 2019			
	256kbs-1mbps	2mbps-10mbps	10mbps-4G
21ST CENT	155	859	142
IPNX	99	1,205	10,219
TOTAL	254	2,064	10,631

Table 23: Number of subscriber by Internet Speed

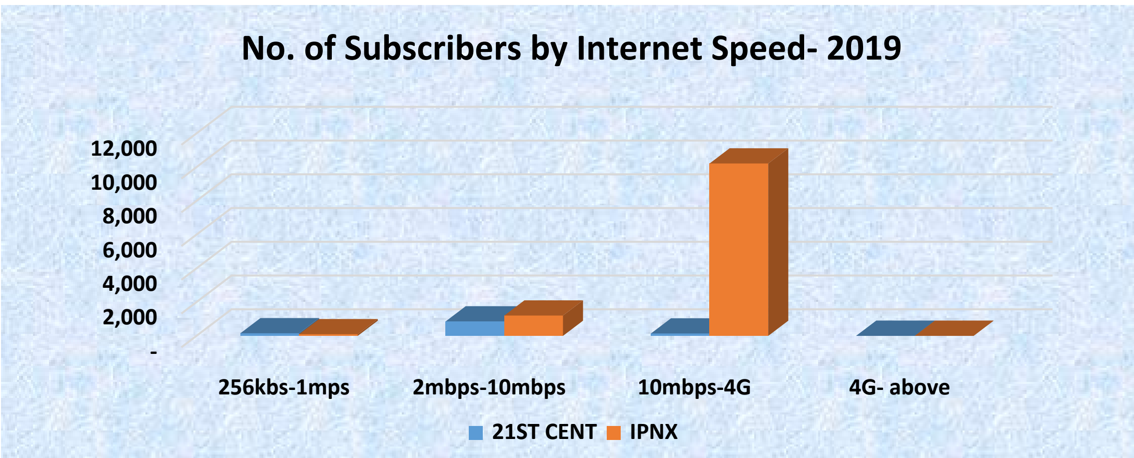

Figure 43: No. of Subscribers by Internet Speed 2019.

D. TRAFFIC DATA

1. **Local and National Traffic (Outgoing)**: As at December, 2019, the total minutes generated for local and national **outgoing traffic** (paid minutes) by fixed telephone operators; MTN, ipNX; 21st Century and GLO is **15,087,828**, **4,89,960, 26,126,670** and **561,276** respectively, making a total of **42,265,734** local & National Outgoing traffic. This signifies a decline of about **4,393,087** paid minutes from 2018 that recorded **46,658,821** minutes.

2. **Local and National Traffic (Incoming)**: As at December, 2019, the total minutes generated for local and national **incoming traffic** (paid minutes) by fixed telephone operator; 21st Century; MTN & IPNX is **25,187,517, 1,010,667, 185,123** respectively, making a total of **26,383,307** local & National **Incoming** traffic. This signifies a decline of about **730,512** paid minutes from 2018 that recorded **27,113,819** minutes.

3. Analysis of the **Total Outgoing and Incoming Local National Telephone Traffic data** for this market segment shows that a substantial portion of this traffic was generated on **21st Century network.**

LOCAL AND NATIONAL TELEPHONE TRAFFIC (IN MINUTES)		
2019		
	Outgoing	Incoming
MTN	15,087,828	1,010,667
GLOBACOM	561,276	-
21ST CENT	26,126,670	25,187,517
IPNX	489,690	185,123
TOTAL	42,265,734	26,383,307

Table 24: Local National Telephone Traffic data as at Dec, 2019

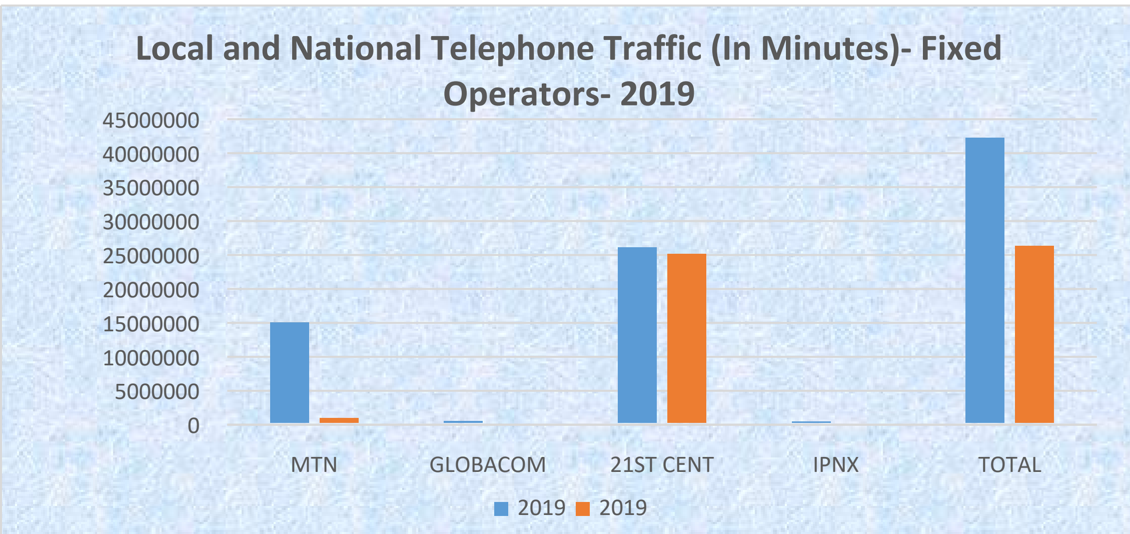

Figure 44: Total Number of Local & National Outgoing / Incoming Calls (2019)

4. **<u>Total number of Fixed to Mobile traffic</u>**: Similarly as at December, 2019 the total number of **Outgoing** Fixed to Mobile traffic decreased from **3,465,771,091** minutes in 2018 to **3,372,375,845** minutes indicating a **2.7%** decline in the **fixed to Mobile** traffic in the year 2019.

Also the total number of **Incoming Fixed to Mobile** traffic as at December 2019 was **116,272,760** minutes compared to **105,263,518** reported in 2018 thereby indicating an increase of **10.5%**

Analysis of the Fixed to the Mobile traffic for the fixed market segment shows that a considerable percentage of this traffic was further generated on the **MTN network**.

FIXED TO MOBILE TRAFFIC 2019			
	Outgoing	Incoming	Total
MTN	3,284,189,393	49,619,507	3,333,808,900
GLOBACOM	579,909	1,836,283	2,416,192
21ST CENT	82,501,711	107,106,127	189,607,838
IPNX	5,104,832	2,710,843	7,815,675
TOTAL	3,372,375,845	161,272,760	3,484,029,098

Table 25: Fixed to the Mobile traffic as at Dec, 2019

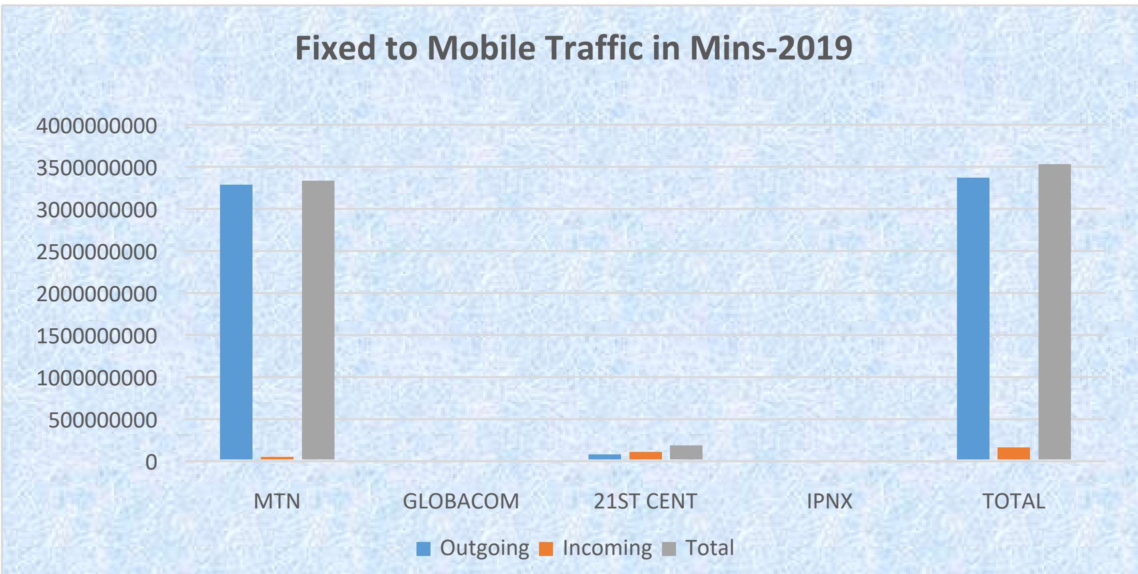

Figure 45: Total number of Fixed to Mobile traffic (2019)

<u>Total number of Outgoing/ incoming Fixed Minutes International traffic:</u>

As at December, 2019 the total number of **Outgoing Fixed International** traffic (**minutes**) for MTN, GLO, 21st Century and ipNX were **122,385,894**; **561,276, 3,752,049 and 6,863,206** minutes respectively. While **Incoming Fixed International** traffic for MTN and 21ST Century were **587,352** & **4,565,905** respectively.

Over all the total number of **Outgoing Fixed International** traffic reported for MTN, GLO, 21st Century and ipNX for 2019 was recorded at **132,975,073.**
While the total for **Incoming fixed international** traffic totaled **5,153,257** for MTN and 21st century and ipNX for year 2019.

OUTGOING/ORIGINATING FIXED MINUTES INTERNATIONAL TELEPHONE TRAFFIC						
	2018			2019		
	Outgoing	Incoming	Total	Outgoing	Incoming	Total
MTN	-	-	-	121,798,542	587,352	122,385,894
GLOBACOM	-	-	-	561,276	-	561,276
21ST CENT	3,977,784	4,674,952	8,652,736	3,752,049	4,565,905	8,317,954
IPNX	82,625	90,568	173,193	6,863,206	-	6,863,206
TOTAL	**4,060,409**	**4,765,520**	**8,825,929**	**132,975,073**	**5,153,257**	**138,128,330**

Table 26: Total number of Outgoing and incoming Fixed Minutes International traffic (2018 – 2019)

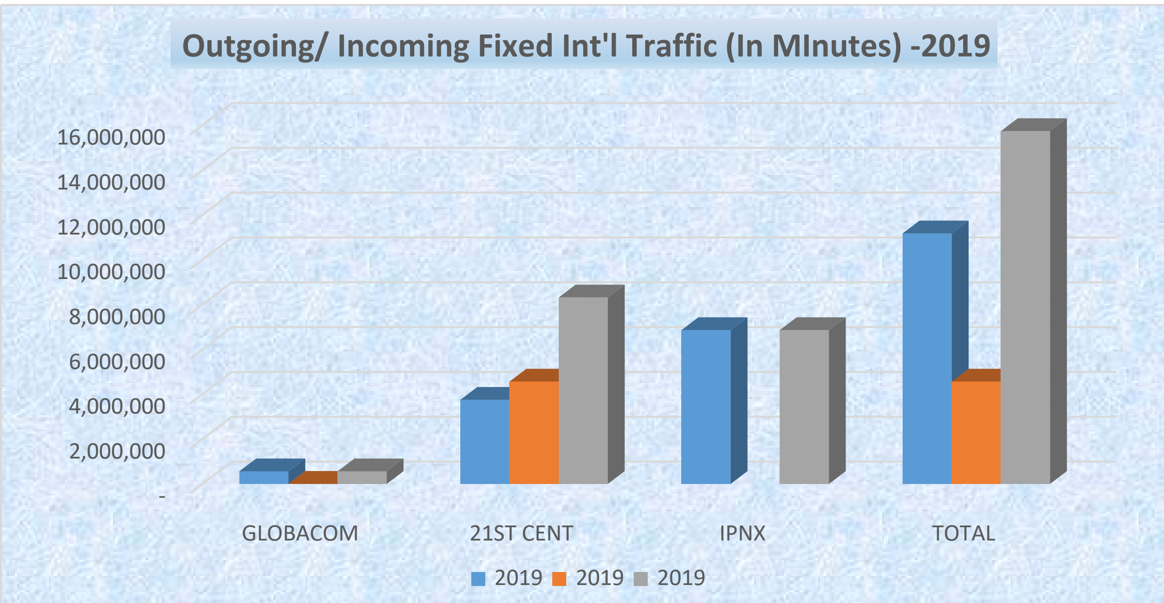

Figure 46: Total number of Outgoing / Incoming Fixed Minutes International traffic (2019)

E. **FINANCIAL DATA**

The operators financial data represented in this report include 21st Century and IPNX as MTN and GLO are consolidated in the Mobile GSM segment report.

1. ***Revenue:*** The total revenue as at December, 2019 for the fixed telephone operators (21st Century and IPNX) was N***4,304,900,000.*** See table below for breakdown:

REVENUE		
	2018	**2019**
21ST CENT	203,400,000	192,900,000
IPNX	3,905,000,000	4,112,000,000
TOTAL	***4,108,400,000***	***4,304,900,000***

Table 27: Revenue Fixed telephone Operators (2018 &2019)

2. ***Operating Cost:*** Similarly, the total Operating Cost as at December, 2019 for the fixed telephone segment was N***3,704,500,000***. See table below for breakdown:

OPERATING COST		
	2018	**2019**
21ST CENT	200,600,000	192,500,000
IPNX	2,919,500,000	3,512,000,000
TOTAL	***3,120,100,000***	***3,704,500,000***

Table 28: Operating Cost for Fixed Telephone Operators (2018 &2019)

F. STAFF PROFILE

The total number of Staff reported by the fixed telephone operators (MTN, Globacom, 21st Century and ipNX) as at December, 2019 was of **2,146**; **22** are Expatriates while **2,124** are Nigerians. A further breakdown reveals that **1,441** of the Nigerian Staff are Male while **683** are female.

