FOURTH QUARTER SECTOR STATISTICS REPORT FOR THE FINANCIAL YEAR 2018/2019
(APRIL-JUNE 2019)

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Table of Contents

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

ADN African Digital Network Limited
B2B Business to Business
B2C Business to Customer
C2B Customer to Business
C2G Citizen to Government
DoS Denial-of-Service
DTT Digital Terrestrial Television
EASSy Eastern Africa Submarine Cable Systems
FY Financial Year
Gbps Gigabits per second
ICTs Information Communication Technologies
IP Internet Protocol
KE-CIRT/CC National Kenya Computer Incident Response Team/Coordination Centre
LION2 Lower Indian Ocean Network
Mbps Megabits per second
MMS Multimedia Service
MoU Minutes of Use
MVNO Mobile Virtual Network Operator
NCC National Cybersecurity Centre
OTT Over-The-Top
P2P Person to Person
SEACOM Sea Sub-Marine Communications Limited
SIM Subscriber Identification Module
SMS Short Messaging Service
TCP Transmission Control Protocol
TEAMS -The East African Marine System
MSM- Messages per Subscription per Month

PRELIMINARY NOTES

- *This report is based on data provided by the service providers in the communications sector as per their license conditions.*
- *The information provided in this report is subject to review in case of any revisions or updates from the service providers.*

REPORT SUMMARY

The Sector Statistics Report for the Fourth Quarter of the 2018/19 Financial Year provides an overview of the performance and trends of the ICT sector for the period 1st April to 30th June 2019 on the following service categories:

- Mobile Telephony Services;
- Fixed Telephony Services;
- Data/Internet Services;
- Broadcasting Services;
- Cyber Security Landscape;
- Postal and Courier Services.

SUMMARY OF KEY ICT INDICATORS

INDICATORS	Jan-Mar 2019 **Q3**	Apr-Jun 2019 **Q4**	% change Q3 to Q4
Mobile Subscriptions (Millions)	51.03	52.20	2.3
Fixed subscriptions	66,889	68,916	3.0
VOICE TRAFFIC IN MINUTES			
Mobile On-Net Voice Traffic (Billions)	14.69	14.57	-0.8
Mobile Off-Net Voice Traffic (Billions)	1.71	1.62	-5.5
International Incoming Mobile Voice Traffic (Millions)	144.41	140.38	-2.8
International Outgoing Mobile Voice Traffic (Millions)	109.03	108.04	-0.9
Roaming-out (Own Subscribers) (Millions)	56.04	60.09	7.2
Roaming-in (Foreign Subscribers) (Millions)	57.17	52.57	-8.0
Total Local Fixed network traffic	564,340	568,924	0.8
Fixed VoIP Traffic	124,685	214,473	72.0
MOBILE SMS TRAFFIC			
SMS On-Net (Billions)	14.55	16.25	11.7
SMS Off-Net (Billions)	0.81	0.83	2.5
Roaming In SMS (Millions)	28.5	28.0	-1.6
Roaming Out SMS (Millions)	42.0	43.0	2.4
International Incoming SMS (Millions)	9.60	10.80	12.5
International Outgoing SMS (Millions)	8.37	9.32	11.3
MOBILE MONEY TRANSFER SERVICES			

Number of Active Registered Mobile Money Transfer Subscriptions (Millions)	32.06	32.63	1.8
Number of Registered Mobile Money Agents	223,084	231,350	3.7
Number of Transactions-Sending and Withdrawal (Millions)	564.83	810.94	43.6
Value of Transactions- Sending and Withdrawal (Ksh.) trillion	2.12	2.18	2.9
Number of Mobile Commerce Transactions (Millions)	571.53	591.53	3.5
Value of Mobile Commerce Transactions (Ksh.) (trillion)	1.84	1.95	6.0
Value of Person-to Person Transfers (Ksh.) Billion	737.10	770.90	4.6
DATA/INTERNET SERVICES			
Data/ Internet Subscriptions (Millions)	46.87	49.95	6.6
Total Available International Bandwidth (Gbps)	4,655.40	4707.0	1.1
Total Used International Bandwidth (Gbps)	1,149.32	1341.30	16.7
BROADCASTING SERVICES			
Number of free-to-air TV channels	81	86	6.2
Number of Radio FM stations	173	173	0.0
Digital Terrestrial Television Signal Population Coverage (%)	86	86	0.0
POSTAL AND COURIER SERVICES			
Postal Outlets	623	623	0.0
Private Courier Outlets	1,027	1,027	0.0
Number of Letters (Up to 350 gms) Posted Locally (Millions)	11.27	9.79	-24.4
Total Courier Items Sent Locally (Millions)	716,193	885,862	23.7
International Incoming Letters (Up to 350 gms) (Millions)	2.57	2.75	7.0
International Outgoing Letters (Up to 350 gms) (Millions)	1.31	1.307	-0.2
CYBER SECURITY			
Total Cyber Threats	11,253,576	26,604,202	136.4
Total Cyber Reports	14,078	16,347	16.1
Total Population in Kenya (Millions)*	47.8	47.8	0.0

