2018 SUBSCRIBER/NETWORK DATA REPORT

Policy Competition and Economic Analysis Department

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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 among 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 2018 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 2018.

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 **27, 811,580**, from **145,059,514** subscribers in 2017 to record high of **172,871,094** active voice subscriptions as at December 2018. This represent about **19.2**% 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 grew from 103.61% as at the end of December, 2017 to 123.48 as at December 2018.

iii. **Broadband Penetration** stood at 31.48%, representing a total of 60,087,199 subscription as at December, 2018.

iv. **Contribution to the (GDP) –** Telecoms industry contribution to the Nigerian Gross Domestic Products has been on a steady rise from **8.66% as at December 2017** to **9.85%** in the Fourth Quarter, 2018

v. **Investment inflow (Foreign Direct Investment)** into the Nigerian Telecoms Industry was approximately sixty eight billion US Dollars **(USD68billion)** as at Year 2018.However CAPEX expenditure was collated as **₦307,038,011,184** based on responsive submissions from Licensees on the Indicator "Investment".

vi. **Infrastructural Development** - A substantial telecom infrastructure growth was recorded by Telecoms providers, as at 2018

(1) a total of **52,160** Base Trans receiver Stations (BTS) and Colocation Towers was recorded

(2) Microwave stood at 334,314**km** with 151 **Gateways** in use by the industry

(3) Fiber Optics Deployment stood at 84,580.7**km**(73,157.7 terrestrial fiber & 11,423km submarine cable)

vii. Finance:

	Category	**Operating Cost (N) 2017**	**Revenue (N) 2017**
1	GSM	1,452,302,550,000	1,569,861,900,000
2	Fixed	3,787,700,000	4,047,900,000
3	ISP Operators	25,271,669,324	35,525,139,842
4	Other Operators	237,368,834,358	349,220,147,183
	Totals	**1,718,730,753,682**	**1,958,655,087,025**
	Category	**Operating Cost (N) 2018**	**Revenue (N) 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 Operators	36,861,669,324	43,829,309,568
4	Other Operators	258,002,605,823	412,769,585,986
	Totals	**1,759,004,265,147**	**2,245,461,305,554**

Revenue increased from ~~N~~ 1.958 Trillion in year 2017 to ~~N~~ 2.245 Trillion as at the end of Year 2018. This represents a 14.64% increase in revenue Year on Year. **Operating cost** also increased from N1.718 Trillion in year 2017 to N 1.759 Trillion as at end of Year 2018.

viii. **STAFF COUNT-2018**

S/N	GSM	FIXED	ISP	OTHERS	TOTAL
1.	7,567	858	2,388	2,332	13,145

The Total number of staff for responsive licensees at Year end 2018 stands at 13,145 staff. A breakdown of the staff categories is disaggregated in the report of each category.

ix. **Analysis of Base Stations and Towers across States-:** The top five states with highest number of base stations are Lagos- 4,764; Ogun- 1,931; Rivers- 1,676; FCT- 1,684 and Oyo- 1,303; while the states with the least number of base stations are: Yobe-205; Zamfara- 223; Gombe 286; Jigawa- 289; and Kebbi- 298. 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 2018.

Chapter two

Telecoms Industry Review

TELECOM INDUSTRY REVIEW IN A YEAR- (December 2017- December 2018)

The year 2018 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 consistently increased month on month from 19.86% in December 2017 to 31.48% as at December 2018.

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 2017- December 2018)**

  Total Active Subscriptions increased from **145,059,514** as at December 2017 to 172871.094 as at December 2018. Teledensity also grew from 103.61% to 123.48% respectively.

Segments by technology contained in active voice subscriptions reported as at December, 2018:

- The Mobile GSM segment has consistently maintained a lead over other technologies like CDMA, Fixed lines (wireless or wired) and Voice Over Internet Protocol (VOIP) segments revealing that the universality of GSM has led to a reliable cell-phone service and improved quality in both connection stability and ease. It 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, 2018.
- The subscription of GSM reported an increase of over 27.9 million subscriptions in the segment from the previous year reflecting a 19.3% increase in subscription count. Mobile GSM subscriptions grew from 144,631,678 in December, 2017 to 172,485,805 recorded in December, 2018.
- Within the period under reviewed, the CDMA segment remained static as Multilink did not update its Network/Subscriber data due to technical/ operational challenges reported by the Operators. Total voice subscriptions stood at 124,092 as at December 2018 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 139,344 in December, and 2017 to 113,626 as at December, 2018.

An illustration of the Active Voice Subscription in the period under review is illustrated below in table 1:

Service Category	**Active Subscriptions (December'17)**	***Active Subscriptions (December'18)***	***Difference (December' 17 - December'18***	***Percentage (%) Change***
Mobile (GSM)	144,631,678	**172,485,805**	**27,854,127**	**19.3**
Mobile (CDMA)	217,566	124,092	**(93,470)**	**(42.96)**
Fixed/Fixed Wireless	139,344	113,626	**(25,718)**	**(18.5)**
Voice over Internet Protocol(VoIP)	70,926	120,706	**49,780**	**70.2**
Total	145,059,514	172,871,094	**27,811,580**	**19.2**
Teledensity	103.61	123.48	**19.87**	**19.2**

Table 1: Active Voice segment (December, 2017 – December, 2018)

By technology, the Mobile (GSM) segment has 99.7, Mobile (CDMA) 0.1%, Fixed Wired/Wireless 0.1% and VoIP 0.1%.

MOBILE (GSM)	***MOBILE (CDMA)***	***FIXED WIRED/WIRELESS***	***VOICE OVER INTERNET PROTOCOL (VoIP)***
99.7%	0.1%	0.1%	0.1%

Table 2: Active Voice Segment by Technology (as at December, 2018)

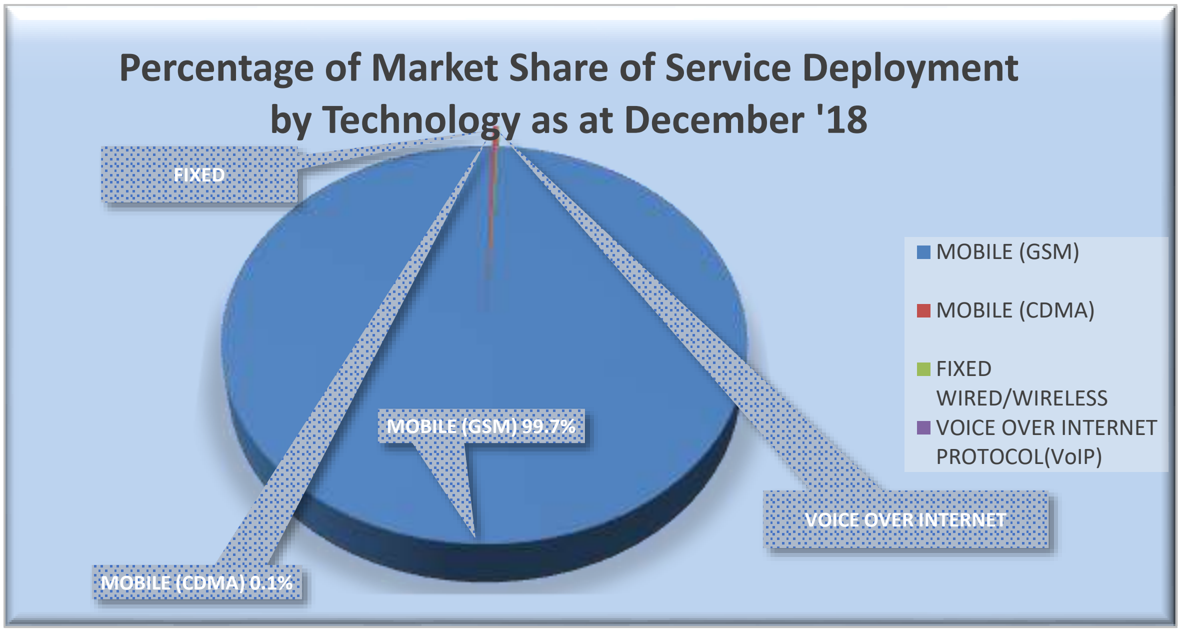

Figure 1: Percentage of Market Share of Service Deployment by Technology as at December, 2018

Figure 2: Total Active Voice Subscriptions (December 2017- Decembers 2018)

Trend of Teledensity (December, 2017 – December, 2018)

Teledensity increased from **103.61% in December 2017** to **123.48% in December 2018.** There has been a consistent growth in teledensity from January 2018 to June 2018. A slight decrease in Teledensity was observed in July 2018 (From 116.26 to 115.57). The growth in Teledensity continued from August 2018 to December 2018. As indicated in the table below. The sustained increased recorded across all technologies (Mobile GSM, Mobile CDMA, Fixed Wired/Wireless and VoIP) and were attributed to regulatory efforts of the Commission that provided the enabling environment for this growth as well increased activities in operators promo offerings to gain market share.

Teledensity from December, 2017 - December, 2018

Dec'17	Jan '18	Feb'18	Mar'18	Apr'18	May'18	Jun'18	Jul'18	Aug'18	Sep'18	Oct'18	Nov'18	Dec'18
103.61	105.21	106	106.64	114.66	116.09	116.26	115.57	113.39	115.76	118.03	120.79	123.48

Table 3: Teledensity (December, 2017 - December, 2018)

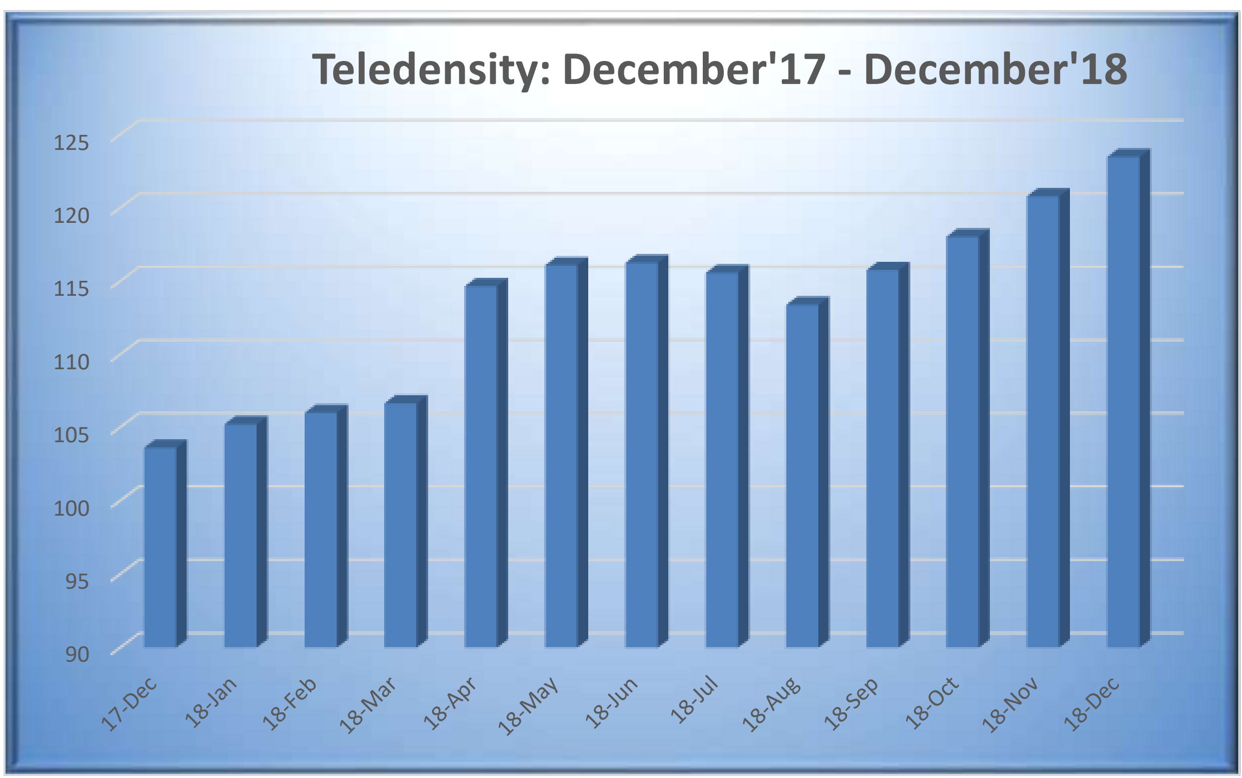

Figure 4: Teledensity (December, 2017- December, 2018)

Chapter Three

SUBSCRIBER NETWORK ANALYSIS FOR MOBILE GSM & CDMA OPERATORS

ANALYSIS OF 2018 YEAR END SUBSCRIBER / NETWORK DATA– MOBILE

A. NETWORK DATA

1a. Base Stations for Mobile: As at December, 2018 the total base stations owned by Mobile telecoms operating companies increased to 30,637 base stations from 30,598 in December, 2017 across all states of the Federation representing an increase of 6.02% from the previous year. As at December, 2018 MTN owned the highest number of base stations standing at 14,715 base stations; with others owning AIRTEL- 7,966; GLO- 7,244; NTEL- 562; EMTS- 148 and SMILE- 2 base stations.

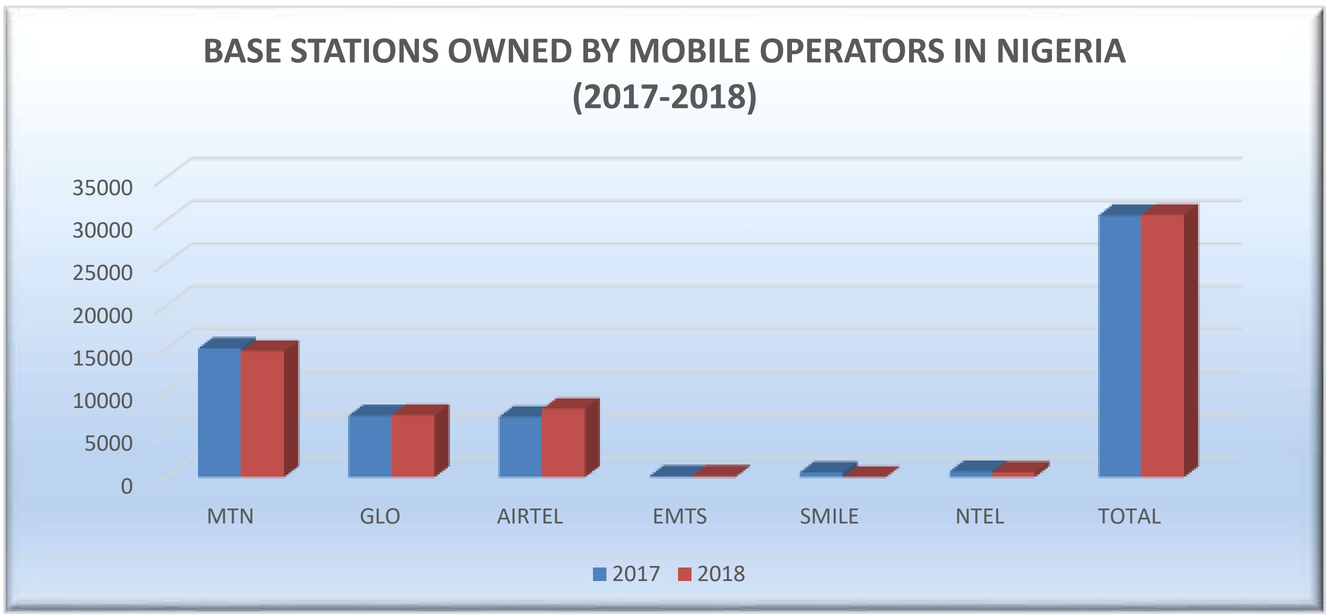

Figure 5: Number of Mobile (GSM/CDMA) Base Stations in Nigeria (2017 - 2018)

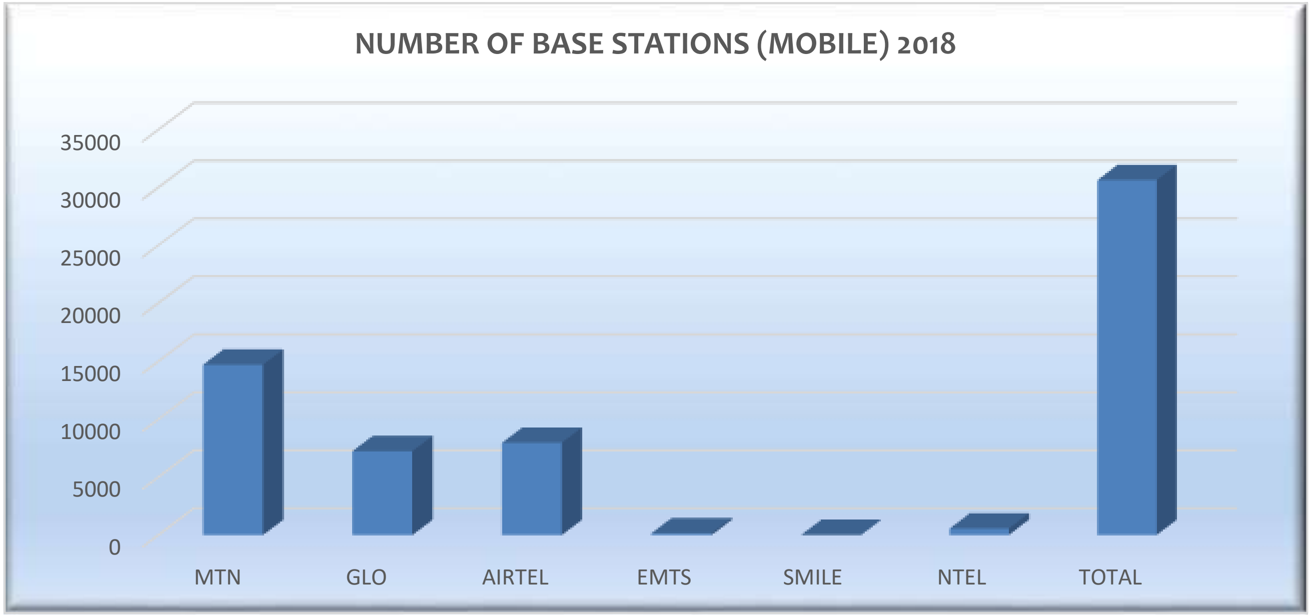

Figure 6: Number of Mobile (GSM/CDMA) Base Stations in Nigeria (2018)

1b. <u>Per State Base Stations Analysis for Mobile:</u> The top five states with highest number of base stations are Lagos- 4,734; Ogun- 1,931; FCT- 1,675; Rivers- 1,671; and Oyo- 1,300 while the states with the least number of base stations are: Yobe-205; Zamfara- 223; Jigawa- 289; Kebbi- 298 and Sokoto-308.

2. **<u>Infrastructure Deployment in the Mobile Segment</u>**; includes all authorized operating telecommunications network provider authorized to design, deploy, provide, and operate their telecoms network infrastructure in issued public/private properties as contained in their respective license document within the country. There are several technologies deployed and operating in the country as seen below.

2a. **<u>Fiber Optics Deployment (km):</u>**

i. As at December, 2018, **<u>On-land</u>** Fiber Optics in km was deployed as follows:- MTN – 13,727km; GLO - 13,255km; AIRTEL – 8,558km; EMTS - 4,650km and NTEL - 180km. In this segment, a total of 40,370.3km of On-land Fiber Optics was deployed reflecting a decrease from 51,305km deployed reported for 2017.

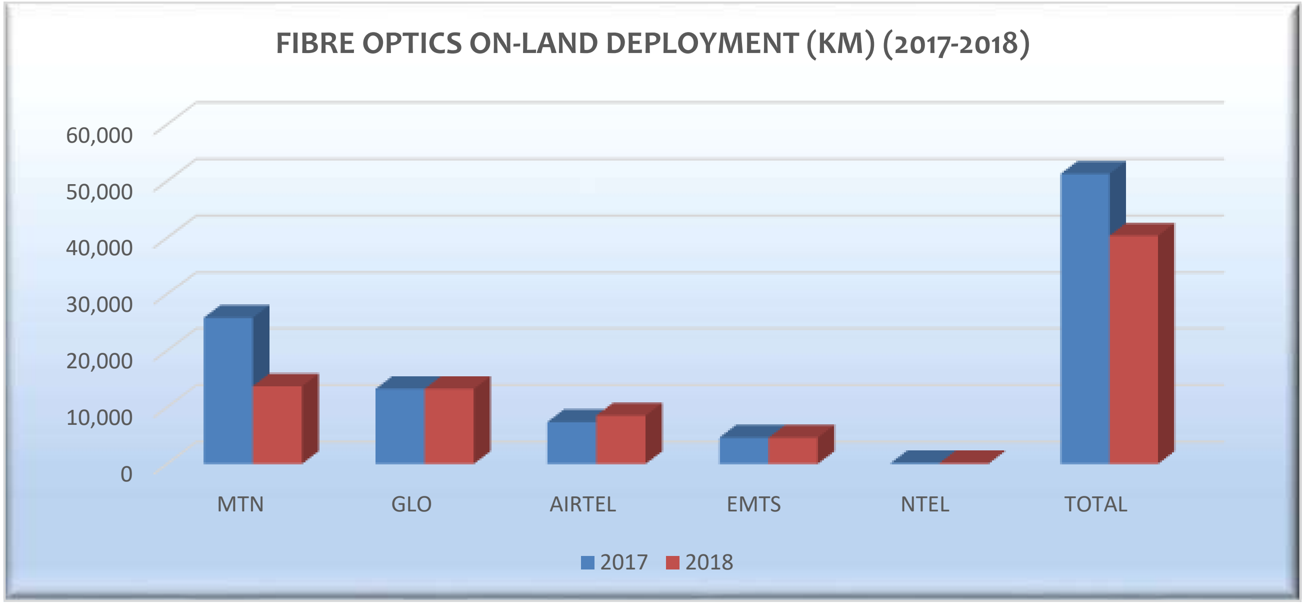

Figure 7. Fibre Optics On-Land Deployment in km (2017-2018)

ii. As at December, 2018, **Submarine** Fiber Optics in km was deployed by four Mobile operators as follows: - MTN-1,500km; GLO- 9,800km; AIRTEL – 14km and NTEL - 70km with a total of 11,390km.

iii. A further analysis of the **fibre optics** deployed illustrated that of the 51,760.3km deployed as at December, 2018; 40,370.3km was on-land while 11,390km was submarine. MTN had the largest on-land with 13,727km deployed while GLO had the largest submarine of 9,800km as at December, 2018.

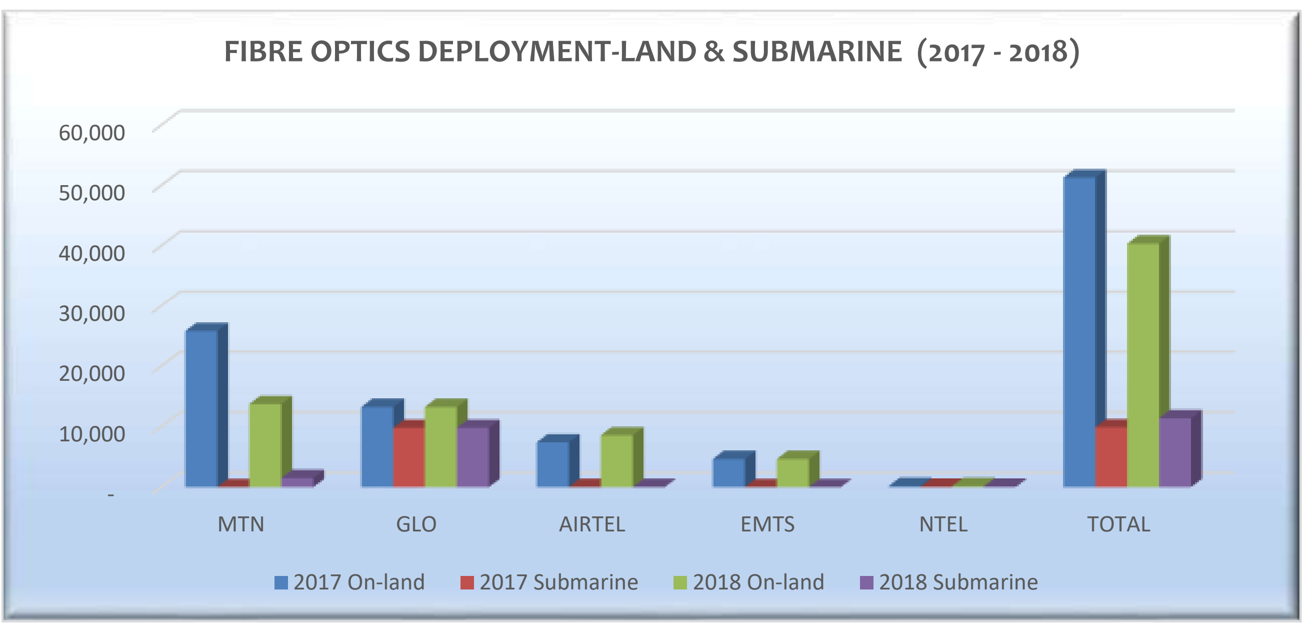

Figure 8: Fibre Optic On-Land and Submarine Deployment in Km (2017 – 2018)

2b. **<u>Microwave Radio in (km)</u>**: As at December, 2018 the Mobile operators had deployed a total of 334,314km of microwave radio links. This indicates a growth from 304,070.93km of microwave radio reported for 2017.

A further analysis of the microwave radio in km deployed illustrated that of the 334,314km links deployed as at December, 2018; MTN-137,565.89km; GLO had 72,128km; AIRTEL - 68,169km; EMTS - 48,958km; NTEL - 4,545km and 2,948km.

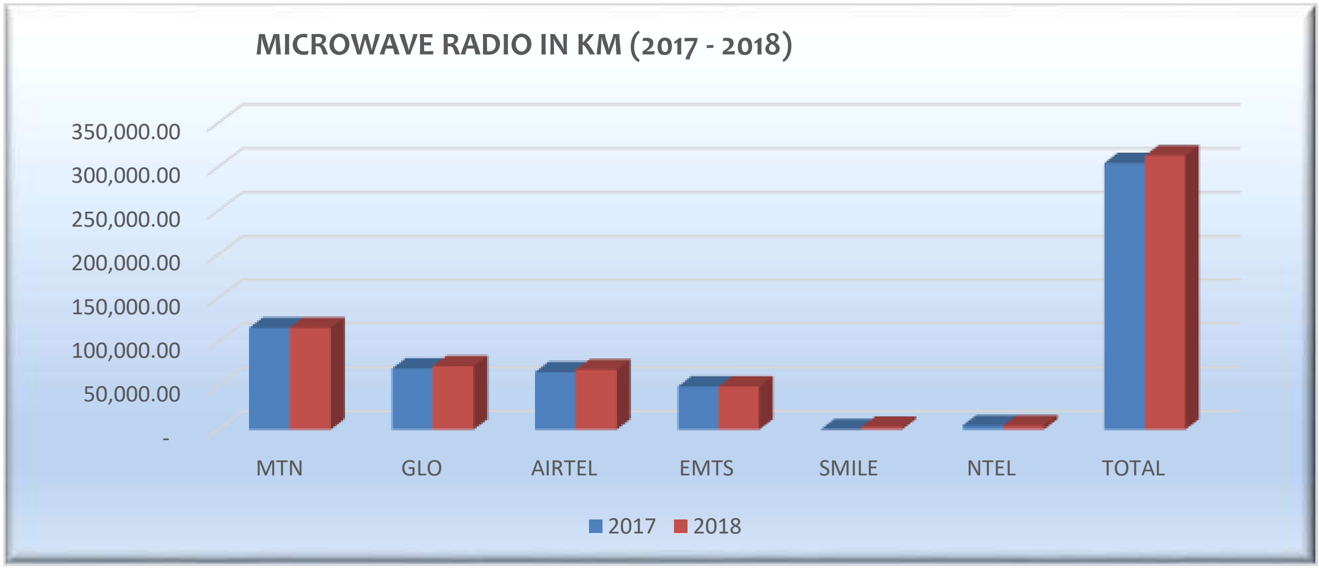

Figure 9: Microwave Radio in km (2017 – 2018)

2c. **<u>Trunks in Use</u>**: MTN, AIRTEL and EMTS had a total of 720,071Trunks (E1) in use as at December, 2018 indicating a decline from 908,296 Trunks (E1) reported as at December 2017. In summary, MTN had 391; AIRTEL had 713,443 and EMTS had 6,237 Trunks (E1) in use as at December, 2018.

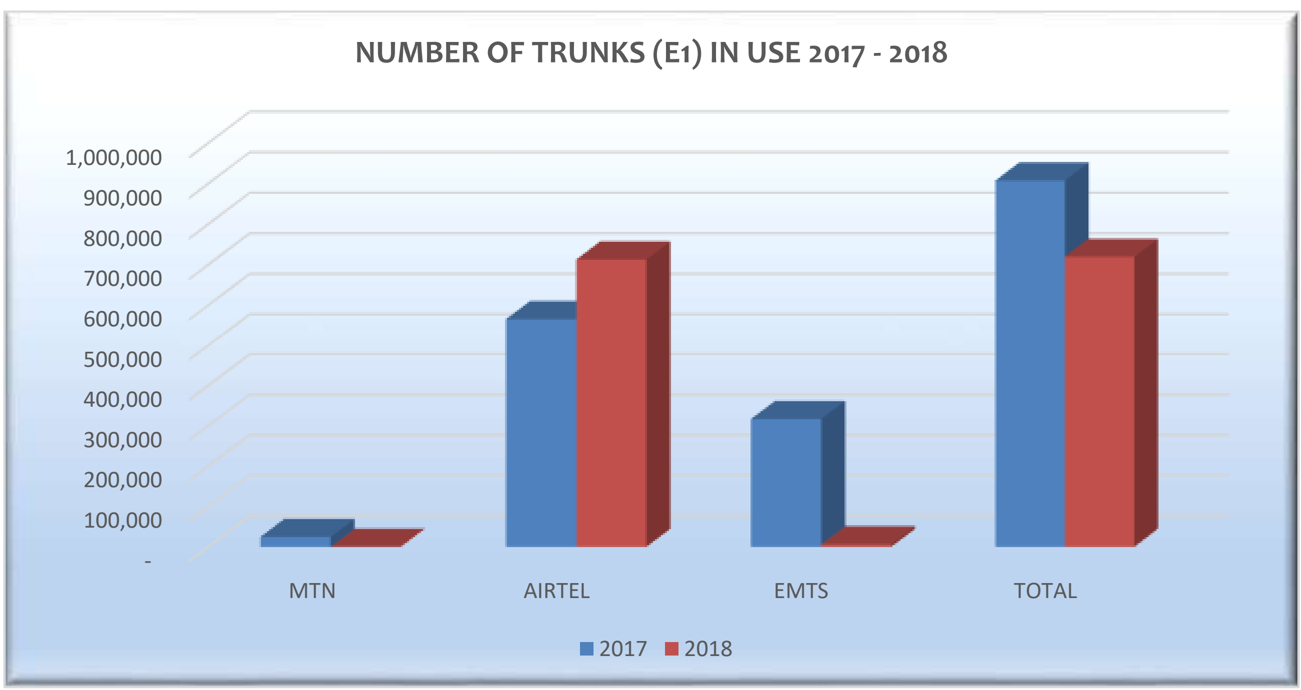

Figure 10: Number of Trunks (E1) in use (2017 – 2018)

2d. **Leased Lines in Use:** EMTS, SMILE and NTEL had a total of 37 Leased lines in use as at December, 2018 indicating a slight decline from 41 reported as at December 2017. In summary, EMTS, SMILE and NTEL had 16; 14 and 7 Leased lines in use respectively as at December, 2018.