NUMBER OF STAFF (2019)				
	Nigerian		**Expatriate**	
	Male	**Female**	**Male**	**Female**
MTN	1,441	607	13	2
GLOBACOM	25	-	6	-
21ST CENT	81	42	1	**-**
IPNX	72	34	-	**-**
TOTAL	**1,441**	**683**	**20**	2

Table 29: Fixed Segment Staff Profile (2019)

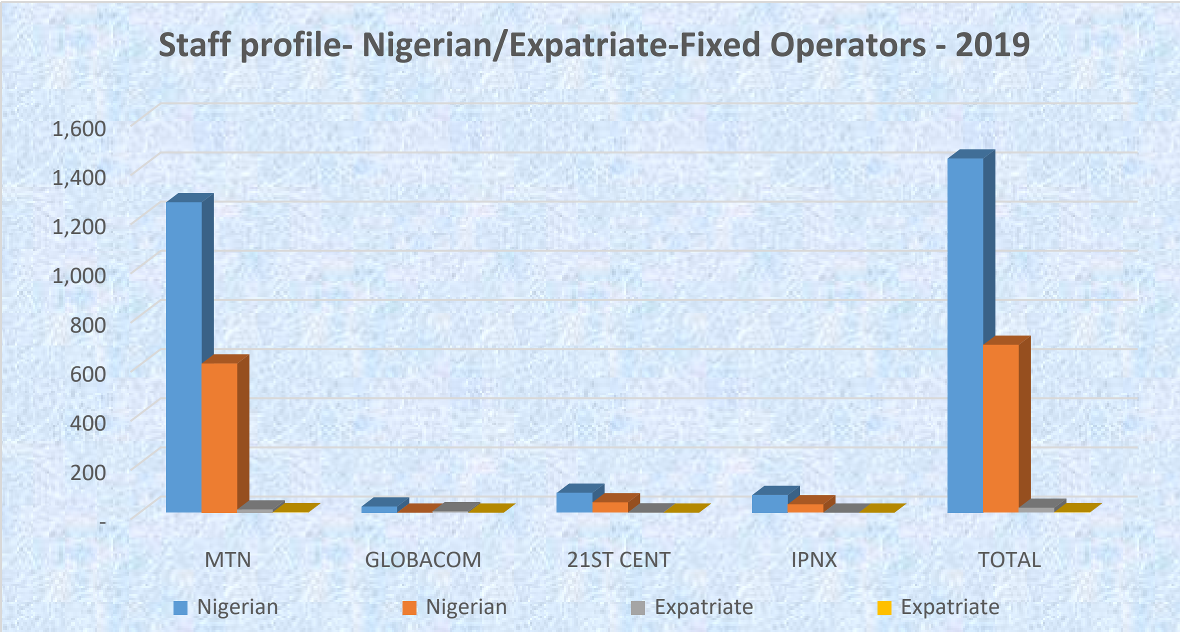

Figure 47: Staff Profile (Nigerian / Expatriate) for Fixed Telephone Operators (2019)

Chapter 5

ANALYSIS OF 2019 YEAR END SUBSCRIBER/NETWORK DATA– INTERNET SERVICE PROVIDERS (ISPs)

INTRODUCTION:

Consistent with Section 89 subsection 3(c) of the Nigerian Communications Act 2003 (NCA 2003), the Commission (NCC) regularly collates statistical information from Internet Service Providers (ISPs) and produces reports on the industry statistics based on the information gathered.

The Commission has 104 ISP licensees on its database, however, requests for submissions were forwarded to Ninety Eight (98) active ISP licensees, a total of Forty (40) submissions were received for the 2019 Year End Subscriber/Network Data which formed the basis of the analysis in this report. The number of submissions increased from 33 (Thirty Three) in Year 2018 to 40 (Forty) in year 2019.

A. **ISP'S:** The analysis was carried out based on the submissions from the following Operators:

N/S	OPERATORS
1	Estream ltd
2	CBC EMEA Limited
3	Cobranet limited
4	Ekovolt Telco Limited
5	Electronic Connection Limited
6	Ejalet Tech ltd
7	Odua Telecoms Limited
8	Excelsimo Networks Limited
9	Futurecom Limited
10	Skymax Integrated Networks
11	Hyperia
12	Information Connectivity Solutions Limited
13	IpNX Nigeria Limited
14	Is Internet Solutions Limited
15	Juniper solutions limited
16	KHAL Communications
17	Layer3
18	Mainone Cable Company Limited
19	Mobitel
20	Netaccess Ltd
21	Comternet World Ltd
22	Spectranet Nigeria Limited
23	Tizeti Ltd

24	Trefoil Limited
25	VDT communications limited
26	Winrock Nigeria Limited
27	Platinum Index Data
28	Content Oasis
29	Orange Business Communications
30	Coquina Software Company
31	Priority Communication Ltd
32	Trakatel
33	Interweb Satcom Ltd
34	Sea-Net Technologies
35	Vodacom Business Africa Nigeria Limited
36	Arcelor Networks Ltd
37	Nanocom International Ltd
38	Coscharis Technology
39	VPS Technologies Limited
40	Clear Sky Broadband Ltd

Table 30: showing the number of operators that made submissions

B. *NETWORK DATA:*

1. ***Points of Presence (PoP):***

As at **December 2019**, the number of Points of Presence was **1,849**. This shows a significant increase of **87%** over the previous year of 2018 which recorded a total of **987.** Spectranet had the highest number of points of presence of **1,266** while E-stream Networks and Tizeti which had **98** and **94** submissions respectively which indicates 5.3% and 5.08% respectively**.**

Other ISPs - Electronic Connection, Content Oasis, Net Access and CBC EMEA had one (1) point of presence each. This was based on the submissions made in this category.

	NUMBER OF POINTS OF PRESENCE		**% increase**
1	Spectranet Limited	1266	68
2	CBC Emea	1	0.05
3	Cobranet limited	83	4.5
4	Clear Sky Broadband Limited	1	0.05
5	Content Oasis Limited	1	0.05
6	Ekovolt Telco Limited	4	0.23
7	Electronic Connections Ltd	1	0.05
8	Coscharis	1	0.05
9	Odua telecoms limited	2	0.23
10	Platinum Index Data Limited	1	0.05
11	Information connectivity solutions Limited	29	1.6

	Futurecom Limited	1	0.05
12	ipNX Nigeria Limited	50	2.71
13	IS internet solutions Limited	9	0.5
14	Juniper solutions Limited	6	0.3
15	Layer3	2	0.11
16	Main One	38	2.1
18	Mobitel Limited	2	0.11
19	Sea Net Technologies Limited	1	0.05
20	Tizeti	94	5.1
21	Trefoil Networks	2	0.11
22	VDT Communications Limited	**58**	**3.1**
23	Winrock Nigria Limited	8	0.4
24	Priority Communication Limited	1	0.05
25	Orange Business Limited	2	0.11
26	Hyperia Limited	5	0.3
27	SkyMax Limited	12	0.7
28	Comternet World Ltd	3	0.2
29	Coquina Software ltd	6	0.3
30	Estream Ltd	98	5.3
31	Excelsimo Networks	26	1.4
32	Nanocom International Ltd	10	0.5
33	BAT	4	0.23
34	Vodacom Business Africa	6	0.3
35	Ejalet Technologies Ltd	1	0.05
36	VPS	1	0.05
37	Arcelor	5	0.3
38	Interweb Satcom Ltd	3	0.2
39	KHAL Communications	4	0.23
	TOTAL	**1,849**	**100%**

Table 31: Points of Presence in 2019 (PoPs)

Figure 47 below indicates that Spectranet recorded the highest figure with 68% PoP, Followed by Cobranet and Tizeti with 5.3% and 5% respectively, while others had 21% Point of Presence.

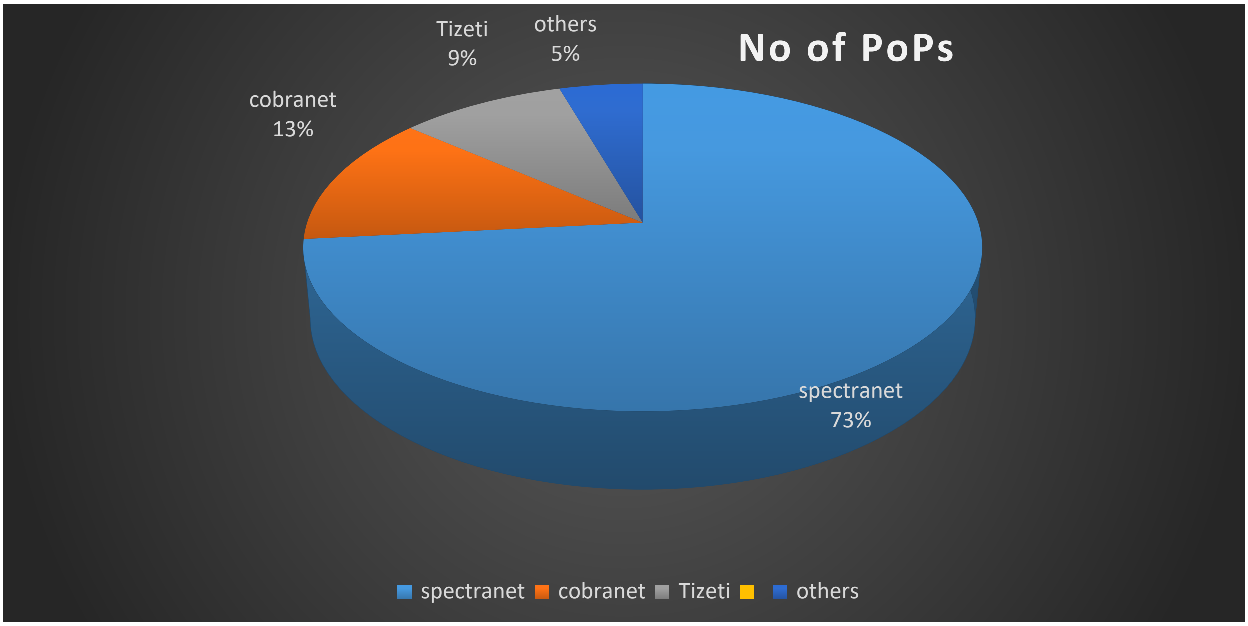

Figure 47: Analysis of Points of Presence (PoP)

2. ***Location of Access Provider:***

A significant number of service providers transmit within Nigeria. Hyperia, Interweb Satcom and Sea-Net have access providers outside Nigeria (Abu Dhabi, Amsterdam, USA and Germany respectively). The larger percentage of the service provison are available in Lagos and Ogun States while others are in Abuja, Kaduna, Kano and Yola

Location of Access Provider

Estream Ltd	Lagos
CBC EMEA Limited	Victoria Island, Lagos
Cobranet Limited	Cobranet HO
Ekovolt Telco Limited	Lagos
Electronic Connection Limited	Kano
Ejalet Tech Ltd	Lagos
Odua Telecoms Limited	Ibadan
Excelsimo Networks Limited	Marina, Lagos
Futurecom Limited	Bookshop House, Ikoyi, Lagos
Skymax Integrated Networks	Lagos
Hyperia	Nigeria, Abu Dhabi
Information connectivity solutions Limited	Lagos
IpNX Nigeria Limited	Lagos, PH, Abuja, Kano, Ibadan
Is internet solutions Limited	Lagos
Juniper solutions Limited	Lagos
KHAL	Victoria Island, Lagos
Layer3	Abuja and Lagos
Mainone Cable Company	Lagos

Limited	
Mobitel	Lagos
Netaccess	Kaduna
Comternet World Ltd	Uyo
Spectranet Nigeria Limited	Lagos, Ogun, Nasarawa, Port Harcourt, Abuja & Ibadan
Tizeti	Lagos
Trefoil	Nigeria
VDT Communications Limited	Lagos & Abuja
Winrock Nigeria Limited	Wuse 2, Abuja
Platinum Index Data	Lagos
Content Oasis	FCT
Orange Business Communications	Lagos
Coquina Software Company	Uyo
Priority Communication	Lagos
Interweb Satcom Ltd	Lagos Abuja Jos & USA
Sea-Net Technologies	Germany, Lagos
Vodacom Business Africa Nigeria Limited	Lagos
Arcelor Networks Ltd	Lagos
Nanocom International Ltd	Abuja
Coscharis Technology	Lagos
VPS technologies limited	Lagos
Clear Sky Broadband Ltd	Abuja

Table 32: Showing location of access providers

3. Installed Subscriber Capacity

Spectranet had the largest Installed capacity of **490,000mbps** while IPNX has 150,000mbps and Mobitel had 20,000mbps. Priority Communications had the lowest installed subscriber capacity which was 2mbps

	Installed Subscriber Capacity	
1	Is internet solutions limited	560 Mbps
2	Vodacom Business Africa	12944796Mbps
3	Winrock Nig Ltd	611Mbps
4	CBC Emea	155mbps
5	Cobranet limited	6Gbps
6	Coscharis Technologies Ltd	155Mbps
7	Electronic Connections Ltd	105mbps
8	Odua telecoms limited	1tbps
9	Ekovolt Telco Limited	400mbps
10	Arcelor Networks Ltd	620Mbps
11	Excelsimo Networks Limited	10Gbps

12	Information connectivity solutions limited	1 Gbits
13	Futurecom Limited	0.2Gbps
14	Comternet World Ltd	10MBbps
15	Interweb Stcom Limited	200Mbps
16	ipNX	150000Mbps
17	Juniper solutions Limited	STM2
18	KHAL	10Mbps
19	Layer3	Internet:1348.7Mbps, Longhaul: 295mbps, Metro 403mbps
20	Mobitel	20000Mbps
21	Netaccess	40mbps
22	Coquina Software Co	220Mbps
23	Nanocom International ltd	150Mbps
24	Spectranet Nigeria Limited	HSS:490000 LTE Base Station: 193,698
25	Tizeti	12080Mbps
26	Trefoil	up -47mbps/ down -47mbps
27	Skymax	358Mbps
28	VDT Communications Limited	Enterprise=10,000mbps, retail=25,000mbps
29	Priority Communication	2MBPS
30	Platinum Index Data	150mBPS
31	VPS Technologies Limited	30MBPS

Table 33: Showing Installed Subscriber Capacity

4. Operator Bandwidth Capacity

Mainone had the largest bandwidth capacity with 5TB followed by Spectranet with 45,000mbps and IPNX Limited had 14,807mbps.