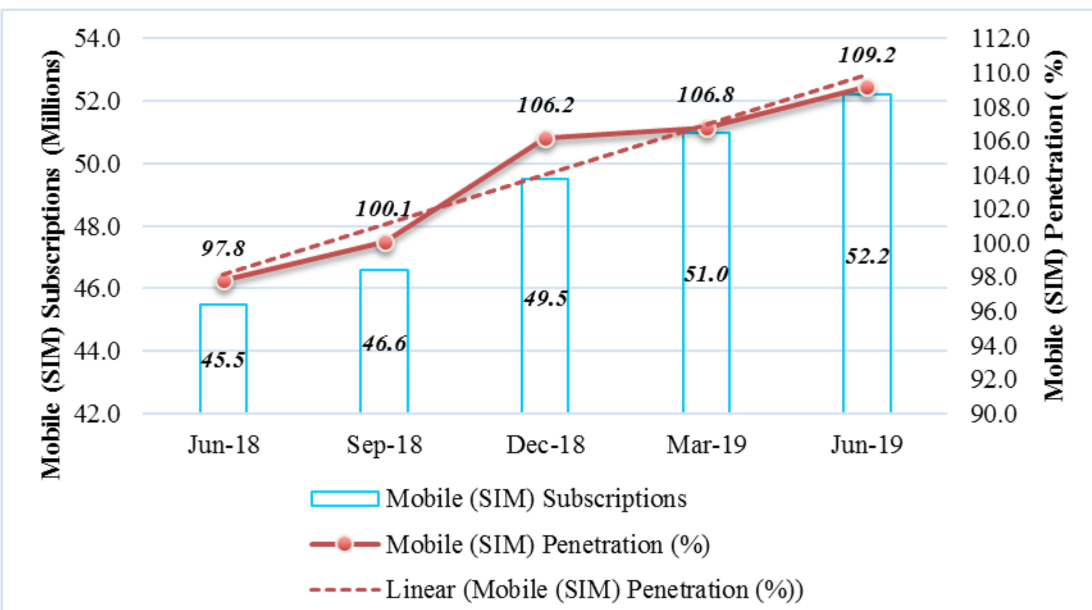
1 CELLULAR MOBILE SERVICES

1.1 Mobile Subscriptions.

Kenya's mobile industry is among the most developed mobile eco-systems in Sub-Saharan Africa. This is mainly attributed to the existence of a conducive policy and regulatory framework which has enabled rapid expansion of mobile networks and relatively affordable mobile services. It is estimated that at least 96 percent of the Kenyan population is covered by a mobile network. The Government has put initiatives such as the Universal Service Fund (USF) in place with the aim of closing the existing communication sector access gaps. The increased connectivity to mobile services has resulted in numerous economic benefits such as improved access to information, enhanced financial inclusion and ease of doing business.

As at 30th June 2019, the number of active[1] SIM cards in the country stood at 52.2 million, up from 51.0 million SIM cards reported as at end of March 2019, translating to a SIM card penetration level of 109.2 percent.

Figure 1 illustrates the trends in mobile subscriptions and penetration levels.

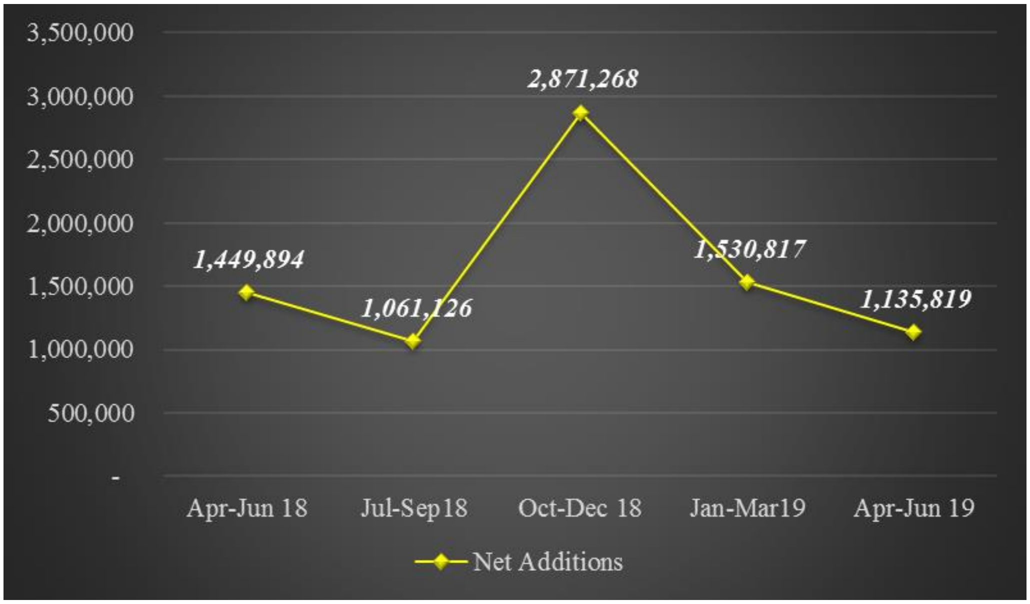


Source: CA, Operators' Returns.

Figure 1:Mobile Subscriptions and Penetration

[1] Active Subscription (SIM Card) refers to any registered mobile SIM Card that has generated revenue within the last 90 days

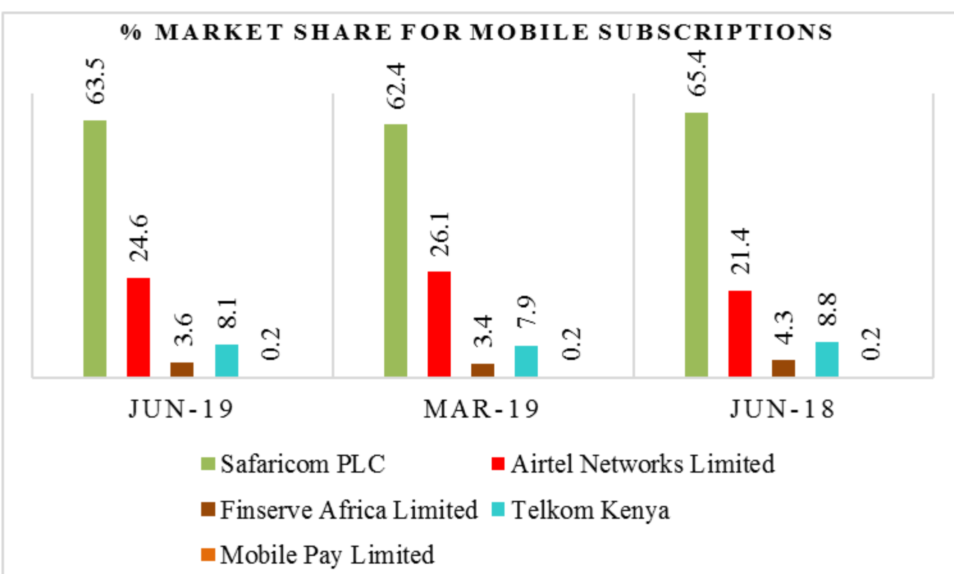
As illustrated in Figure 2, the net additions in mobile subscriptions stood at 1.1 million during the period under review. Cumulatively, there were 6.6 million net additions during the 2018/19 Financial year.



Source: CA, Operators' Returns.

Figure 2: Net Additions

During the period under review, Safaricom PLC posted the highest market share of 63.5 percent in mobile subscriptions, whereas Mobile Pay Ltd maintained the least share at 0.2 percent. Further, both Telkom Kenya and Finserve Africa Ltd gained 0.2 percentage points to post 8.1 and 3.6 percent market shares respectively.



Source: CA, Operators' Returns.

Figure 3: Market Shares in Mobile Subscriptions per Operator

Table 1 provides the number of active mobile subscriptions per operator by contract type.