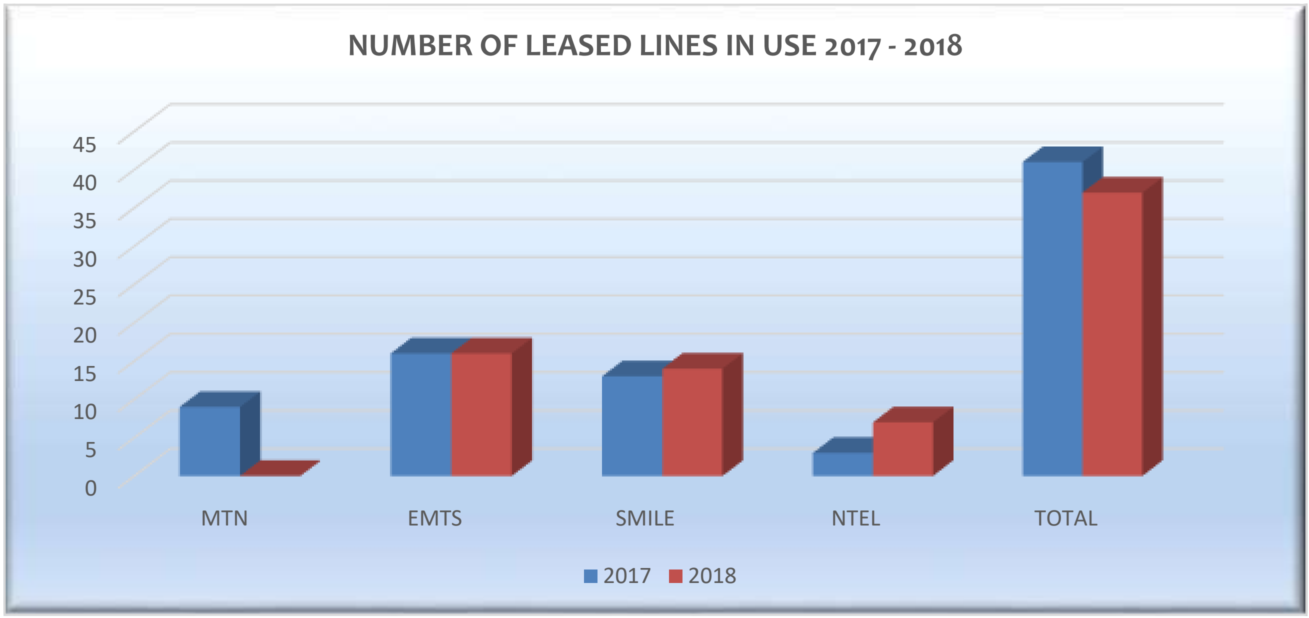

Figure 11: Number of Gateways in use (2017 – 2018)

2e. **Gateways in Use:** MTN, GLO, AIRTEL, SMILE and NTEL had a total of 63 Gateways in use as at December, 2018 indicating an increase from 24 reported as at December 2017. In summary, MTN had 2; GLO -3; AIRTEL -16, EMTS – 39, SMILE -2 and NTEL -1 Gateways in use as at December, 2018.

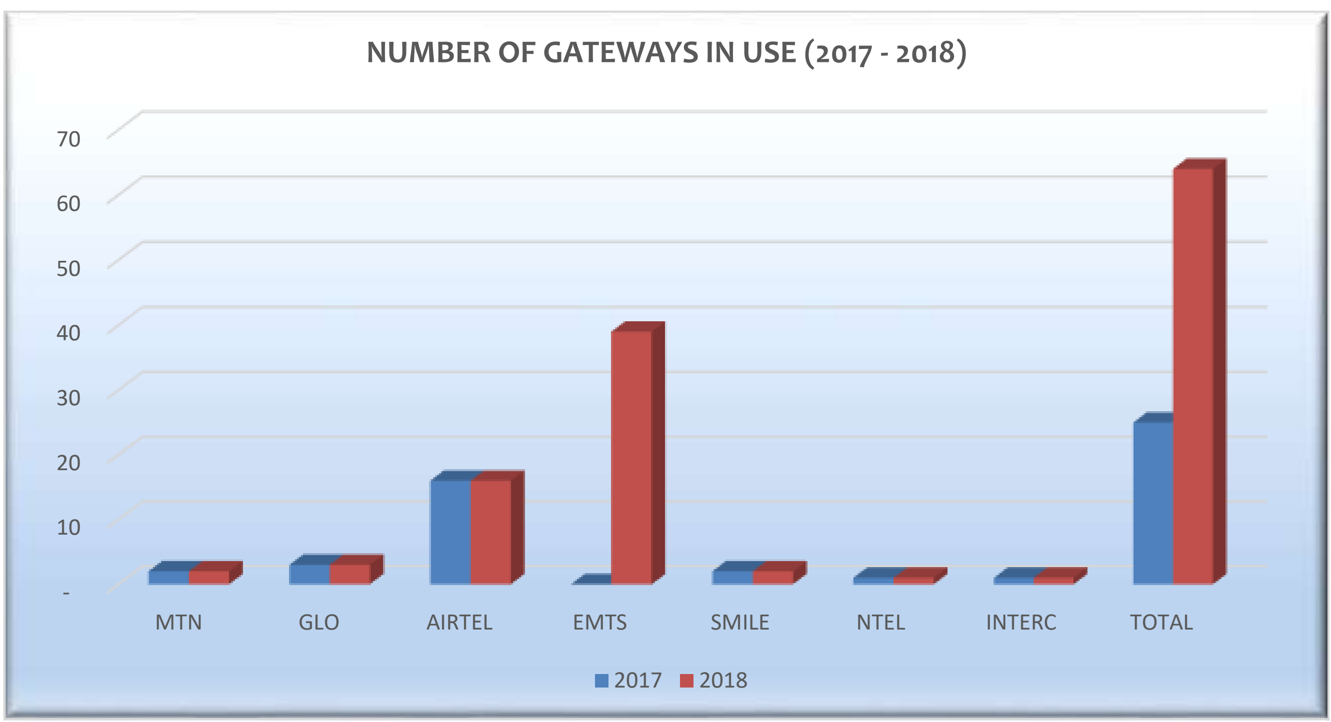

Figure 12: Number of Gateways in use (2017 – 2018)

B. SUBSCRIBER & SERVICE DATA – VOICE SUBSCRIPTIONS

1a. **Subscriber Voice Data & Teledensity (All Segments):** As at December, 2018 total active voice subscriptions for the entire service category was 172,871,094 while Teledensity was 123.48%. This indicates an increase of 19.2% from 145,059,514 reported in December 2017 with a Teledensity of 103.61%.

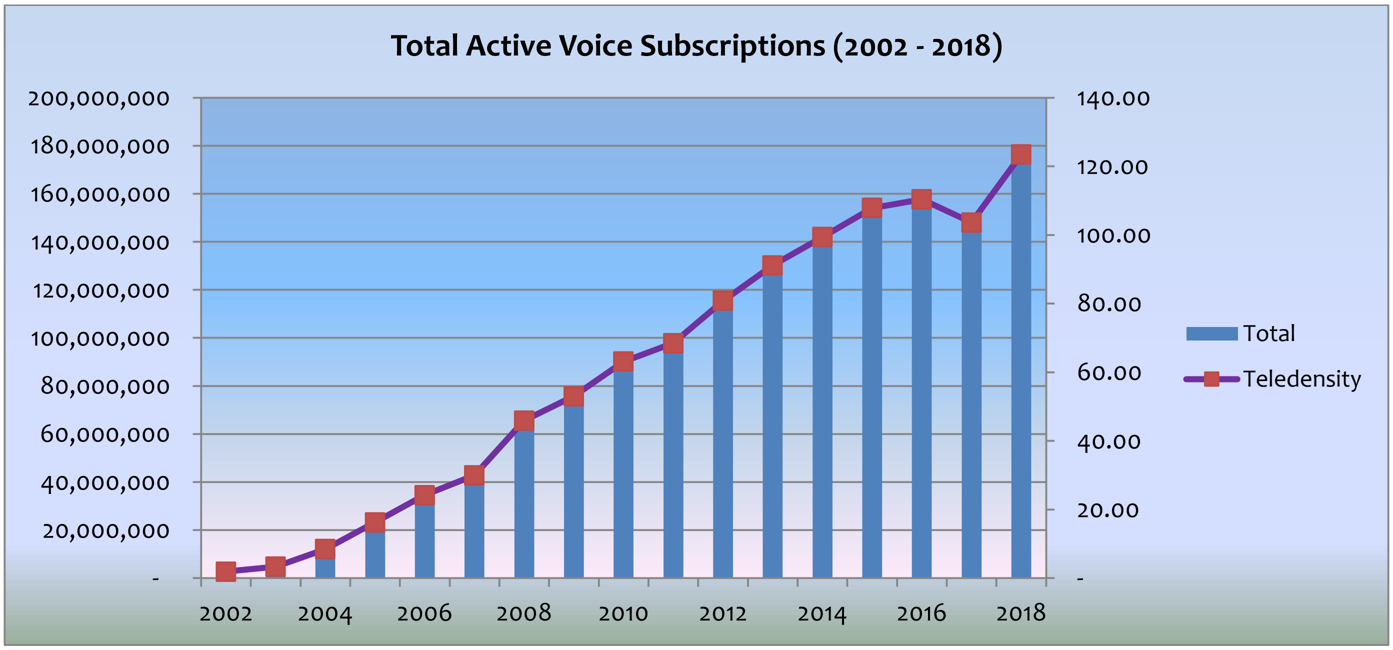

Figure 13: Subscriber Data- Active Voice Subscriptions & Teledensity (2002 - 2018)

1b. **Subscriber Voice Data & Teledensity (Mobile GSM- 2018):** In analyzing the annual Active Voice Subscription for Mobile (GSM) Segment, total active voice subscriptions stood at 172,485,805 while Teledensity was 123.48. This indicates that there was a 6.1% decline from 144,631,678 subscriptions reported in December 2017 with Teledensity of 103.61%.

1c. **Active Voice Subscriptions of Mobile Segment (2018):** Market Share of Mobile Operators was analyzed through the breakdown of operators each reflecting: ***MTN; GLO; AIRTEL; EMTS; SMILE; NTEL; MULTILINKS & VISAFONE*** which respectively had ***67,133,009; 45,255,297; 44,180,484; 15,917,015; 113,201; 7,505; 4,460 & 119,632*** indicating that MTN; GLO; AIRTEL and EMTS each had 39%; 26%; 26%; & 9% while SMILE, NTEL, MULTILINKS & VISAFONE all had 0% share of the Mobile market segment.

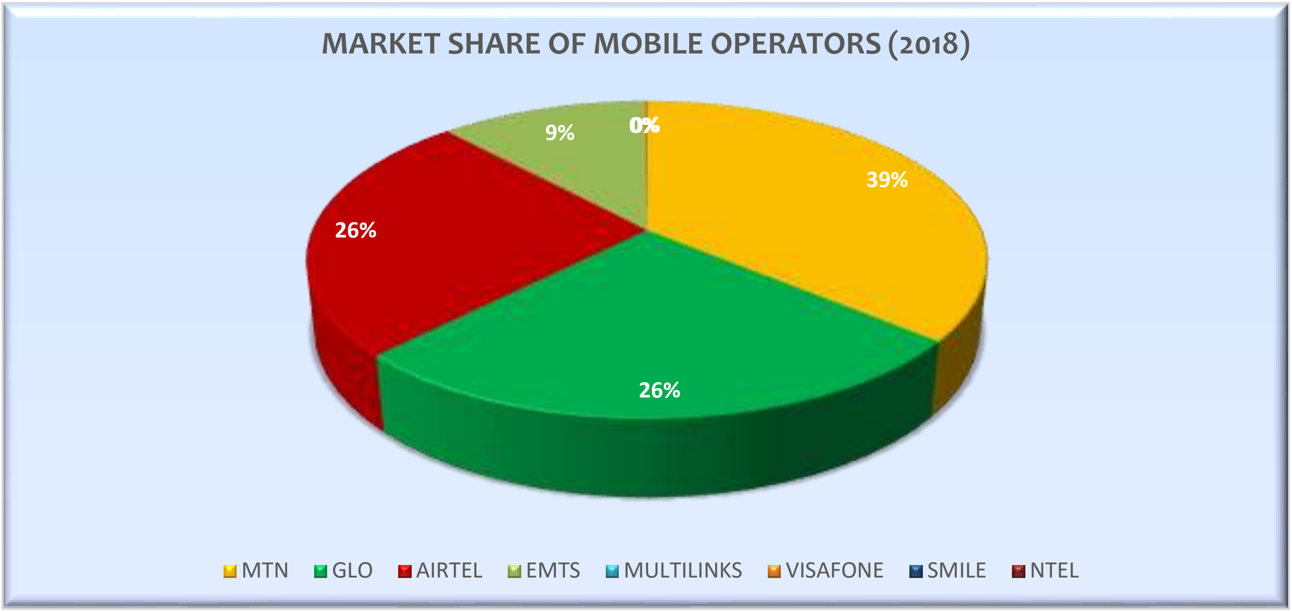

Figure 14: Market Share of Mobile Operators - 2018

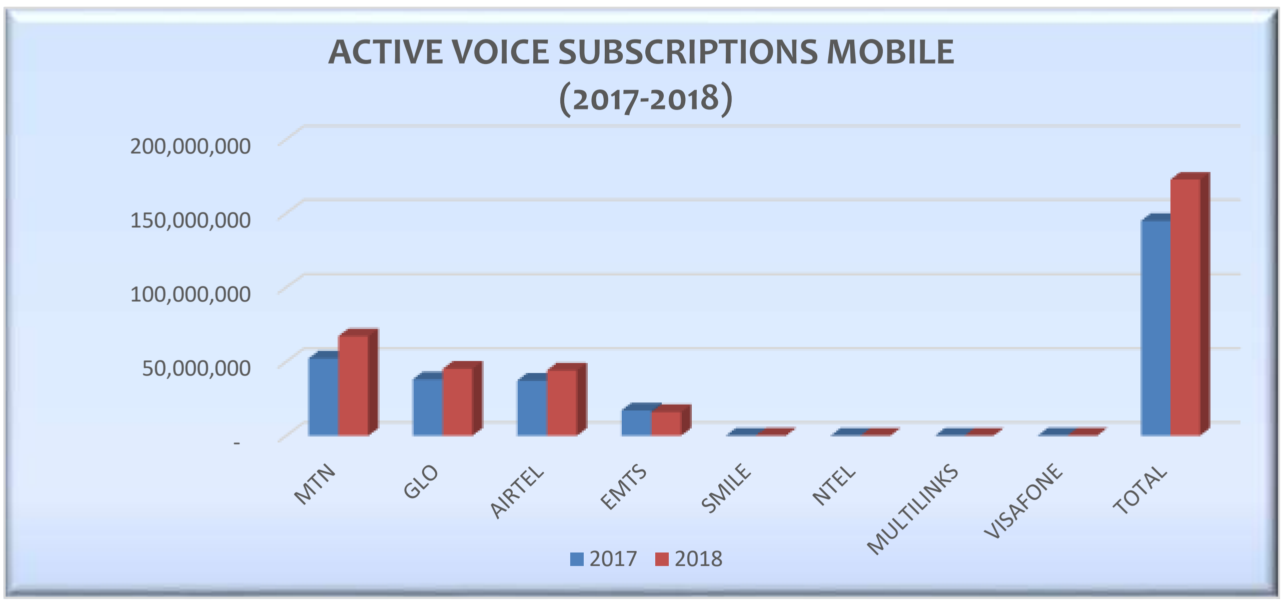

Figure 15: Active Voice Subscriptions of Mobile Segment, 2017 – 2018

1d. In analysising the annual trend of the ***Active Voice Subscription services in the country, <u>for all market segments</u>***;- it is revealed that the growth in this service was ultimately driven by the mobile (GSM) market segment as this segment accounted for 99.7%, while the Mobile (CDMA), Fixed Wired/Wireless and VOIP market segments each accounted for 0.1%, 0.1% and 0.1% respectively of the entire market share in terms of technology deployment as illustrated in:-Table 1 and figure 13 below:

MOBILE (GSM)	MOBILE (CDMA)	FIXED WIRED/WIRELESS	VOICE OVER INTERNET PROTOCOL (VoIP)
99.7%	0.1%	0.1%	0.1%

Table 4: Percentage of Market Share of Service Deployment by Technology as at December, 2018

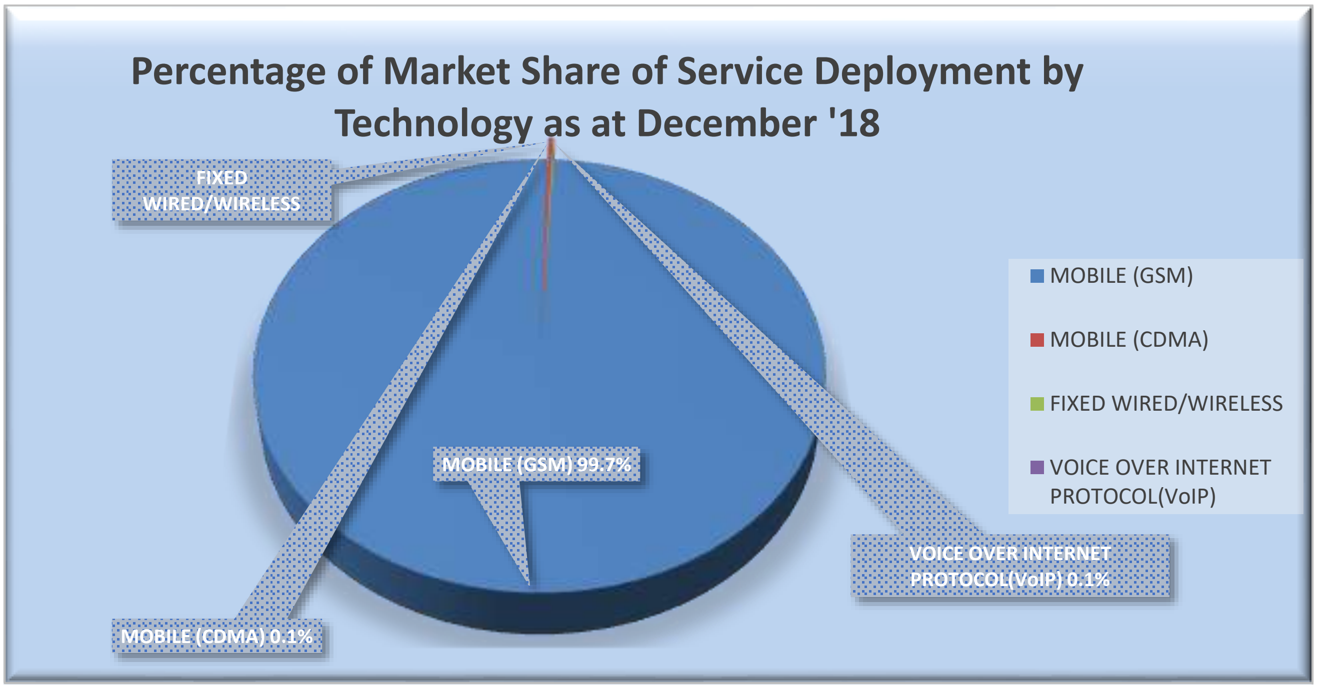

Figure 16: Percentage of Market Share of Service Deployment by Technology as at December, 2018

1e. **Prepaid & Postpaid Mobile Voice Subscriptions – 2018:**

i. Total prepaid voice subscriptions increased from 140,787,233 in December, 2017 to 168,020,223 in December, 2018 indicating a 19.3% growth in prepaid voice subscriptions in the year 2018.

ii. Similarly Postpaid voice subscriptions increased from 4,030,757 in December, 2017 to 4,589,674 in December, 2018 indicating an increase of 13.9% growth in postpaid voice subscriptions as at year end 2018.

iii. In summary, the above analysis indicates that about 97% of Mobile subscribers are prepaid subscriber while only about 3% are postpaid subscribers.

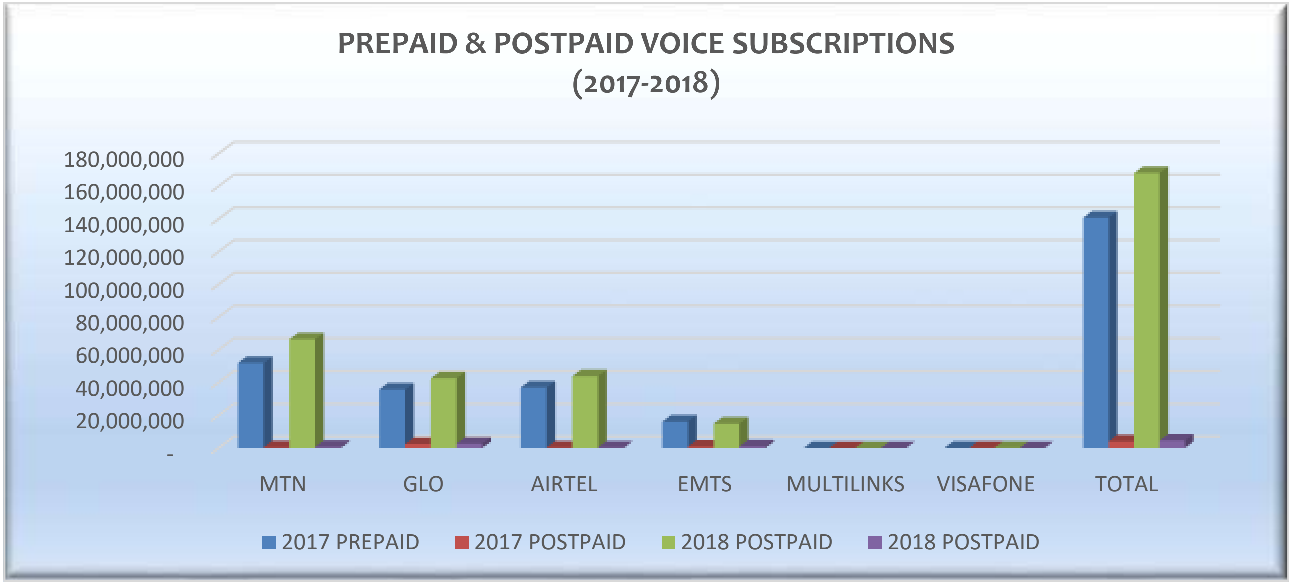

Figure 17: Prepaid & Postpaid Voice Subscriptions- Mobile 2017 – 2018

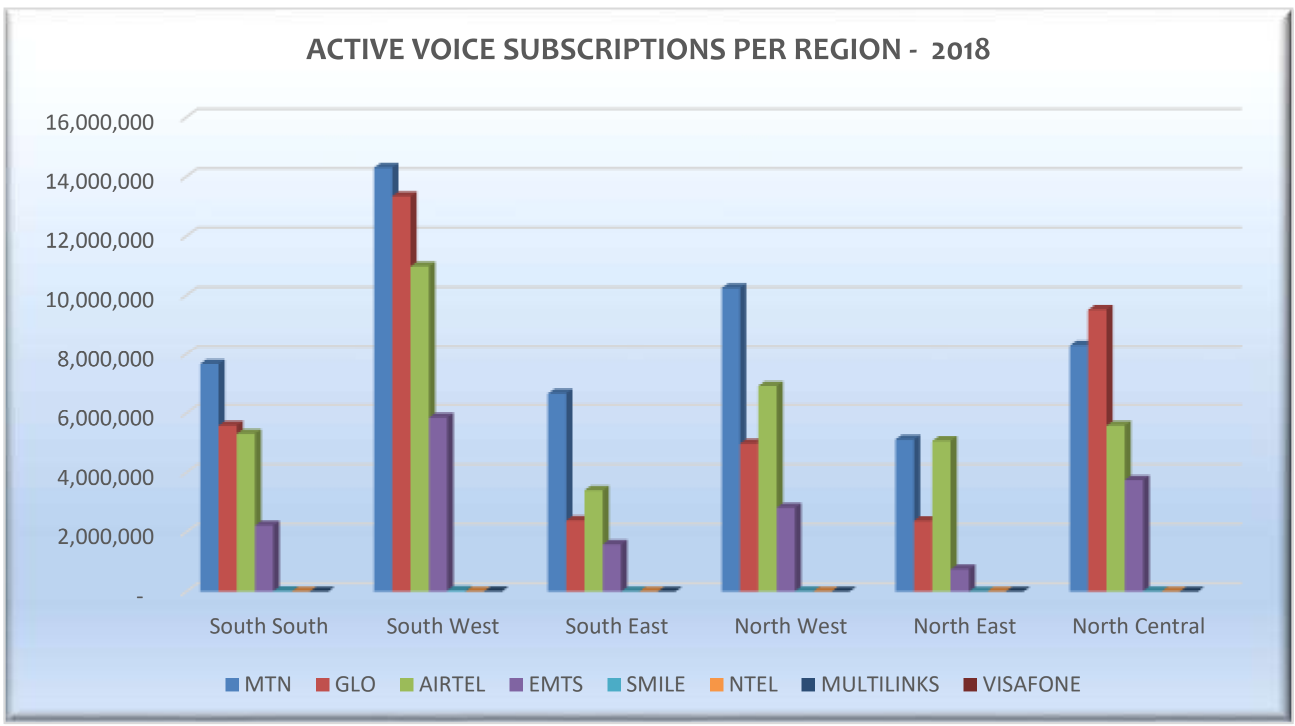

Figure 18: Number of Active Voice Subscriptions per Region (2018)

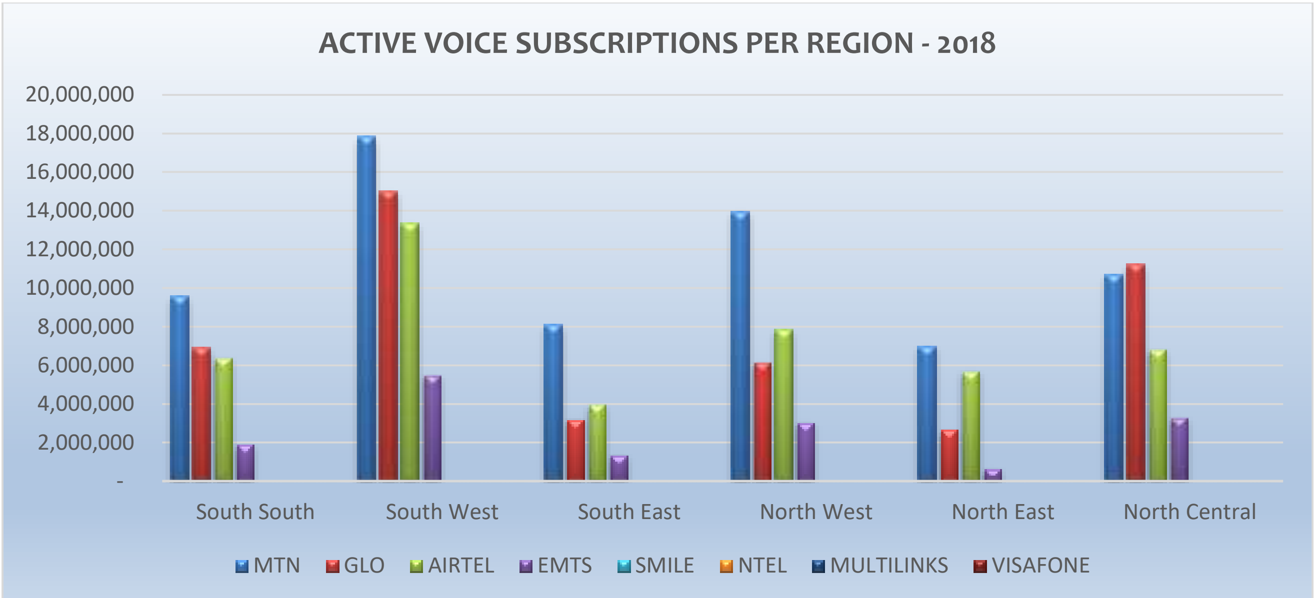

Figure 19: Number of Active Voice Subscriptions per Region (2018)

1f. <u>Total Number of Registered Mobile SIM-Based Subscribers:</u> in line with the SIM Card registration exercise mandated by the Commission, Mobile Operators as at December, 2018 had registered a total of 257,819,527 subscribers in the country.