	Bandwidth Capacity	
1	Coscharis Technologies Ltd	1 STM (155MBPS)
2	CBC Emea	155mbps
3	Cobranet limited	5Gbps
4	Ekovolt Telco Limited	800MBPS
5	Electronic Connections Ltd	10Mbps
6	Nanocom International Ltd	155Mbps
7	Odua telecoms limited	1tbps
8	Futurecom Limited	0.2Gbps
9	Arcelor Networks Ltd	620Mbps
10	Hyperia	1920Mbps
11	Information connectivity solutions limited	0.920gbits
12	Skymax	350MBPS

13	ipNX nigeria limited	14807Mbps
14	Is Internet Solutions Limited	10240Mbps
15	Juniper solutions limited	STM1
16	Main One	1.92Tbps - 4.96 Tbps
17	Mobitel	45Mbps
18	Netaccess	45Mbps
19	Excelsimo Networks	10Gbps
20	Tizeti	2GBPS
21	Trefoil	up -47mbps/ down -47mbps
22	VDT Communications Limited	5,162Mbps
23	Winrock Nigeria Limited	665Mbps
24	Priority Communications Ltd	2MBPS
25	Platinum Index Data	100mBPS
26	Spectranet Nigeria Limited	45 GBPS
27	Ejalet Tech ltd	85 Mbps
28	Comternet world Ltd	10Mbps
29	Interweb Satcom Limited	250Mbps
30	Coquina Software Co	256 Mbps
31	KHAL	10Mbps
32	Vodacom Business Africa	15728640Mbps
33	Layer3	310mbps, 1030mbps
34	VPS Technologies Limited	60MBPS

Table 35: Distribution of Operators with Corresponding Bandwidth Capacity.

5. Access Speed being offered:

As at December 2019, the access speed offered by operators ranged from 250kbps to about 95Gpbs. Mainone Ltd recorded access speeds of 95.2Gbps; the most common access speed delivered to subscribers in the category ranged between 1mbps - 620mbps but less than 1GB. Some operators like Layer 3, are able to grant unlimited speeds as shown in table (6) below, depending on the payment plan of the subscriber.

From the analysis of the access speed offered by ISPs, Layer 3 has unlimited access speed while VDT ranged from 512kbps to 425mbps access speed. Operators like Cobranet, IS Internet Solutions, Juniper, CBC EMEA and Hyperia fall under this group; while KHAL Communications provided access speeds in kbps.

	Access Speed(s) Being Offered	
1	CBC EMEA	155mbps
2	Cobranet Limited	220Mbps
3	Ekovolt Telco Limited	2mbps to 10mbps
4	Electronic Connections Ltd	1,2,3,4,5 to 10mbps and above
6	Information connectivity solutions Limited	1mb-40mb
8	Platinum Index Data	2MBPS

9	Odua Telecoms Limited	620Mbps
10	Hyperia	1920Mbps
11	Is Internet Solutions Limited	256Kbps - 2440 Mbps
12	Juniper Solutions Limited	2MB-50Mbps
15	Netaccess	1/2/5/10mbps
17	Tizeti	2 - 5Mbps
18	Trefoil	up -47mbps/ down -47mbps
19	VDT Communications Limited	512Kbps, 425mbps
21	Coquina Software Company Limited	110Mbps
22	Arcelor Networks Ltd	6Mbps
23	Platinum Index Data	100mMbps
24	Main One	95.2Gbps
25	Comternet World Ltd	6Mbps
26	KHAL Communications	1000kbps
27	Coscharis	155Mbps
28	Vodacom Business Africa	1Mbps,
29	Layer 3	Unlimited
30	Nanocom International Ltd	2Mbps
31	Skymax Ltd	190Mbps 156Mbps 70Mbps
32	VPS Technologies Limited	2MBPS

Table 36: **Access Speed(s) Being Offered**

C. **SUBSCRIBER & SERVICES DATA:**

1. **Total Wired Internet Subscriptions**

In December 2019, a comparative analysis of the submissions made in this category showed a huge increase; in 2018, the total wired internet subscriptions was 151 while the total wired subscriptions in 2019 was 2002. Interweb Satcom Limited recorded the highest figure with 1200 which accounted for 60% of wired internet in 2019, while VDT Communications Ltd and Vodacom Business Ltd had **486 and 167** subscriptions respectively indicating a percentage increase of 24.3% and 8.34% respectively, while KHAL Communications and Hyperia recorded the lowest number of wired internet subscriptions with 5 subscriptions each.

	Number of Users Per Fixed [Wired] Internet Subscriptions		
1		**2018**	2019
2	Vodacom Business Africa Nigeria Limited	-	167
3	Electronic Connections Ltd	-	-
4	Ekovolt Telco Limited	-	-
5	CBC EMEA	45	-
6	Nanocom International Ltd	-	10
7	Layer 3	-	-
8	Hyperia	4	-

9	Platinum Index Data	33	42
10	VPS Technologies limited	2	2
11	VDT Communications Limited	0	486
12	Comternet World Ltd	-	7
13	Khal	-	5
14	Hyperia Ltd	-	5
15	Interweb Satcom Ltd	-	1200
16	Winrock Nigeria Limited	67	78
17	**Total**	151	2002

Table 37: Number of users per fixed [Wired] Subscriptions

2. Average Number of Users per Fixed Internet Subscriptions (Broadband)

Fixed broadband subscriptions on the ISP market segment increased from 197,839 subscribers in December, 2018 to 248,187 subscribers in December 2018, indicating an increase of 25%. Spectranet Ltd constituted 99% of the 2019 figure, the highest of all the Operators in this category. Hyperia and Comternet World recorded the least with 10 and 5 subscriptions respectively, contributing 0.004% and 0.002% respectively to the total.

	Average Number of Users Per Fixed Internet Subscriptions (Broadband)		
1		**2018**	**2019**
2	IpNX Nigeria Limited	-	1869
3	Cobranet Limited	99	-
4	CBC EMEA	45	-
5	Arcelor Networks Ltd	-	420
6	Ekovolt Telco Limited	-	14
7	Interweb Satcom Ltd	-	1200
8	First Wave Networks	-	-
9	Information Connectivity Solutions Limited	330	-
10	Nanocom International Ltd	-	33
11	Netfocus	2	-
12	GTS	-	-
13	Cyberspace Limited	-	-
14	Layer 3	-	-

15	Smartcity Broadband	-	-
16	Winrock	67	78
17	Trefoil	1	-
18	Platinum Index Data	33	29
19	Wavetek	3	-
20	Comternet world Ltd	-	5
21	Coquina Software Ltd	-	57
22	Spectranet	197249	246308
23	Hyperia	10	10
	Total	**197,839**	**248,187**

Table 38: Average number of users per fixed Broadband Internet subscriptions

3. DSL Internet Subscriptions

In this category, only Interweb Satcom Ltd communications made submissions with 1100 DSL internet subscriptions in 2019.

Average Number of Users Per Cable Modem Internet Subscriptions		
	2018	**2019**
Interweb Satcom Ltd	-	1100
Total	**0**	**1100**

Table 39: Showing the DSL internet subscription for 2019

4. Fiber to Home/Building

The analysis of this category shows that Fiber to Home subscriptions recorded 691 subscribers in December 2019 from 252 in December 2018.

In December 2019, Excelsimo Networks Limited recorded a total of 250 which accounted for 36% of the subscriptions in this category while Odua Telecoms Ltd had the least subscription of 1 accounting for 0.14% of the subscriptions in this category.

	Fibre to the Home/Building		
		2018	**2019**
1	Odua Telecoms Limited	-	1
2	Nanocom International Ltd	-	10
3	Cobranet Limited	99	88
4	Jupiter Solutions Limited	-	10
5	Winrock	45	53
6	Platinum Index Data	8	13
7	Spectranet Nigeria Limited	-	61
8	VDT Communications Limited	-	184
9	Estream Ltd	-	14

10	Excelsimo Networks	-	250
11	Content Oasis	55	7
	Total	**252**	**691**

Table 40: Showing the Fibre to the Home/Building

5. **Total Wireless Broadband Subscriptions**

Total Wireless broadband subscriptions increased from 199,232 connections in December, 2018 to 257,326 in December 2019**.** In this category, Spectranet had the highest number with 246,308. An analysis of this category shows that the Total Wireless Broadband subscriptions increased by 29%.

	Total Wireless Broadband Subscriptions		
1		**2018**	**2019**
2	Electronic Connections Ltd	105	105
3	Cobranet Ltd	1,845	-
4	Netfocus Ltd	2	50
5	Center Point Networks Ltd	12	-
6	Trakatel Ltd	19	-
7	Spectranet Nig Ltd	197,249	246,308
8	Khal	-	50
9	Hyperia	-	1,227
10	Content Oasis Ltd	-	60
11	Tizeti	-	9,289
12	Juniper Solutions Ltd	-	84
13	ICSL	-	48
14	Electronic Connections Ltd	-	105
15	**Total**	199,232	257,326

Table 41: Showing total wireless broadband subscriptions

6. ***Average Number of Users per fixed Wireless Broadband Subscriptions***

In December 2018, the average number of users per fixed Wireless broadband subscriptions (A Fixed Wireless Broadband service is an Internet connection providing high-speed bandwidth delivered wirelessly from the service provider to a location) was 6,874 while that for December, 2019 was 12,051. There was a 75% increase in the average number of users per fixed wireless broadband subscriptions from December, 2018 to December, 2019.

	Average Number of Users per Fixed Wireless Broadband Subscriptions		
1		**2018**	**2019**
2	Entouche Networks	**10**	**-**
3	Estream ltd	**-**	**15**
4	Juniper Solutions Limited	94	84
5	Netcom Africa	-	-

6	Cobranet	-	1,856
7	Odua telecoms limited	-	6
8	Interweb Satcom Ltd	-	500
9	Winrock	-	78
10	Information connectivity solutions limited	40	48
11	Winrock Nig Ltd	22	-
12	Tizeti	6,475	9,289
13	Platinum Index Data	10	42
14	Trefoil	-	1
15	Ekovolt	12	14
16	Skymax	150	20
17	Futurecom Ltd	37	-
18	Netfocus	2	-
19	Content Oasis	22	60
20	Nanocom International Ltd	-	33
21	Comternet World ltd	-	5
	Total	**6,874**	**12,051**

Table 42: Showing **Average Number of Users per Fixed Wireless Broadband Subscriptions**

7. ***Total Number of Terrestrial Subscriptions [Fixed &Fixed Wireless]***

During the period under review, the total number of terrestrial subscriptions increased by 47% considerably from 3065 as at December, 2018 to 4520 in December 2019. In this category, Cobranet has the highest number with 1944 which accounted for 40% of the Subscriptions. Trefoil recorded the least figure with One (1) subscription which represented 0.002% of the total terrestrial subscriptions.

	Total Number of Terrestrial Subscriptions (Fixed and Fixed Wireless)		
1		**2018**	**2019**
2	Odua telecoms limited	-	7
3	IS Internet Solutions Limited	457	427
4	Juniper Solutions Limited	94	84
5	Cobranet	1944	1944
6	Trefoil	1	1
7	Information connectivity solutions limited	330	-
8	Skymax	220	358
9	TRAKATEL	19	-
10	BAT	-	20
11	Spectranet Nigeria Limited	0	96
12	Estream ltd	-	106
13	EKOVOLT	-	53
14	Vodacom Business Africa Nigeria Limited	-	1424
15	TOTA	3,065	4,520

Table 43: **Total Number of Terrestrial Subscriptions (Fixed and Fixed Wireless)**

8. Total Number of Satellite Subscriptions

Total number of Satellite subscriptions also increased over the period from 1602 in December, 2018 to 2657 in 2019, indicating an increase of 66%, this analysis was based on the submissions by Fourteen (14) operators in this category.

	Total number of Satellite Internet Subscriptions		
		2018	**2019**
1	Cobranet Limited	-	-
2	Juniper Solutions Limited	-	2
3	Interweb Satcom Ltd		1200
4	IS Internet Solutions Limited	88	33
5	E-Stream	-	15
6	Sea Net Technologies Limited	-	-
7	Trefoil Networks	1	1
8	Nanocom International ltd	-	43
9	Information connectivity solutions limited	-	9
10	Hyperia	1500	1227
11	Content Oasis	3	3
12	Vodacom Business Africa Nigeria Limited	-	40
13	SKYMAX	10	48
14	Main One	-	5
15	ICSL	-	9
16	Clear Sky ltd	-	22
17	**Total**	**1,602**	**2,657**

Table 44: Indicating the total Number of Internet subscription in 2019

9. Number of Internet Users per Region

In December, 2019, the total number of internet users' i.e. those who are connected through ISPs as opposed to the GSM service providers, in the six geopolitical zones for was **257,085, a 21% increase from the 211,636 recorded as at December, 2018.** The analysis of the breakdown is as follows:

a. **South West** had the highest number of users in 2017, with **193,405 or 75%** of the total subscriptions.
b. **South-South had 6%** with **15,536** users;
c. **North West had 0.06%** with **166** users;
d. **South East had 0.12% with 333 users;**
e. **North-East had 0.13%** with **344** users;
f. **North Central** had **47,301** users which indicates **18%** of the total number of users,
g. **North West** had 0.06**%,** which was the least of all the regions with **166** users.

10. Number of Users by Internet Speed

Apart from the users via the major MNOs, in December 2019, out of a total of 278,190 users via ISPs, **2,052** users subscribed to speeds between **256Kbps-2Mbps**, representing **6.4%** of the total user base; **17,888** users between **2–10Mbps,** representing **6.4%** of the total user base; & **258,250** subscriptions in the **10mbps & above** category, which makes **93%** of the total.