Table 1:Mobile Subscriptions per Operator by Contract Type

Name of operator	Jun-19			Mar-19			Quarterly Variation (%)
	Pre-paid	Post-paid	Total	Pre-paid	Post-paid	Total	
Safaricom PLC	31,736,810	1,381,743	**33,118,553**	30,651,090	1,194,268	**31,845,358**	4.0
Airtel Networks Limited	12,733,967	103,058	**12,837,025**	13,202,078	114,366	**13,316,444**	-3.6
Telkom Kenya Limited	4,222,813	12,819	**4,235,632**	4,038,497	15,202	**4,053,699**	4.5
Finserve Africa Limited	1,882,440	-	**1,882,440**	1,722,330	-	**1,722,330**	9.3
Mobile Pay Limited*	94,416	-	**94,416**	94,416	-	**94,416**	0.0
Total	**50,670,446**	**1,497,620**	**52,168,066**	**49,708,411**	**1,323,836**	**51,032,247**	**2.2**

Source: CA, Operators' Returns *Provisional Data

1.2 Mobile Money Services

As at 30th June 2019, the number of active mobile money subscriptions stood at 32.6 million, with the number of mobile money agents in operation standing at 290,432. A total of 810.9 million transactions valued at KSh.2.1 trillion were recorded during the quarter. Similarly, a total of 591.1 million transactions valued at KSh.1.9 trillion were made through the mobile payment platforms (Paybill and Till Numbers). Person-to-person transfers were valued at KSh.770.9 billion.

Table 2:Mobile Money Transfer Services

	Apr -Jun19							
Name of Service	*Agents*	*Active Subscriptions*	*No. of transactions*	*Value of transactions (Kshs)*	*No. of mobile commerce transactions*	*Value of mobile commerce transactions (ksh.)*	*P2P Transfers (Ksh.)*	*Deposits(Ksh).*
M-Pesa	176,184	26,900,772	649,306,956	1,711,220,565,819	486,315,618	1,569,444,926,166	642,204,770,291	586,274,211,839
Airtel Money	20,199	3,681,194	4,559,904	843,946,792	3,086,739	2,046,191,622	1,280,344,229	1,856,399,669
Equitel Money*	59,082	1,882,440	156,416,477	469,859,028,068	101,110,828	378,934,062,105	126,538,062,594	81,092,368,181
T-Kash	27,991	76,061	293,003	301,807,854	638,589	71,886,466	104,005,624	66,136,859
Tangaza	6,976	94,416	367,409	1,403,208,969	-	-	834,197,180	56,557,865
Total	**290,432**	**32,634,883**	**810,943,749**	**2,183,628,557,502**	**591,151,774**	**1,950,497,066,359**	**770,961,379,918**	**669,345,674,413**

Source: CA, Operators' Returns

1.3 Mobile Number Portability

The number of mobile in-ports increased from 274 reported during the previous quarter to 276 in-ports during the period under review. However, the total mobile in-ports for the Financial Year 2018/19 declined by nearly half to record 1,498 in-ports.

Table 3 shows the number of mobile in-ports

Table 3:Mobile Number Portability

Period	Apr-Jun 19	Jan-Mar 19	Quarterly Variation (%)	FY 2018/19	FY 2017/18	Annual Variation (%)
Number of in-ports	276	274	0.7	1,498	2,857	-47.6

Source: CA, Operators' Returns

1.4 Mobile Traffic and Usage Pattern

1.4.1 Local Voice Traffic

The total local mobile voice traffic originating from mobile networks dropped by 1.3 percent to stand at 16.2 billion minutes from 16.4 billion minutes recorded during the previous quarter. The ratio between on-net and off-net local mobile voice traffic stood at 9:1 during the fourth quarter. However, the total local mobile traffic for the 2018/19 Financial Year grew significantly by 24.4 percent to stand at 61.7 billion from 49.6 billion minutes registered during the 2017/18 Financial Year.

Table 4 shows a breakdown of local mobile voice traffic by terminating network.

Table 4:Local Mobile Voice Traffic in Minutes

Mobile Traffic	*Apr-Jun 19*	*Jan-Mar 19*	*Quarterly Variation (%)*	*FY2018/19*	*FY2017/18*	*Annual Variation (%)*
By Traffic originating (outgoing traffic)						
Own Network –Own Network	14,569,786,496	14,691,693,823	-0.8	54,914,778,317	44,024,755,088	24.7
Own Network to Other Mobile Networks	1,617,963,065	1,712,639,827	-5.5	6,767,792,350	5,516,441,769	22.7
Mobile Network to Fixed Network	14,657,929	13,461,372	8.9	56,486,171	89,632,702	-37.0
Total Traffic Origination (Outgoing)	16,202,407,490	16,417,795,022	-1.3	61,739,056,838	49,630,793,106	24.4

Source: CA, Operators' Returns

1.4.2 Voice Traffic by Operator

During the quarter under review, the volume of local voice traffic originating from Safaricom PLC stood at 9.19 billion down from 9.8 billion minutes registered during the previous quarter. Consequently, during the same period, the operator's market share dropped to 56.8 percent from 59.9 percent. However, the cumulative voice traffic for the Financial Year 2018/19 increased to 37.4 billion from 34.6 billion minutes recorded during the previous Financial Year.

The originating voice traffic by Airtel Networks Limited increased by 7.7 percent during the quarter under review to post 6.3 billion minutes. As a result, the operator gained 3.2 percentage points to record a market share of 39.0 percent.

Further, the operator's total voice traffic grew significantly by 73.6 percent during the Financial Year to post 21.4 billion minutes. The outgoing traffic for Telkom Kenya Limited declined from 671.8 million recorded last quarter to 647.3 million minutes during the period under review. The market shares also declined by 0.1 percentage points to stand at 4.0 percent. The total traffic for the 2018/19 Financial Year stood at 2.6 billion minutes marking a growth of 14.3 percent from the previous year.

Finserve Africa Limited recorded 30.9 million minutes during the Fourth Quarter of the 2018/19 Financial Year down from 33.2 million minutes recorded last quarter. The market share remained unchanged from last quarter at 0.2 percent.