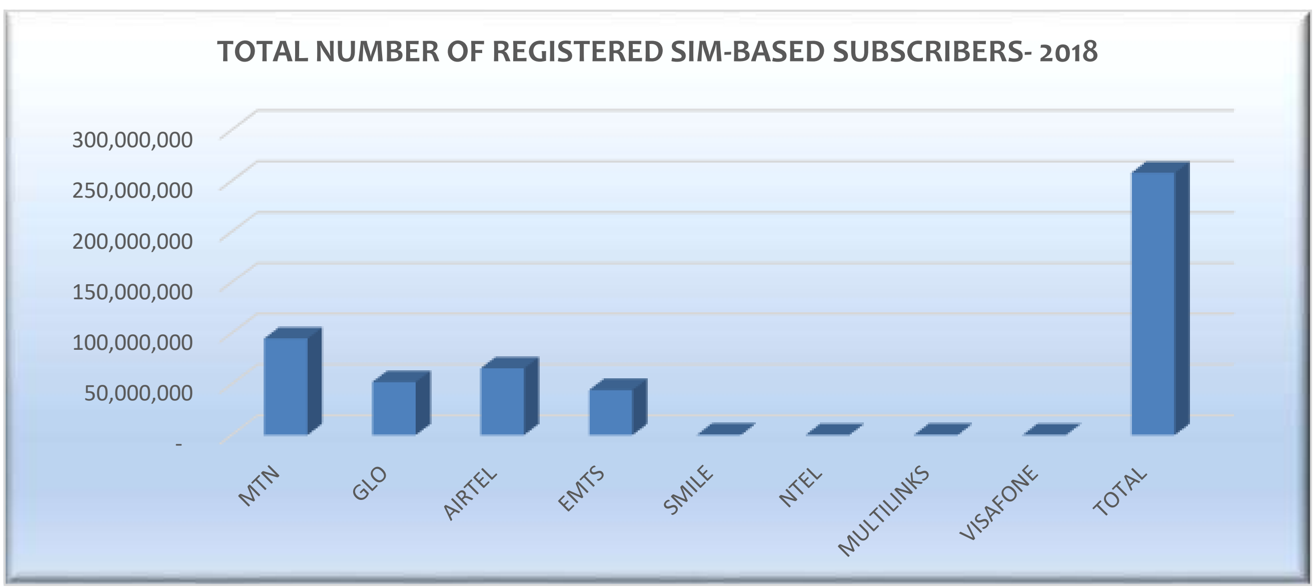

Figure 20: Total Number of Registered SIM- Based Subscribers (2018)

1g. <u>Active Subscriptions to LTE/WIMAX (2018):</u> As at December, 2018 Active Subscriptions to LTE/WIMAX stood at 12,761,473 as reported by **MTN, GLO, AIRTEL, EMTS, SMILE & NTEL.** MTN had the highest number of active 4G subscriptions with 5,760,328, AIRTEL - 4,412,299; GLO - 911,701; EMTS - 901,771; SMILE - 538,308; and NTEL - 237,066 of 4G subscriptions. The graph below represents Active Subscriptions to LTE/WIMAX during the period under review.

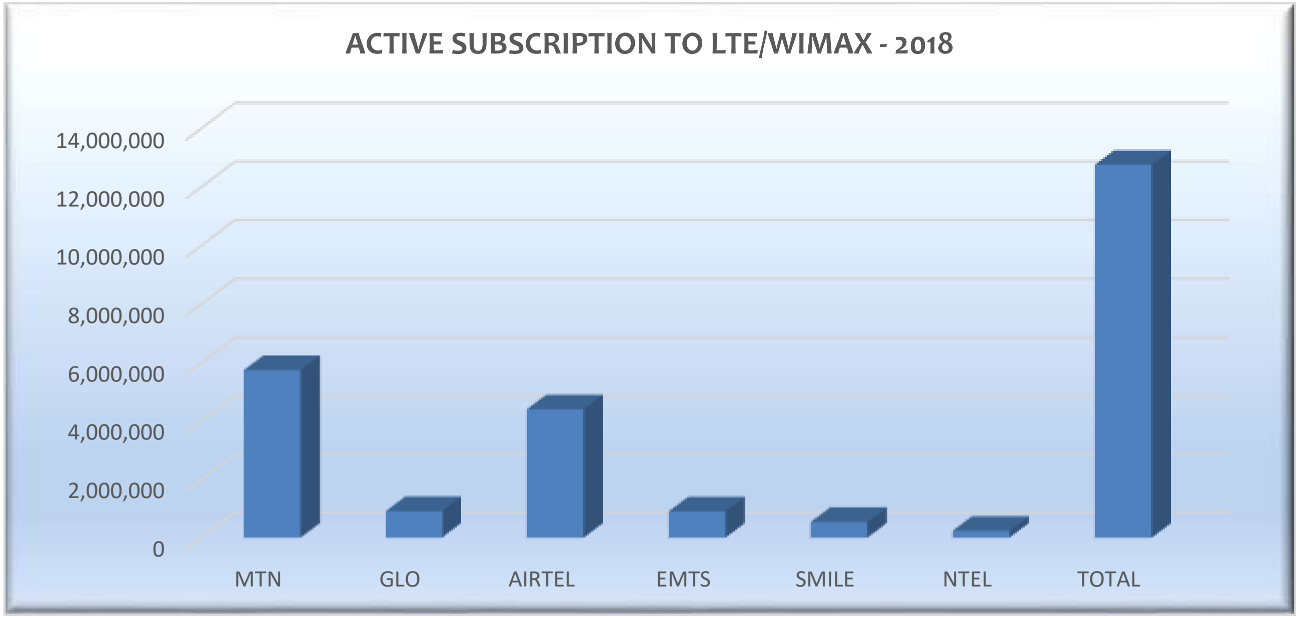

Figure 21: Active Subscriptions to LTE/WIMAX (2018)

1h. **<u>Machine to Machine (2018):</u>** 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, 2018 the number of Mobile-Cellular machine-machine subscriptions as reported by **MTN, GLO and EMTS** was 598,010. EMTS had the highest number of machine to machine subscriptions with 302,017, MTN had 162,060 while GLO recorded the least subscriptions with 133,933 as shown in Figure 18 below;

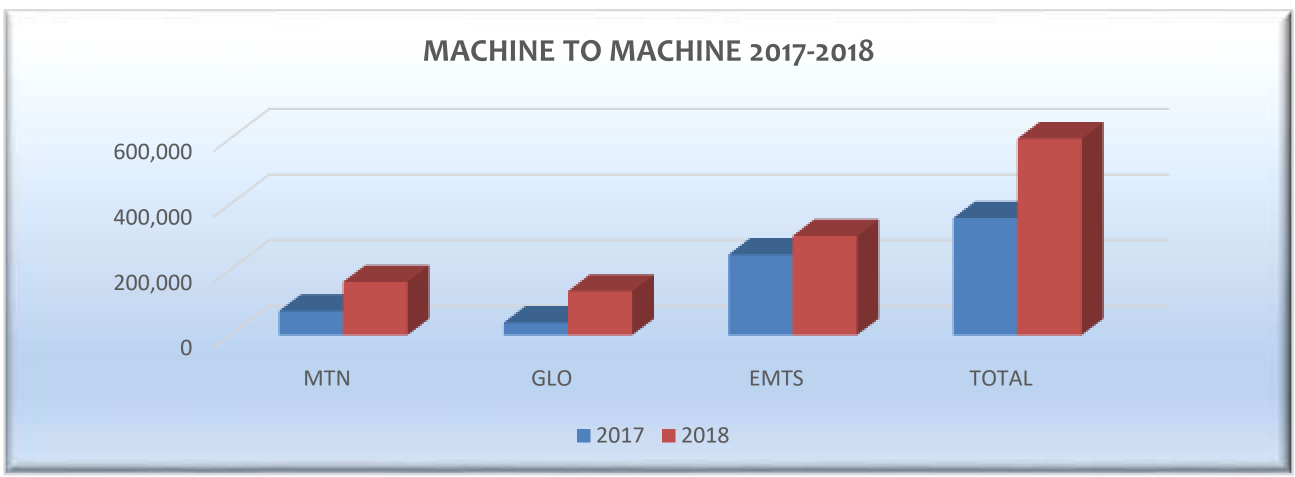

Figure 22: Machine to Machine Subscriptions (2018)

1i. **<u>Number of Data-Only Mobile-Broadband Subscriptions – Dongles (2018):</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 733,933 Data-Only Mobile-Broadband Subscriptions (Dongles) as at December, 2018.

In summary, MTN, GLO, AIRTEL and EMTS had 73,132; 486,569; 152,226 and 22,006 Data-Only Mobile-Broadband Subscriptions (Dongles) respectively as at December, 2018.

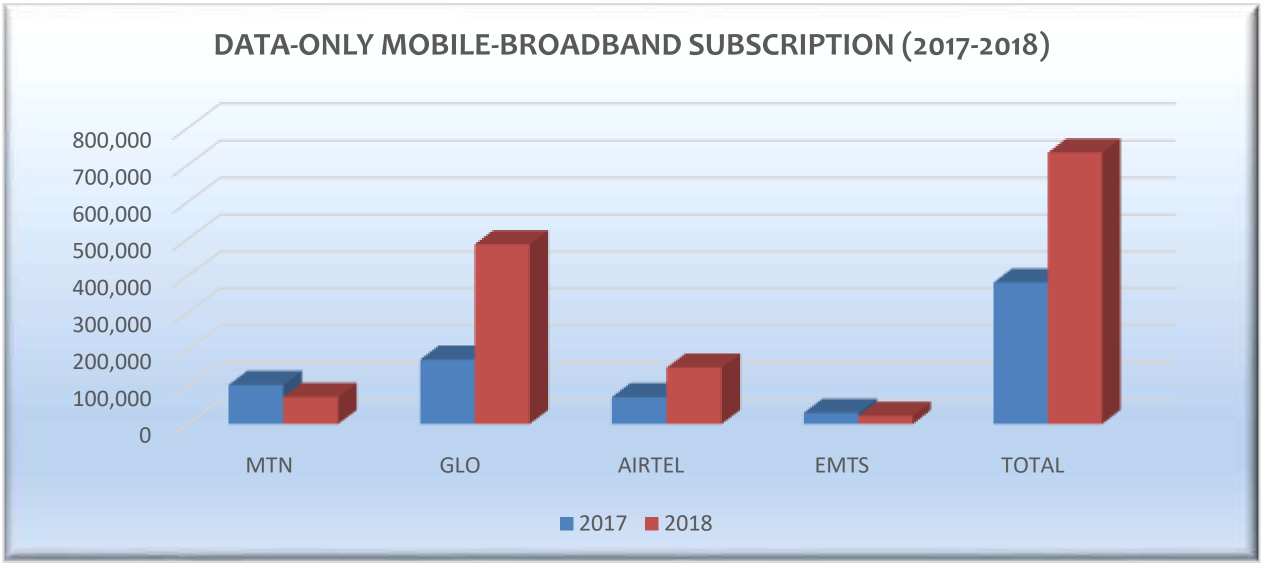

Figure 23: Data-Only Broadband Subscriptions (2017 - 2018)

1j. **<u>Number of Data and Voice Mobile-Broadband Subscriptions – Smartphones (2018):</u>** 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 42,572,537 recorded in December, 2017 to 47,663,680 as at December, 2018. MTN, GLO, AIRTEL and EMTS each reported 18,158,002, 8,049,919, 11,557,945 and 9,897,814 subscriptions as at December, 2018.

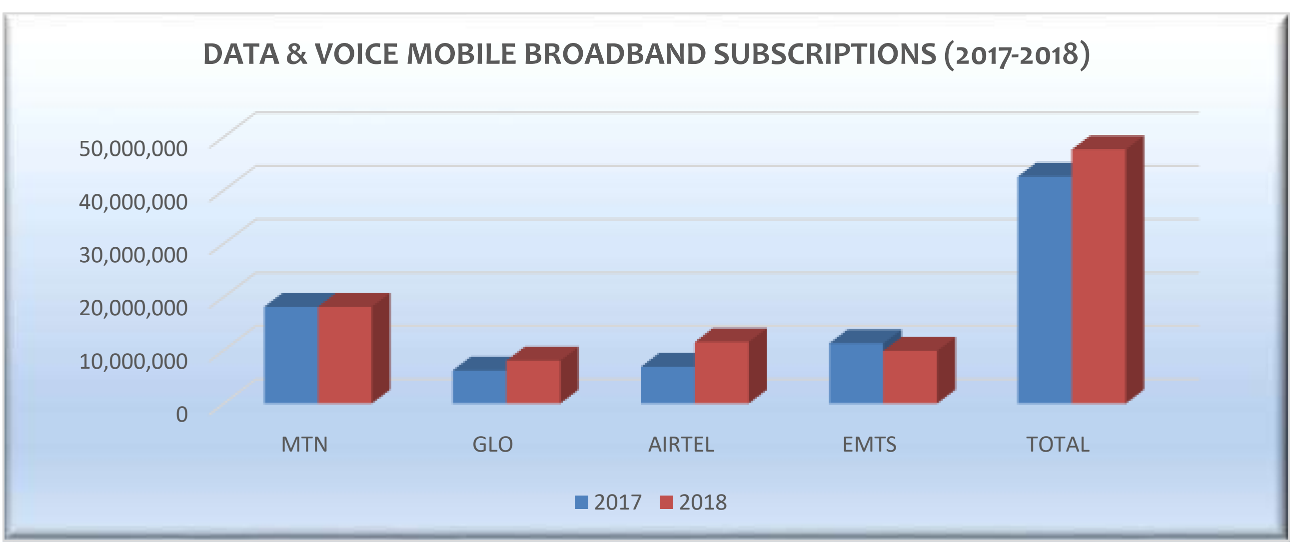

Figure 24: Data and Voice Mobile-Broadband Subscriptions (2017 - 2018)

***1k*. <u>Mobile Voice Traffic Trend (2018):</u>** The graphs below represent the call traffic activities contained in the year 2018 as reported by Mobile operators in the county.

i. **<u>Local and National Telephone Traffic in 2018:</u>** As at December, 2018 total outgoing Local and National Traffic was 121,935,927,123.15, while Total incoming Local and National Traffic was 107,352,541,744.62. MTN has the highest total outgoing and incoming Traffic of 90,569,577,625 and 87,055,450,054 respectively in 2018.

NATIONAL TELEPHONE TRAFFIC 2018			
	Outgoing	**Incoming**	**Total**
MTN	90,569,577,625.00	87,055,450,054.00	177,625,027,679.00
GLO	8,676,061,593.00	26,468,131.97	8,702,529,724.97
AIRTEL	16,625,741,609.00	13,324,007,122.00	29,949,748,731.00
EMTS	5,154,962,428.57	6,876,791,091.79	12,031,753,520.36
SMILE	140,571,754.00	10,866,146.00	151,437,900.00
NTEL	769,012,114	58,959,199	827,971,312
TOTAL	***121,935,927,123.15***	***107,352,541,744.62***	***229,288,468,867.77***

Table 5: Local and National Traffic in 2018

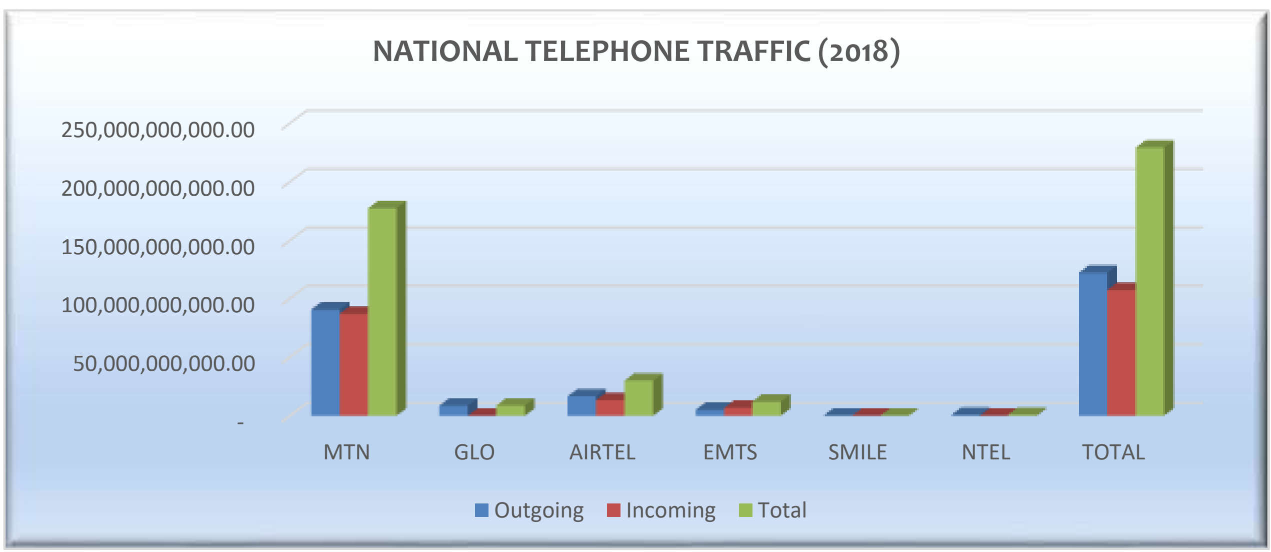

Figure 25: Local and National Telephone traffic – 2018

ii. **<u>Outgoing and Incoming Mobile to (and) from International Traffic in 2018:</u>** As at December, 2018 Total Outgoing Mobile to International Traffic was 817,861,175.80 while Total incoming Mobile to International Traffic was 1,517,597,253.73. MTN reported the highest Outgoing Traffic of 488,667,550.87 and the highest Incoming Traffic of 1,071,081,222.10 for the period under review.

OUTGOING/ORIGINATING & INCOMING MOBILE TO/FROM INTERNATIONAL TRAFFIC- 2018			
	Outgoing	**Incoming**	**Total**
MTN	488,667,550.87	1,071,081,222.10	1,559,748,772.97
GLO	108,232,481.00	188,238,676.00	296,471,157.00
AIRTEL	140,818,002.00	257,634,011.00	398,452,013.00
EMTS	79,773,352.03	-	79,773,352.03
SMILE	283,350.00	5,132.00	288,482.00
NTEL	86,439.90	638,212.63	724,652.53
TOTAL	***817,861,175.80***	***1,517,597,253.73***	***2,335,458,429.53***

Table 6: Outgoing and Incoming Mobile to (and) from International Traffic in 2018

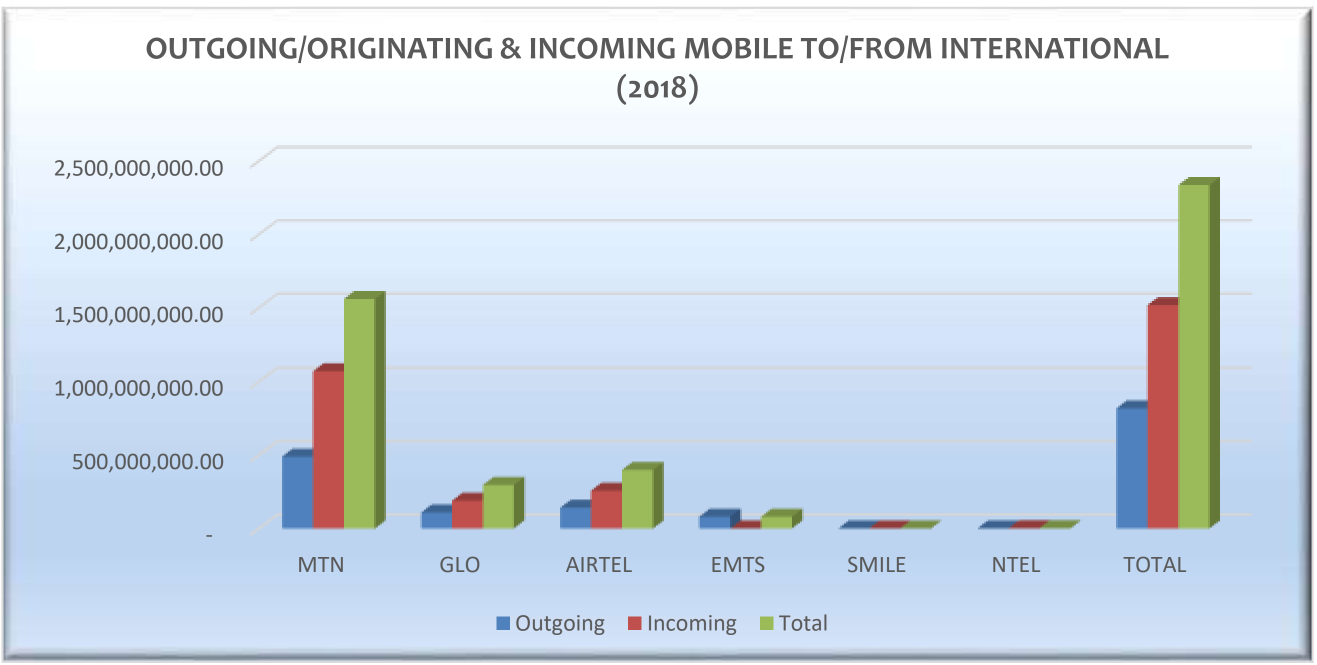

Figure 26. Outgoing and Incoming mobile to/from International traffic- 2018

iii. **Mobile (GSM/VoIP) to Mobile (GSM/VoIP) Voice Call Traffic in 2018:-** As at December, 2018 total outgoing Mobile to Mobile minutes was 114,204,469,380.46 while total incoming Mobile to Mobile minutes was 71,896,803,812.89. MTN reported the highest Outgoing Traffic of 88,375,026,139 and the highest incoming Traffic of 54,967,340,762 for the period under review.

MOBILE TO MOBILE TRAFFIC 2018			
	Outgoing	**Incoming**	**Total**
MTN	88,375,026,139.00	54,967,340,762.00	143,342,366,901.00
GLO	8,676,061,593.43	26,468,131.97	8,702,529,725.40
AIRTEL	11,543,294,349.00	10,392,932,523.00	21,936,226,872.00
EMTS	4,700,503,431.45	6,440,237,051.06	11,140,740,482.51
SMILE	140,571,754.00	10,866,146.00	151,437,900.00
NTEL	769,012,113.58	58,959,198.86	827,971,312.44
TOTAL	***114,204,469,380.46***	***71,896,803,812.89***	***186,101,273,193.35***

Table 7: Mobile to Mobile Voice Traffic in 2018

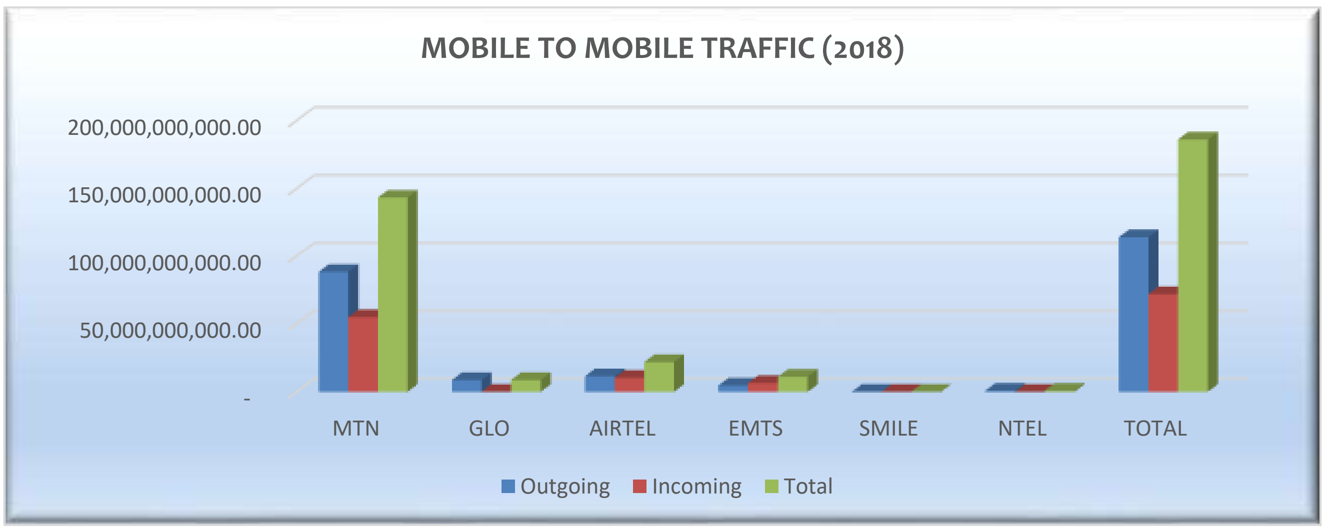

Figure 27: Mobile to Mobile traffic -2018

iv. **Mobile to Fixed Voice Call Traffic in 2018:-** As at December, 2018 Total Outgoing Mobile to Fixed minutes was 2,871,847,152.95 while Total incoming Mobile to Mobile minutes was 2,694,604,389.13. MTN reported the highest Outgoing Traffic of 2,829,889,652.00 and the highest Incoming Traffic of 2,642,104,507.00 for the period under review.

MOBILE TO FIXED TRAFFIC 2018			
	Outgoing	**Incoming**	**Total**
MTN	2,829,889,652.00	2,642,104,507.00	5,471,994,159.00
GLO	7,646,001.63	24,356.45	7,670,358.08
AIRTEL	21,773,291.00	39,260,225.00	61,033,516.00
EMTS	12,538,208.32	13,215,300.68	25,753,509.00
TOTAL	***2,871,847,152.95***	***2,694,604,389.13***	***5,566,451,542.08***

Table 8: Mobile to Fixed Traffic in 2018

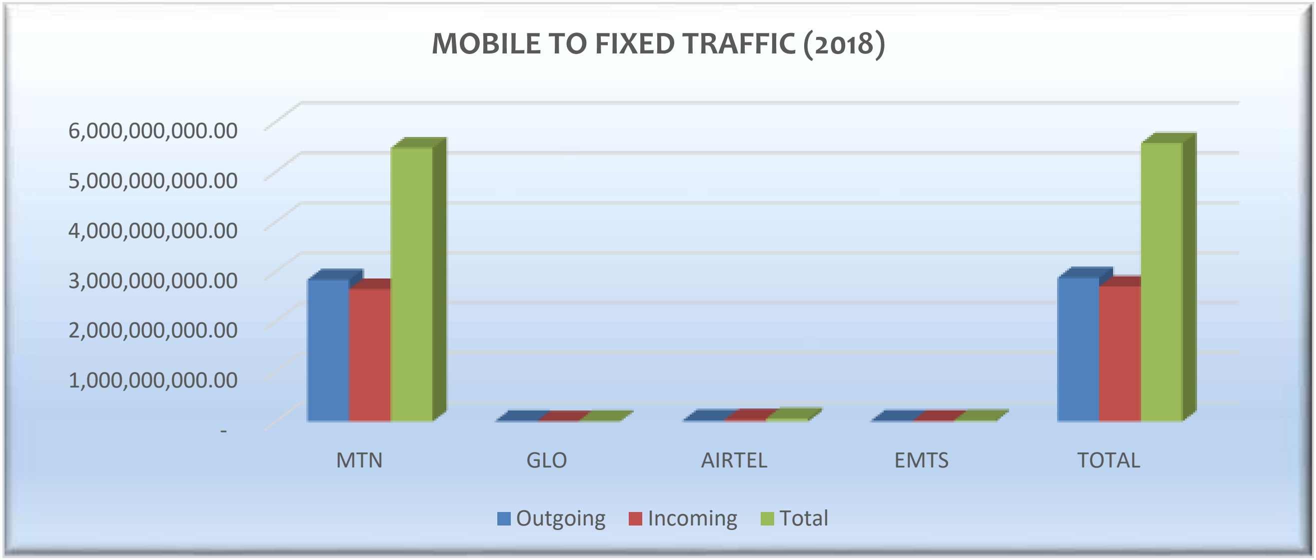

Figure 28: Mobile to Fixed traffic -2018

v. **Number of Roaming Minutes in 2018:** The Total Number of Mobile Roaming Minutes Outgoing and Incoming as at December 2018 for the Mobile Operators was 251,296,981.71.See Table 6 & Figure 25 below;

NUMBER OF ROAMING MINUTES 2018			
	Outgoing	**Incoming**	**Total**
MTN	181,220,499.67	46,978,998.00	228,199,497.67
GLO	603,744.00	2,275,740.00	2,879,484.00
AIRTEL	2,813,274.86	8,374,985.78	11,188,260.64
EMTS	3,374,691.85	5,655,047.55	9,029,739.40
TOTAL	***188,012,210.38***	***63,284,771.33***	***251,296,981.71***

Table 9: Total number of Roaming Minutes (2018)

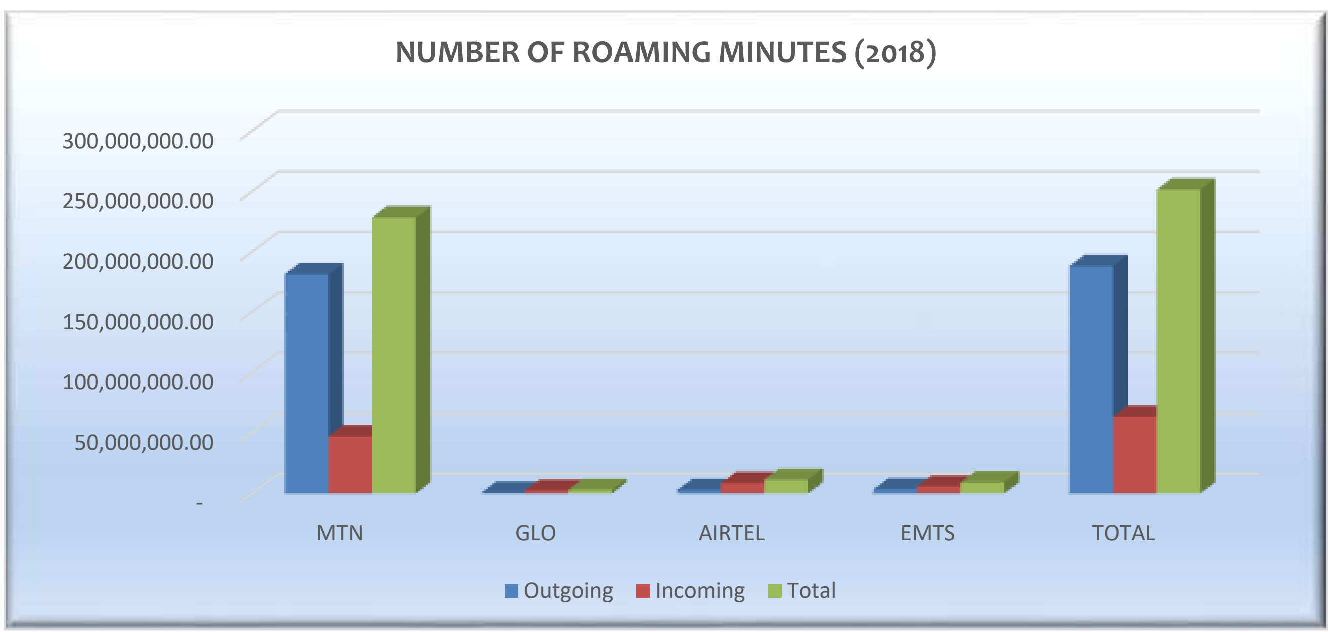

Figure 29: Total number of Roaming Minutes -2018

vi. **National SMS in 2018:** The Total Number of National SMS sent and received as at December 2018 was 30,481,715,377.73. See Table 7 & Figure 26 below;

SMS MESSAGES NATIONAL 2018			
	SMS Sent	**SMS Received**	**Total**
MTN	3,666,697,286.00	3,954,700,988.00	7,621,398,274.00
GLO	1,819,212,069.00	14,937,509,711.00	16,756,721,780.00
AIRTEL	3,594,341,585.00	1,533,525,249.00	5,127,866,834.00
EMTS	455,902,616.73	490,025,352.00	945,927,968.73
SMILE	25,541,051.00	786,670.00	26,327,721.00
NTEL	3,472,800.00	-	3,472,800.00
TOTAL	***9,565,167,407.73***	***20,916,547,970.00***	***30,481,715,377.73***