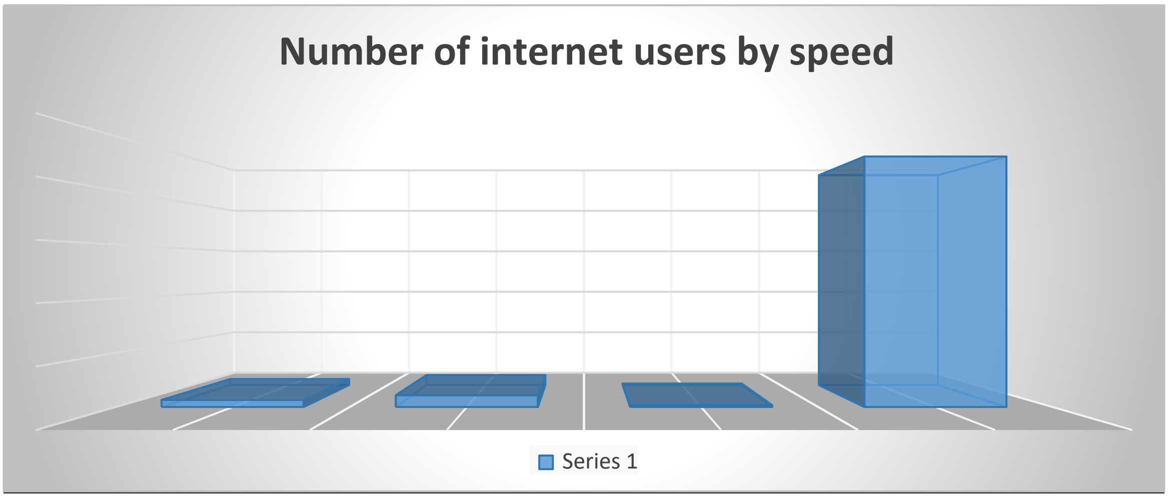

Figure 48: Speed of Internet as delivered to consumers

11. Subscriber Matrix (Internet Use)

As at December, 2019, the following was recorded for internet use: Government- 0.9%; NGO- 4.6%; Multinational- 0.04%; Schools & Research Institutions- 0.09%; Residential/Individual –91.6%; Private Business – 2.3%; Cybercafés – 0.06%; Hospitals & Medical Research – 0.07%; Public Libraries – 0.002%; Military – 0.002%; Others – 0.36%.

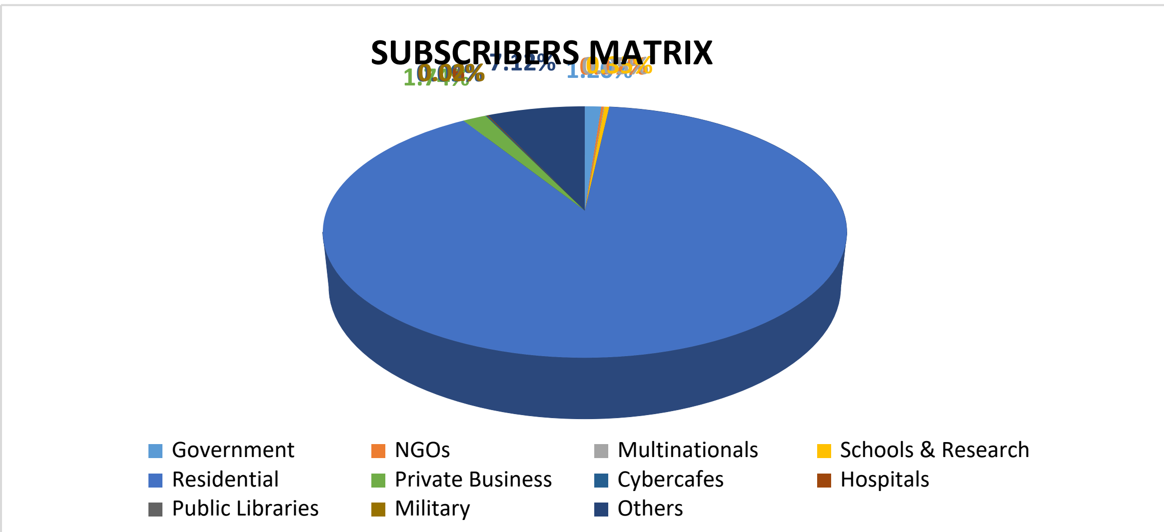

Figure 49: Subscriber Matrix that use the Internet

D. *FINANCIAL DATA:*

1. *Revenue*

As at December 2019, a total Revenue of **N53, 745,324,069.20 (Fifty Three Billion, Seven Hundred and Forty Five Million, Three-Hundred and Twenty Four Thousand, Sixty-Nine Naira, Twenty Kobo Only)** was generated, 23.% increase from the **N43, 829,309,568. (Forty Three Billion, Eight Hundred and Twenty Nine Million, Three-Hundred and Nine Thousand, Five hundred and Sixty-Eight Naira Only that** was generated in 2018. Spectranet, Vodacom Business Africa, Mainone and IS Internet Solution had 21.8%, 21.6%, 21% and 6% respectively of the total revenue, making them the biggest Revenue generating ISPs in 2019.

Conversely, Comternet World Ltd had the least revenue in 2019, with **N1,820,000** (**One Million, Eight Hundred and Twenty Thousand Naira Only)** only, or 0.003% of the total revenue generated by ISPs in 2019.

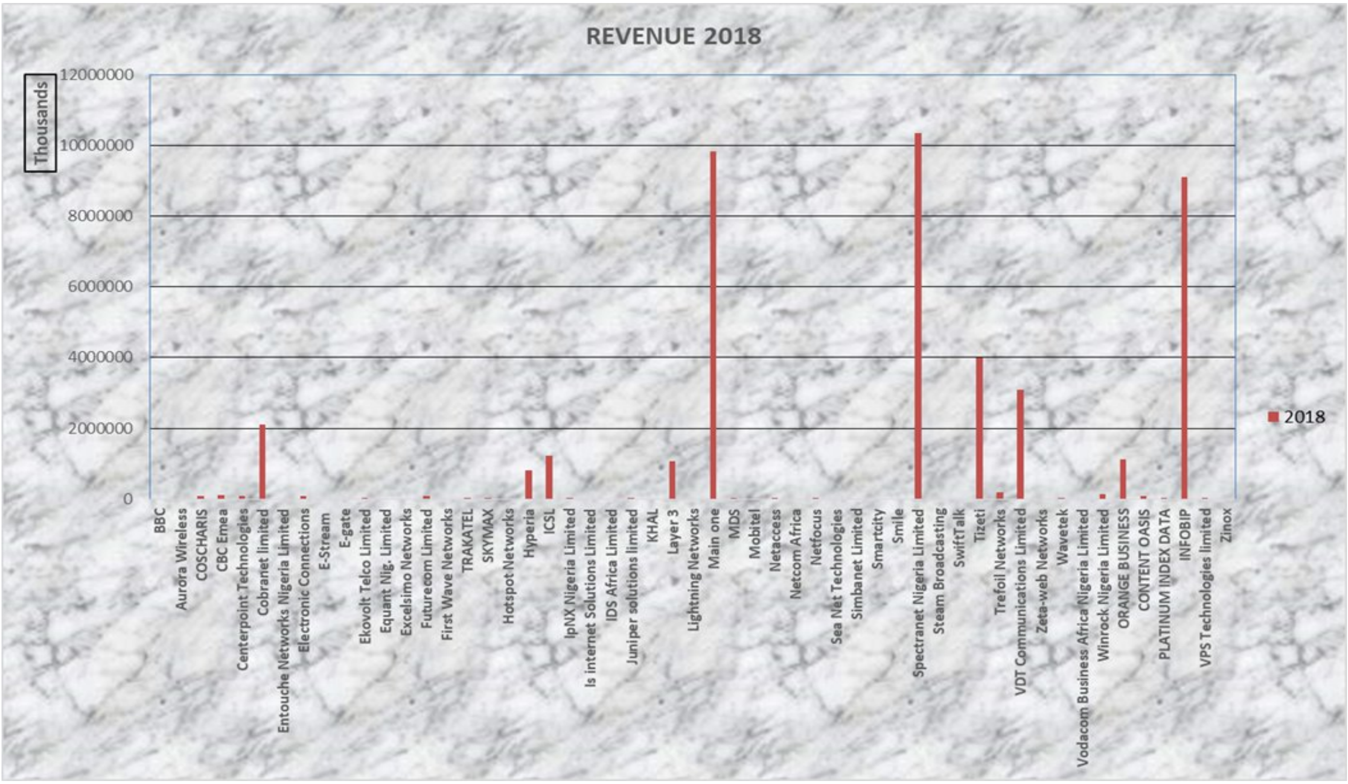

Figure 50: Revenue generated by ISPs 2019

2. *Operating Cost*

The value of Operating Cost increased from **=N=25,271,669,324.38 (Twenty Five Billion Two Hundred & Seventy One Million Six Hundred and Sixty Nine Thousand Three Hundred & Twenty Four Naira Thirty Eight Kobo**

Only in 2018 to **=N=41,106,763,063.46 (Forty One Billion One Hundred & Six Million Seven Hundred and Sixty Three Thousand & Sixty Three Naira Forty Six Kobo Only.** This indicates an Increase of 62%. This is shown in Figure 51 below:

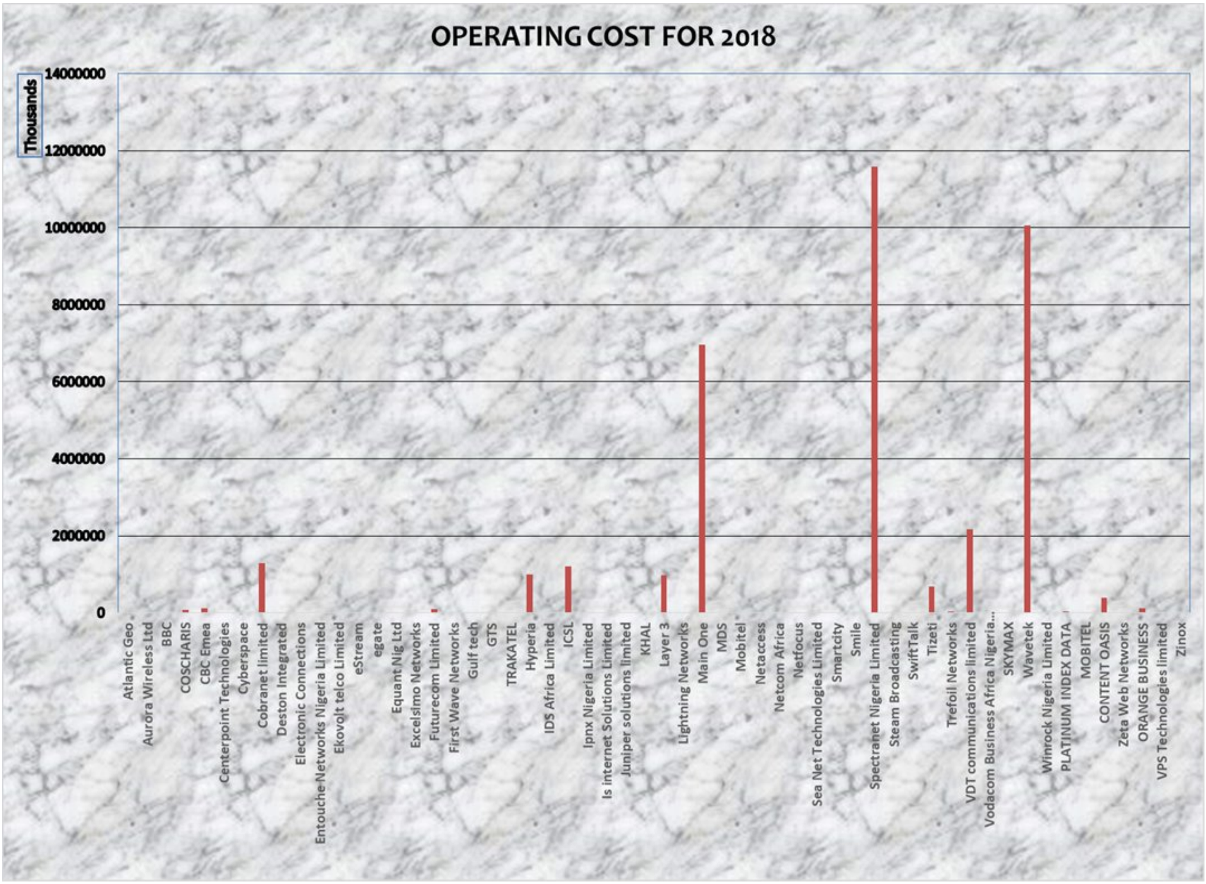

Figure 51: Operating Cost by ISP's 2019

From the analysis of the submissions made, **Vodacom** recorded the highest operating cost in 2019, with **N11,069,000,000.00** while **Spectranet** and **IS Internet** were second and third with **N10,851,000,000** and **N2,878,000,000** respectively. The three operators together make up **60%** of the total operating cost for the 2019 financial year. The lowest in Operating Costs for the 2019 financial year came from Mobitel Limited with **N2, 979,000,** making 0.007% of the total figure.