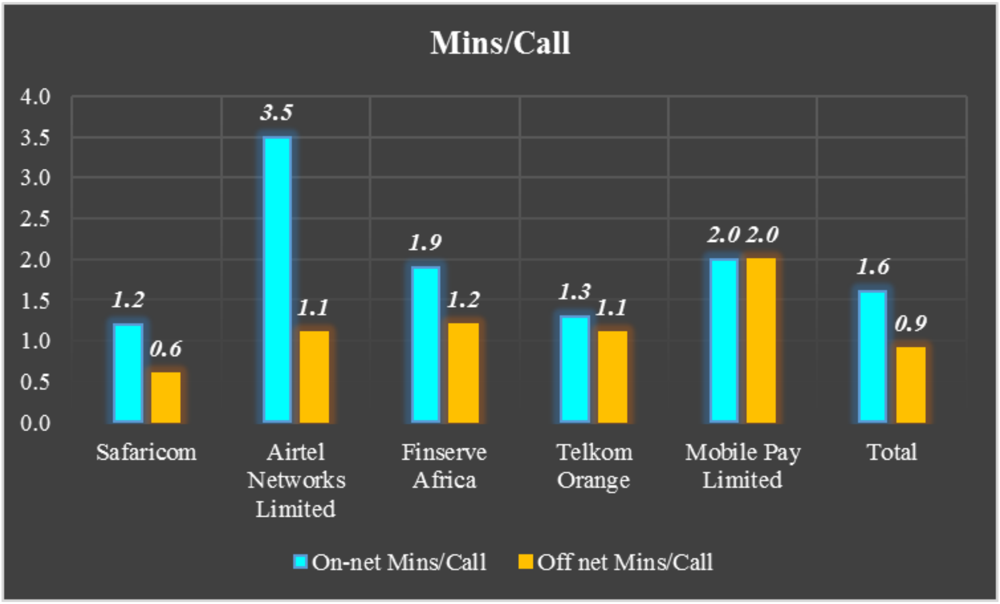
The traffic volumes per service provider and the respective market shares are shown in Table 5.

Table 5:Local Mobile Voice Traffic by Operator

Period	*Name of Operator/Indicator*	*Safaricom PLC*	*Airtel Networks Kenya Limited*	*Telkom Kenya Limited*	*Finserve Africa Limited*	*Mobile Pay Limited*	*Total*
Apr-Jun 19	*On-net*	8,745,364,557	5,412,492,526	407,790,336	4,135,866	3,211	**14,569,786,496**
	Off-net	446,764,080	904,784,091	239,596,522	26,791,080	27,292	**1,617,963,065**
	Total	**9,192,128,637**	**6,317,276,617**	**647,386,858**	**30,926,946**	**30,503**	**16,187,749,561**
	Market share (%)	56.8	39.0	4.0	0.2	0.0	
Jan-Mar 19	*On-net*	9,323,093,508	4,926,497,190	438,025,847	4,074,067	3,211	**14,691,693,823**
	Off-net	507,096,952	942,523,022	233,850,534	29,142,027	27,292	**1,712,639,827**
	Total	**9,830,190,460**	**5,869,020,212**	**671,876,381**	**33,216,094**	**30,503**	**16,404,333,650**
	Market share (%)	59.9	35.8	4.1	0.2	0.0	
FY2018/19	*On-net*	35,483,498,305	17,725,769,006	1,688,603,914	16,894,418	12,674	**54,914,778,317**
	Off-net	1,925,947,793	3,764,437,685	956,564,170	120,734,927	107,775	**6,767,792,350**
	Total	**37,409,446,098**	**21,490,206,691**	**2,645,168,084**	**137,629,345**	**120,449**	**61,682,570,667**
	Market share (%)	60.6	34.8	4.3	0.2	0.0	
FY2017/18	*On-net*	33,207,410,206	9,248,019,858	1,553,021,422	16,277,764	13,181	**12,657**
	Off-net	1,480,177,668	3,135,481,304	762,793,230	137,739,482	145,207	**104,878**
	Total	**34,687,587,874**	**12,383,501,162**	**2,315,814,652**	**154,017,246**	**158,388**	**117,535**
	Market share (%)	70.0	25.0	4.7	0.3	0.0	**0.0**

Source: CA, Operators' Returns

During the period under review, the average number of minutes of use per call for on-net and off-net local mobile voice traffic stood at 1.6 and 0.9 minutes respectively. Airtel Networks Ltd recorded the highest number of minutes per on-net call at 3.5 minutes, whereas Mobile Pay Ltd recorded the highest off-net minutes per call at 2.0 minutes. Safaricom PLC recorded the least average number of minutes per call for both on-net and off-net at 1.2 and 0.6 minutes respectively.



Source: CA, Operators' Returns

Figure 4: Minutes of Use per Call

1.4.3 Domestic Short Messaging Service (SMS) Traffic

The total SMS sent from local mobile networks during the quarter increased by 11.2 percent to post 17.0 billion messages. However, the total number of messages sent during the 2018/19 Financial Year declined to 66.1 billion from 66.8 billion recorded during the previous Financial Year. Notably, Over-the-top messaging apps like WhatsApp are currently leading a paradigm shift away from traditional SMS and towards lower-cost and feature-rich alternatives.

SMS traffic and the respective market shares per operator are shown in Table 6.

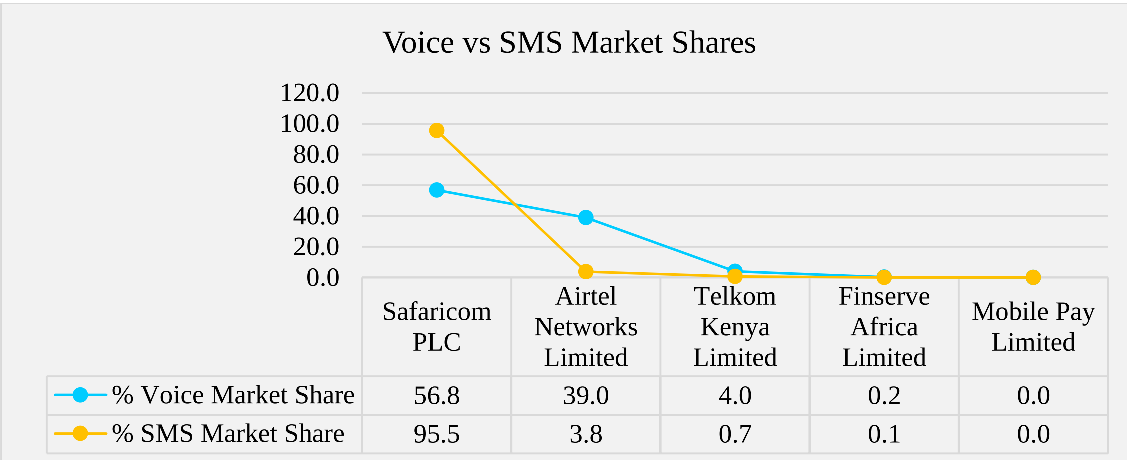
Table 6:Local Mobile SMS Traffic by Operator