Table 10: Total number of Outgoing/Incoming Local/National SMS trend (2018)

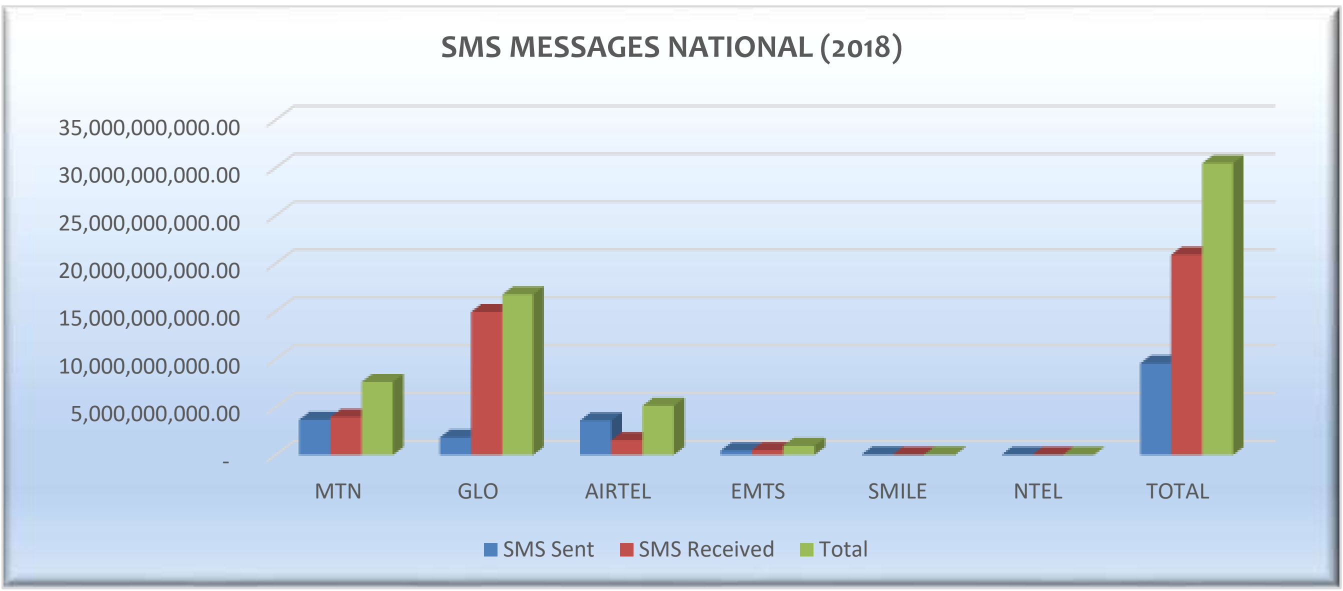

Figure 30: Total Outgoing/ Incoming SMS, Mobile (2018)

vii. **International SMS in 2018:** The Total Number of International SMS sent as at December 2018 was 51,534,609.18 while total number of received International SMS reported was 92,954,952.18. See Table 8 & Figure 24 below;

SMS MESSAGES INTERNATIONAL 2018			
	SMS Sent	**SMS Received**	**Total**
MTN	31,270,494	16,628,738.00	47,899,232.00
GLO	5,387,480	4,218,995.00	9,606,475.00
AIRTEL	10,449,140.00	43,724,017.00	54,173,157.00
EMTS	3,972,938.18	28,256,218.18	32,229,156.36
SMILE	348,016.00	20,395.00	368,411.00
NTEL	106,541.00	106,589.00	213,130.00
TOTAL	***51,534,609.18***	***92,954,952.18***	***144,489,561.36***

Table 11: Total number of Outgoing/Incoming International SMS trend (2018)

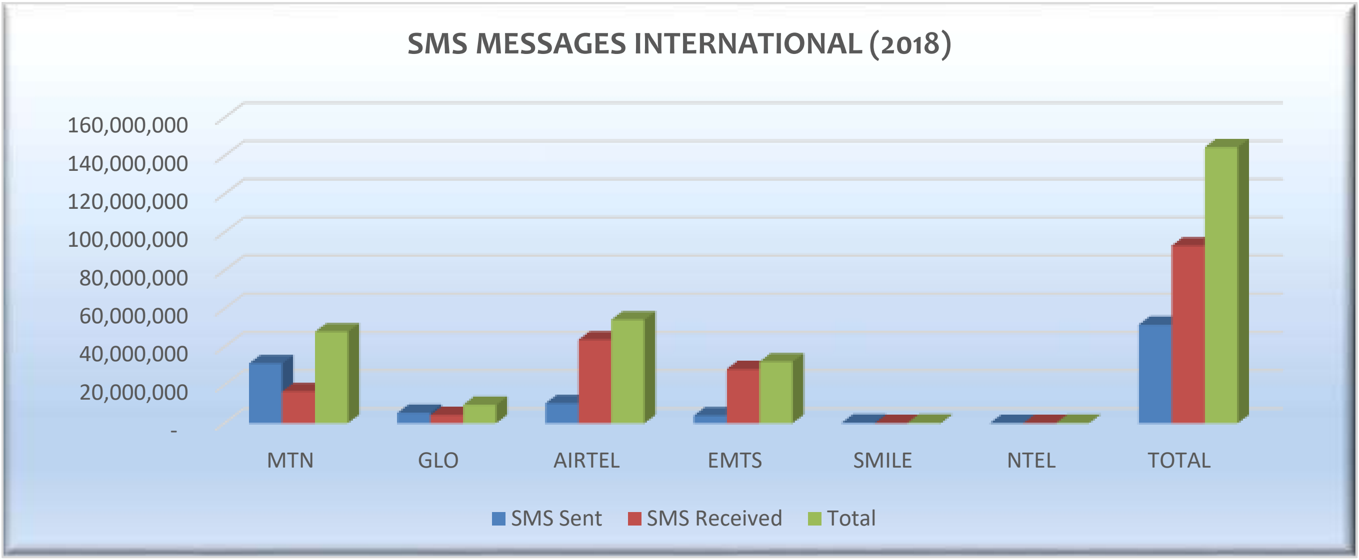

Figure 31: Total Outgoing/ Incoming SMS, Mobile (2018)

C. SUBSCRIBER & SERVICE DATA – INTERNET SUBSCRIPTIONS

1a. Mobile Subscriber Internet Data- 2018: As at December, 2018 the total active internet subscriptions for the mobile segment was 112,055,872 this reflects a 7.2% increase from 98,687,348 reported in December 2017.

Three of the four major GSM operators reported growth of AIRTEL 24.1; MTN 21.7% and GLO 3.9% while EMTS declined by 1.38% for the period under review. EMTS decline is attributed to low gross sales experienced within the year. The Mobile (GSM) market segment comprising of *MTN; GLO; AIRTEL & EMTS* accounted for 111,632,516 of the Total Active Mobile internet subscriptions as at December, 2018.

TOTAL NUMBER OF MOBILE INTERNET SUBSCRIPTIONS		
	2017	**2018**
MTN	36,069,597	43,899,957
GLO	26,997,817	28,054,948
AIRTEL	23,985,203	29,757,791
EMTS	11,338,839	9,919,820
SMILE	221,447	283,936
NTEL	44,136	75,191
MULTILINKS	4	4
VISAFONE	30,305	64,225
TOTAL	98,687,348	112,055,872

Table 12: Total Number of Active Mobile Internet Subscription- 2018

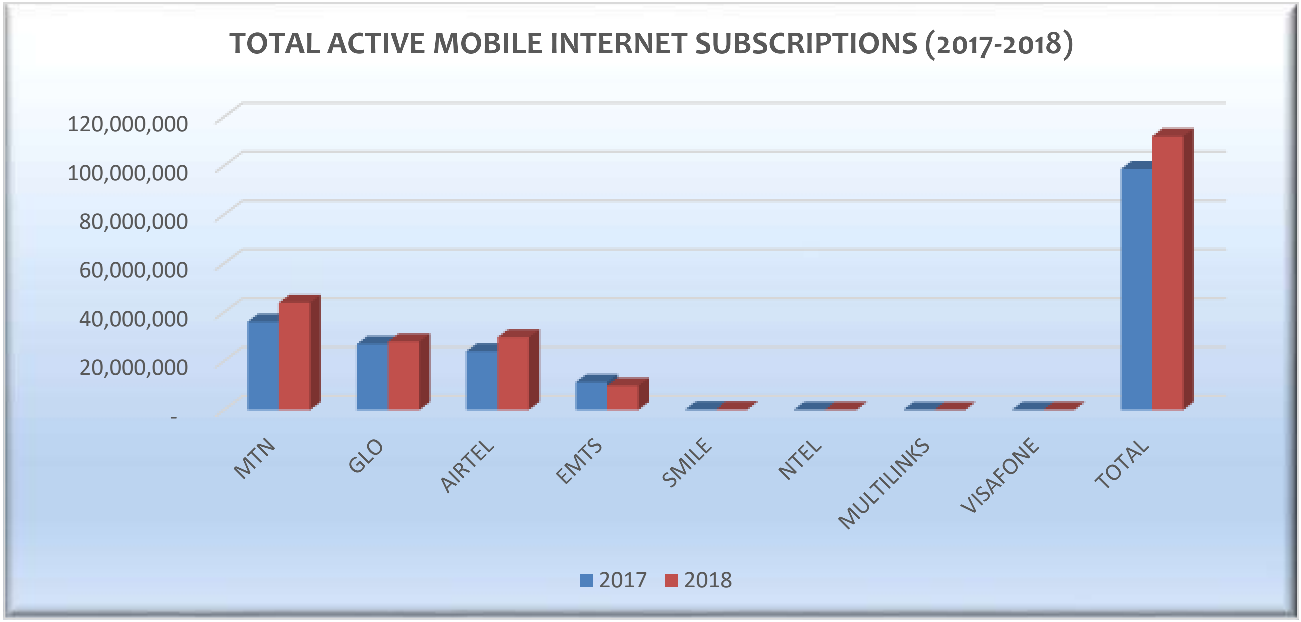

Figure 32: Total Number of Active Mobile Subscriptions – (2017 - 2018)

<u>**1b. Broadband Penetration Statistics – December 2018:-**</u> The Broadband Penetration figure as at December, 2018 stood at ***31.48%.*** This figure is based on the United Nations Population Data estimate of December 2017, that estimated Nigeria`s population to be ***190,886,311.*** The total active 3G - ***47,325,726*** and 4G - ***12,761,473*** subscriptions as at December, 2018 was ***60,087,199*** which was used in projecting broadband penetration rate as at December, 2018.

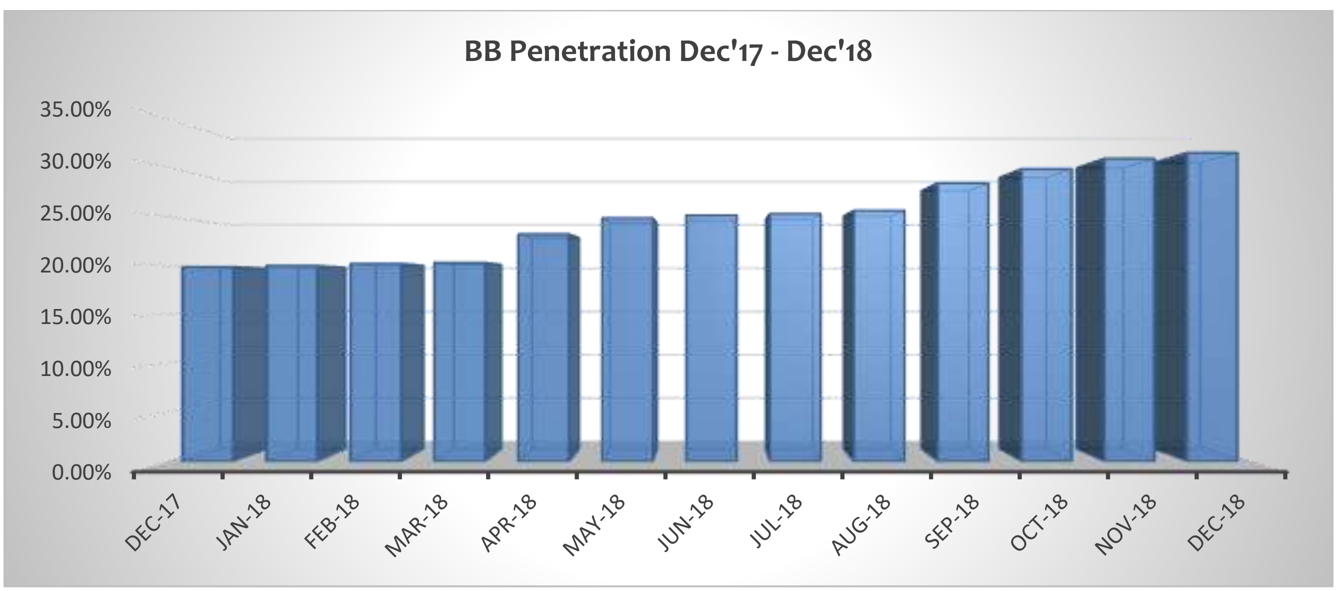

Figure 33: Broadband Penetration trend December, 2017 – December, 2018

BROADBAND PENETRATION RATE DECEMBER 2017 – DECEMBER 2018				
	3G Subscriptions	4G Subscriptions	Total 3G & 4G	BB Penetration Rate
Dec-17	34,460,636	3,454,859	37,915,495	19.86
Jan-18	34,481,029	3,636,118	38,117,147	19.97
Feb-18	34,666,214	3,878,917	38,545,131	20.19
Mar-18	34,745,044	3,970,876	38,715,920	20.28
Apr-18	39,452,793	4,811,919	44,264,712	23.19
May-18	42,321,337	5,080,336	47,401,673	24.83
Jun-18	42,537,774	5,410,804	47,948,578	25.12
Jul-18	42,599,021	5,595,675	48,194,696	25.25
Aug-18	42,913,992	5,932,257	48,846,249	25.59
Sep-18	44,552,559	9,649,215	54,201,774	28.39
Oct-18	45,889,471	11,047,823	56,937,294	29.83
Nov-18	47,089,658	11,875,820	58,965,478	30.89
Dec-18	47,325,726	12,761,473	60,087,199	31.48

Table 13. Total Active 3G & 4G Internet Subscriptions December 2017- December 2018

1c. Internet Usage Statistics – December 2018:- The total volume of data consumed by subscribers in December, 2018 was 68,154.12TB indicating a 50% from 45,450.26 reported in December, 2017.

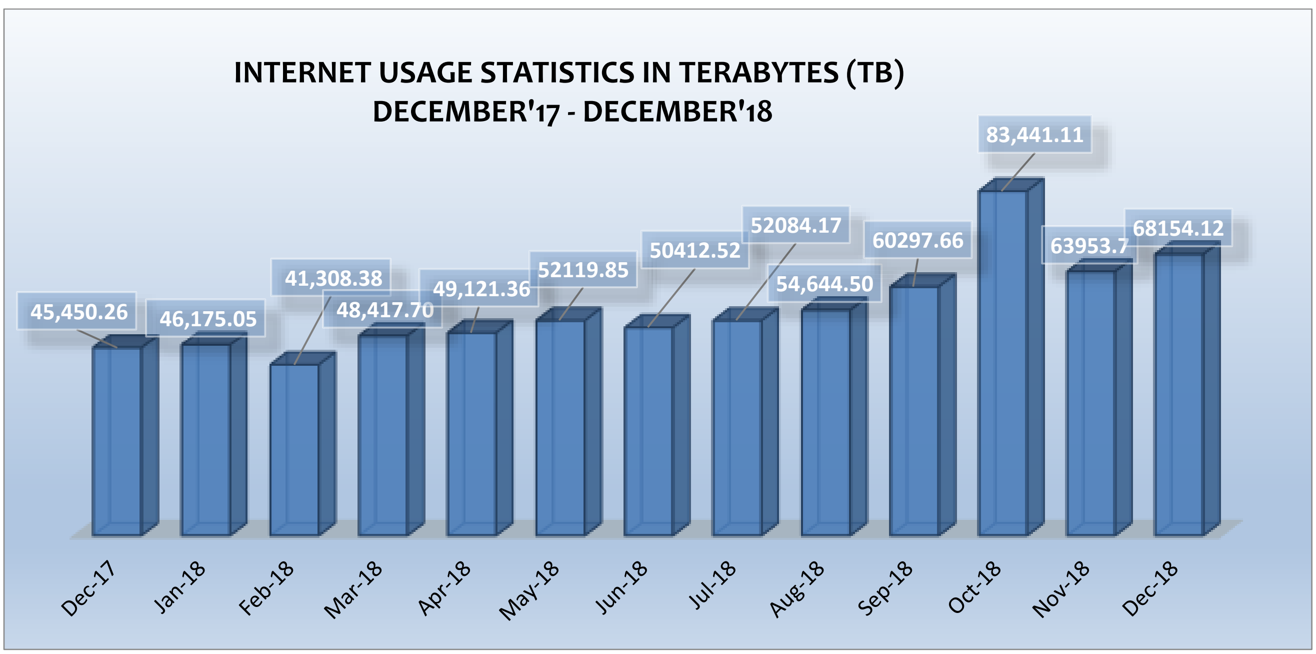

Figure 34: Internet Usage Statistics December, 2017 – December, 2018

D. SUBSCRIBER & SERVICE DATA – PORTING TREND IN NIGERIA AS AT DECEMBER, 2018

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, 2018) for the four (4) major GSM Operators. The analysis above illustrates that EMTS had the highest count of port-in subscribers [521,999] from other networks while AIRTEL, MTN and GLO are as follows [222,812]; [90,777] & [88,707] respectively.

ii. Similarly, our analysis from May, 2013 to December, 2018 reveals that MTN had the highest number of subscribers that ported-out [384,061] to other networks while AIRTEL, GLO & EMTS are as follows [218,728]; [185,367] & [118,032] respectively.

	MTN	***GLO***	***AIRTEL***	***EMTS***	***TOTAL***
	May'13-December'18	***May'13-December'18***	***May'13-December'18***	***May'13-December'18***	***May'13-December'18***
Cumulative Port-In	90,777	88,707	222,812	521,999	924,295
Cumulative Port-Out	384,061	185,367	218,728	118,032	906,188
Total Porting Activities (Port-in and Port-out for the period May, 2013-December, 2018					***1,830,483***

Table 14: Cumulative Mobile Number Portability (May, 2013 – December, 2018)

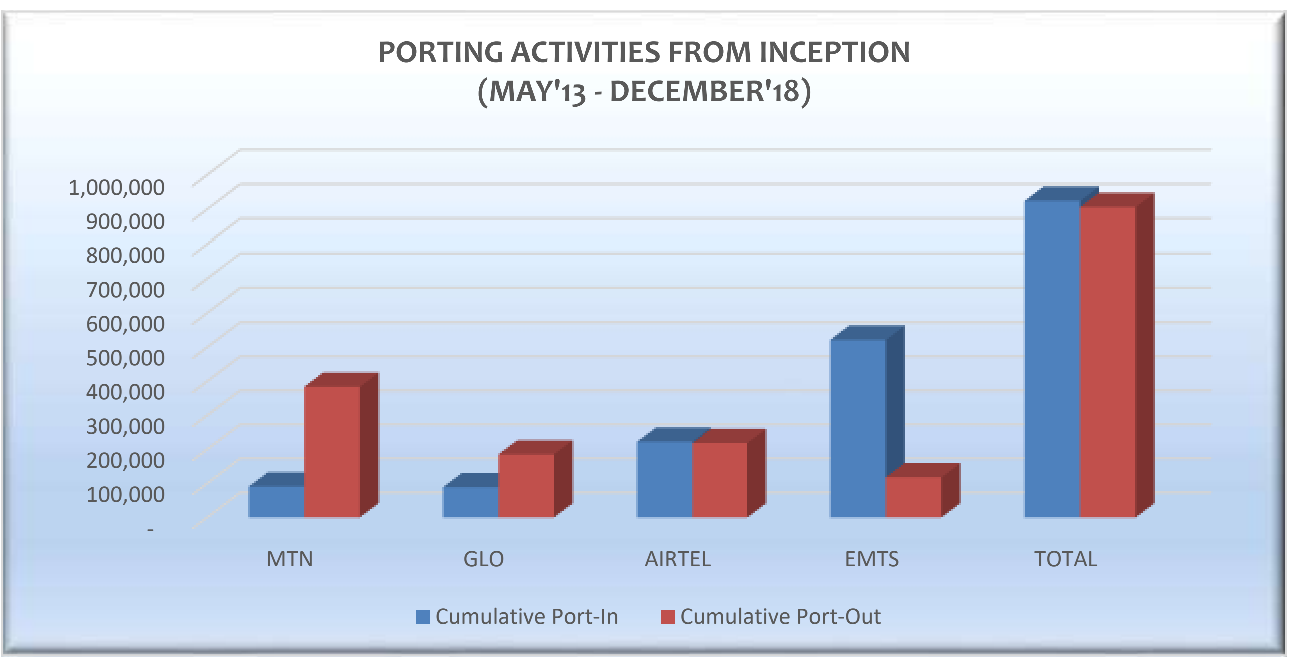

Figure 35: Cumulative Mobile Number Portability (May, 2013 – December, 2018)

1b. <u>Port- In activities from December, 2017 – December, 2018:-</u> The total number of Port- in numbers from other networks between December, 2017 and year end 2018 for the four major Mobile (GSM) operators stood at 95,606. See figure 31 below;

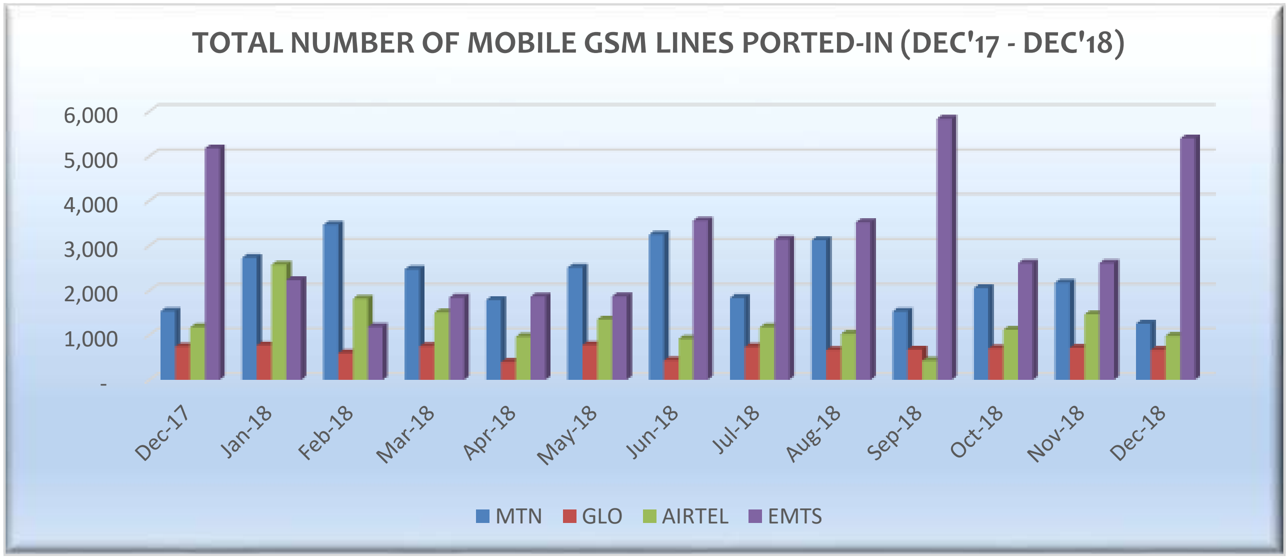

Figure 36: Ported – in (from other networks) numbers (Dec, 2017 – Dec, 2018)

1c. <u>Ported – Out activities from December, 2017 – December, 2018:-</u> The total of Port – Out numbers to other networks between December, 2017 and year end 2018 for the four major Mobile (GSM) operators stood at 94,556. See figure 32 below;

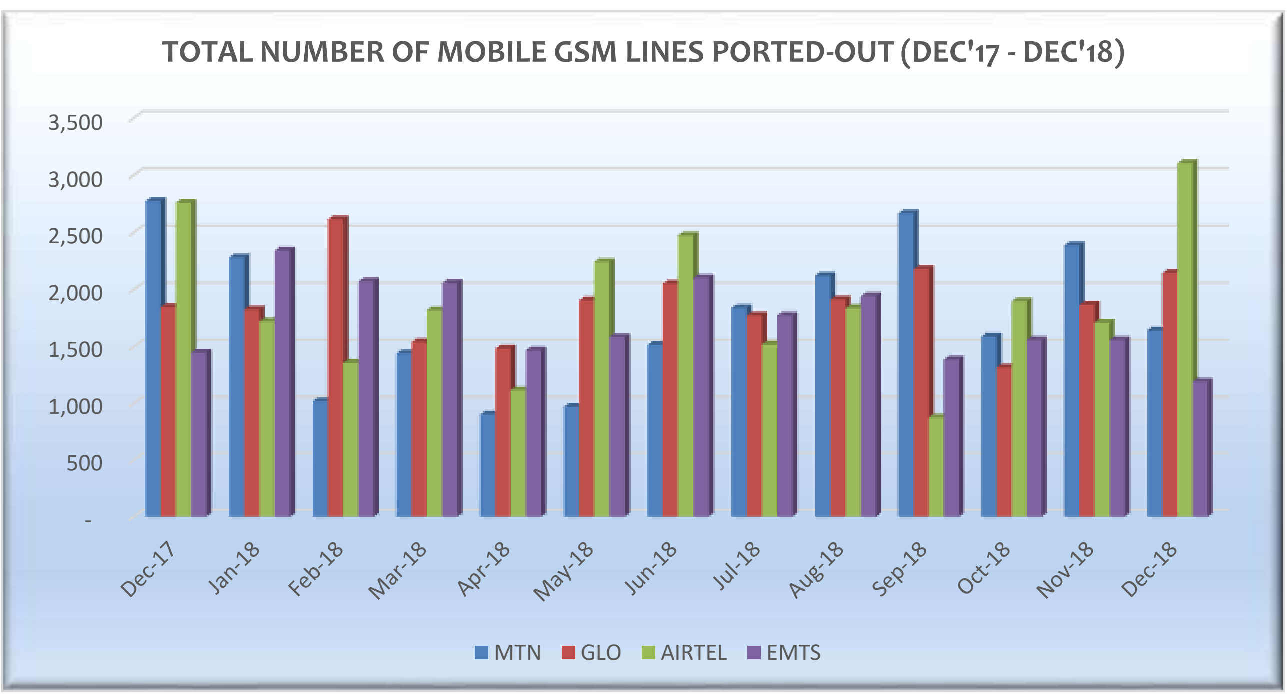

Figure 37: Ported – Out (to other networks) numbers (Dec, 2017 – Dec, 2018)

E. FINANCIAL DATA – MOBILE (2018)

1a. Revenue: The Mobile operators as at December 2018 recorded a total revenue of N1, 784,754,010,000. This reflects an increase of 13.9% from N1, 569,861,900,000 revenue reported in 2017. See table 12 and figure 32 below:

TABLE 37: REVENUE (N Million)		
	2017	**2018**
MTN	884,067.00	1,037,068.00
GLO	157,286.00	165,891.21
AIRTEL	315,210.00	399,452.00
EMTS	195,720.00	166,919.00
SMILE	8,991.00	11,064.00
NTEL	8,587.90	4,359.80
Total	***1,569,861.90***	***1,784,754.01***

Table 15: Mobile Revenue (2017 – 2018)

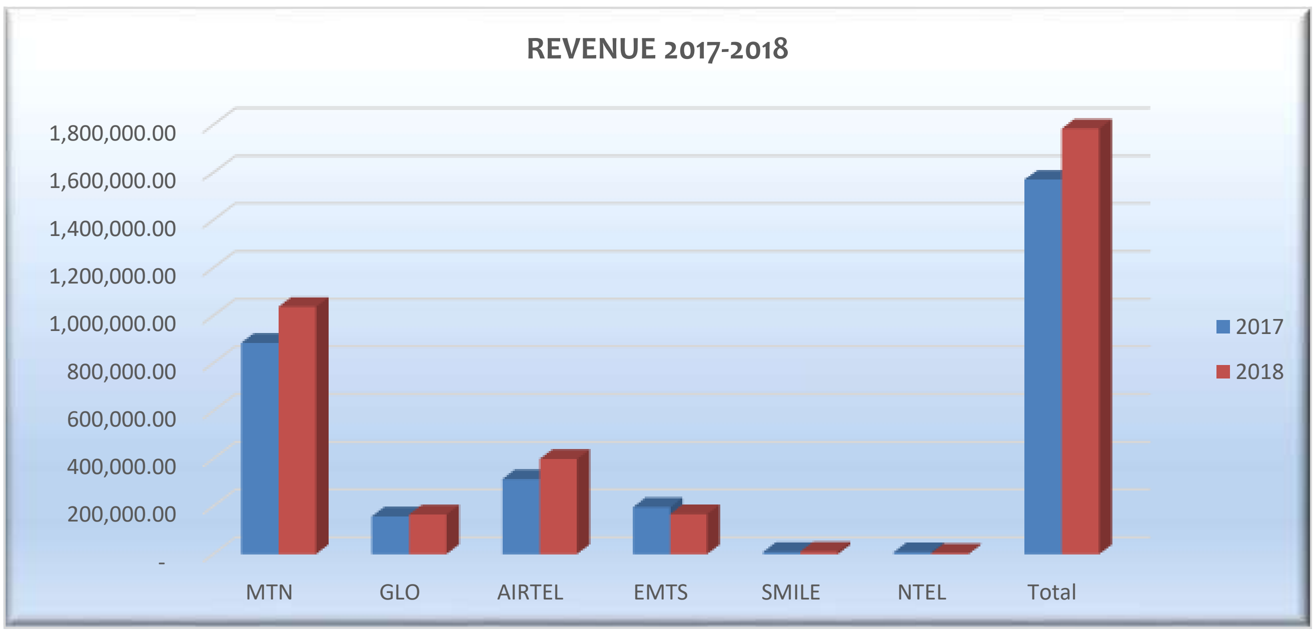

Figure 38: Mobile Revenue (2017 - 2018)

1b. Operating Cost: Similarly, the total Operating Cost as at December 2018 for the Mobile operators stood at N1, 461,019, 890, 000. This illustrates a growth of 0.6% from revenue figures reported in 2017 which was N1, 452,302,550,000. See table 12 and figure 33 below;