3. ***Staff Profile:***

As at December 2019, the number of staff of ISP operators decreased to **2,877** from **3,136** recorded in 2018. This showed a decrease of -8% in the work force. There was a total of **2215 male** and **697 female** staff. A further breakdown reveals that **2,812 of the work force are Nigerians**, while **expatriates were 65.**

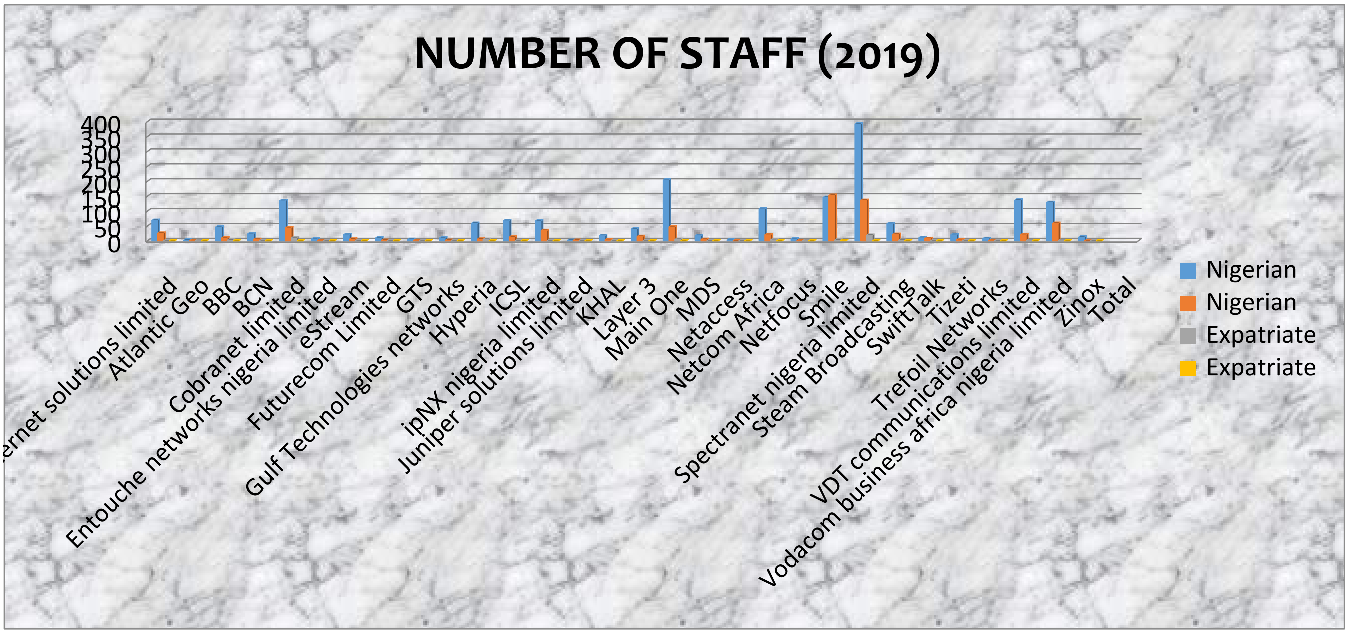

Figure 52: Staff Profile as at December, 2019

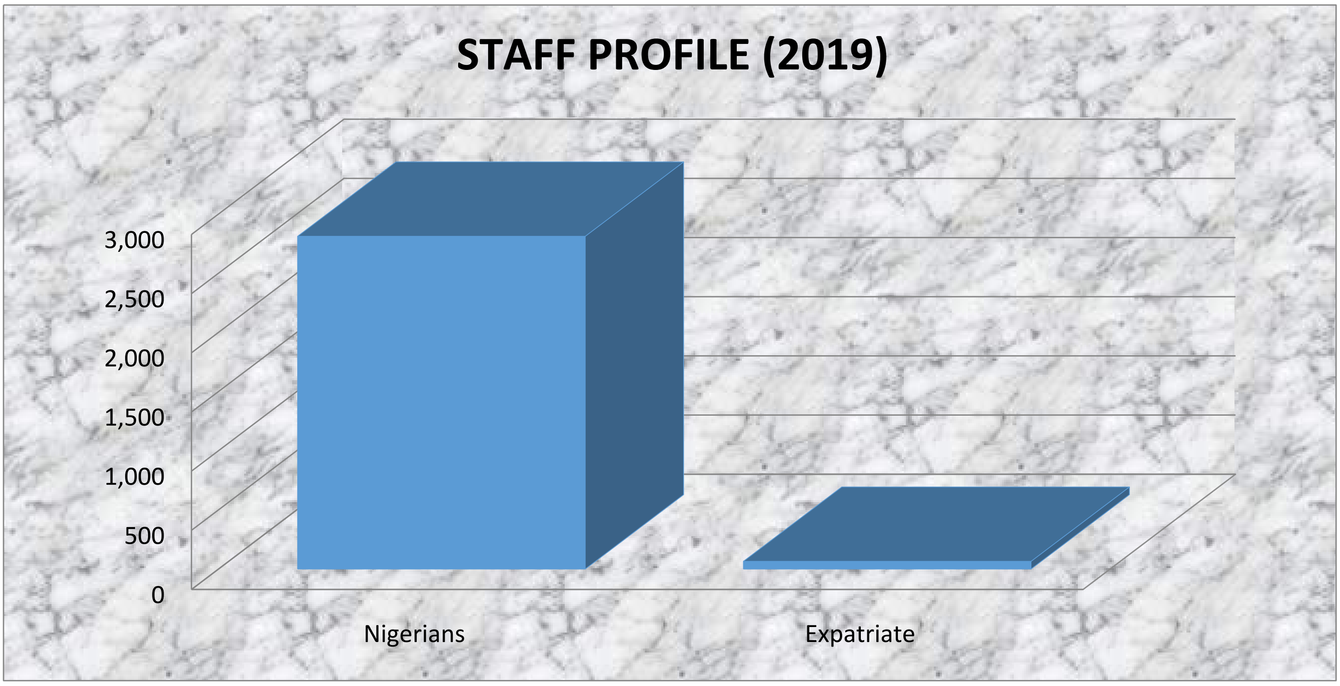

Figure 53: Staff Profile as at December, 2019

ANALYSIS OF 2019 YEAR END SUBSCRIBER / NETWORK DATA– [OTHERS OPERATORS]

A. NETWORK DATA:

The Commission received a total of Thirty- Three (33) submissions from Licensees of the Commission for the 2019 Year End Subscriber/Network Data for Operators Other than Mobile, Fixed Telephony and Internet Service Providers (ISP). These "Other Operators" provided ancillary telecom services such as Value Added Services (VAS), Collocation and Infrastructure Service providers, Long Distance Service Operators, Automated Vehicle Tracking services Interconnect Exchange and Metropolitan Fiber License Operators.

The number of submissions received increased from twenty (20) in Year 2018 to thirty - Three (33) as at Year 2019 signifying a 65% increase over the number of submissions received. A breakdown of the Licensees and the type of services offered is presented below:

S/N	Operator	Type of Service
1.	**Galaxy Backbone Limited**	**Internet and Hosting**
2.	**Txtlight Power Solutions Limited**	**Value Added Services**
3.	**Interconnect Clearing House Nigeria Limited**	**Interconnect, Co-location, MNP**
4.	**Worldwide Industrial Ventures Limited**	**Colocation and Infrastructure Sharing Service.**
5.	**Telcovas Solutions & Services Limited**	**Value Added Services**
6.	**Cloud Interactive Associates Limited**	**Value Added Services**
7.	**Coloplus Worldwide Services Limited**	**Collocation Services**
8.	**Text Nigeria Limited**	**Value Added Services**
9.	**Kirusa Nigeria Limited**	**Value Added Services**

10.	**Mpedigree Network Nigeria Limited**	**Value Added Services**
11.	**Upstream Mobile Services Limited**	**Value Added Services**
12	**Avyra Systems Limited**	**Value Added Services**
13	**Medallion Communications Ltd**	**Interconnect Clearing House**
14	**Alpha Technologies Limited**	**Value Added Services**
15	**IP Integrated Solution Services Limited**	**Value Added Services**
16	**Qrios Vas Limited**	**Value Added Services**
17	**Communication Towers Nigeria Limited**	**Infrastructure Sharing & Collocation Services**
18	**Beta Bridges Limited**	**Automated Vehicle Tracking Service**
19	**Intercellular Nigeria Limited**	**Unified Access Service License**
20	**Solid Interconnectivity Services Limited**	**Interconnectivity Services**
21	**Mobilise Africa Limited**	**Value Added Services**
22	**Credit Switch Limited**	**Value Added Services**
23	**ATC Nigeria Wireless Infrastructure Limited**	**Collocation and Infrastructure Sharing Service.**
24	**Vodacom Business Africa (Nigeria) Limited**	**National Long Distance Communications**
25	**Spinlet Limited**	**Value Added Services**
26	**Nok 360 Global Limited**	**Value Added Services**
27	**Interra Networks Limited**	**Contact Center Services**
28	**Betazoo Limited**	**Value Added Services**

29	**Africa's Talking Liminted**	**Value Added Services**
30	**Swap Technologies & Telecomms Plc**	**Colocation & Infrastructure Sharing**
31	**IHS Nigeria Limited**	**Colocation, Managed Services & Deployment.**
32	**INT Towers Limited**	**Colocation, Managed Services & Deployment.**
33	**IHS Towers Nigeria Limited**	**Infrastructure Service Provider.**

Table 45: List of responsive Licensees and License category

A breakdown of the responses in terms of service categories indicate that the Value Added Service (VAS) license category, Collocation and Infrastructure service categories top the list of responsive licensees received in this Category. VAS licensees account for 50% of responses while colocation & Infrastructure licensees account for 20% and other licensees account for 30%.This distribution is shown in the pie chart below:

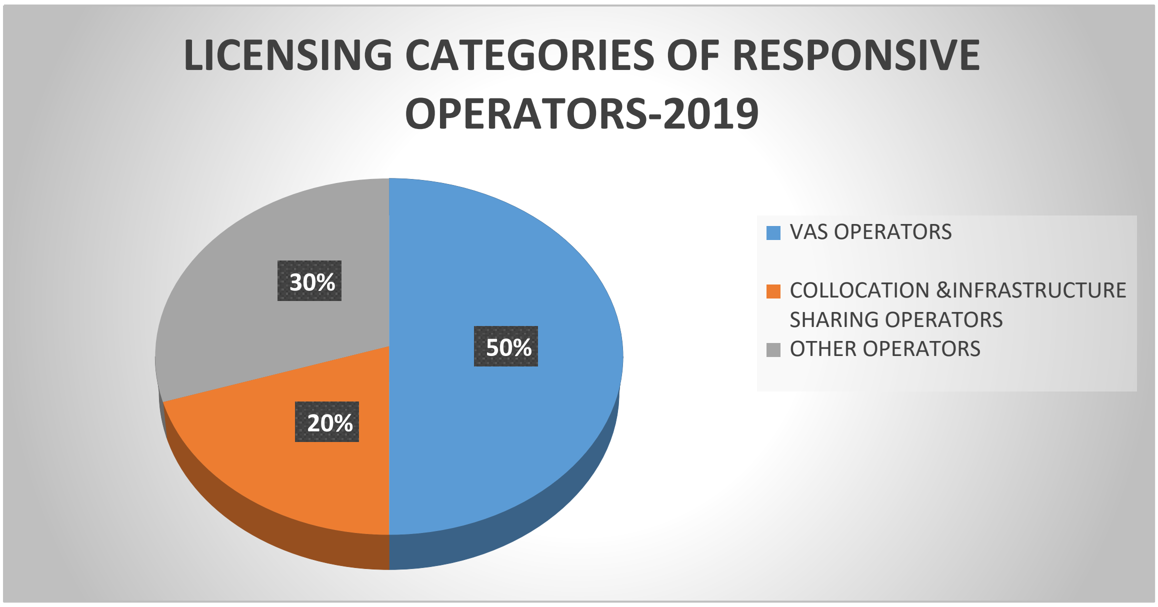

Figure 54: Distribution of Licensing Categories of Responsive Operators

These Operators provide telecommunications operations across the thirty-six (36) states and in at least each state of the geopolitical zones of the country.

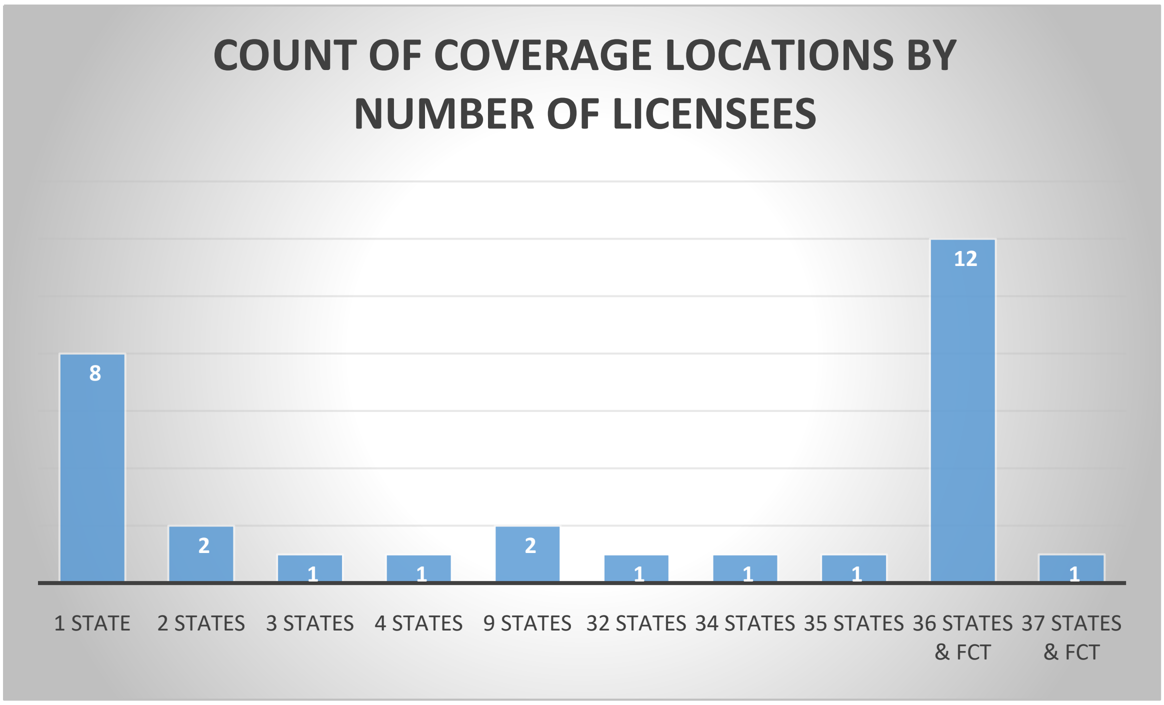

Figure 55: Count of Coverage Locations by Number of Licensees.

B. ***INFRASTRUCTURE DEPLOYMENT***

1. ***Long Distance Cable Network (km);***

As at December, 2019 the total Long Distance cable deployed by Operators in this category was 3,515km. Interconnect Clearing House Ltd in the Country recorded 3,515km as at the end of year 2019.

2. ***Fibre Optic Network (km);***

As at December, 2019 the total Fibre Optic Network deployed (leased and owned) by Other Operators was Twenty-Nine Thousand and Fifty-Three point Twenty-Two Kilometers (29,053.22km) while in Year 2018 the same set of Operators deployed Twenty Five Thousand Three Hundred and Twenty Four Point Sixty Three (25,324.63Km) of Fibre. This is an increase of 14% (or 3,728km) of the fiber out lay in Year 2018.