Period	*Name of Operator/Indicator*	*Safaricom PLC*	*Airtel Networks Kenya Limited*	*Telkom Kenya Limited*	*Finserve Africa Limited*	*Mobile Pay Limited*	*Total*
Apr-Jun 19	*On-net*	15,893,681,266	337,158,204	17,239,076	2,302,055	2,455	**16,250,383,056**
	Off-net	410,729,143	317,836,492	97,675,767	5,618,467	20,774	**831,880,643**
	Total	16,304,410,409	654,994,696	114,914,843	7,920,522	23,229	**17,082,263,699**
	Market share (%)	95.4	3.8	0.7	0.0	0.0	
Jan-Mar 19	*On-net*	14,228,137,313	299,142,920	16,434,012	1,870,004	2,455	**14,545,586,704**
	Off-net	394,986,898	323,047,409	88,502,247	5,572,021	20,774	**812,129,349**
	Total	**14,623,124,211**	**622,190,329**	**104,936,259**	**7,442,025**	**23,229**	**15,357,716,053**
	Market share (%)	95.2	74.8	12.6	0.9	0.0	
FY2018/19	*On-net*	60,960,130,307	1,301,499,511	74,868,549	7,968,800	9,689	**62,344,476,856**
	Off-net	1,617,423,573	1,760,883,343	356,324,613	24,732,250	81,993	**3,759,445,772**
	Total	62,577,553,880	3,062,382,854	431,193,162	32,701,050	91,682	**66,103,922,628**
	Market share (%)	94.7	4.6	0.7	0.0	0.0	
	On-net	63,031,132,852	945,790,004	72,453,227	6,453,605	9,676	**64,055,841,846**

FY2017/18	*Off-net*	946,418,341	1,546,651,207	261,355,250	27,673,167	67,097	**2,782,195,916**
	Total	**63,977,551,193**	**2,492,441,211**	**333,808,477**	**34,126,772**	**76,773**	**66,838,037,762**
	Market share (%)	95.7	3.7	0.5	0.1	0.0	

Source: CA, Operators' Returns

Figure 5 shows Voice vs SMS market shares per operator during the fourth quarter.

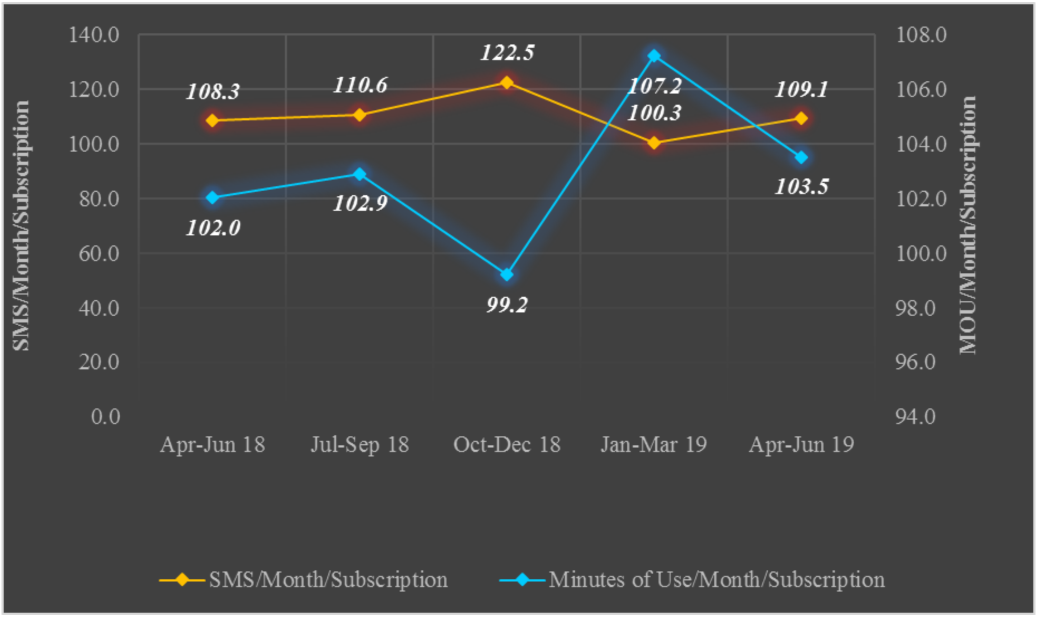


Source: CA, Operators' Returns

Figure 5: Voice vs SMS Market Shares per Operator

The number of Minutes of Use (MoU) per Month per Subscription stood at 103.5 during the period under review down from 107.2 minutes registered during the previous period.

The number of Messages per Subscription per Month (MSM) increased to 109.1 during the quarter from 100.3 messages registered during the previous quarter. Notably, there has been minimal change in both MoU and MSM when compared to the same period of the previous Financial Year.



Source: CA, Operators' Returns

Figure 6: Minutes of Use /Month/Subscription and SMS/Month/Subscription

1.4.4 Roaming Traffic

Roaming-Out and Roaming-In traffic for voice, SMS and data remained high within the East African Community Region during the fourth quarter as compared to that received and sent to other countries. The ratio of Roaming-Out voice traffic within EAC to that of Other countries stood at 6:1, whereas Roaming-In voice ratio was 13:1. This traffic is mainly generated from countries within the One Network Area (ONA) framework (Uganda, Rwanda, and South Sudan).

The trends in roaming for voice, SMS and data services are outlined in Table 7.

Table 7:Roaming Traffic

	Apr-Jun 2019					
	Roaming-Out (Own Subscribers)			**Roaming-In (Foreign Subscribers)**		
	Voice (Minutes)	***SMS***	***Data (MB)***	***Voice (Minutes)***	***SMS***	***Data (MB)***
Uganda	44,787,453	7,122,724	3,670,917	37,062,007	4,876,047	574,698
Tanzania	1,220,771	10,337,158	1,767,096	308,752	10,599,220	597,823
Rwanda	2,993,695	639,974	569,166	9,122,585	1,192,483	209,378
Burundi	15,389	288,391	15,720	4,533	22,253	109
S. Sudan	2,514,319	579,388	16,647	2,512,096	188,839	8,154
Others	8,563,455	24,171,095	4,987,522	3,561,328	11,168,190	42,500,732
Total	**60,095,082**	**43,138,730**	**11,027,068**	**52,571,301**	**28,047,032**	**43,890,894**

Source: CA, Operators' Returns

1.4.5 International Mobile Traffic

Overall, international incoming and outgoing voice traffic declined during the quarter under review and this was mainly attributed to the decline in traffic within the EAC region as shown in Table 8.

On the contrary, both international outgoing and incoming SMS grew significantly during the quarter.