TABLE 38: OPERATING COSTS (N Million)		
	2017	**2018**
MTN	685,532	768,421
GLO	156,062	165,165
AIRTEL	264,514	284,094
EMTS	304,609	217,085
SMILE	32,350	12,336
NTEL	9,236	13,918
Total	**1,452,302.55**	**1,461,019.89**

Table 16: Mobile Operating Cost (2017 – 2018)

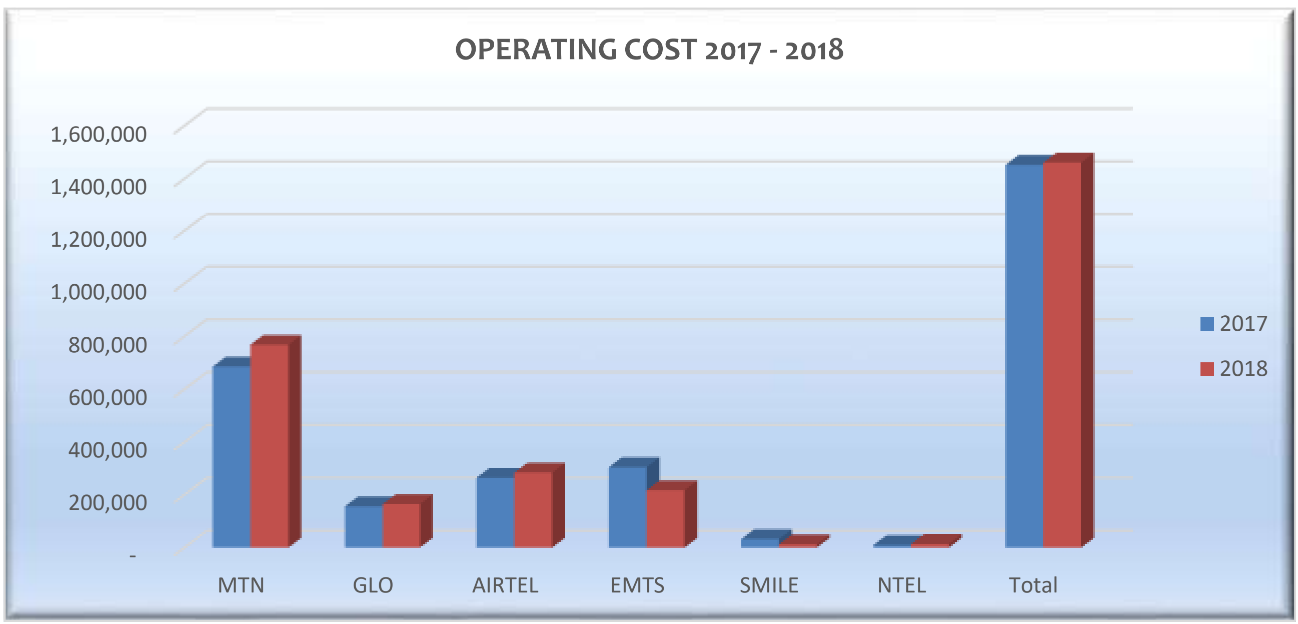

Figure 39: Mobile Operating Cost (2017 –2018)

1c. Assets: As at December 2018 total Assets for the Mobile operators stood at N 1,950,531,920,000. This shows an increase of 130% from N 847,927,240,000 reported in December, 2017. See table 13 and figure 34 below;

ASSETS (N Million)		
	2017	**2018**
MTN	36,026.12	939,555.00
GLO	439,108.00	552,464.00
AIRTEL	285,163.00	360,295.00
EMTS	25,510.00	27,304.00
SMILE	26,094.00	22,928.00
NTEL	36,026.12	47,985.92
Total	***847,927.24***	***1,950,531.92***

Table 17: Mobile Assets (2017 – 2018)

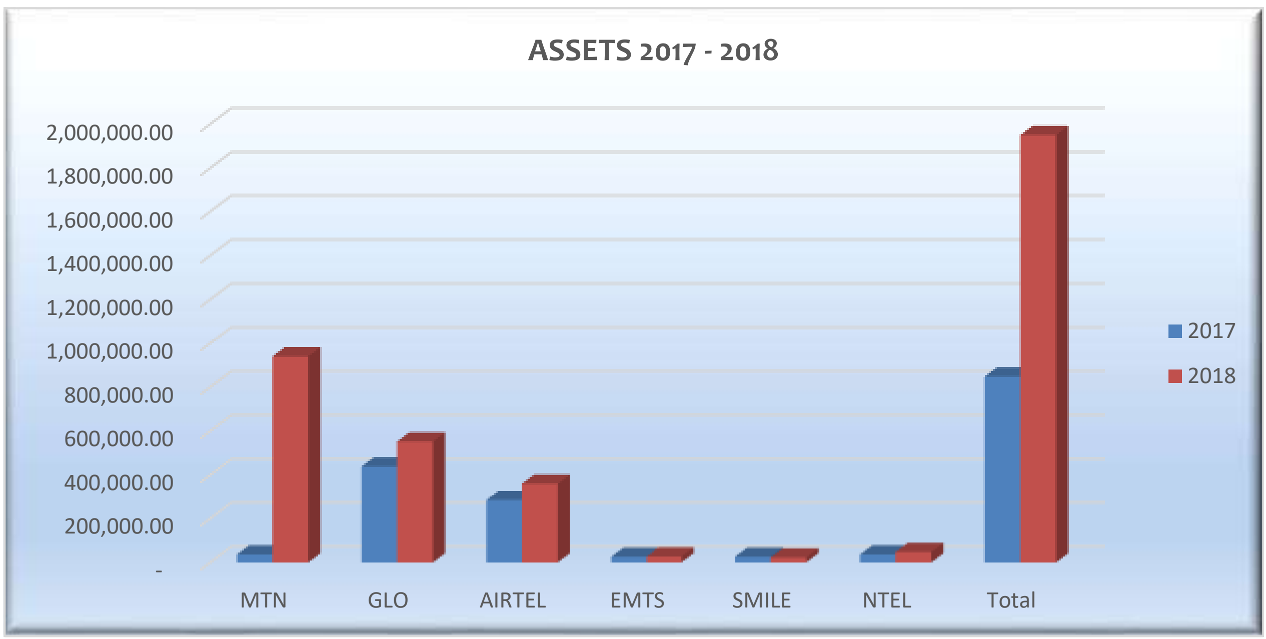

Figure 40: Mobile Assets (2017 – 2018)

F. STAFF PROFILE – MOBILE (2018)

The total number of Staff reported by the Mobile operators (MTN, GLO, Airtel, EMTS, Smile and Ntel) as at December, 2018 was a total of 7,567 recording; 188 expatriates and 7,379 Nigerians. Further breakdown in this category reveals that 4,926 of the Nigerian Staff are Male while the outstanding 2,453 are female. Similarly, 185 are male expatriates and 3 are female expatriates. See table 14 and figure 35 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 18: Mobile Staff profile (2018)

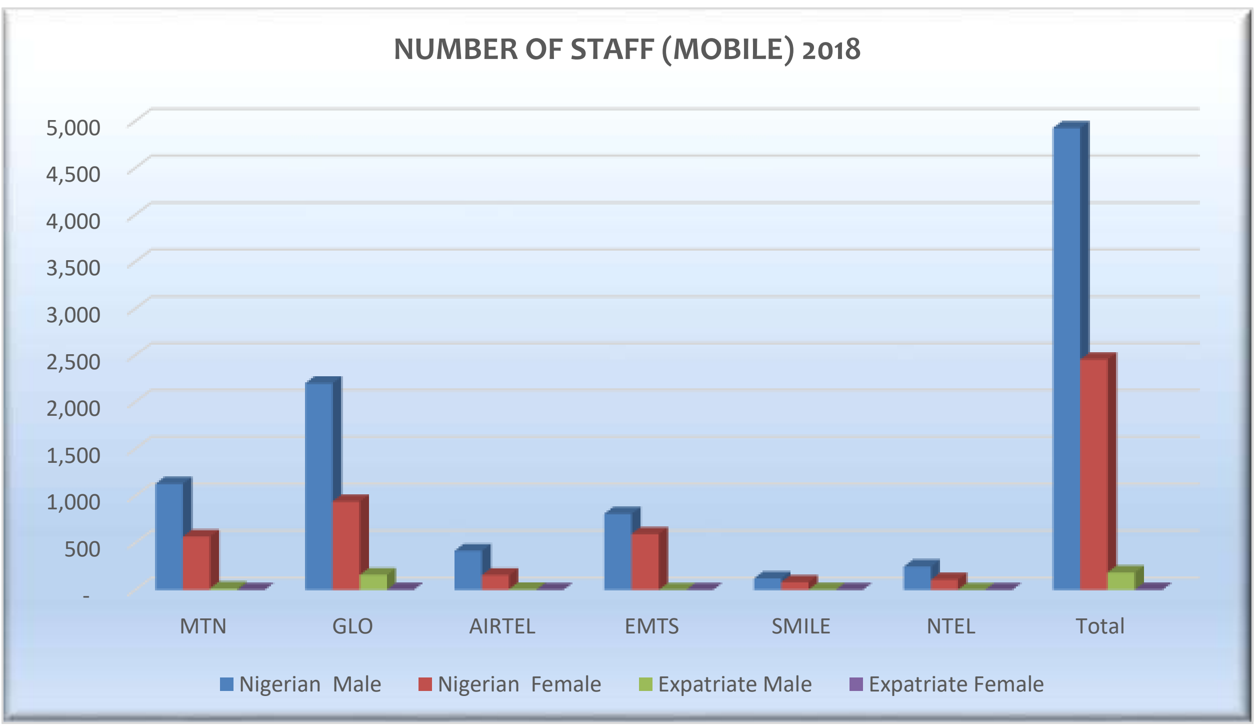

Figure 41: Mobile Staff profile (2018)

Chapter Four

Subscriber Network Analysis for Fixed Telephony (Fixed/Fixed Wireless Operators)

The Fixed year end performance report depicts the analysis of the market as at December, 2018 which is as follows:

- **NETWORK DATA**

1. **Base Stations**: As at December, 2018 Ipnx was the only operator with base stations; a total number of **51 base stations**. This records a slight increase of about 4% as the number stood at 49 Base stations in 2017.

- **INFRASTRUCTURE DEPLOYMENT**

2. **Fiber Optics: As December, 2018** MTN deployed **31,847km** on land and 3**20km** submarine fibre optics; Globacom deployed **13,255km** on land and **9,800km** submarine fibre optics; 21[st] Century deployed **8000km** on land and **33km** fibre optics while ipNX deployed **927.4km** of on land fibre optics. This makes an aggregate of **54,029km** of On-land Fiber Optics deployed as at December, 2018 signifying an increase of **13.69**% from the **47,520km** deployed in the year 2017. Similarly an aggregate of **10,153km** Submarine Fibre Optics was deployed by MTN, Globacom, 21st Century and IPNX during the period under review. Signifying a **0.99**% increase from the **10,053km** recorded in 2017.

FIBRE OPTICS NETWORK (in Km)				
	2017		2018	
	On-Land	Submarine	On-Land	Submarine
MTN	25,823	220	31,847	320
GLOBACOM	13,255	9,800	13,255	9,800
21ST CENT	7,541	33	8,000	33
IPNX	900.5	N/A	927.4	N/A
TOTAL	**47,520**	**10,053**	**54,029**	**10,153**

Table 19: Fibre Optics Network (In Km)

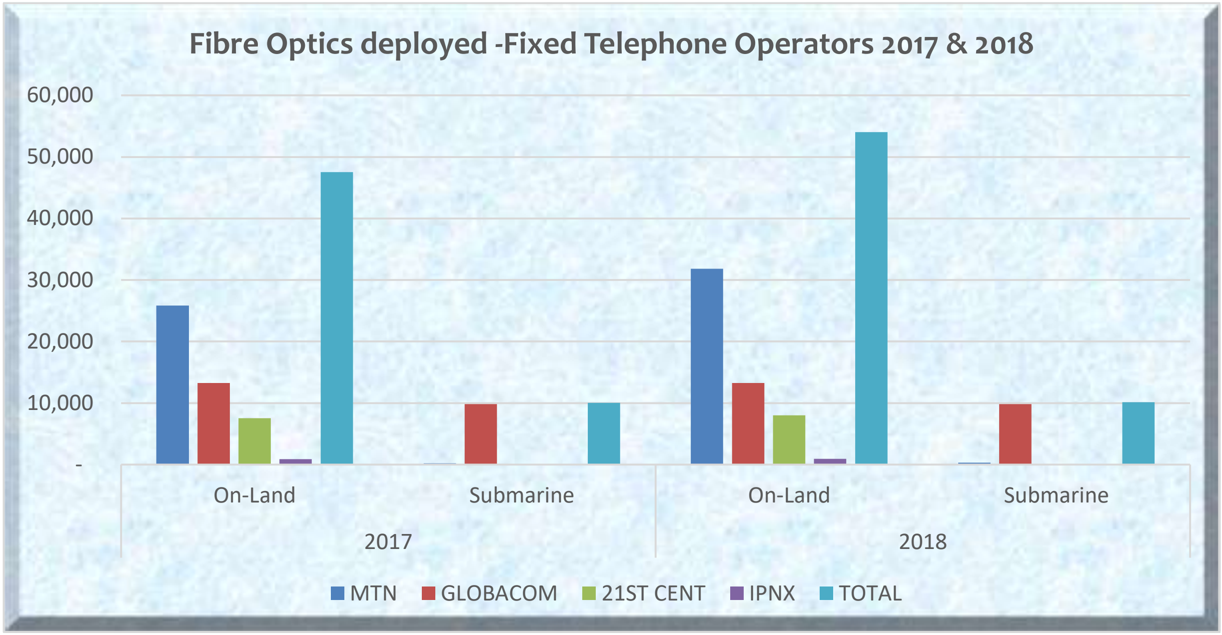

Figure 42: Fibre Optics Deployed 2017 - 2018

3. **Microwave Radio:** Only IpNX reported a total of **329km** in Microwave Radio deployment for 2018.

4. **Trunks in Use:** 21st Century, MTN and IPNX under the fixed telephony segment reported a total of **1064km** Trunks (E1) in use as at December, 2018.

NUMBER OF TRUNKS (E1) IN USE		
	2017	**2018**
MTN	368	391
21ST CENT	615	671
IPNX	**2**	**2**
TOTAL	**985**	**1,064**

Table 20: Number of Trunks (E1) In Use

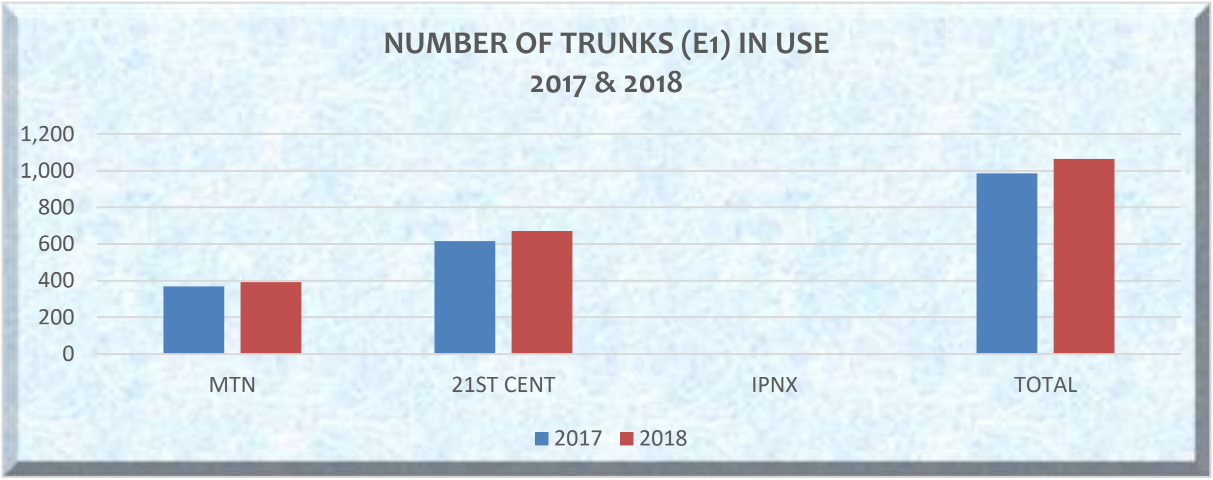

Figure 43: Trunks in Use (E1) 2018.

5. **Gateways in Use:** GLO, and ipNX reported a total of **9 Gateways** as at December 2018. GLO used 3, 21ST Century 3 and ipNX used 3 gateways too.

NUMBER OF GATEWAYS IN USE		
	2017	2018
GLOBACOM	3	3
21ST CENT	3	3
IPNX	2	3
TOTAL	8	9

TABLE 21: Gateways Use (E1) 2018

SUBSCRIBER AND SERVICES DATA

Total Active Voice Subscriptions: During the year under review two operators under the Fixed/ Fixed wireless segment; MTN and Globacom reported a drop in their active subscriptions. While 21st Century and IPNX each had **103,016** and ***2,281*** respectively. **21st Century** had the highest active subscriptions of **103,016** for this segment as at December 2018, the total active voice subscriptions for the Fixed wired / Fixed wireless Telephone operators totaled ***113,626*** showing an increase from ***112,479*** recorded in December, 2017 this indicates a **1.02%** increase.

TOTAL ACTIVE VOICE SUBSCRIPTIONS		
	2017	2018
MTN	8,290	5,450
GLOBACOM	8,451	2,879
21ST CENTURY	93,178	103,016
IPNX	2,560	2,281
TOTAL	112,479	113,626

Table 22: Total Active Voice Subscriptions

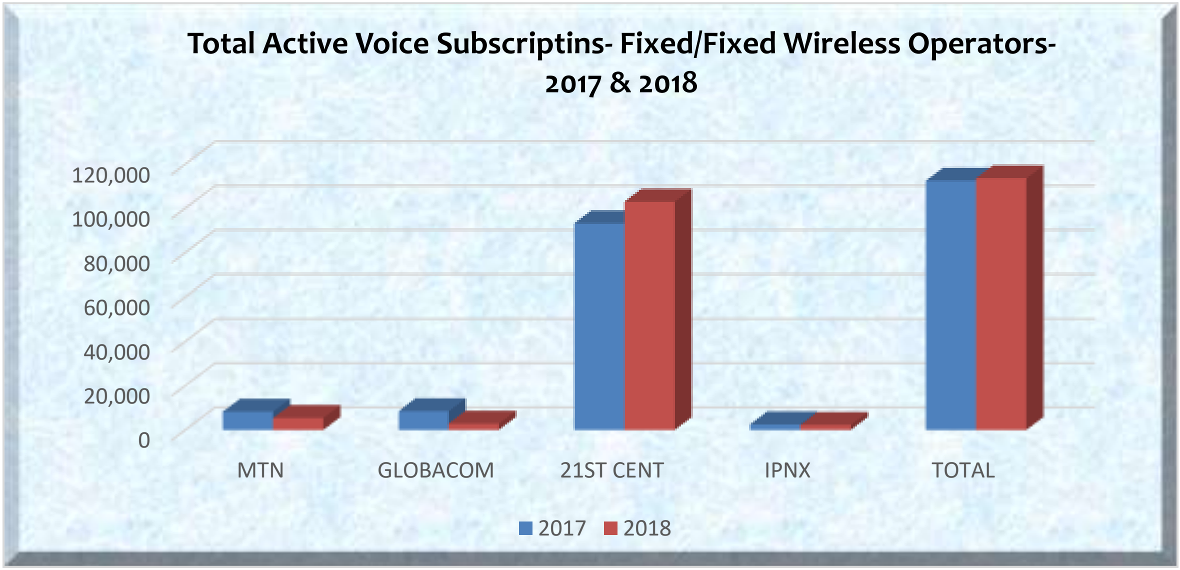

Figure 44: Total Active Voice Subscriptions (2017-2018)

Total Active Internet Subscriptions: As at December 2018 the A**ctive Internet subscriptions** for MTN, 21st Century and ipNX was totaled at **9,868.** This indicated a further decrease from 2017 which was **11,962** subscriptions. The operators each recorded the following: IpNX with the highest ***3,885,*** MTN ***3,132*** and 21st Century with the lowest **2,851** Subscriptions. Our analysis show that the internet usage for the fixed wired and wireless network is being relegated and the likelihood that most subscribers have switched their lines to GSM lines.

TOTAL ACTIVE INTERNET SUBSCRIPTIONS		
	2017	***2018***
MTN	*4,966*	*3,132*
21ST CENT	*2,882*	*2,851*
IPNX	*4,114*	*3,885*
TOTAL	***11,962***	***9,868***

Table 23: **Total Active Internet Subscriptions**

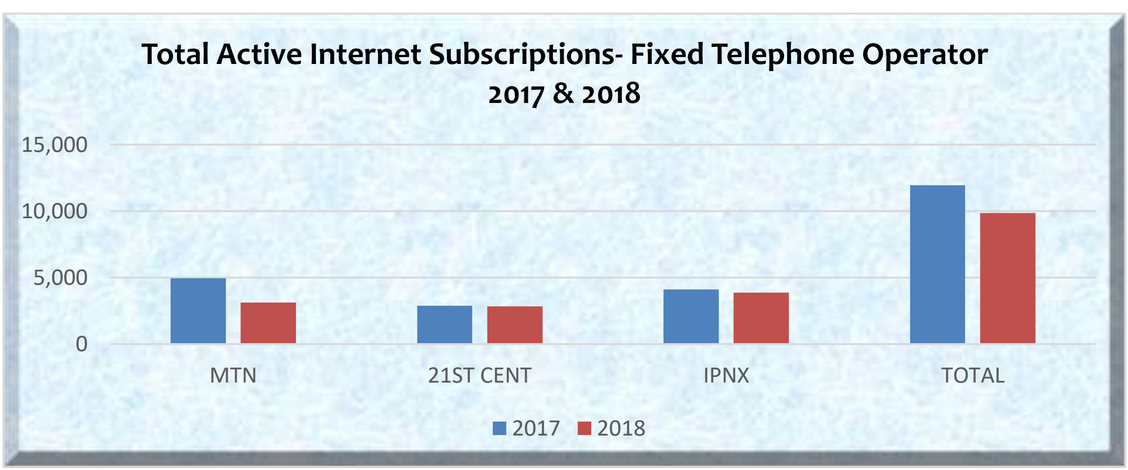

Figure 45: Total Active Internet Subscriptions (2017 – 2018)

Fibre to the Home/ Building Subscriptions: As at December 2018 ipNX and MTN respectively installed 6,525 km and 2,928km of Fibre to Home / Building. This is a total of 9,453km of fibre deployed by both operators.

FIBRE-TO-THE-HOME/BUILDING SUBSCRIPTIONS		
	2017	2018
MTN	2,560	2,928
IPNX	5,616	6,525

Table 24: Fibre-To-The-Home/Building Subscriptions

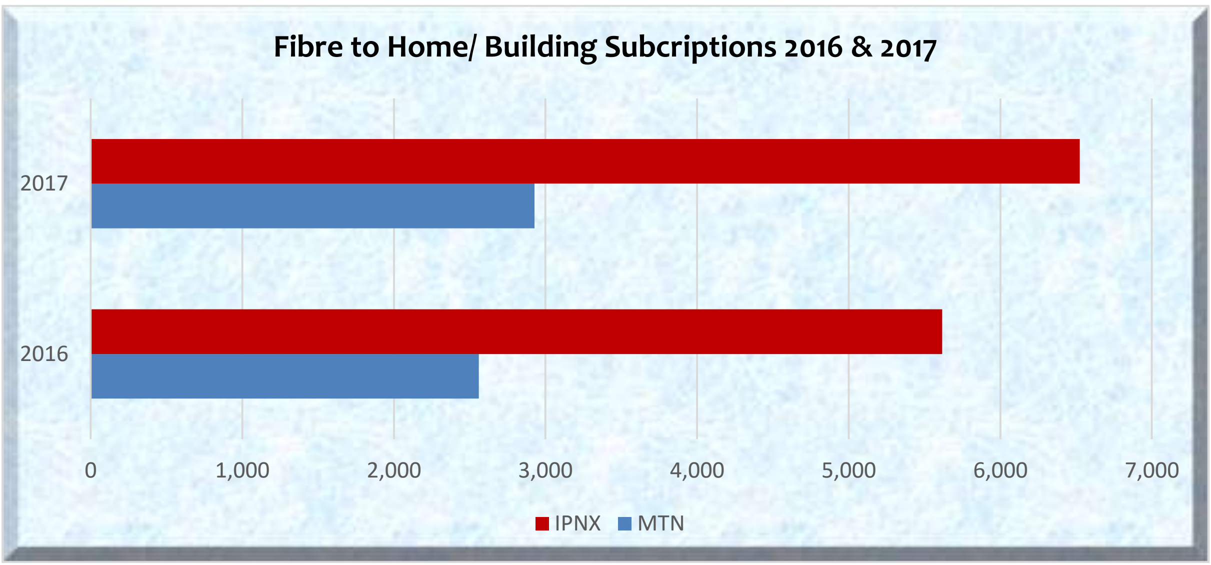

Figure 46: Fibre to the Home/Building Subscriptions 2017.

Number of subscriber by Internet Speed: As at December 2018, **211 users** fell in the **256kbs – 1Mbps Mbps** category; **1,322** users subscribed to speeds between **2mbps-10mbps; 6,039** 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 2018				
	256kbs-1mbps	**2mbps-10mbps**	**10mbps-4G**	**4G- above**
21ST CENT	150	850	135	N/A
IPNX	61	472	5,904	N/A
TOTAL	**211**	**1,322**	**6,039**	

Table 25: Number of Subscribers by Internet Speed 2018

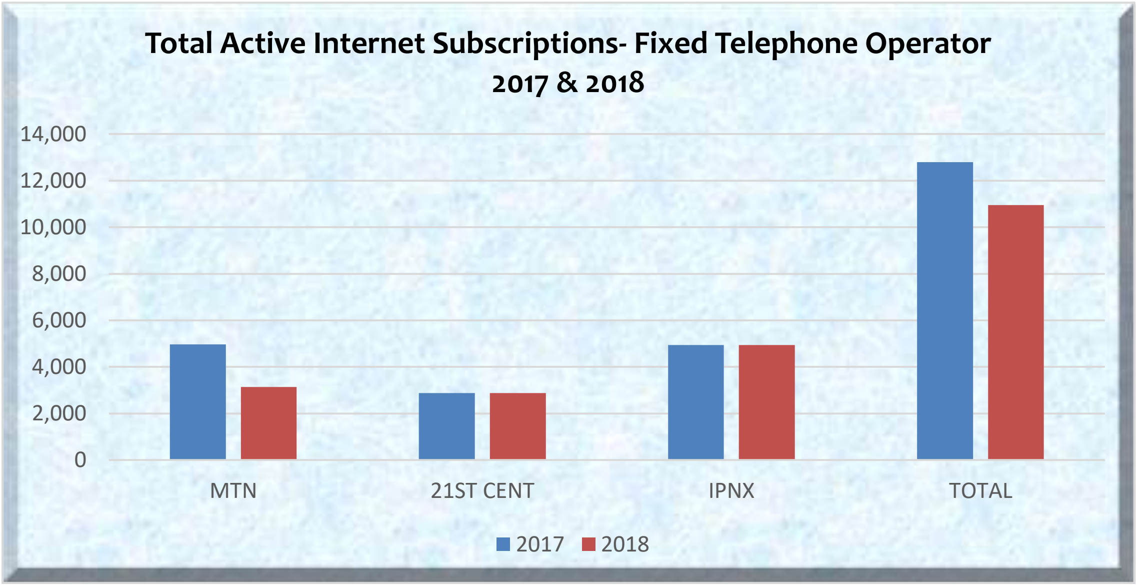

Figure 47: No of Subscribers by Internet Speed 2018.

❖ TRAFFIC DATA

Local and National Traffic (Outgoing): As at December, 2018, the total minutes generated for local and national **outgoing traffic** (paid minutes) by fixed telephone operators;, 21st Century, GLO and ipNX is **26,988,414; 2,049,056** and **536,897** respectively, making a total of **29,574,367** local & National **Outgoing** traffic. This signifies an increase of about **595,348** paid minutes from 2017 that recorded **28979019** minutes.

Local and National Traffic (Incoming): As at December, 2018, the total minutes generated for local and national **incoming traffic** (paid minutes) by fixed telephone operators;, 21st Century, ipNX and Globacom is **26,950,590; 135,577** and **27,652** respectively, making a total of **27,113,819** local & National **incoming** traffic. This signifies an increase from 2017 which recorded **63,024** minutes.

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)		
	2018	
	Outgoing	Incoming
GLOBACOM	2,049,056	27,652
21ST CENT	26,988,414	26,950,590
IPNX	536,897	135,577
TOTAL	29,574,367	27,113,819

Table 26: Local and National Telephone Traffic (In Minutes)

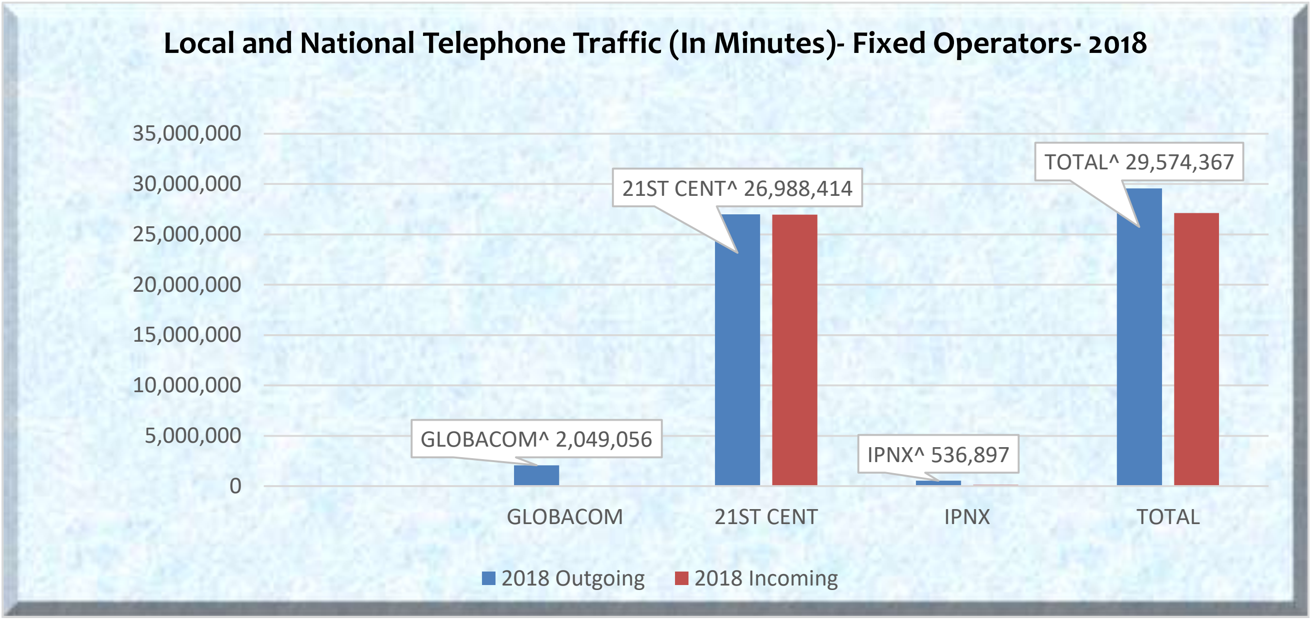

Figure 48: Total Number of Local & National Outgoing/ Incoming Calls (2018)

Total number of Fixed to Mobile traffic: Similarly as at December, 2018 the total number of **Outgoing** Fixed to Mobile traffic increased from **101,315,161** minutes in 2017 to **138,467,700** minutes indicating a of a **36.67**% increase in the **fixed to Mobile** traffic in the year 2018.