A breakdown of the composition of the fibre deployment indicates that 15,344 km was **leased** by Vodacom Business Africa Ltd, Main one deployed 8,528.67km Broadbased Communications Ltd deployed 2,020.45km of fibre, Backbone Connectivity Network deployed 222km ,Bitflux Nigeria deployed 66km,while Defcom Technologies Ltd, Interconnect Clearing House Limited, Alpha Technologies Ltd deployed and deployed 30km, 28.5km, 7km respectively. Breeze Micro ETG Integrated Services limited, Medallion Communications Ltd and solid Interconnectivity Services Limited also recorded 50km, 39km, 26km and 25km of fibre respectively.

This is as shown in the figure below:

Figure 55: Fibre Deployment by Other Operators (Year 2018 and 2019 submissions considered)

3. ***<u>Number of Trunks in use (E1):</u>***

The total number of E1 in use by Operators as at the end of Year 2019 Two thousand and Forty Five E1 (2,045) as against Two Thousand Five Hundred and Fifty Two (2,552) E1`s in Year 2018. Txtlight Power Solutions limited deployed 2 E1, Interconnect Clearing deployed 1,162 E1s`, Alpha Technologies deployed 68 E1, while solid Interconnectivity services deployed 630 E1. Mobilise Africa Limited deployed 3 E1 while Medallion Communications Ltd and Interra Networks Limited 176 and 4 E1`s respectively.

This is as shown in the figure below:

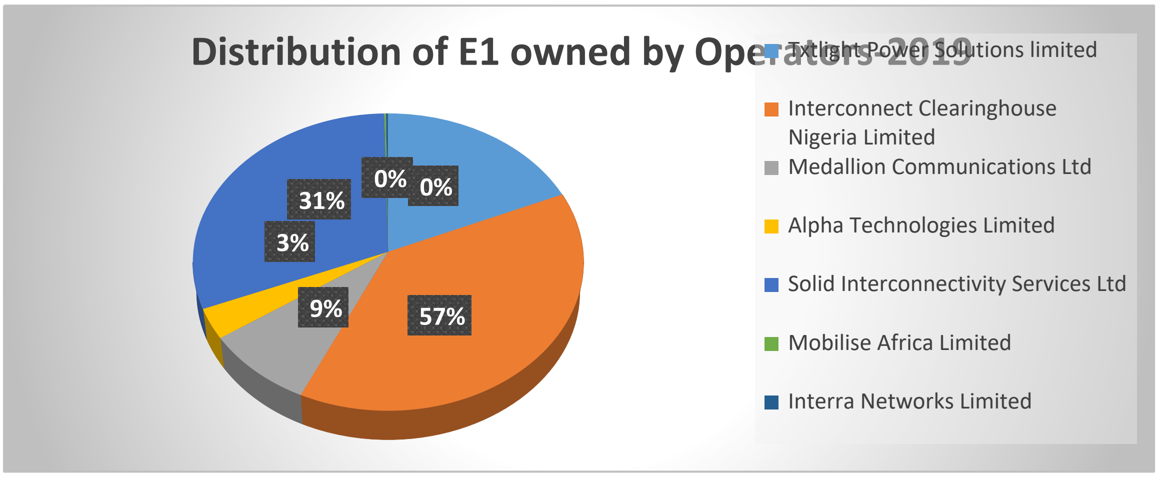

Figure 56: No. of Trunks in use (E1)

Infrastructure Deployment		
Type of Infrastructure/Transmission Facility	***Number of Trunks in use (E1)***	
	2018	***2019***
Txtlight Power Solutions limited	***-***	***2***
Interconnect Clearinghouse Nigeria Limited	***1,323***	1,162
Medallion Communications Ltd	***176***	176
Alpha Technologies Limited	***60***	68
Solid Interconnectivity Services Ltd	***902***	***630***
Mobilise Africa Limited	3	3
Interra Networks Limited	4	4

Table 46: No. of Trunks in use (E1)

This implies Interconnect Clearing House owns 57% of the E1 Trunks in Use as at Year 2019 in this category of the market segment based on submissions.

4. ***Number of Gateways:***

The total Number of Gateways in use as at year 2019 was Fifty Five (55). Kirusa Nigeria limited accounted for the significant number of the Gateways based on Year 2018 Submissions. Txtlight Power Solutions limited, Text Nigeria Limited, Avyra Systems Limited and Intercellular Nigeria Limited has the least significant number of the Gateway based on Year 2019 Submission.

Infrastructure Deployment		
Type of Infrastructure/Transmission Facility	***Number of Gateways in use***	
	2018	***2019***
Galaxy backbone	***2***	2
Interconnect Clearinghouse Nigeria Limited	***16***	19
Txtlight Power Solutions limited	***-***	1
Text Nigeria Limited	***1***	1
Kirusa Nigeria Limited	***17***	20
Mpedigree Network Nigeria Limited	***4***	4

Upstream Mobile Services Limited	*2*	2
Avyra Systems Limited	*2*	1
Medallion Communications Ltd	*2*	2
Intercellular Nigeria Limited	*1*	1
Solid Interconnectivity Services Ltd	*2*	2
Total	49	55

Table 47: Number of Gate Ways as Dec 2019

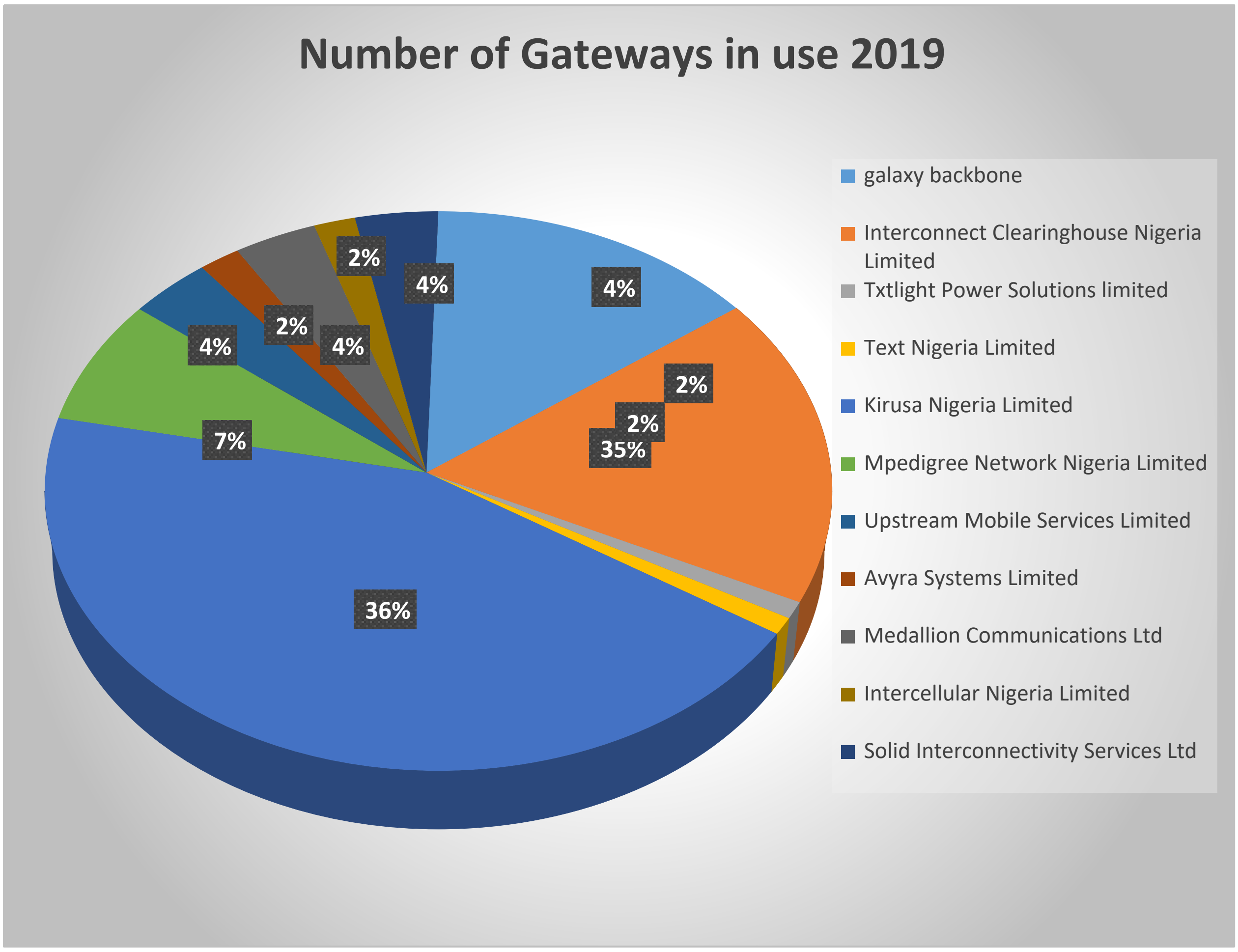

Figure 57; Number of Gateways deployed-2019

C. ***MAST AND TOWERS:***

There is a total of Twenty Four Thousand One hundred and Ninety Three (24,193) Towers as collated in year 2019 based on submissions received from the Operators. The breakdown of the towers according to each Operator is as shown below:

1. **Towers per Operator:** Please find below a breakdown of the:

S/N	Operator	Number of Towers (Year 2019)
1.	**Worldwide Industrial ventures Limited**	**8**
2.	**Medallion communications Limited**	**235**
3.	**Alpha Technologies Limited**	**1080**
4.	**Communication Towers Nigeria Limited**	**64**
5.	**Intercellular Nigeria Limited**	**132**
6.	**Solid Interconnectivity Services Ltd**	**405**
7.	**Vodacom Business Africa (Nigeria) Limited**	**90**
8.	**I.HS Nig Ltd**	**6,131**
9.	**INT Nig Ltd**	**9,874**
10.	**I.HS Towers Nig Ltd**	**1080**
11.	**ATC Nigeria limited**	**5,124**
	Total	**24,193**

Table 48: Breakdown of Base Transmitting Station (BTS) (Specific Tools and Tech. and HotSpot submitted Year2016-2019 data)

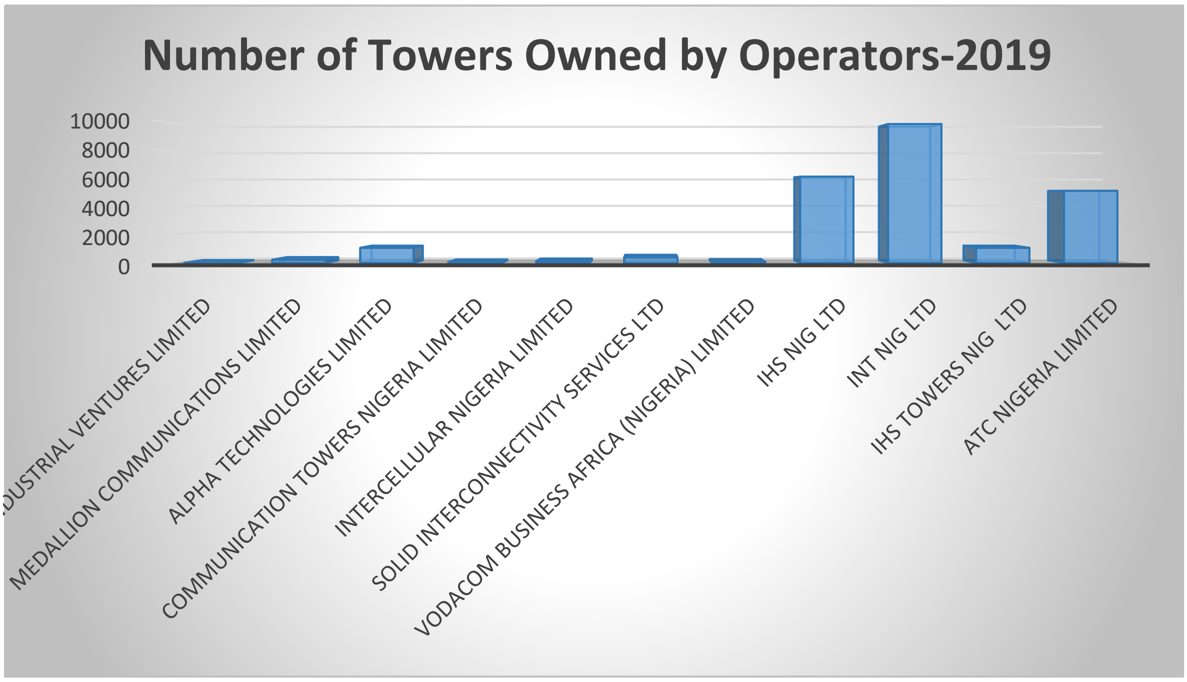

Figure 58: Graphical representation of Towers Owned by Operators (Submissions from Year 2019)

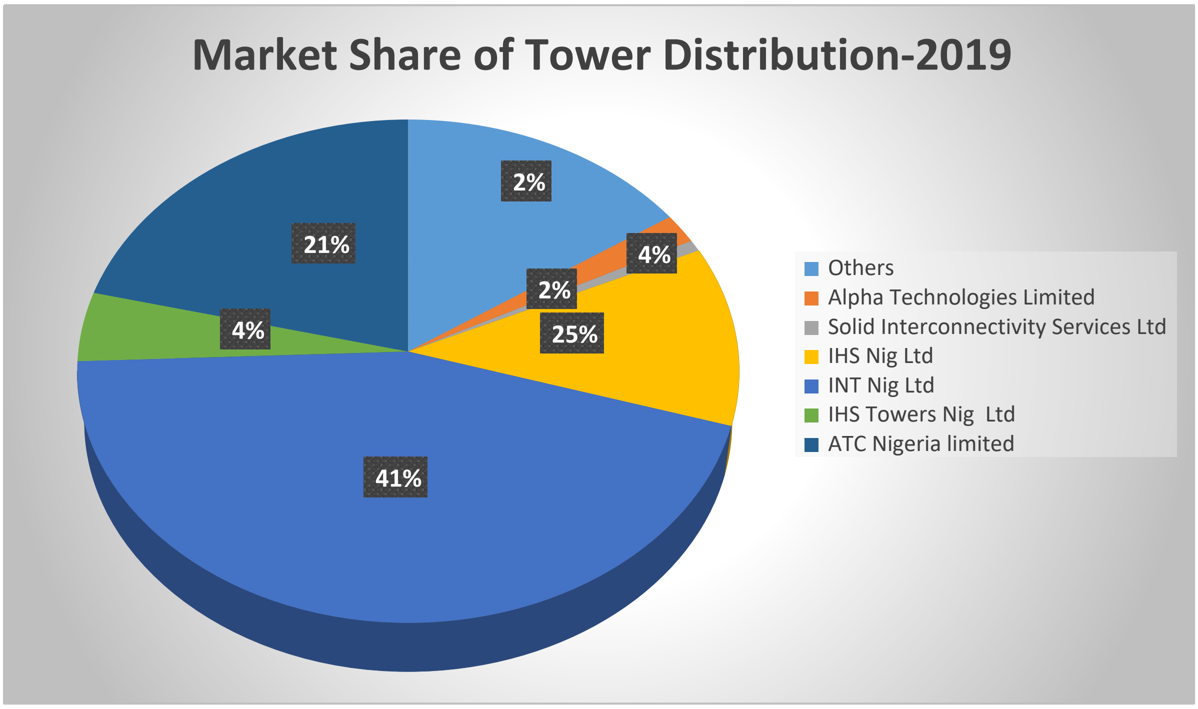

Figure 59: Market Share of Collocation & Infrastructure Sharing Licensee

The figure above illustrates that the IHS related consortium owns approximately over 70% of the Towers have an apparent dominance showing in this market segment.