Table 8:International Mobile Traffic

Traffic	*Region*	*Apr-Jun 19*	*Jan-Mar 19*	*Quarterly Variation (%)*	*FY2018/19*	*FY2017/18*	*Annual Variation (%)*
International Incoming Mobile Voice Minutes	*EAC*	73,335,074	78,875,833	-7.0	290,056,369	222,478,542	30.4
	Others	67,043,744	65,531,059	2.3	262,601,723	383,566,002	-31.5
	Total	**140,378,818**	**144,406,892**	-2.8	**552,658,092**	**606,044,544**	**-8.8**
International Outgoing Mobile Voice Minutes	*EAC*	49,585,487	54,494,003	-9.0	203,703,869	195,601,028	4.4
	Others	58,455,860	54,537,550	7.2	220,100,663	238,693,796	-7.8
	Total	**108,041,347**	**109,031,553**	-0.9	**423,804,532**	**434,294,824**	**-2.4**
International Incoming Mobile SMS		10,803,878	9,603,275	12.5	43,264,945	47,745,925	-9.4
International Outgoing Mobile SMS		9,320,771	8,371,919	11.3	35,441,941	37,072,236	-4.4

Source: CA, Operators' Returns

1.5 Mobile Service Revenue and Investment

The service revenue from the mobile sub-sector grew by 9.4 percent to record 270.5 billion Kenya Shillings in 2018. Similarly, the investments grew from 41.5 billion Kenya Shillings reported in 2017 to 57.5 billion Kenya Shillings in 2018.

Table 9: Mobile Service Revenue and Investments

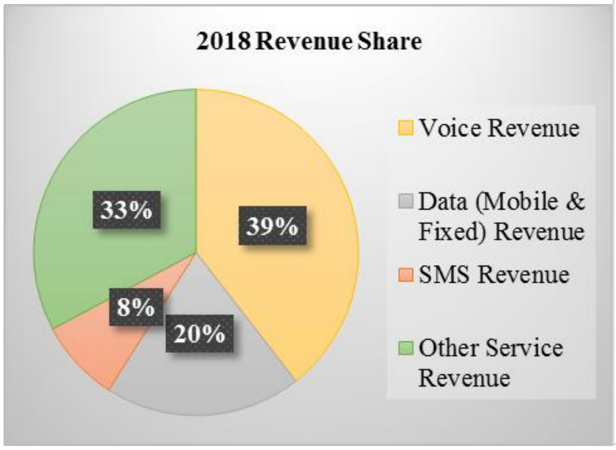
Indicator/Period	**2018**	**2017**	**% Annual Variation**
Mobile Service Revenue * (Billions)	270.5	247.3	9.4
Investment (Billions)	57.5	41.5	38.6

****Voice revenue includes fixed voice revenue: Data revenue also included fixed data revenue from TKL***

Voice service held the highest revenue share at 39.0 percent followed by other mobile services, which includes mobile money services, interconnection and roaming, at 33.0 percent. SMS revenue recorded the least share at 8.0 percent.

Safaricom PLC recorded the highest revenue share for all mobile services, whereas Finserve Ltd recorded the least revenue share in 2018.

Figures 7 and 8 illustrate the percentage revenue shares per service and per operator respectively.



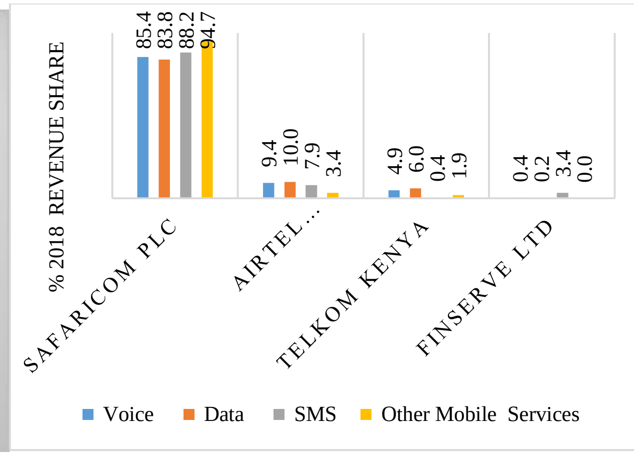


Figure 7: Revenue Share per Service

Figure 8: Revenue Share per Operator

1.6 Employment in the Mobile Service Sub-Sector

The number of employees in the mobile sub-sector has grown from 7,016 recorded in June 2018 to 8,689 recorded in June 2019. The ratio of males to females stood at 3:2.

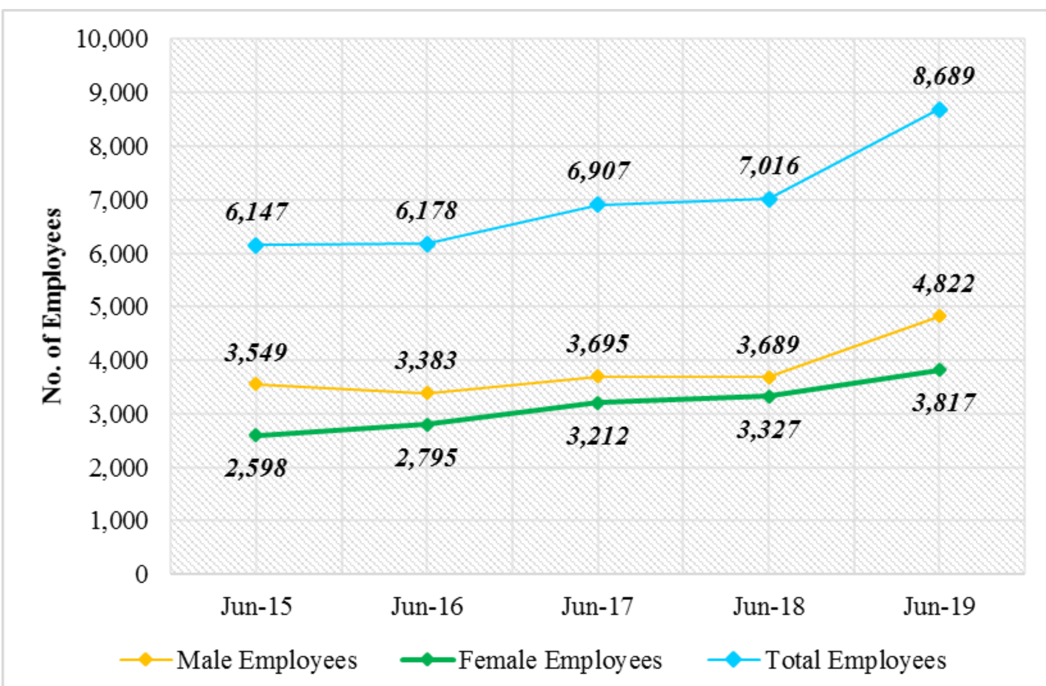
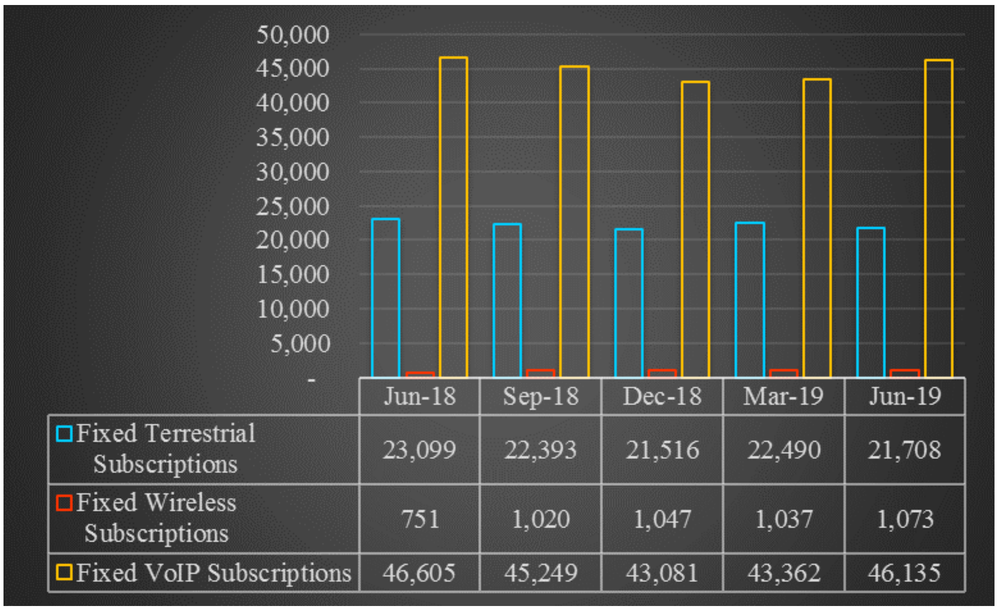