Also the total number of Incoming **Fixed to Mobile** traffic as at December 2018 was **105,263,518** minutes compared to **65,172,961** reported in 2017 thereby indicating an increase of 61.5%

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 **21st Century network.**

OPERATORS	FIXED TO MOBILE TRAFFIC 2018		
	Outgoing	**Incoming**	**Total**
MTN	57,558,173	-	57,558,173
GLOBACOM	2,171,561	1,065,795	3,237,356
21ST CENT	77,001,206	102,665,673	179,666,879
IPNX	1,736,760	1,532,050	3,268,810
TOTAL	138,467,700	105,263,518	243,731,218

Table 27: Fixed to Mobile Traffic 2018

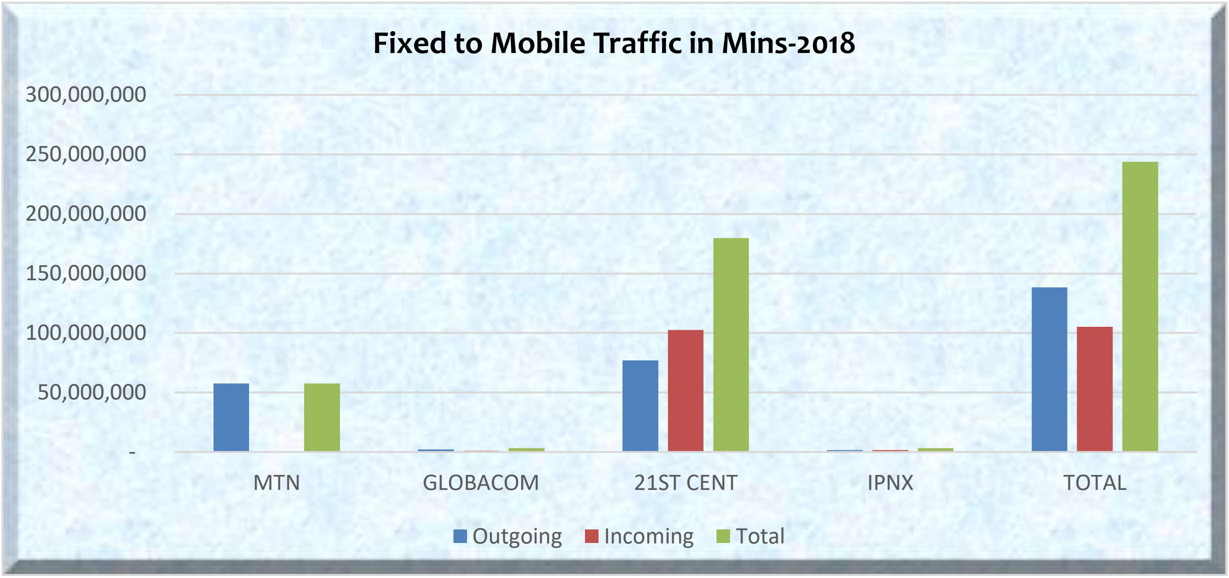

Figure 49: Total number of Fixed to Mobile traffic (2018)

Total number of Outgoing/ incoming Fixed Minutes International traffic:

As at December, 2018 the total number of **Outgoing Fixed International** traffic (**minutes**) for 21st Century and ipNX were **3,977,784**; and **82,625** minutes respectively. While for **Incoming Fixed International** traffic were **4,674,952** & **90,568** respectively for 21st Century and ipNX.

Over all the total number of **Outgoing Fixed International** traffic reported for the 21st Century and ipNX for 2018 was recorded at **4,060,409** this is a great decrease from the year 2017.as MTN and GLO had not submission for this indicator.
While the total for **Incoming fixed international** traffic totaled **4,765,520** for 21st century and ipNX for year 2018.

OUTGOING/ORIGINATING FIXED MINUTES INTERNATIONAL TELEPHONE TRAFFIC						
	2017			***2018***		
	Outgoing	***Incoming***	***Total***	***Outgoing***	***Incoming***	***Total***
MTN	29,387,007	15,075,665	44,462,672	-	-	-
GLOBACOM	353,667	9,733,642	10,087,309	-	-	-
21ST CENT	4,137,499	4,878,122	9,015,621	3,977,784	4,674,952	8,652,736
IPNX	221,361	27,108	248,469	82,625	90,568	173,193
TOTAL	**34,099,534**	**29,714,537**	**63,814,071**	**4,060,409**	**4,765,520**	**8,825,929**

Table 28: Outgoing/Originating Fixed Minutes International Telephone Traffic

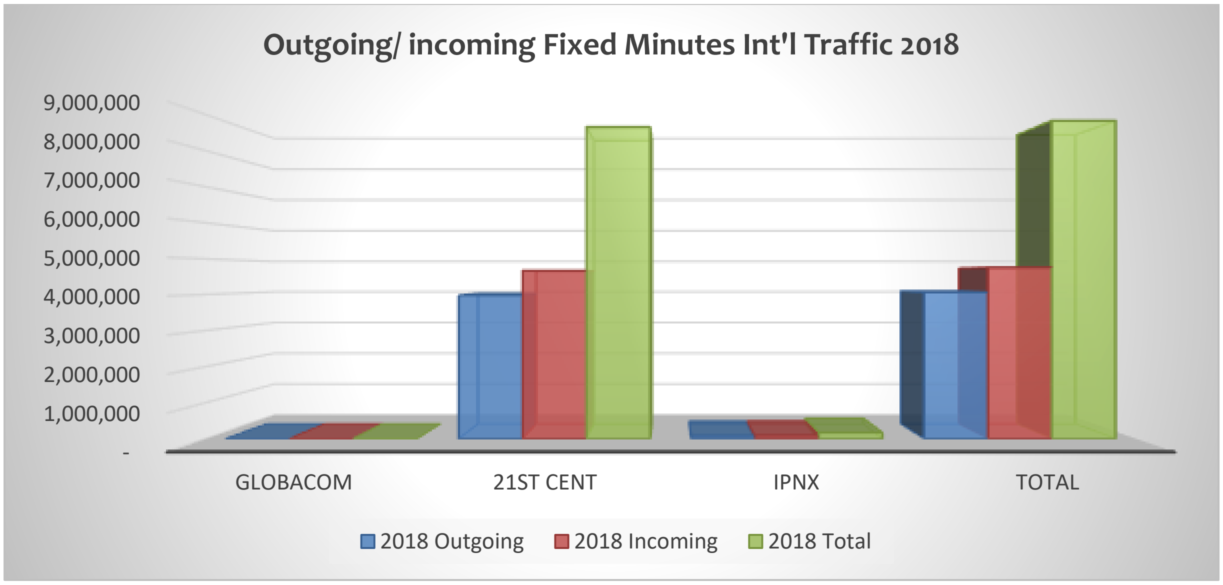

Figure 50: Total number of Outgoing/ Incoming Fixed Minutes International traffic (2018)

❖ FINANCIAL DATA

Revenue: The total revenue as at December 2018 for the fixed telephone operators. (MTN, Globacom, 21st Century and IPNX) was N4, 108,400,000 See table below for breakdown:

REVENUE (N Million)		
	2017	**2018**
MTN	**	**
GLOBACOM	**	**
21ST CENT	185,900,000	203,400,000
IPNX	3,862,000,000	3,905,000,000
Total	***4,047,900,000***	***4,108,400,000***

Table 29: Revenue (N Million) (duplicated figures from enterprise submission)**

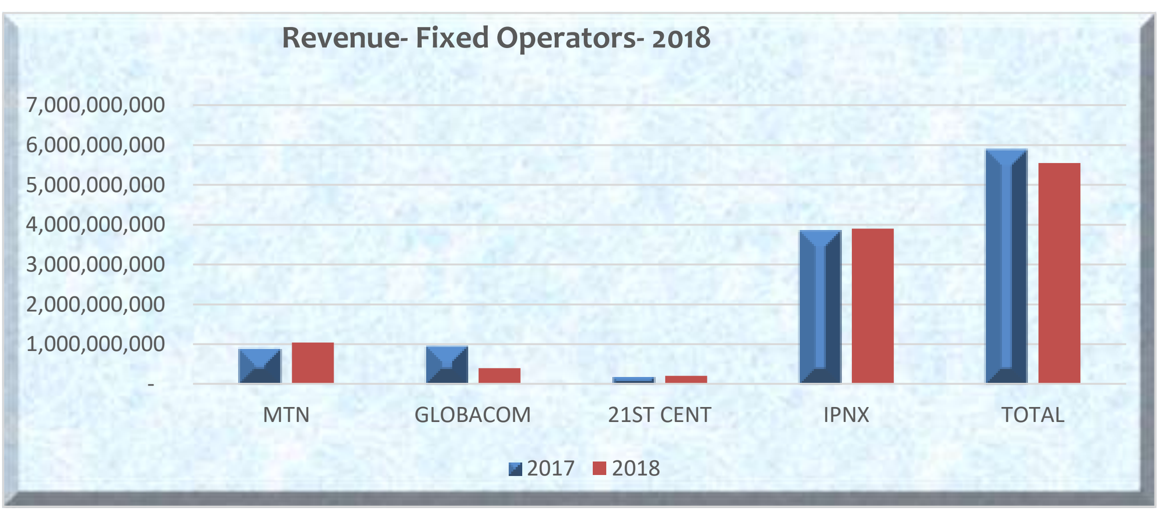

Figure 51: Revenue Fixed telephone Operators (2017 & 2018)

Operating Cost: Similarly, the total Operating Cost as at December 2018 for the fixed telephone segment was **N3, 120,100, 000**. An increase from the total operating cost reported in 2017 which was **N3, 737,700,000** See table below for breakdown:

OPERATING COST (N Million)		
	2017	**2018**
MTN	**	**
GLOBACOM	**	**
21ST CENT	182,700,000	200,600,000
IPNX	3,585,000,000	2,919,500,000
TOTAL	***3,767,700,000***	***3,120,100,000***

Table 30: Operating Cost (N Million) duplicated figures from enterprise submission)**

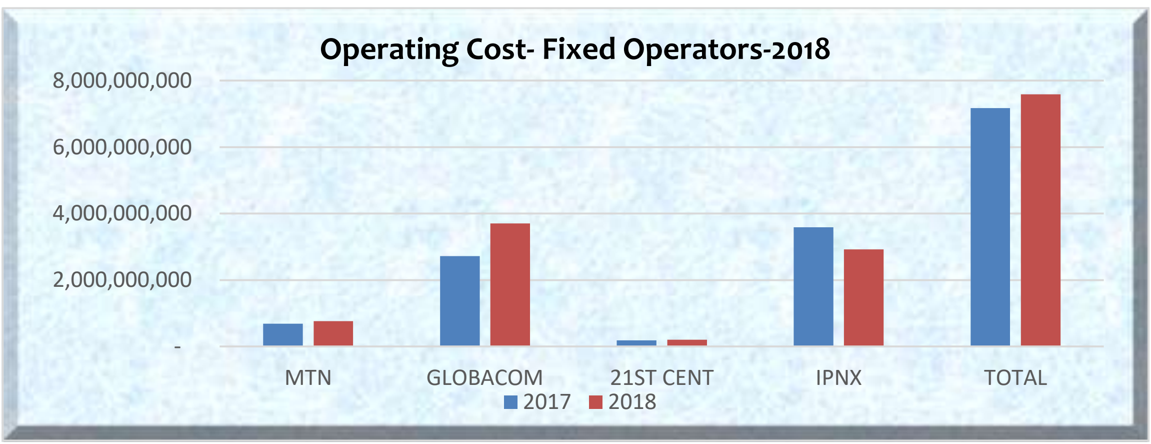

Figure 52: Operating Cost for Fixed Telephone Operators (2018)

❖ STAFF PROFILE

The total number of Staff reported by the fixed telephone operators (MTN, Globacom, 21st Century and ipNX) as at December, 2018 was of **1,958**; **30** are Expatriates while **1,928** are Nigerians. A further breakdown reveals that **1320** of the Nigerian Staff are Male while **638** are female.

NUMBER OF STAFF (2018)				
	Nigerian		**Expatriate**	
	Male	**Female**	**Male**	**Female**
MTN	1,130	568	15	1
GLOBACOM	30	-	13	-
21ST CENT	79	37	1	-
IPNX	81	33	-	-
TOTAL	**1,320**	**638**	**29**	1

Table 31: Total Number of Staff (2018)

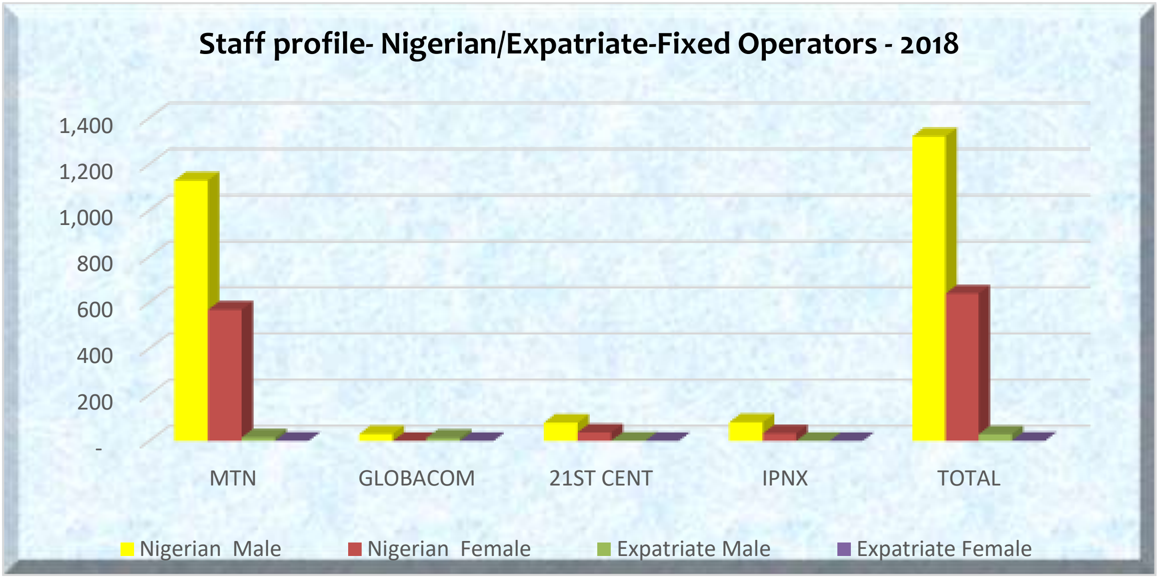

Figure 53: Staff Profile (Nigerian/ Expatriate) for Fixed Telephone Operators (2018)

Chapter Five

Subscriber Network Analysis for Internet Service Providers Operators

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 collected.

During the period under review, requests for submissions were forwarded to Ninety Eight (98) ISP licensees, a total of Thirty Three (33) submissions were received for the 2018 Year End Subscriber/Network Data. The number of submissions increased from 29 (Twenty Nine) in Year 2017 to 35 (Thirty Five) in year 2018, which showed a 21% increase in operator compliance with the Commission's directive.

1. The analysis was carried out based on the submissions from the following Operators:

2. ***NETWORK DATA:***

a. Points of Presence (PoP):

As at **December 2018**, the number of Points of Presence was 987. This showed a significant increase of 238% over the previous year of 2017 which recorded a total of **292**. Spectranet had the highest number of points of presence of **624** followed by Cobranet which had **80** in comparison with other ISPs. Entouche Networks, NetAccess and CBC EMEA had one (1) point of presence each. This was based on the submissions made in this category.

Spectranet recorded the highest figure with 73% PoP, Followed by Cobranet and Tizeti with 13% and 9% respectively, while others had 5% Point of Presence.

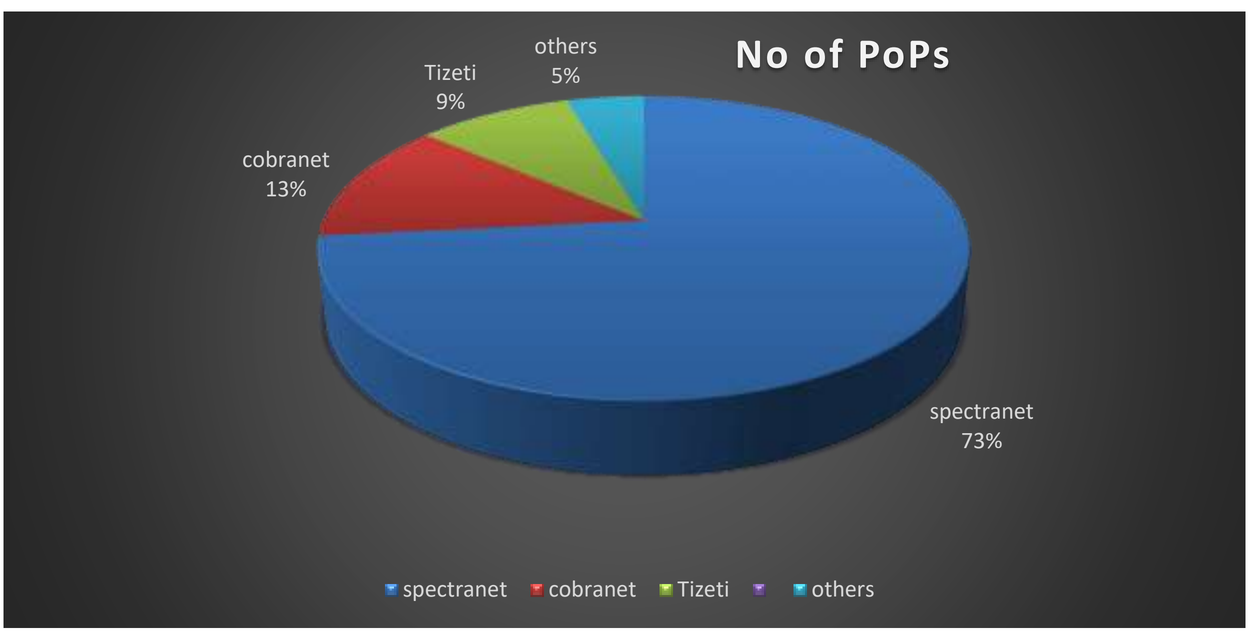

Figure 54: Analysis of Points of Presence (PoP)

Number Of Points Of Presence	
Center Point Networks Ltd	12
CBC Emea	1
Cobranet Limited	80
TRAKATEL	2
Entouche Networks Nigeria Limited	1
Ekovolt Telco Limited	4
Electronic Connections Ltd	1
COSCHARIS	1
First Wave Networks	5
Futurecom Limited	1
ICSL	28
Ipnx Nigeria Limited	50
Is Internet Solutions Limited	8
Juniper Solutions Limited	8
Layer3	2
Main One	27
Netaccess	1
Netfocus	2
Sea Net Technologies Limited	0
Tizeti	76
Trefoil Networks	3
VDT Communications Limited	37
Winrock Nigria Limited	0
Priority Communication	1
Orange Business	2
Hyperia	5
Skymax	4
Spectranet	624
Zeta Web Nig. Ltd	1
TOTAL	987

Table 32: Showing Points of Operators Presence

b. *Location of Access Provider:*

A significant number of the operators had service providers that were resident within Nigeria. Hyperia and Zeta-Web were the service providers with access providers outside Nigeria (Abu Dhabi and Amsterdam). The larger percentage of the service provision was derived from Lagos and Ogun States while others are from Abuja, Kaduna, Kano, Yola and South Eastern part of Nigeria. This analysis was based on the information from the operators who made submissions in this category.

S/N	LOCATION OF ACCESS PROVIDER	
1	Cobranet Limited	Cobranet HO, Lagos
2	Ekovolt Telco Limited	Lagos
3	Infobip	Lagos
4	Entouche Networks Nigeria Limited	PH, Rivers
5	Coscharis Technologies Ltd	Victoria Island, Lagos
6	Electronics Connection Ltd	Kano
7	Hyperia	Nigeria, Abu Dhabi South East, Nigeria
8	Is Internet Solutions Limited	Lagos
9	Trakatel	Lagos Enugu
10	Juniper Solutions Limited	Lagos
11	Khal	Victoria Island, Lagos
12	Layer3	Abuja
13	Netaccess	Kaduna
14	Netcom Africa	Lagos
15	Excelsimo Networks Ltd	Lagos
16	Tizeti	Lagos
17	Vdt Communications Limited	Lagos & Abuja
18	Wavetek Nigeria Limited	Lagos
19	Winrock Nigeria Limited	Wuse 2, Abuja
20	Zeta-Web Nig. Ltd	Amsterdam Lagos
21	Futurecom	Lagos
22	Ipnx Nig Ltd	Lagos, Ogun, Nasarawa, Port Harcourt, Abuja & Ibadan
23	Main One	Lagos
24	Winrock Nig Ltd	Lagos
25	Skymax Integrated Networks	Yola Maiduguri Damaturu Mubi
26	Zeta-Web Nig Ltd	Lagos
27	Platinum Index Data	Lagos
28	Content Oasis	FCT
29	Netfocus	Lagos
30	VPS	Lagos
31	Trefoil	Lagos

Table 33: Showing location of access providers

C. Installed Subscriber Capacity

In this category, Spectranet had the largest Installed capacity of **490,000mbps** while VDT had 25,000mbps and Mobitel followed by 20,000mbps in the Installed capacity among the Operators that were analyzed. Priority Communications had the lowest installed subscriber capacity which was 2mbps

	c. Installed Subscriber Capacity	
1	Is Internet Solutions Limited	545 links
2	Center Point Network Ltd	14MBPS
3	Winrock Nig Ltd	494
4	Trakatel	20 Mbps/25Mbps
5	Centerpoint Technologies	1mbps
6	Cbc Emea	155mbps
7	Cobranet Limited	5Gbps
8	Coscharis Technologies Ltd	35
9	Electronic Connections Ltd	105mbps
10	Entouche Networks Nigeria Limited	250mbps
11	Ekovolt Telco Limited	400mbps
12	Futurecom Limited	155Mbps
13	ICSL	1Gbits
14	IPNX	155,000
15	Spectranet	490,000
16	Mobitel	20,000
17	Netaccess	38mbps
18	Tizeti	9,778
19	Trefoil	20MBPS
20	Skymax	1500MBPS
21	VDT Communications Limited	Enterprise=10,000mbps, retail=25,000mbps
22	Priority Communication	2MBPS
23	Platinum Index Data	70MBPS
24	VPS Technologies Limited	30MBPS
25	Winrock Nigeria Limited	494mbps

Table 34: Showing Installed Subscriber Capacity

d. Operator Bandwidth Capacity

This category recorded operator bandwidth capacity with Spectrant leading the pack with 45,800 mbps bandwidth capacity. IS Internet Limited had 8060mbps bandwidth capacity, followed by VDT recording 2760 Mbps.

NOS	(d) Bandwidth Capacity	
1	Coscharis Technologies Ltd	1 STM (155MBPS)
2	Center Point Network Ltd	20MBPS
3	Cbc Emea	155mbps
4	Cobranet Limited	2.7Gbps
5	Trakatel	45MBPS
6	Entouche Networks Nigeria Limited	10mb
7	Ekovolt Telco Limited	800MBPS
8	Electronic Connections Ltd	155/155 MBPS
9	First Wave Networks	20Mbps
10	Futurecom Limited	155Mbps
11	Hyperia	1344Mbps
12	ICSL	0.755G bits
13	Skymax	220MBPS
14	Ipnx Nigeria Limited	7.5Gbps
15	Is Internet Solutions Limited	8060 Mbps
16	Juniper Solutions Limited	STM1
17	Main One	1.96T
18	Mobitel	45Mbps
19	Netaccess	45Mbps
20	Netfocus	4Mbps
21	Sea Net Technologies	IMB/256 (CR)
22	Tizeti	2GBPS
23	Trefoil	20MBPS
24	VDT Communications Limited	2760Mbps
25	Winrock Nigeria Limited	930mbps
26	Skymax	220MBPS
27	Zeta-Web	140 Megs
28	Priority Communications Ltd	2MBPS
29	Platinum Index Data	56MBPS
30	VPS Technologies Limited	30MBPS
31	Spectranet Ltd	45,800 mbps

Table 35: Distribution of Operators with Corresponding Bandwidth Capacity.

e. Access Speed Being Offered:

As at December 2018, the access speed offered by operators ranged from 250kbps to about 500mbps. Some operators like Layer 3, are able to grant unlimited speeds as shown in table 35 below, depending on the payment plan of the subscriber.

From the analysis of the access speed being offered by ISPs, Layer 3 has unlimited access speed while VDT ranged from 512kbps to 425mbps access speed. None of the other operators recorded access speeds of 1Gbps; the most common access speeds delivered to subscribers in the category ranged between 1mbps - 620mbps but less than 1GB. Operators like Cobranet, IS Internet Solutions, Juniper, Steam Broadcasting and Hyperia fall under this group; while Entouche networks provided access speeds in kbps. It should also be noted that some operators provided access speed ranging from kbps – Mbps such as VDT Communications, Steam Broadcasting and Netaccess. This analysis was based on the operators that made submission in this category.

NOS	(e) Access Speed(s) Being Offered	
1	CBC Emea	155mbps
2	Cobranet Limited	220Mbps
3	Entouche networks Nigeria Limited	1024kbps
4	Ekovolt Telco Limited	2mbps to 10mbps
5	Electronic Connections Ltd	10mbps and above
6	Is Internet Solutions Limited	256KBPS-2440MBPS
7	First Wave Networks	0-1mbps, 1-5mbps, 5-10mbps
8	Futurecom Limited	1Mbps, 2mbps,5mbps, 10mbps
9	Priority Communications Ltd	2MBPS
10	Trakatel	1MBPS, 2MBPS,5MBPS
11	Hyperia	1MB - 155MB
12	ICSL	1mb-2mbPS
13	Is Internet Solutions Limited	256Kbps - 620 Mbps
14	Juniper Solutions Limited	1MB-30Mbps
15	Layer 3	Unlimited
16	Mobitel	1MB-5MB
17	Netaccess	256/512/1.0mbps
18	Steam Broadcasting	256Kbps - 50Mbps
19	Tizeti	3 - 5Mbps
20	Trefoil	20MBPS
21	VDT Communications Limited	512Kbps, 425mbps
22	Wavetek	49mbps
23	Platinum Index Data	58MBPS
24	Skymax	2MBPS 3MBPS 6MBPS 10MBPS
25	VPS Technologies Limited	30MBPS

Table 36: Access Speed Offered

SUBSCRIBER & SERVICES DATA:

a. Total Wired Internet Subscriptions

In December 2018, a comparative analysis of the submissions made in this category showed a huge decrease; in 2017, the total wired internet subscriptions submitted was 407 while the total wired

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

Submitted in 2018 was 151 showing a decrease of 62% from 2017 to 2018. Winrock Nigeria Limited recorded the highest figure with 67 which accounted for 44% of wired internet in 2018, followed by CBC Emea with **45** subscriptions in total, while VPS recorded the lowest number of wired internet subscriptions with four (4) subscriptions

NOS	(a) Number of Users Per Fixed [Wired] Internet Subscriptions		
1		**2017**	2018
2	Vodacom Business Africa Nigeria Limited	164	
3	Electronic Connections Ltd	90	
4	Ekovolt Telco Limited	30	
5	CBC Emea		45
6	Layer 3	48	
7	Hotspot Network	10	
8	Hyperia	4	4
9	Platinum Index Data		33
10	VPS Technologies limited	2	2
11	Winrock Nigeria Limited	61	67
	Total	**407**	151

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

Average Number of Users per Fixed Internet Subscriptions (Broadband)

Fixed broadband subscriptions increased from 196,826 subscribers in December, 2017 to 197,839 subscribers in December 2018, indicating an increase of 0.5%. Spectranet Ltd constituted 99% of the 2018 figure, the highest of all the Operators in this category. Trefoil and Netfocus recorded the least with 1 and 2 subscriptions respectively, contributing 0.16% and 0.33% respectively to the total.

NO	(b) Average Number of Users Per Fixed Internet Subscriptions [Broadband]		
1		**2017**	**2018**
2	IpNX Nigeria Limited	5	
3	Cobranet limited	250	99
4	CBC Emea	28	45
5	Deston	3	
6	Ekovolt Telco Limited	36	
7	E-gate	4	
8	First Wave Networks	1	

9	Gulf Technologies Networks	2	
10	Hotspot Network	9	
11	Netfocus	1	2
12	GTS	30	
13	Cyberspace Limited	754	
14	Layer 3	48	
15	Smartcity Broadband	105	
16	Winrock		67
17	ICSL		330
18	Trefoil		1
19	Platinum Index Data		33
20	Wavetek		3
21	Spectranet Limited	195548	1972248249
22	Hyperia	2	10
	Total	**196826**	**197839**

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

b. *DSL Internet Subscriptions*

In this category, only KHAL communications made submissions with 69 DSL internet subscriptions in 2017. There were no submissions in 2018 to make comparison with.

NOS	DSL Internet Subscriptions		
1		**2017**	**2018**
2	KHAL	69	
	Total	69	

Table 38: Showing the DSL internet subscription for 2018

c. *Fiber to Home/Building*

The analysis of this category shows that Fiber to Home subscriptions recorded 252 subscribers in December 2018, an **increase of 24%** from 203 in December 2017.

In December 2018, Cobranet Nigeria Limited recorded a total of 99 which accounted for 39% of the subscriptions in this category while Platinum Index data had the least subscription of 8 accounting for 3% of the subscriptions in this category.