2. **Number of BTS Site Deployment across select Operators**: Submissions from Year 2019 presented in the graph below,

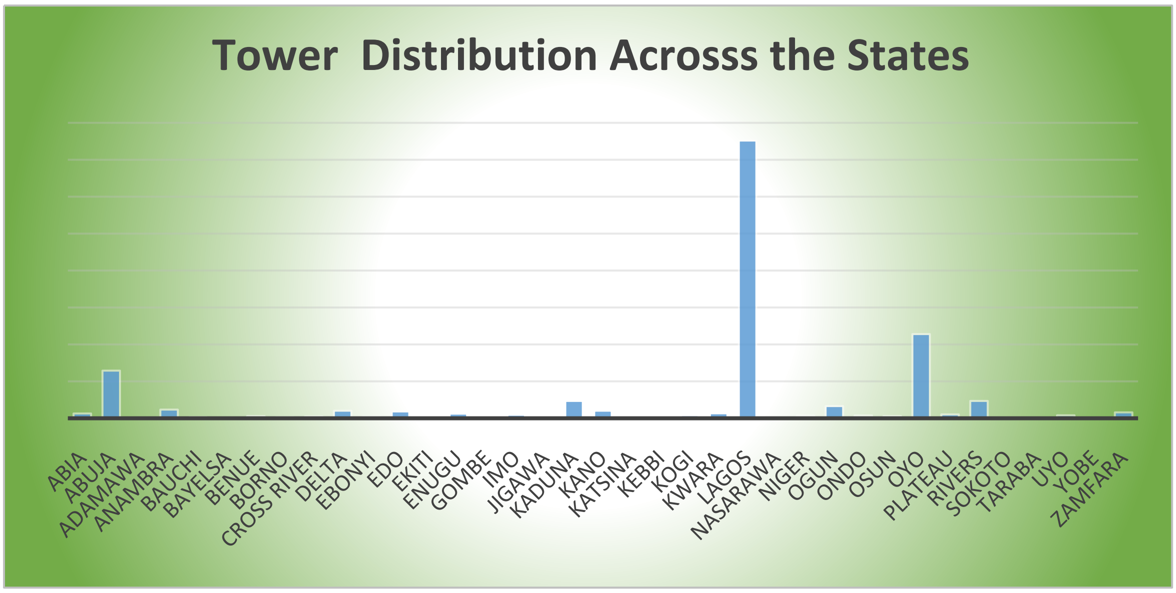

Figure 60: State by State Graphical Distribution of BTS in Nigeria (Other Operators)

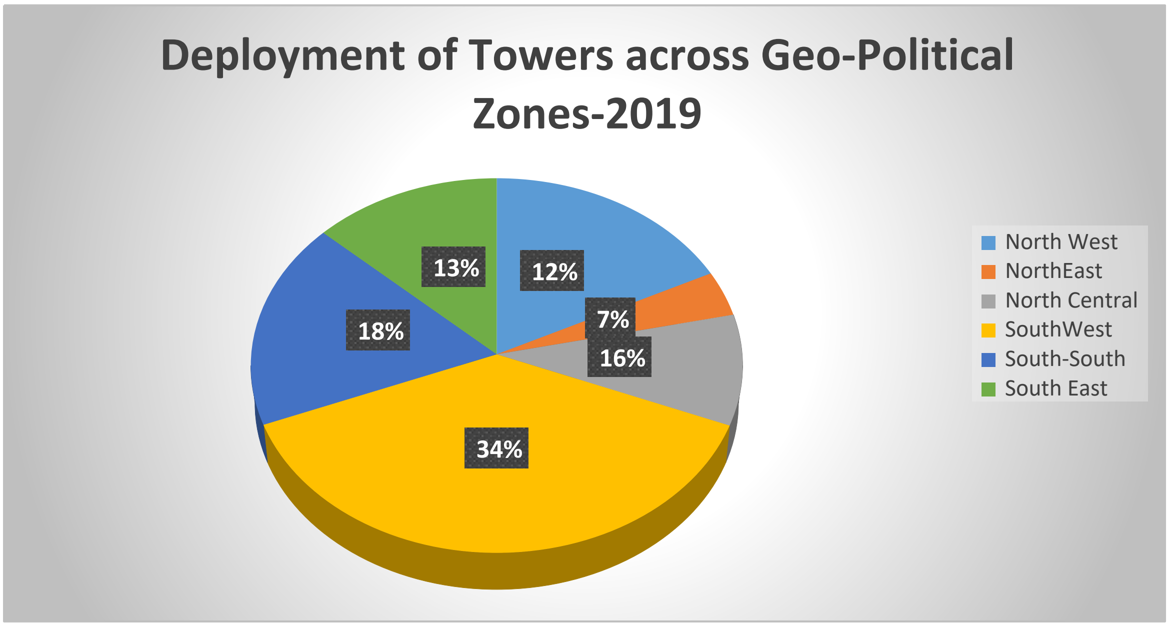

Figure 61: Tower Distribution by Geopolitical Zones

The South West geopolitical zone has the highest concentration of BTS sites at 34% as against the 30% distribution in Year 2018.The Operators reported the number of towers in the South-South and North Central Zones at 18% and 16 % respectively. The North East has the least number of BTS sites at 7%. The situation in the North East is attributable to the activities of insurgency in that geopolitical area that destroyed some Towers. Though the situation in the North East has improved build out apparently has been understandably slow.

D. ***SUBSCRIBER DATA:***

The Subscriber Data for Operators in this market segment indicate varying Subscriber Matrix due to the different Service offerings and licenses held by each of the Operator. Hence, the basis of analysis is unique for each licensed Operator.

E. FINANCIAL DATA:

1. **Revenue:** The total revenue generated by Operators other than GSM, Fixed or ISP Operators in Year 2019 was Four Hundred and Forty-Nine Billion One Hundred and Thirty Eight Million Four Hundred and Sixty Five Thousand Five Hundred and Thirty Naira **(#449,138,465,530)** *as against* Four Hundred and Thirty Billion Five Hundred and Forty Two Million Two Hundred and Sixty Two Thousand One Hundred and Fifty Three Naira **(#430,542,262,153)** recorded in the Year 2018 from Operators that were responsive to the Commission`s questionnaire. The breakdown of the submissions as follows:

Revenue:	As at Dec 2019	
	2018	2019
Galaxy Backbone Limited	7,734,635,000.00	7,066,748,180.00
Txtlight power solutions limited	2,983,350,056.33	3,136,060,847.00
Interconnect Clearing House Limited	564,950,000.00	749,970,000.00
Worldwide Industrial ventures Limited	267,329,984.30	163,877,740.50
Telcovas Solutions & Services Limited	205,899,715.00	2,559,244.00
Cloud Interactive Associates Limited	473,062,079.16	549,151,513.32
Coloplus Wordwide services Limited	57,888,933.00	60,783,379.65
Text Nigeria Limited	178,969,275.00	176,284,271.39
Kirusa Nigeria Limited	366,444,503.00	453,830,521.00
Mpedigree Network Nigeria Limited	80,660,750.00	90,143,660.00
Upstream Mobile Services Limited	2,338,840,263.00	112,448.00
Avyra Systems Limited	2,503,636,920.00	101,868,231.00
Medallion Communications Ltd	325,600,000.00	344,000,000.00
Alpha Technologies Limited	227,179,250.37	289,590,808.50
Ip Integrated Solution services Limited	4,138,800,099.00	4,350,101,300.00
Qrios Vas Limited	72,589,933.00	188,339,130.57
Communication Towers Nigeria Limited	688,300,934.00	838,393,559.60
Beta Bridges Limited	2,800,000.00	3,500,000.00
Intercellular Nigeria Limited	90,800,000.00	1,100,000.00
Solid Interconnectivity Services Ltd	16,797,663.63	42,613,349.48
Creditswitch Limited	551,004,000.00	658,466,858.35
ATC Nigeria Wireless Infrastructure Limited	79,844,000,000.00	82,942,000,000.00

Vodacom Business Africa (Nigeria) Limited	***11,526,000,000.00***	***11,838,000,000.00***
Spinlet Limited	***89,754,641.25***	***2,468,580.00***
Nok 360 Global Limited	***13,240,065.00***	***1,004,479.00***
Interra Networks Limited	***39,776,408.50***	***45,236,003.96***
Betazoo Limited	***203,169,797.00***	***154,090,336.54***
Africa's Talking Liminted	***136,721,882.00***	***314,341,088.25***
Swap Technologies & Telecomms Plc	***5,385,060,000.00***	***525,830,000.00***
IHS Nigeria Limited	***120,574,000,000.00***	***131,977,000,000.00***
INT Towers Limited	***166,606,000,000.00***	***179,476,000,000.00***
I.HS Towers Nig Ltd	***22,255,000,000.00***	***22,595,000,000.00***
TOTAL	***430,542,262,153***	***449,138,465,530***

Table 50: Other Operators Revenue

Figure 62: Revenue Profile of Others`Category of Operators for Years 2018-2019

2. **Operating Cost**: Similarly, the total **operating cost** incurred by the Operators as at the end of December, 2019 was Three Hundred and Nineteen Billion Nine hundred and Twenty Seven Million Three hundred and sixteen Thousand Three Hundred and Eighty One Naira Fourteen Kobo. (#***319,927,316,381.14) only*** as against Two Hundred and Seventy-Seven Billion Five Hundred and Twenty Seven Million five Hundred and Ninety eight Thousand Five hundred and Ninety Three Naira sixty four kobo ***(#277,527,598,593.64) only.*** This indicates an increase of 15.2% in the Operating cost of licensees recorded between Years 2018 and 2019.This increase in Operating Cost may be a consequence of the exchange rate effects in the industry.

Operating Cost:	As at Dec 2019	
	2018	2019
Galaxy Backbone Limited	3,978,950,000.00	3,781,293,862.30
Txtlight power solutions limited	895,447,403.73	778,254,601.25
Inteconnect Clearing House Limited	674,010,000.00	637,030,000,
Worldwide Industrial Ventures Limited	167,555,499.41	144,659,477.45
Telcovas Solutions & Services Limited	10,367,670.00	5,457,000.00
Cloud Interactive Associates Limited	436,066,951.49	515,022,933.29
Coloplus Worldwide services Limited	55,240,411.00	31,703,250.14
Text Nigeria Limited	53,215,602.00	32,569,472.06
Kirusa Nigeria Limited	367,206,751.00	391,204,271.00
Mpedigree Network Nigeria Limited	84,254,130.00	86,459,526.00
Upstream Mobile Services Limited	351,223,181.00	187,800,468.00
Avyra Systems Limited	354,979,913.00	59,757,530.00
Medallion Communications Ltd	245,910,000.00	228,930,000.00
Alpha Technologies Limited	203,165,845.44	316,391,180.52
Ip Integrated Solution services Limited	3,251,306,139.00	3,581,833,945.00
Qrios Vas Limited	58,625,763.00	81,353,769.50
Communication Towers Nigeria Limited	84,491,028.00	79,200,336.00
Beta Bridges Limited	1,980,000.00	2,320,000.00
Intercellular Nigeria Limited	1,063,500,000.00	152,200,000.00
Solid Interconnectivity Services Ltd	69,974,494.71	68,243,078.79
Creditswitch Limited	423,259,000.00	652,410,268.41
ATC Nigeria Wireless Infrastructure Limited	35,532,000,000.00	42,205,000,000.00
Vodacom Business Africa (Nigeria) Limited	10,968,000,000.00	11,069,000,000.00
Spinlet Limited	37,896,242.86	24,264,282.90
Nok 360 Global Limited	34,912,443.00	18,784,189.00
Interra Networks Limited	35,806,318.00	37,161,318.00
Betazoo Limited	119,163,651.00	41,022,312.70
Africa's Talking Limited	119,430,156.00	153,309,308.83
Swap Technologies & Telecomms Plc	3,669,660,000.00	272,710,000.00

IHS Nigeria Limited	*80,481,000,000.00*	*108,333,000,000.00*
INT Towers Limited	*119,481,000,000.00*	*131,776,000,000.00*
I.HS Towers Nig Limited	*14,218,000,000.00*	*14,820,000,000.00*
TOTAL	*277,527,598,593.64*	*319,927,316,381.14*

Table 51: Operating Cost Profile of the Operators (Others)