Figure 9: Employment in Mobile Service Sub-Sector

2 FIXED TELEPHONE SERVICE

2.1 Fixed Network Subscriptions

As at 30th June 2019, there were 21,708 fixed line subscriptions 1,073 fixed wireless connections and 46,135 VoIP subscriptions.



Source: CA, Operators' Returns

Figure 10: Fixed Network Subscriptions

2.2 Fixed Network Traffic

Local fixed network traffic increased by 0.8 percent during the fourth quarter to post 568,924 minutes from 564,340 minutes recorded during the previous quarter. Notably, fixed VoIP service is also becoming more popular in Kenya and this may be attributed to the fact that, it rides on the already existing Internet connections and therefore the subscriber does not incur extra costs in terms of infrastructure and connectivity.

Table 10:Local Fixed Network Traffic in Minutes

Local Fixed Netw0ork traffic	***Apr-Jun 19***	***Jan-Mar 19***	***Quarterly Variation (%)***	***FY2018/19***	***FY2017/18***	***Annual Variation (%)***
Fixed-fixed	250,487	269,198	-7.0	1,047,363	1,121,678	-6.6
Fixed wireless-fixed wireless	318,437	295,142	7.9	1,207,930	1,289,902	-6.4

Total Local Fixed network traffic	**568,924**	**564,340**	**0.8**	**1,434,191**	**2,411,580**	**-40.5**
Fixed VoIP Traffic	214,473	124,685	72.0	1,762,114	468,242	276

Source: CA, Operators' Returns

2.3 International Fixed Voice Traffic

During the period under review, the conventional international incoming and outgoing fixed network voice traffic declined by 7.5 and 3.0 percent to post 6.1 million and 3.5 million minutes respectively. Conversely, international outgoing fixed Voice over IP traffic increased by 4.4 percent to post 497,003 from 476,269 minutes posted in the preceding quarter.

Table 11 shows trends in international fixed voice traffic.

Table 11:International Fixed Voice Network Traffic

International Fixed Network traffic	*Apr-Jun 19*	*Jan-Mar 19*	*Quarterly Variation (%)*	*FY 2018/19*	*FY 2017/18*	*Annual Variation (%)*
International Incoming Fixed Network Voice traffic	6,173,983	6,677,432	-7.5	27,008,848	20,218,108	33.6
International Outgoing Fixed Network Voice traffic	3,569,370	3,678,676	-3.0	14,755,426	11,061,368	33.4
International Outgoing Fixed VoIP traffic	497,003	476,269	4.4	2,345,201	2,825,499	-17.0

Source: CA, Operators' Returns

3 DATA/INTERNET SERVICES

3.1 Data and Broadband[2] Services

Favorable government policies and exciting digital scene among other factors have contributed to the growth of the ICT sector. For instance, the rapid growth in mobile and Internet networks has created opportunities for development and deployment of innovations and e-commerce. As at 30th June 2019, the number of data/Internet subscriptions stood at 49.9 million with 99.9 percent being on mobile data. This was an increase of 21.4 percent since 30th June 2018.

Table 12 provides a breakdown of data/internet subscriptions based on the type of technology