NOS	4: Fibre to the Home/Building		
1		**2017**	**2018**
2	KHAL Comms	18	
3	Hotspot Networks	4	
4	Cobranet Limited	100	99
5	Winrock	45	45
6	Layer 3	36	
7	Winrock		45
8	Platinum Index Data		8
9	Content Oasis		55
	Total	**203**	**252**

Table 39: Showing the Fibre to the Home/Building

d. Total Wireless Broadband Subscriptions

Total Wireless broadband subscriptions increased from 195,915 connections in December, 2017 to 199,232 in December 2018. In this category, Spectranet had the highest number with 197,249. An analysis of this category shows that the Total Wireless Broadband subscriptions increased by 0.6%.

NOS	6: Total Wireless Broadband Subscriptions		
1		**2017**	**2018**
2	Electronic Connections		105
3	Cobranet		1,845
4	Netfocus		2
5	Center Point Networks Ltd		12
6	Trakatel		19
7	Spectranet Nig Ltd	195,915	197,249
8	Swiftalk		
9	Hyperia		
	Total	195,915	199,232

Table 40: Showing total wireless broadband subscriptions

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

In December 2017, the average number of users per fixed Wireless broadband subscriptions was 2,159, while that for December, 2018 was 6,874. There was a 218% increase in the average number of users per fixed wireless broadband subscriptions from December, 2017 to December, 2018.

NO	(a) Average Number of Users per Fixed Wireless Broadband Subscriptions		
1		**2017**	**2018**
2	Entouche Networks	**12**	**10**
3	IDS Africa Limited	**5**	
5	IS Internet Solutions Limited	5	
6	Juniper Solutions Limited	95	94
7	NETCOM AFRICA	210	
8	Cobranet	1,683	
9	Interra Networks	4	
10	Steam Broadcasting	15	
11	Winrock	45	22
12	ICSL		40
13	Hyperia	55	
14	Winrock Nig Ltd		22
15	Tizeti		6,475
16	Platinum Index Data		10
17	Ekovolt		12
18	Skymax		150
19	Futurecom Ltd	36	37
20	Netfocus	2	2
21	Wavetek	30	
	Total	**2,159**	**6,874**

Table 41: *Showing* **Average Number of Users per Fixed Wireless Broadband Subscriptions**

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

During the period under review, the total number of terrestrial subscriptions reduced by 32% considerably from 4,547 as at December, 2017 to 3065 in December 2018. A comparative analysis of the operators that made submissions showed that only Seven (7) operators made input in this group, whereas in 2017, there were Nine (9) submissions made by operators.

NOS	Total Number of Terrestial Subscriptions (Fixed and Fixed Wireless)		
1		2017	2018
2	KHAL Comms	108	
3	IDS Africa	5	
4	IS Internet Solutions Limited	293	457
5	Juniper Solutions Limited	95	94
6	Netcom Africa	210	
7	Cobranet	1783	1944
8	ICSL		330
9	Trefoil		1
10	Skymax		220
11	Trakatel	20	19
12	Steam Broadcasting	362	
13	Vodacom Business Africa Nigeria Limited	1671	
	TOTAL	4547	3065

Table 42: **Total Number of Terrestial Subscriptions (Fixed and Fixed Wireless)**

g. Total Number of Satellite Subscriptions

Total number of Satellite subscriptions also reduced over the period from 3,106 in December, 2017 to 1,602 in 2018, indicating a decrease of 48%, this analysis was based on the submissions by seven (7) operators in this category.

NOS	Total number of Satellite Internet Subscriptions		
1		2017	2018
2	Content Oasis		3
3	Juniper Solutions Limited	1	
4	Skymax Integrated Networks Ltd		10
5	Trefoil		1
6	IS Internet Solutions Limited	130	88
7	Cyberspace Limited		
8	Sea Net Technologies Limited		
9	Trefoil Networks		
10	Steam Broadcasting	781	
11	Hyperia	1509	1500
12	Vodacom Business Africa Nigeria Limited	109	
13	Zeba-web	295	
14	Zinox	281	
	Total	**3106**	**1602**

Table 43: Indicating the total Number of Internet subscription in 2018

h. Number of Internet Users per Region

In December, 2018, the total number of internet users in the six geopolitical zones for ISP's was **211636, a 0.08% decrease from the 211,820 recorded as at December, 2017.** The analysis of the breakdown is as follows:

a. **South West** had the highest number of users in 2017, with **161,056 or 76%** of the total subscriptions.
b. **South-South had 5%** with **11,025** users;
c. **North West had 0.3%** with **685** users;
d. **North-East had 0.29%** with **630** users;
e. **North Central** had **37,757** users which indicates **18%** of the total number of users,
f. South East had 0.22%**,** which was the least of all the regions with **483** users. A comparative analysis of the users per region showed that, there were no improvement per region in the internet users and also, most operators did not respond in this category, which accounted for the overall decrease in comparison to 2017 internet users per region.

i. Number of Users by Internet Speed

In December 2018, out of a total of 226,349 users, 326 **users** fell in the **0-2Mbps** category, representing **0.14%** of the total user base**; 8,826** users subscribed to speeds between **256Kbps-2Mbps**, representing **3.9%** of the total user base; **10,850** users between **2–10Mbps,** representing **4.7%** of the total user base; & **206,347** subscriptions in the **10mbps & above** category, which makes **91%** of the total.

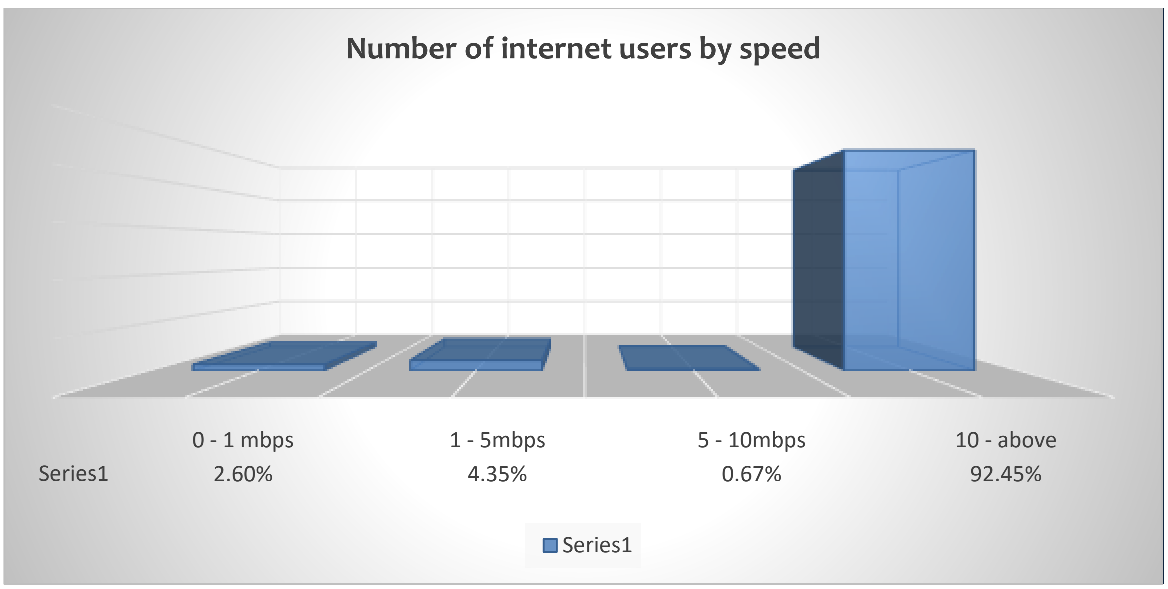

Figure 55: Speed of Internet as delivered to consumers

j. Subscriber Matrix (Internet Use)

As at December, 2018, the following was recorded for internet use: Government- 1.14%; NGO- 0.16%; Multinational- 0.06%; Schools & Research Institutions- 0.19%; Residential/Individual –89.94%; Private Business – 3.132%; Cybercafés – 0.139%; Hospitals & Medical Research – 0.06%; Public Libraries – 0.0001%; Military – 0.0018%; Others – 5.13%.

Figure 56: Subscriber Matrix that use the Internet.

G. *FINANCIAL DATA:*

a. Revenue

As at December 2018, a total Revenue of 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) was generated, 23.3% increase from the N35, 525,139,842.00 (Thirty Five Billion, Five Hundred and Twenty Five Million, One-Hundred and Thirty Nine Thousand, Eight hundred and Forty-Two Naira that was generated in 2017. Spectranet, Main One, Infobip and Tizeti had 24%, 22%, 21% and 9% respectively of the total revenue, making them the biggest Revenue generating ISP's in 2018.

Conversely, Entouche Networks had the least revenue in 2018, with N3, 905,000 (Three Million Nine Hundred and Five Thousand Naira Only) only, or 0.005% of the total revenue generated by ISP's in 2018.

b. *Operating Cost*

The value of Operating Cost increased from **=N= 36,861,669,324.38 (Thirty Six Billion, Eight Hundred and Sixty One Million, Six and sixty Nine Thousand, Three Hundred and Twenty Four Naira Thirty Eight Kobo Only) in 2018 to =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. This indicates a decrease of 4511%. This is shown in Fig 5 below:**

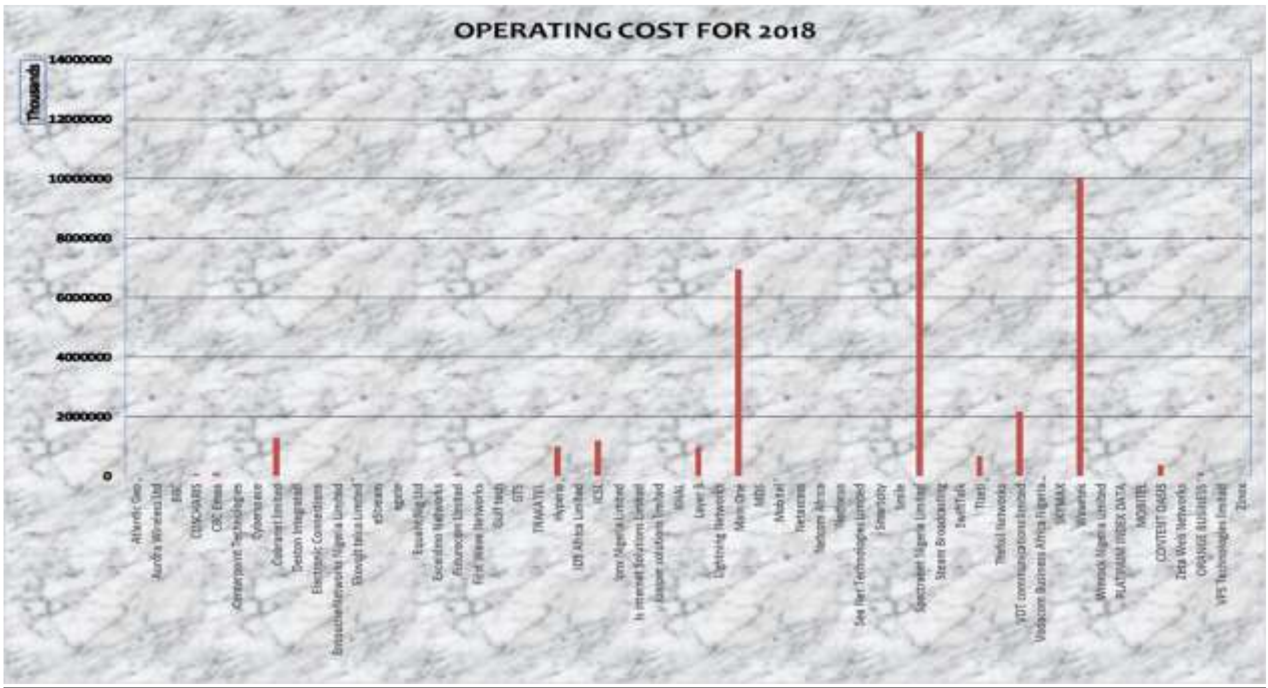

Figure 57: Operating Cost by ISP's 2018

From the analysis of the submissions made, **Spectranet** recorded the highest operating cost in 2018, with **N11,590,000,000.00** while **wavetek** and **Mainone** were second and third with **N10,000,000,000** and **N2,162,740,533.08** respectively. The three operators together make up **64%** of the total operating cost for the 2018 financial year. The lowest in Operating Costs for the 2018 financial year came from IPNX Limited with **N2, 919,000,** making 0.007% of the total figure.

c. *Staff Profile:*

As at December 2018, the number of staff of ISP operators increased to **3136** from 2,084 recorded in 2017. This showed a significant increase of 72% in the work force. There was a total of **2211 male** and **683 female** staff. A further breakdown reveals that **2,894 of the work force are Nigerians**, while **expatriates were 242.**

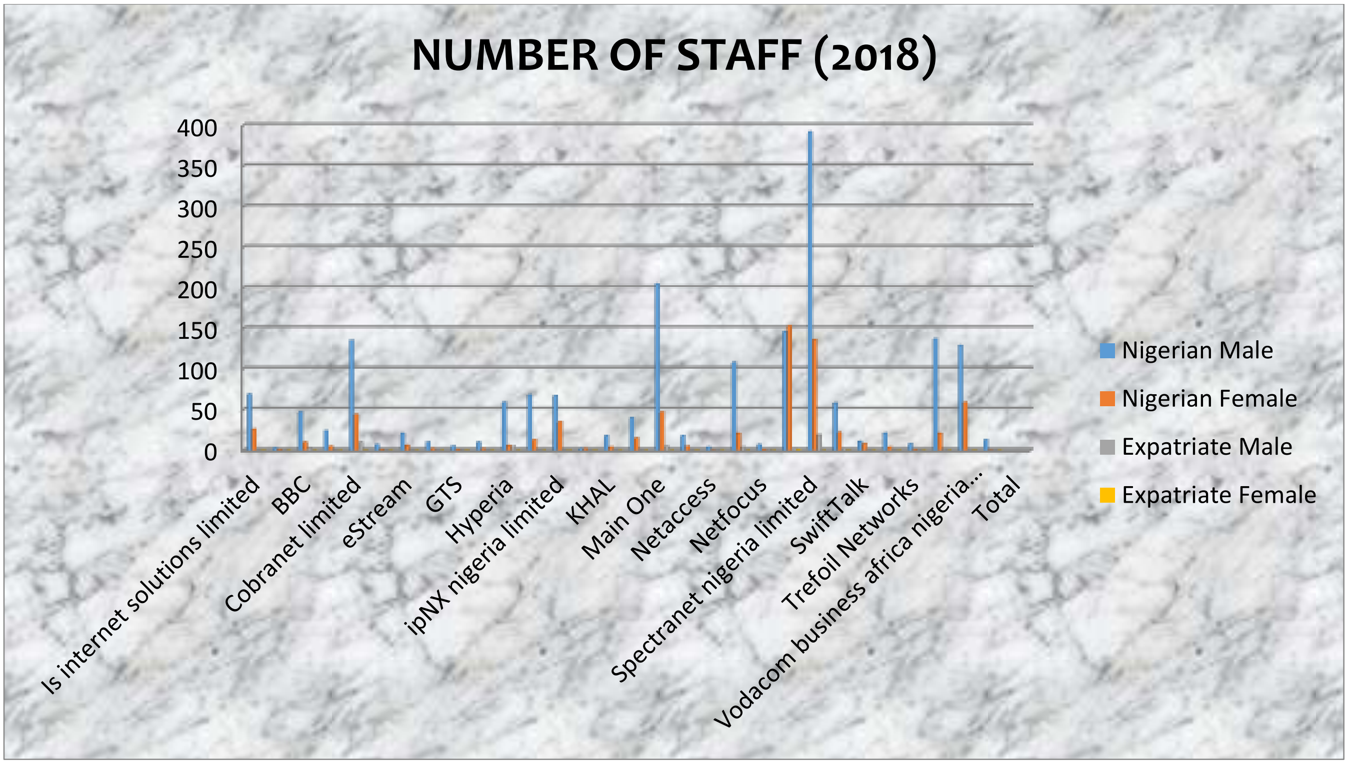

Figure 58: Staff Profile as at December, 2018

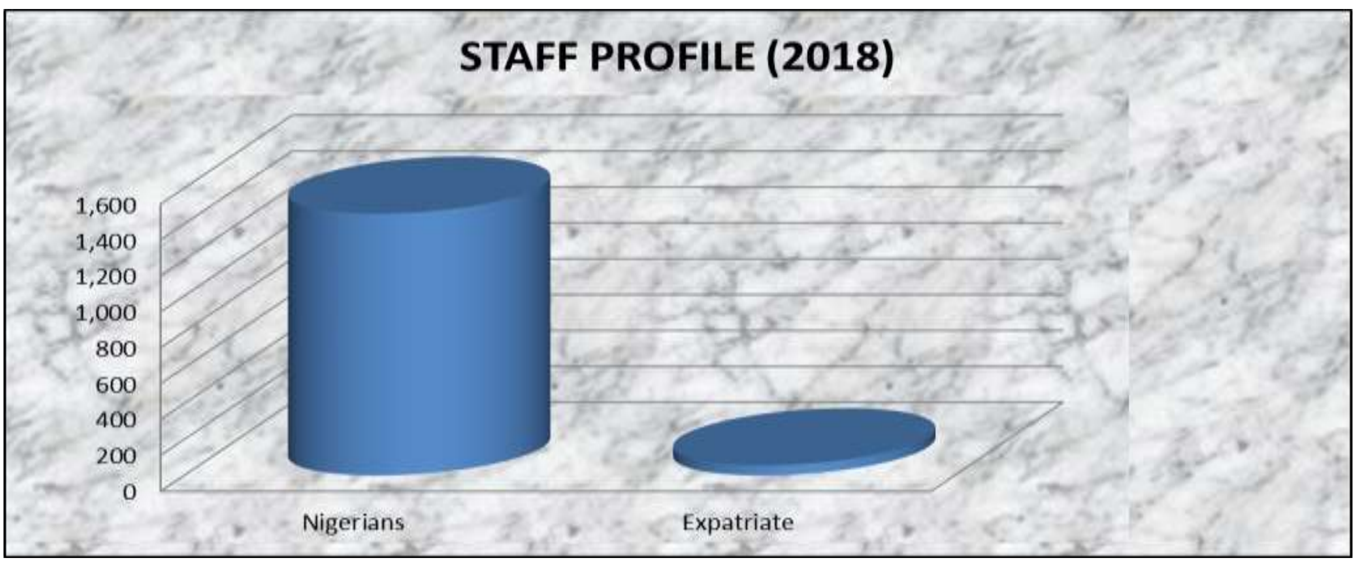

Figure 57: Staff Profile as at December, 2018

Chapter Six

SUBSCRIBER / NETWORK DATA ANALYSIS – OTHER OPERATORS

❖ ***Network Data:***

The Commission received a total of Twenty (20) submissions from Licensees of the Commission for the 2018 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 Fibre License Operators.

The number of submissions received decreased from Forty Three (43) in Year 2017 to twenty (20) as at Year 2018 signifying a 53% decrease 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.	**Interconnect Clearing House Nigeria Limited**	**Interconnect, Co-location, MNP**
2.	**IHS NIG LIMITED**	**Collocation, Managed Services and Deployment**
3.	**INT Towers Limited**	**Collocation, Managed Services and Deployment**
4.	**IHS TOWERS NIG LIMITED**	**Infrastructure Service Provider**
5.	**Medallion Communications Ltd**	**Interconnect Clearing House**
6.	**Solid Interconnectivity Services Limited**	**Interconnectivity Services**
7.	**TxTlight Power Solutions Limited**	**Value Added Service**
8.	**ALPHA TECHNOLOGIES LIMITED**	**Special Numbering Service**
9.	**COLOPLUS WORLDWIDE SERVICES LIMITED**	**Collocation Services**
10.	**NZMOBILE NIGERIA LIMITED**	**Value Added Service**
11.	**WORLDWIDE INDUSTRIAL VENTURES LIMITED**	**Colocation and Infrastructure Sharing Service.**
12	**ISOX Technologies Ltd**	**Value Added Service**

13	**KIRUSA NIGERIA LIMITED**	**Value Added Service**
14	**Nok360 Global Limited**	**Value Added Service**
15	**Ip Int. Solution Services Limited**	**Value Added Service**
16	**Genieng Communications Ltd**	**Value Added Service**
17	**Phase 3 Telecom Limited**	**National Long Distance**
18	**ATC Nigeria Wireless Infrastructure Limited**	**Infrastructure Sharing & Collocation Services**
19	**Neptune Global Services Limited**	**Auto Vehicle Tracking Service**
20	**Vodacom Business Africa Nigeria Limited**	**National Driving License**

Table 44: 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, Automated Vehicle Tracking Services (AVTS) and Collocation and Infrastructure service categories top the list of responsive licensees received in this Category. VAS licensees account for 35% of responses while AVTS licenses account for 5% while colocation & Infrastructure licensees account for 30% and other licensees account for 30%.This distribution is shown in the pie chart below

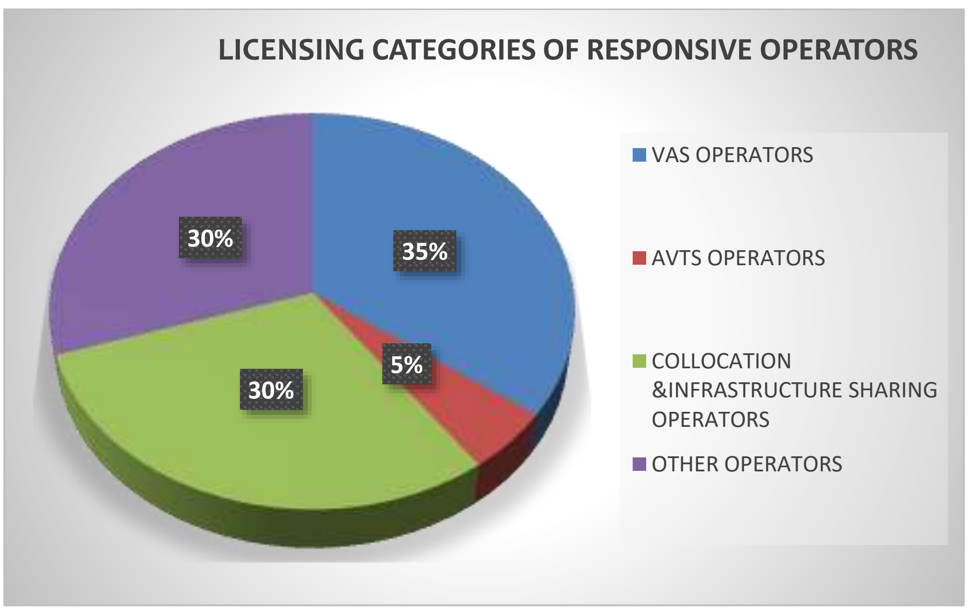

Figure 58: Distribution of Licensing Categories of Responsive Operators

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

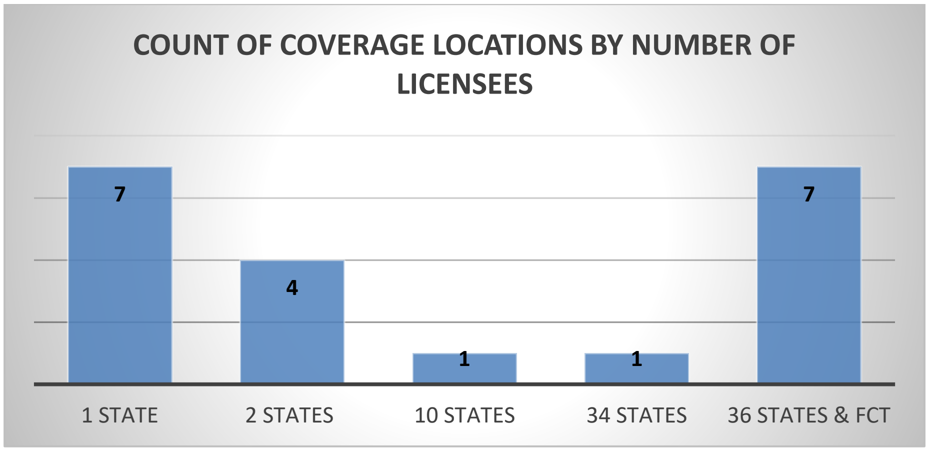

Figure 59: Count of Coverage Locations by Number of Licensees.

Infrastructure Deployment:

i. Long Distance Cable Network (km);

As at December, 2018 the total Long Distance cable deployed by Operators in this category was 11,395km. Interconnect Clearing House Ltd in the Country recorded 3,515km as at the end of year 2018. Phase 3 Telecom reported a long distance outlay of 6,000km in year 2018 while Broadbased Communications Ltd reported 1,375km build out as recorded in Year 2017.

ii. Fibre Optic Network (km);

As at December, 2018 the total Fibre Optic Network deployed (leased and owned) by Other Operators was Twenty Three thousand Eight Hundred and Sixty point 85Kilometers of Fibre (23,860.85)km as against Twenty Three thousand Nine hundred and sixty seven point seventy five kilometers of fiber (23,967.75km) recorded in Year 2017. This is a 0.45% decrease of the fibre optic outlay of Year 2017. A breakdown of the composition of the fibre deployment indicates that 13,344 km was **leased** by Vodacom Business Africa Ltd, Broadbased Communications Ltd deployed 2,020.45km of fibre, Backbone Connectivity Network deployed 222km while Defcom Technologies Ltd, Interconnect Clearing House Limited, Alpha Technologies Ltd deployed and Txtlight Power Solutions Limited deployed 30km, 28km, 7km and 0.5km 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:

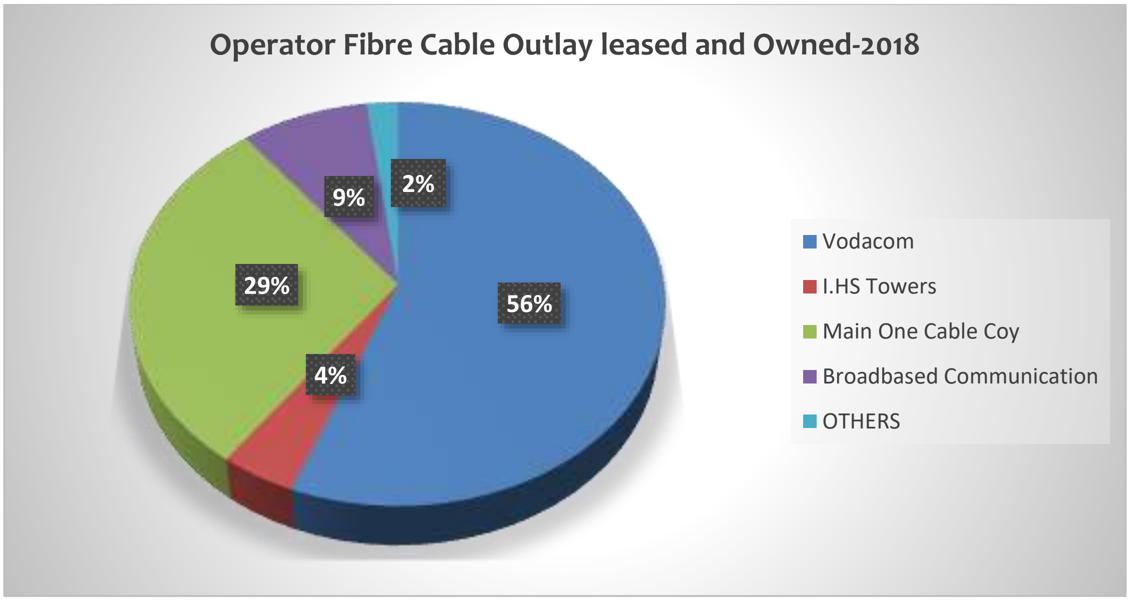

Figure 60: Fibre Deployment by Other Operators (report inclusive from Year 2016-2018 submissions)

iii. Number of Trunks in use (E1):

The total number of E1 in use by Operators as at the end of Year 2018 Two thousand five Hundred and Fifty Two E1 (2,552) as against Six Thousand Seven Hundred and Fourteen (6,714) E1`s in Year 2017. Interconnect Clearing deployed 1,323 E1's, Alpha Technologies deployed 60 E1, while solid Interconnectivity services deployed 902 E1.Geneing Communications Ltd deployed 88 E1 while Medallion Communications Ltd and Kirusa Nigeria Limited 88 and 2 E1`s respectively.

This is as shown in the figure below:

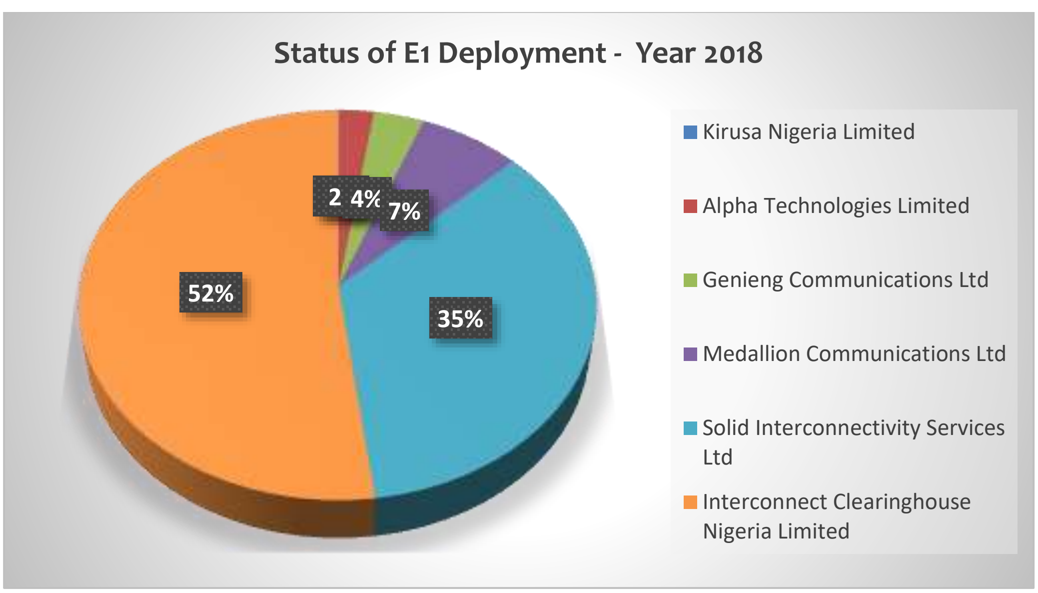

Figure 61: No. of Trunks in use (E1)

Infrastructure Deployment		
Type of Infrastructure/Transmission Facility	***Number of Trunks in use (E1)***	
	2017	***2018***
Kirusa Nigeria Limited	***8***	***2***
Alpha Technologies Limited	***55***	***60***
Genieng Communications Ltd	88	88
Medallion Communications Ltd	***176***	***176***
Solid Interconnectivity Services Ltd	***902***	***902***
Interconnect Clearinghouse Nigeria Limited	***4123***	***1323***

Table46: No. of Trunks in use (E1)

This implies Interconnect Clearing House owns 52% of the E1 Trunks in Use as at Year 2018 in this category of the market segment based on submissions.

iv. Number of Gateways:

The total Number of Gateways in Use as at year 2018 was Seventy Nine (79). Elseji Communications limited accounted for the significant number of the Gateways based on Year 2017 Submissions. Interconnect Clearing House and Kirusa Nigeria Limited accounted for 18 and 17 Gateways respectively.