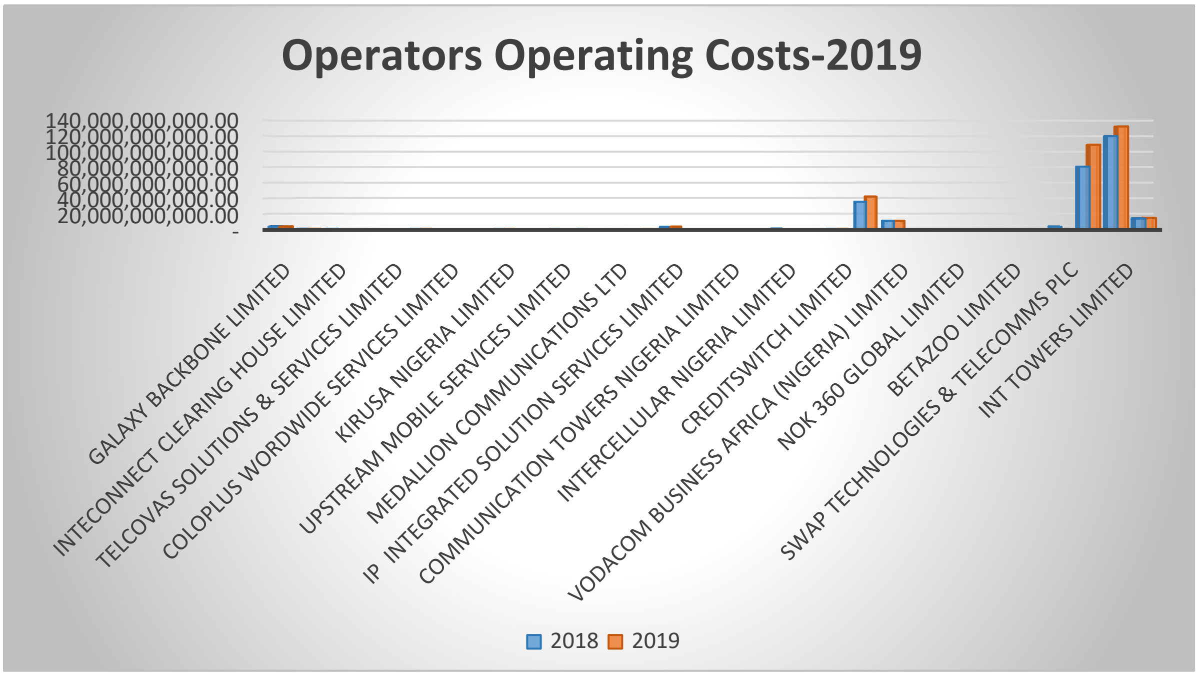

Figure 63: Operating Cost Profile of Others`Category of Operators for Years 2018 &2019

3. **<u>Domestic Investments (Capex) for Year 2019:</u>** The Investment (Capex) figure of Operators increased from One Hundred and Twenty Four Billion Five Hundred and Ten Million Seven Hundred and Sixty Eight Thousand Five Hundred and Fifty Two Naira and Two Kobo(N*124,510,768,552.02)* in Year 2018 to One Hundred and Sixty-One Billion Seven Hundred and Sixty-Nine Million One Hundred and Forty Thousand Two Hundred and Fifty Two Naira Seventy Seven Kobo (N*161,769,147,252.77)* as at end of Year 2019. This indicates a 30% increase of Capex year on Year.

CAPEX	2018	2019
Interconnect Clearing House Limited	*27,592,739.94*	*67,229,110.35*
Worlwide indusrial ventures limited	*N/A*	*N/A*
Telcovas Solutions &Services Limited	*400,000.00*	*200,000.00*
Cloud Interactive Associates Limited	*235,000,000.08*	*24,558,683.21*
Coloplus Wordwide services		*31,086,050.00*

Limited		
Text Nigeria Limited	*46,425,000.00*	*45,825,000.00*
Kirusa Nigeria Limited	-	*5,000,000.00*
Medallion Communications Ltd	*N/A*	*14,780,000.00*
Ip Integrated Solution services Limited	*62,558,372.00*	*224,ooo,773*
Communication Towers Nigeria Limited	*N/A*	*135,378,072.67*
ATC Nigeria Wireless Infrastructure Limited	*30,983,000,000.00*	*37,572,000,000.00*
Vodacom Business Africa (Nigeria) Limited	*966,000,000.00*	*1,234,000,000.00*
Betazoo Limited	*203,169,797.00*	*154,090,336.54*
Africa's Talking Liminted	*73,622,643.00*	-
IHS Nigeria Limited	*24,895,000,000.00*	*50,463,000,000.00*
INT Towers Limited	*67,018,000,000.00*	*72,022,000,000.00*
TOTAL	*124,510,768,552.02*	*161,769,147,252.77*

Table 52: Investments (CAPEX) of Operators 2018-2019 (Based on Submissions)

F. *STAFF PROFILE:*

As at December, 2019 the total staff strength of Others` Operator Category stood at Two Thousand and Fifty Five (*2,055*) staff. The total staff strength of each operator as at the end of Year 2019 is as shown on the last column.

STAFF PROFILE AND COMPENSATION					
TABLE 7: Number of Staff (2019)					
	Nigerian		*Expatriate*		*Total*
	Male	*Female*	*Male*	*Female*	
Galaxy backbone	79	7	1	0	87
Txtlight Power Solutions Limited	186	70	2	0	258
Interconnect Clearing House	17	9	0	0	26
Worldwide Industry Ventures Ltd	16	1	0	0	17
Telcovas Solutions & Services Limited	1	1	2	0	4
Cloud Interactive Associates Limited	0	0	0	0	0
Coloplus Wordwide services Limited	5	2	0	0	7
Text Nigeria Limited	1	1	0	0	2
Kirusa Nigeria Limited	1	1	0	0	2
Mpedigree Network Nigeria Limited	13	3	0	0	16
Upstream Mobile Services Limited	2	2	1	0	5
Avyra Systems Limited	1	0	0	0	1

Medallion Communications Ltd	20	11	1	0	32
Alpha Technologies Limited	7	0	0	0	7
Ip Integrated Solution services Limited	1	0	1	0	2
Qrios Vas Limited	1	2	0	0	3
Communication Towers Nigeria Limited	6	1	5	0	12
Beta Bridges Limited	1	0	0	0	1
Intercellular Nigeria Limited	3	2	0	0	5
Solid Interconnectivity services Limited	2	1	0	0	3
Mobilise Africa Limited	2	0	0	0	2
Creditswitch Limited	3	2	0	0	5
ATC Nigeria Wireless Infrastructure Limited	17	8	3	1	29
Vodacom Business Africa (Nigeria) Limited	132	55	0	0	187
Spinlet Limited	1	0	0	0	1
Nok 360 Global Limited					
Interra Networks Limited	18	11	0	0	29
Betazoo Limited	12	6	0	0	18
Africa's Talking Liminted	7	3	0	0	10
Swap Technologies &Telecomms Plc	10	3	0	0	13
IHS Nigeria Limited	243	72	40	2	357
INT Towers Limited	669	137	0	0	806
I.HS Towers Nig Ltd	93	15	0	0	108
TOTAL	1,570	426	56	3	2,055

Table 53: The distribution of staff per Operator

This Staff distribution consist of 1,626 Males and 429 Females. This implies that this category of Operators is still male dominated with 79% of staff are male while 21% are female.

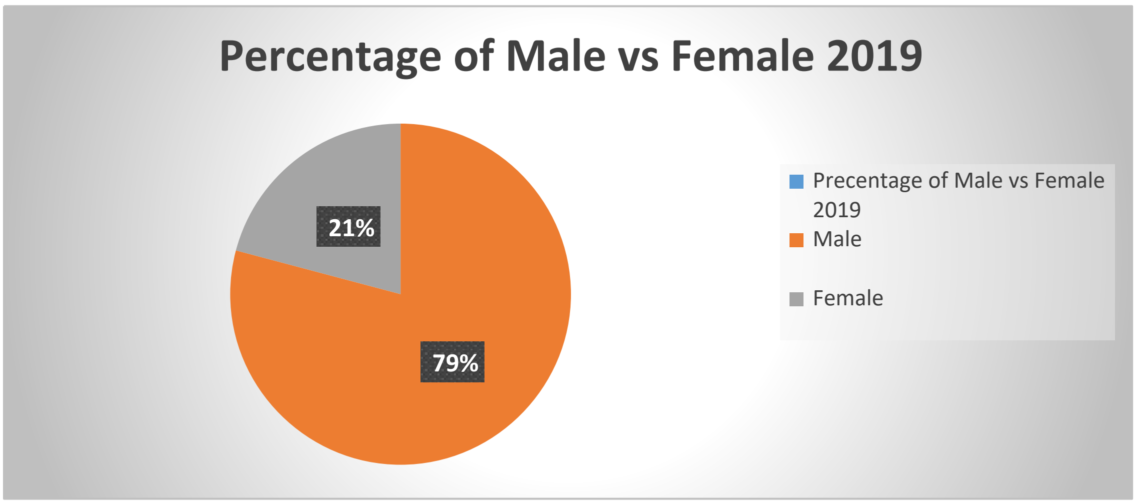

Figure 64: Gender Distribution of Other Operators 'Staff

Further Analysis shows the breakdown of Nigerian and Expatriate Staff of "Other Operators" category.

There are also a total of One Thousand Nine Hundred and Ninety Six (1,996) Nigerian Staff as against Fifty Nine (59) expatriates. This implies that the 97% of staff are Nigerians while 3% are expatriates. This is the same percentage distribution with the comparison of last year.

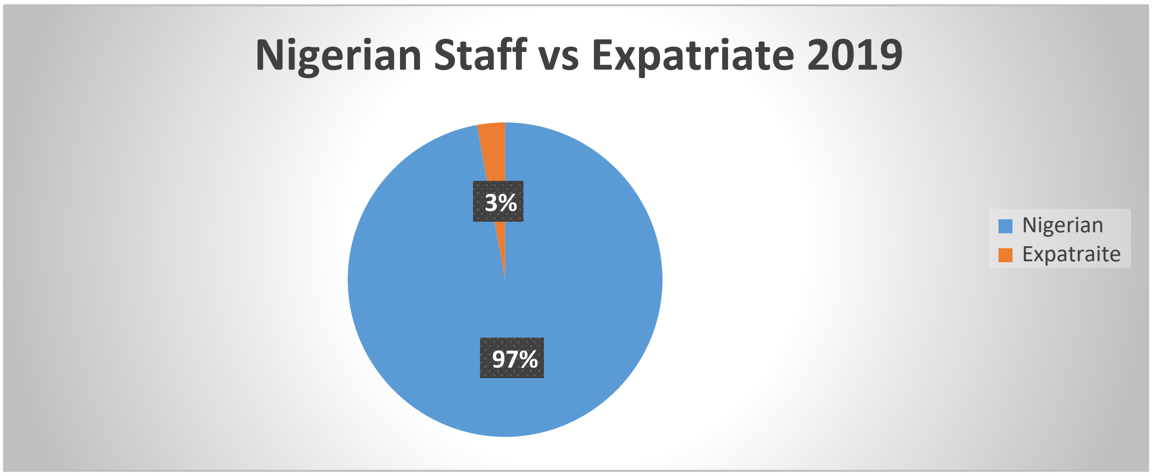

Figure 65: Expatriate Distribution of Operator Staff

APPENDIX – RESPONSIVE OPERATORS CONTAINED IN THE 2019 YEAR END SUBSCRIBER/NETWORK DATA REPORT

S/N	**Mobile GSM & VoIP Operators**
1)	MTN Nigeria Communications Limited
2)	Globacom Limited
3)	AIRTEL Networks Limited
4)	Emerging Markets Telecommunication Services Limited
5)	Smile Communications Nigeria Limited
6)	Natcom Development and Investment Limited
7)	Visafone Commuincations Limited
	Fixed Wired Telephony Operators
1)	MTN Nigeria Communications Limited
2)	Globacom Limited
3)	21st Century Technology Limited
4)	ipNX Nigeria Limited
	Other Operators
1)	Galaxy Backbone Limited
2)	TxTlight Power Solutions Limited
3)	Interconnect Clearing House Nigeria Limited
4)	Worldwide Industrial Ventures Limited
5)	Telcovas Solutions & Services Limited

6)	Cloud Interactive Associates Limited
7)	Coloplus Worldwide Services Limited
8)	Text Nigeria Limited
9)	Kirusa Nigeria Limited
10)	Mpedigree Network Nigeria Limited
11)	Upstream Mobile Services Limited
12)	Avyra Systems Limited
13)	Medallion Communications Ltd
14)	Alpha Technologies Limited
15)	Ip Integrated Solution Services Limited
16)	Qrios Vas Limited
17)	Communication Towers Nigeria Limited
18)	Beta Bridges Limited
19)	Intercellular Nigeria Limited
20)	Solid Interconnectivity Services Limited
21)	Mobilise Africa Limited
22)	Creditswitch Limited
23)	ATC Nigeria Wireless Infrastructure Limited
24)	Vodacom Business Africa (Nigeria) Limited
25)	Spinlet Limited
26)	Nok 360 Global Limited
27)	Interra Networks Limited
28)	Betazoo Limited
29)	Africa's Talking Liminted
30)	Swap Technologies & Telecomms Plc
31)	IHS Nigeria Limited
32)	INT Towers Limited
33)	IHS Towers Nigeria Limited
	INTERNET SERVICE PROVIDERS (ISP's)
1)	Estream ltd
2)	CBC EMEA Limited
3)	Cobranet limited
4)	Ekovolt Telco Limited
5)	Electronic Connection Limited
6)	Ejalet Tech ltd
7)	Odua Telecoms Limited
8)	Excelsimo Networks Limited
9)	Futurecom Limited

10)	Skymax Integrated Networks
11)	Hyperia
12)	Information Connectivity Solutions Limited
13)	IpNX Nigeria Limited
14)	Is Internet Solutions Limited
15)	Juniper solutions limited
16)	KHAL Communications
17)	Layer3
18)	Mainone Cable Company Limited
19)	Mobitel
20)	Netaccess Ltd
21)	Comternet World Ltd
22)	Spectranet Nigeria Limited
23)	Tizeti Ltd
24)	Trefoil Limited
25)	VDT communications limited
26)	Winrock Nigeria Limited
27)	Platinum Index Data
28)	Content Oasis
29)	Orange Business Communications
30)	Coquina Software Company
31)	Priority Communication Ltd
32)	Trakatel
33)	Interweb Satcom Ltd
34)	Sea-Net Technologies
35)	Vodacom Business Africa Nigeria Limited
36)	Arcelor Networks Ltd
37)	Nanocom International Ltd
38)	Coscharis Technology
39)	VPS Technologies Limited
40)	Clear Sky Broadband Ltd