Infrastructure Deployment		
Type of Infrastructure/Transmission Facility	***Number of Gateways in use***	
	2017	***2018***
Elseji Nigeria Limited	***40***	***40***
Solid Interconnectivity Services Ltd	***2***	***2***
Medallion Communications Ltd	***2***	***2***
Kirusa Nigeria Limited	***11***	***17***
Interconnect Clearinghouse Nigeria Limited	***16***	***18***
Total	71	79

Table 47: Number of Gate Ways-2018 (Elseji submissions were repeated for Year 2017)

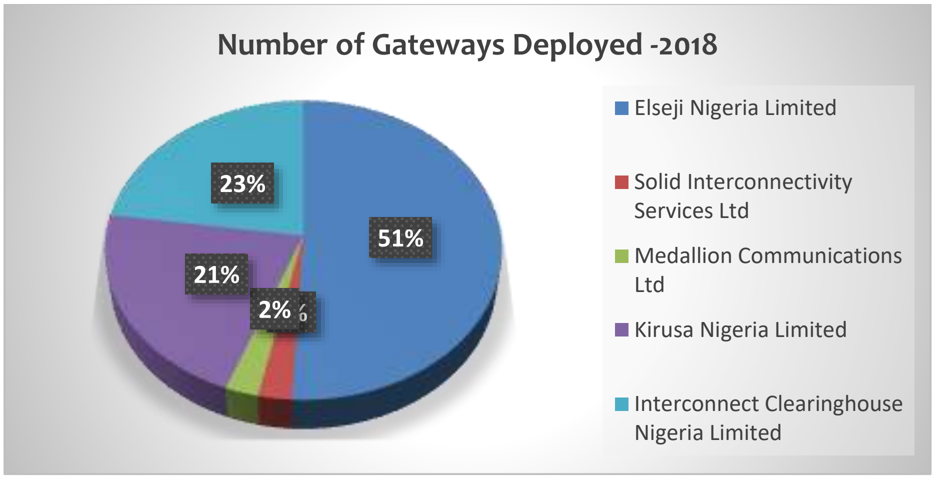

Figure 62; Number of Gateways deployed-2018

4b. ***Location of Mast and Towers:***

There was a total Twenty One Thousand Four Hundred and Seventy One (21,471) BTS sites as at Year 2018 against the sum of Twenty Two Thousand Two Hundred and forty-five BTS sites reported (22,245) in year 2017.

This indicates a slight decrease of 3.5% in the number of base stations reported in Year 2017 compared to Year 2018. INT Towers Limited, IHS Nig Limited, IHS Towers Nig Limited reported decreased counts of towers in Year 2018 compared to Year 2017 while American Towers reported an increase in the count of Towers in yaer 2018 aggsinst 2017 as shown in the table below.

There were Eleven responsive (11) responsive Licensees in Year 2018 as against Nine (9) in year 2017 with two (2) licensees were repeated from Year 2016. These include IHS Nigeria Limited, IHS Towers Nigeria Limited, INT Towers Nigeria Limited, Communication Towers Nigeria, Vodacom Business Solution, Communication Towers, Colopus Worlwide and Tryphena &Tryphosa Limited. Specific Tools and Techniques Limited and Hot Spot Towers Asset was repeated from Year 2016.

Please find below a breakdown of the BTS sites per operator:

S/N	Operator	No. of BTS Site (Year 2017)	No. of BTS Site (Year 2018)
1.	INT Towers Limited	10,098	9,772
2.	IHS Nigeria Limted	5,975	5,858
3.	IHS Towers Nig Limited	1,213	874
4.	American Towers	4,755	4,761

5.	Hot Spot Tower Asset	142	142
6.	Communication Towers Nigeria	33	33
7.	Tryphena &Tryphosa Nig Limited	8	8
8.	Worldwide Industrial Ventures Limited	8	8
9.	Vodacom Business Africa	6	6
10.	Coloplus Wordwide Services Limited	6	6
11.	Specific Tools and Techniques Ltd	1	1
12	Medallion Communications	-	
	Total	22,245	21,471

Table 47: Breakdown of Base Transmitting Station (BTS) (Specific Tools and Tech. and Hot Spot submitted Year2016 data)

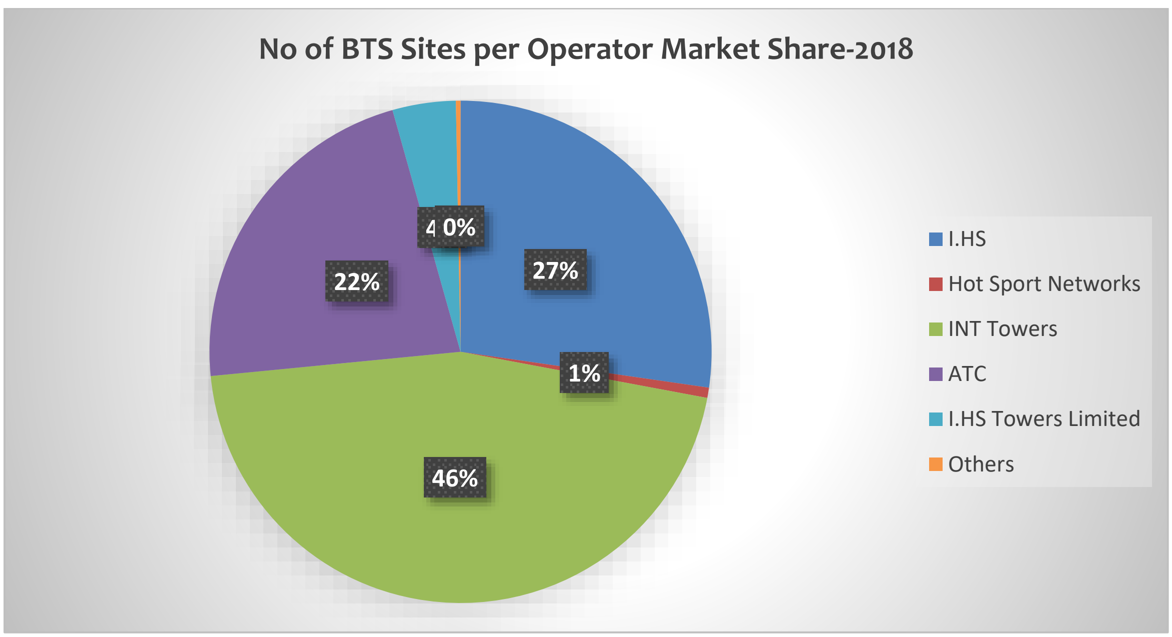

Figure 63: Graphical representation of BTS Market Share (Submissions from Year 2017-2018)

The figure above illustrates that the IHS related consortium owns approximately 78% of the BTS sites and have an apparent dominance showing in this market segment.

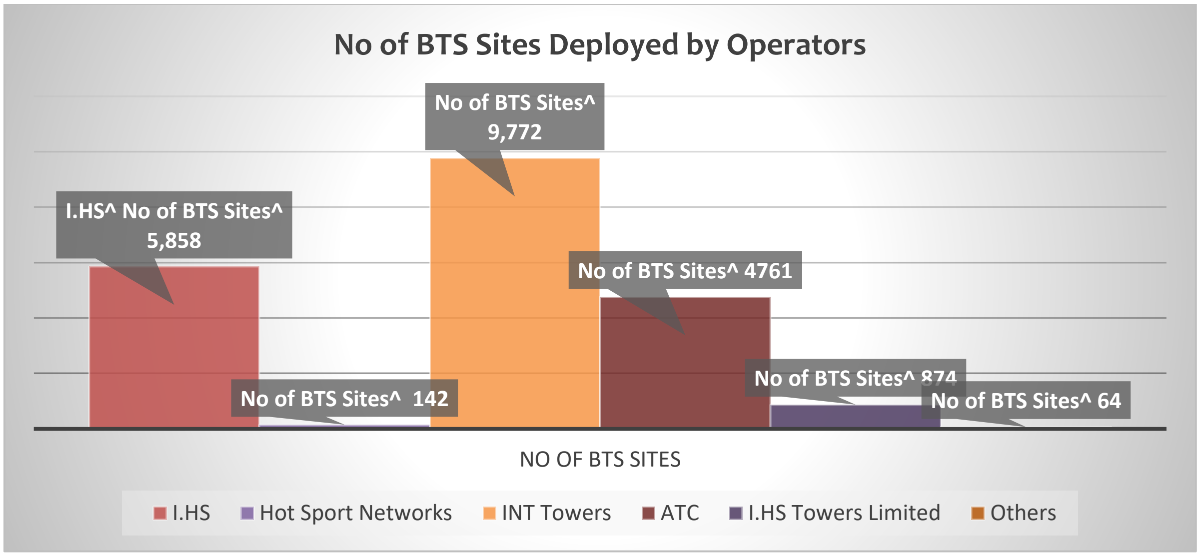

Figure 64: No of BTS Site Deployment across select Operators. (Submissions from Year 2018)

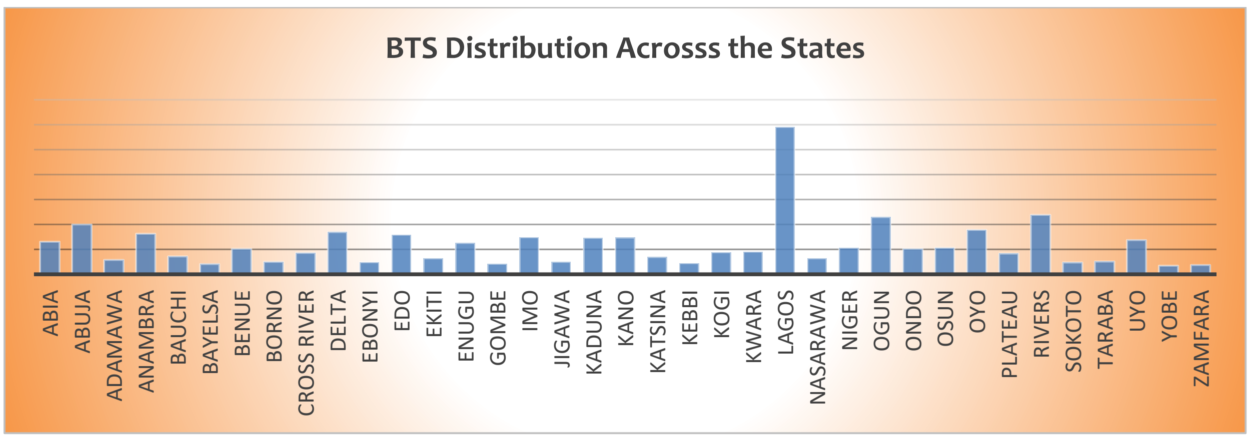

Figure 65: State by State Graphical Distribution of BTS in Nigeria (Other Operators)

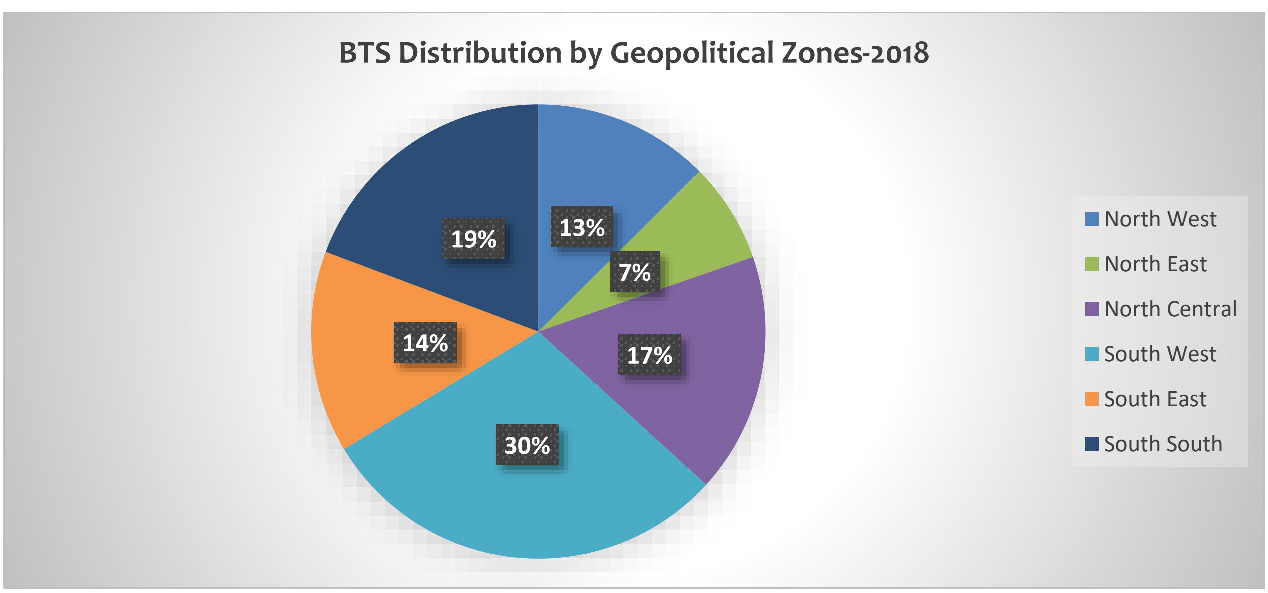

Figure 66: BTS Distribution by Geopolitical Zones

The South West geopolitical zone has the highest concentration of BTS sites at 30% followed by the South-South and North Central Zones at 19% and 17 % respectively. The North East has the least number of BTS sites at 6%. The situation in the North East is attributable to the activities of insurgency in that geopolitical area that destroyed some BTS sites. Though the situation in the North East has improved build out apparently has been understandably slow.

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.

Financial Data:

The total revenue generated by Operators other than GSM, Fixed or ISP Operators in Year 2018 was Four Hundred and Twelve Billion Seven Hundred and Sixty Nine Million Five Hundred and Eighty Five Thousand Nine Hundred and Eighty Six Naira (***#412,769,585,986) as against*** Three Hundred and Forty Nine Billion Two Hundred and Twenty Million One hundred and Forty Seven Thousand One Hundred and Eighty Three Naira Only (N***349, 220,147,183) in Year 2017.*** This indicates an 18.2% increase in the revenue recorded in Year 2018 3.2% percentage points over the 15% increase of revenue of year 2016 in Year 2017.

Revenue:	***As at Dec 2018***	
	2017	***2018***
Txtlight power solutions limited	***1,168,035,774***	***2,983,350,056***
Worldwide Industrial ventures Limited	***541,872,902***	*267,329,984*
NZMobile Nigeria Limited	***678,410,000***	*498,860,000*
Coloplus World Services Limited	***16,502,966***	
Alpha Technologies limited	***196,148,465***	*227,270,250*
Medallion Communication Limited	***2,000,000,000***	*328,600,000*
I.HS Towers Nigeria Limited	***22,892,000,000***	*22,255,000,000*
INT Towers Limited	***132,139,000,000***	*166,606,000,000*
I.HS Nigeria Limited	***99,375,000,000***	*120,574,000,000*
Interconnect Clearing House Limited	***799,730,000***	*564,950,000*
NOK360 Global Limited	***65,424,167***	*13,370,117*
Solid Interconnectivity Services Limited	***18,248,244***	*16,797,664*
Phase 3 Telecoms Limited	*2,246,000,000*	*2,470,600,000*
Ip Intergrated Solution Services Limited	*3,461,020,271*	*4,190,525,070*
Genieng Communications Limited	***13,021,000***	*13,021,000*
Kirusa Nigeria Limited	***531,578,394***	*373,856,844*
Isox Technologies Limited	***655,000***	*755,000*
ATC Nigeria Wireless	***71,778,000,000***	*79,844,000,000*
Neptune Global Services Limited	***14,500,000***	*15,300,000*
Vodacom Business Africa Limited	***11,285,000,000***	***11,526,000,000***
TOTAL	***349,220,147,183***	***412,769,585,986***

Table 48: Revenue Profile of Others` Operators

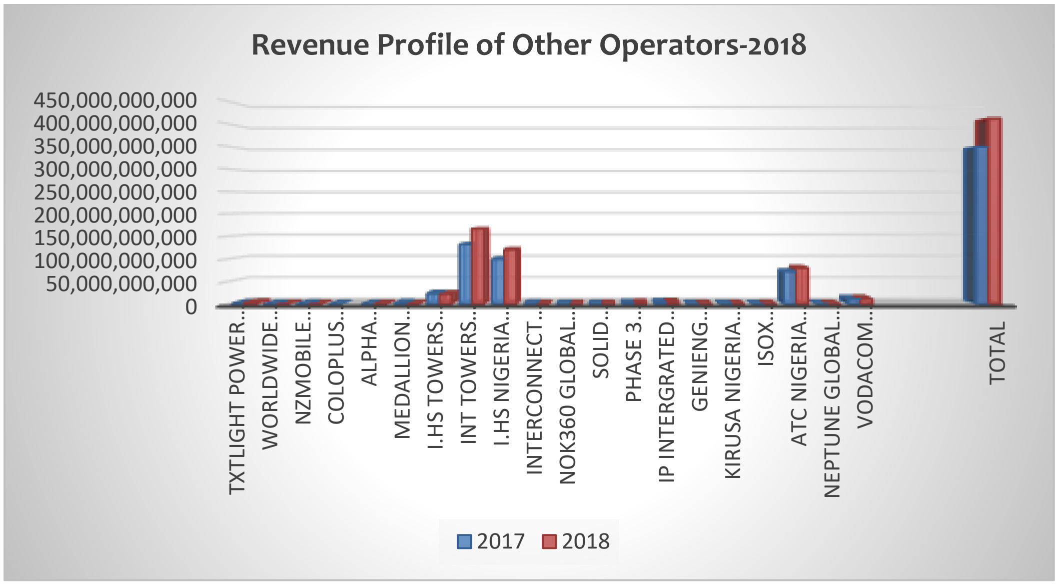

Figure 67: Revenue Profile of Others` Category of Operators for Years 2017-2018

Similarly, the total **operating cost** incurred by the Operators as at the end of December, 2018 was Two Hundred and Fifty Eight Billion and Two Million Six hundred and Five thousand Eight Hundred and Twenty Three Naira ***(#258,002,605,823) only*** as against Two Hundred and Thirty Seven Billion Three Hundred and Sixty Eight Million Eight Hundred and Thirty Four Thousand Three Hundred and Fifty Eight Naira ***(#237,368,834,358) only.*** This indicates an increase of 8.7% increase in the Operating cost of licensees recorded between Years 2017 and 2018.This increase in Operating Cost may be a consequence of the exchange rate effects in the industry.

	As at Dec 2018	
	2017	***2018***
Coloplus Worldwide services Limited	***14,694,694***	-
NZMobile Nigeria Limited	***605,920,000***	***437,420,000***
Phase 3 Telecom	***58,829,000,000***	***64,711,440,000***
Txtlight power solutions limited	***633,111,755***	*895,447,404*
I.HS Towers Nigeria Limited	***10,834,000,000***	***10,572,000,000***
Worldwide Industrial Ventures Limited	***379,561,701***	***167,555,499***
Alpha Technologies Limited	***112,346,682***	***203,145,845***
Solidinterconnectivity Services Limited	*15,532,713*	*69,974,495*
Genieng Communications Ltd	*178,535,000*	*239,872,000*
Ip Integrated Solutions Services Ltd	*2,938,983,037*	*3,255,009,639*
Nzmobile Nigeria Limited	*605,920,000*	*437,420,000*
Layer3 Limited	*1,098,664,174*	*977,882,091*
Kirusa Nigeria Limited	*419,900,000*	*453,630,199*
Medallion Communications Limited	***1,487,000,000***	***245,910,000***
INT Towers Limited	***66,113,000,000***	*78,707,000,000*

I.HS Nigeria Limited	*35,405,000,000*	*42,805,000,000*
Inteconnect Clearing House Limited	*597,650,000*	*674,010,000*
NOK360 Global Limited	***68,081,566***	***54,729,012***
IP INTERGRATED SOLUTION SERVICES LIMITED	*2,938,983,037*	*3,255,009,639*
Isox Technologies Limited	*4,900,000*	*5,700,000*
ATC Nigeria Wireless	*41,791,000,000*	*38,859,000,000*
Neptune Global Services Limited	***7,050,000***	***7,450,000***
Vodacom Business Africa Limited	*12,290,000,000*	*10,968,000,000*
TOTAL	***237,368,834,358***	***258,002,605,823***

Table 49: Operating Cost Profile of the Operators (Others)

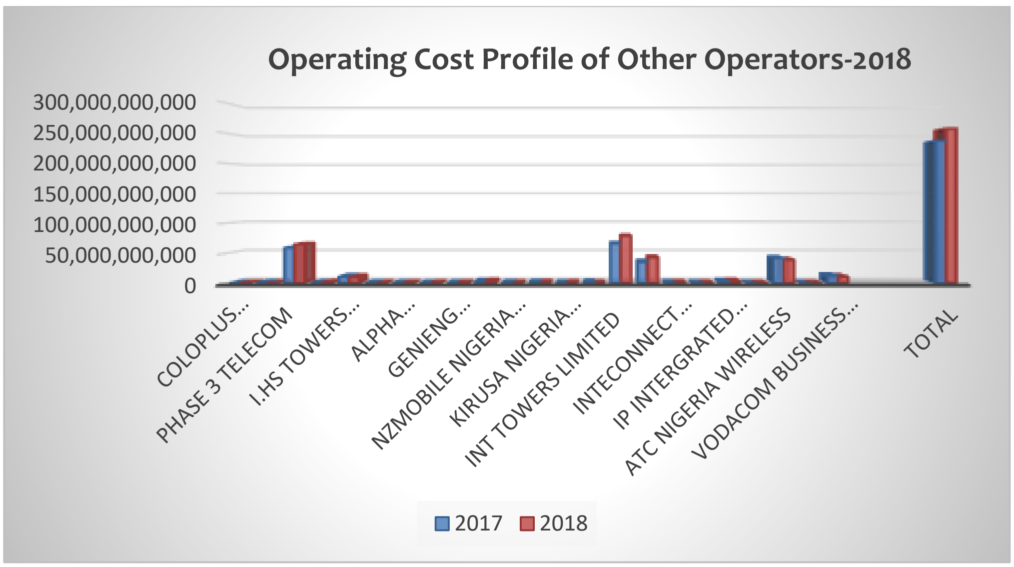

***Figure 68**: Operating Cost Profile of Others` Category of Operators for Years 2017 & 2018*

Investments for Year 2018

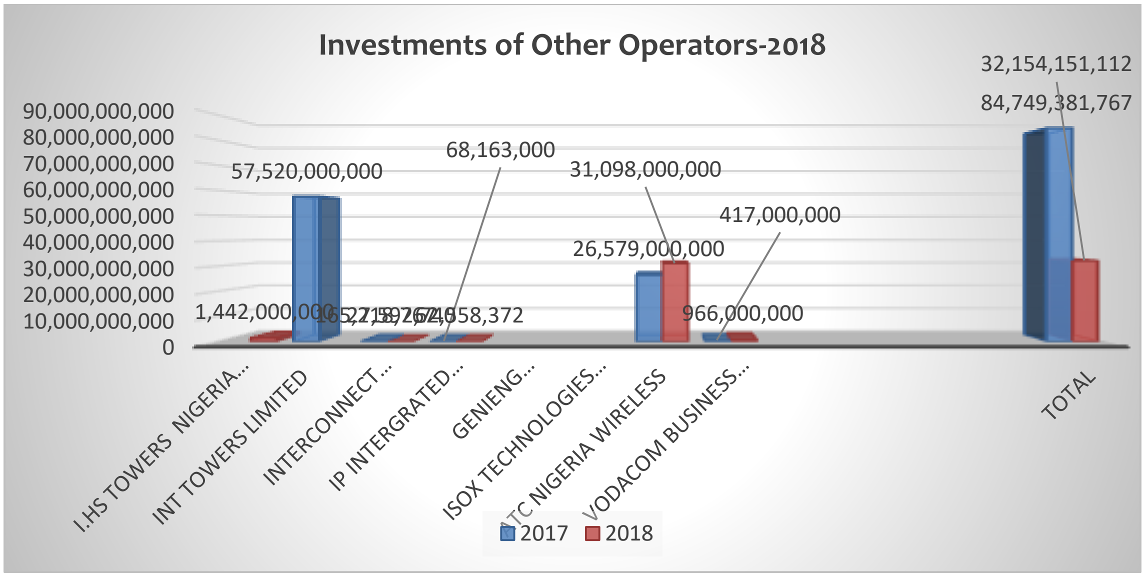

Figure 69: Investment figures Operators

TABLE Investments (=N= Million)	***As at Dec 2018***	
	2017	***2018***
I.HS Towers Nigeria Limited		*1,442,000,000*
INT Towers Limited	***57,520,000,000***	
Interconnect Clearing House Limited	***165,218,767***	***27,592,740***
Ip Intergrated Solution Services Limited	**68,163,000**	***62,558,372***
Genieng Communications Limited		
Isox Technologies Limited		
ATC Nigeria Wireless	**26,579,000,000**	***31,098,000,000***
Vodacom Business Africa	**417,000,000**	***966,000,000***
TOTAL	***84,749,381,767***	***32,154,151,112***

Table 50: Investments of Operators 2017-2018

The Investment figure of Operators decreased from ₦84.7 Billion to ₦32.1 Billion in Year 2018. This is a decrease of 62.1% of the investment figures recorded in Year 2017. The reason may be attributed to the lack of response from Operators like (INT Towers Limited) for 2018 figures as well as low level of responses from other Operators in the same market segment.

Staff Profile:

As at December, 2018 the total staff strength of Others` Operator Category stood at Two Thousand Three Hundred and Eighty-Eight (2,388) staff. The total staff strength of each operator as at the end of Year 2018 is as shown on the last column.

STAFF PROFILE AND COMPENSATION					
TABLE : Number of Staff (2018)					
	Nigerian		*Expatriate*		*Total*
	Male	*Female*	*Male*	*Female*	
Nok360 Global Limited	8	1	0	0	**9**
Genieng Communications Ltd	21	9	0	0	**30**
Ip Integrated Solutions Services Ltd	3	0	2	0	**5**
Phase3 Telecom Limited	187	10	1		**198**
Interconnect Clearing House	20	12	0	0	**32**
IHS Nigeria Limited	232	61	41	2	**336**
INT Towers Limited	643	126			**769**
IHS Towers Nigeria Limited	107	17	0	0	**124**
Medallion Communication Limited	20	12	1	0	**33**
Solid Interconnectivity Services Limit	6	5	0	0	**11**
Alpha Technologies Limited	25	5	0	0	**30**
Coloplus Wordwide Service Limited	10	2	0	0	**12**
Nzmobile Nigeria Limited	2	0	0	0	**2**
Worldwide Industry Ventures Ltd	16	1	0	0	**17**
Txtlight Power Solutions Limited	215	77	1	0	**293**
Layer3 Limited	50	16	0	0	**66**
Kirusa Nigeria Limited	4	2	0	0	**6**
Isox Technologies Limited	4	3	0	0	**7**
ATC Nigeria Wireless	167	33	6	1	**207**
Neptune Global Services limited	6	1			**7**
Vodacom Business Africa	136	57	1		**194**
TOTAL	1,882	450	53	3	2,388

Table 51: The distribution of staff per Operator

This Staff distribution consist of 1,935 Males and 453 Females. This implies that this category of Operators is still male dominated with 81% of staff are male while 19% are female.

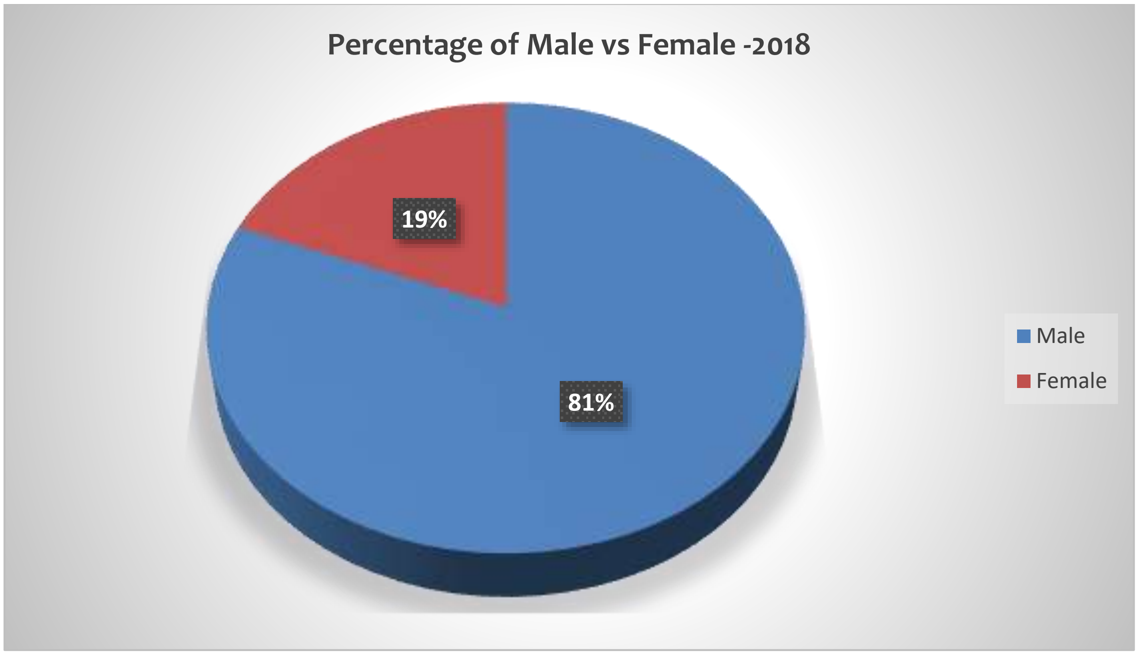

Figure 70: Gender Distribution of Other Operators 'Staff

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

There are also a total of Two Thousand Three Hundred and Thirty Two (2,332) Nigerian Staff as against Sixty Three (56) expatriates. This implies that the 98% of staff are Nigerians while 2% are expatriates. This is the same percentage distribution with the comparison of last year.

Figure 71: Expatriate Distribution of Operator Staff