[2] Broadband-Data/Internet speeds equal to or above 256 Kbps

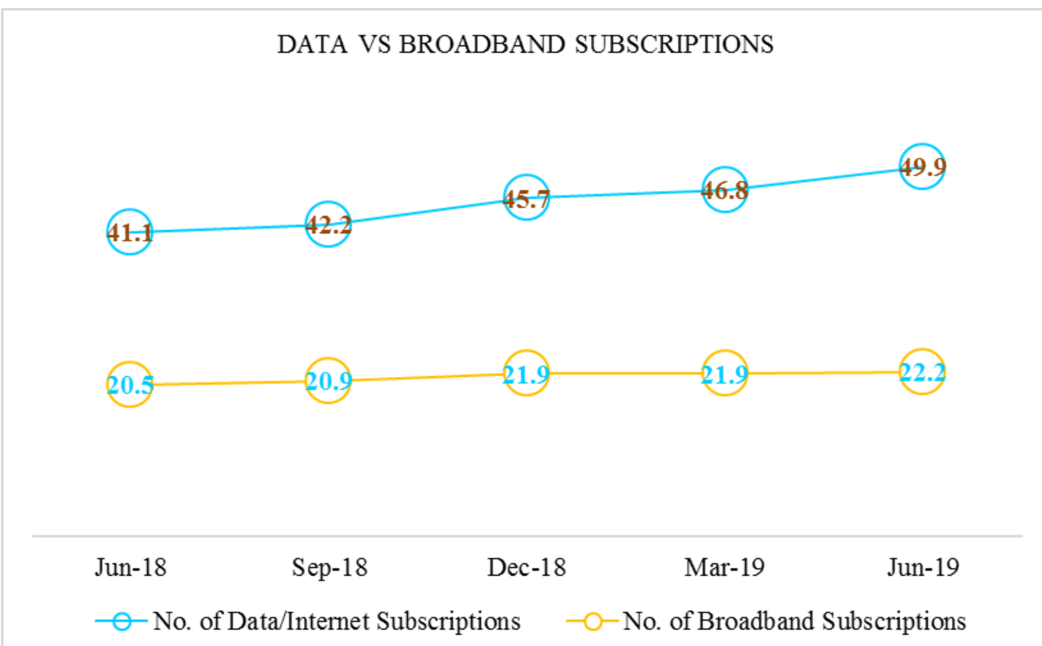
Table 12:Data/Internet Subscriptions

Indicator/Period	*Jun 19*	*Mar 19*	*Quarterly Variation (%)*	*Jun 18*
Total Wireless Internet Subscriptions	**49,600,612**	**46,527,513**	6.6	**40,866,772**
Mobile data Subscriptions	49,532,380	46,461,719	6.6	40,743,570
Terrestrial Wireless data Subscribers	66,989	64,282	4.2	122,037
Satellite data Subscribers	1,243	1,512	-17.8	1,165
Total Fixed (Wired) Internet Subscriptions	**353,693**	**336,309**	5.2	**246,078**
Fixed DSL Data Subscribers	1,014	1,192	-14.9	1,254
Fixed Fibre Optic Data Subscribers	213,199	197,617	7.9	135,964
Fixed Cable Modem Subscribers	132,072	129,657	1.9	101,508
Other Fixed Data Subscribers (e.g Radio)	7,408	7,843	-5.5	7,352
Total Data/Internet Subscriptions	**49,954,305**	**46,870,422**	**6.6**	**41,112,850**

Source: CA, Operators' Returns

During the fourth quarter of the 2018/19 Financial Year, the number of broadband subscriptions stood at 22.2 million up from 21.9 million subscriptions reported during the third quarter. Broadband subscriptions accounted for 44.5 percent of the total data/Internet subscriptions.

Figure 11 illustrates the trends in data/internet and broadband[3] subscriptions



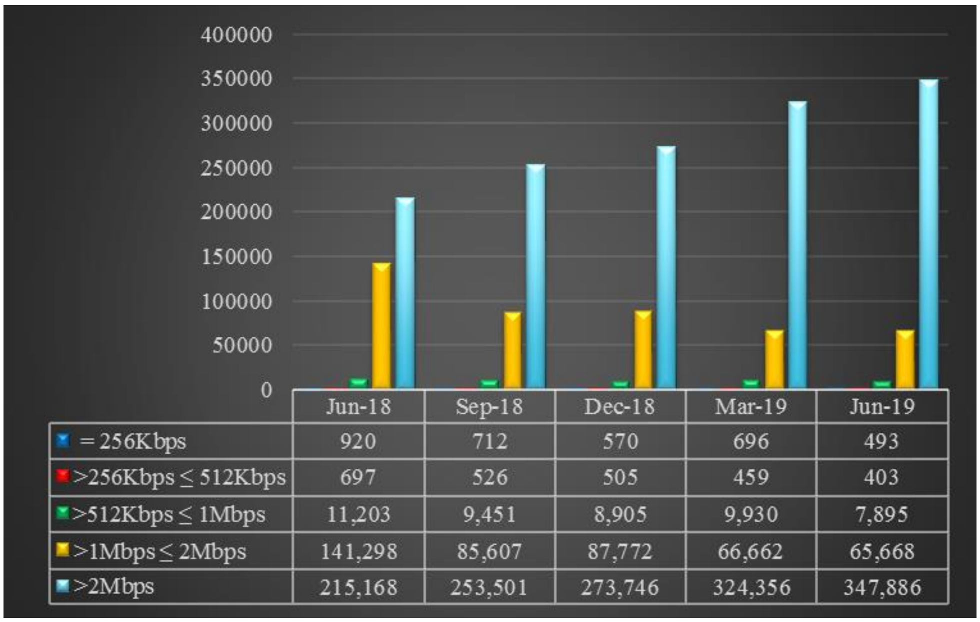
Source: CA, Operators' Returns

Figure 11: Data vs Broadband Subscriptions

3.1.1 Fixed Broadband Subscriptions by Speed

As illustrated in figure 12, fixed broadband subscriptions with speeds above 2Mbps accounted for 82.4 percent of the total subscriptions, whereas those with speeds equal to and between 256K bps and 512 Kbps were the least accounting for 0.2 percent.

Figure 12 illustrates the breakdown on fixed broadband subscriptions by speed



Source: CA, Operators' Returns

Figure 12: Fixed Broadband Subscriptions by Speed

Table 13 shows fixed data subscriptions per Service Provider.

Table 13: Fixed Data Subscriptions per Service Provider

Apr-Jun 19		
Name of Service Provider	***No. of Subscriptions***	***Market Share (%)***
Wananchi Companies Ltd*	146,349	34.8
Safaricom PLC	137,824	32.7
Jamii Telecommunications Ltd	61,508	14.6
Poa Internet Kenya Ltd	32,999	7.8
Internet Solutions Kenya Ltd	15,744	3.7
Mawingu Networks Ltd	10,184	2.4
Liquid Telecommunications Kenya Limited	8,725	2.1
Telkom Kenya Ltd	4,995	1.2

Mobile Telephone Networks Business Kenya Ltd	623	0.1
Frontier Optical Networks Ltd	574	0.1
Other Fixed Service Providers	1,455	0.3

Source: CA, Operators' Returns. * Data includes Wananchi Telecom, Wananchi Group, Simbanet Ltd and ISAT Africa Kenya Limited

3.2 International Bandwidth

During the quarter under review, the lit/equip international Internet bandwidth capacity increased by 1.1 percent to record 4,707 Gbps from 4,655.4 Gbps recorded during the previous quarter. The utilized capacity stood at 1,341.3 Gbps and was equivalent to 28.5 percent of the lit/equip capacity.

The trend on International Lit/Equip and Used Bandwidth is as shown in table 14

Table 14:International Internet Bandwidth (Gbps)

Indicator/ Operator		***Apr-Jun 19***	***Jan-Mar 19***	***Quarterly Variation (%)***	***Apr-Jun 18***
Undersea Bandwidth Capacity	***SEACOM***	2,840.00	2,840.00	0.0	2,220.0
	TEAMS	702.00	702.00	0.0	702.0
	EASSY	912.84	892.84	2.2	161.3
	Lion 2	247.04	214.84	15.0	188.7
Satellite Bandwidth Capacity		5.58	5.72	-2.4	5.67
Total Available (Lit/Equip) Bandwidth Capacity		**4,707.00**	**4,655.40**	**1.1**	**3,277.67**
Utilized Bandwidth in Gbps					
Undersea Bandwidth Capacity		1,336.20	1,144.10	16.8	926.80
Satellite Internet Capacity		5.13	5.22	-1.7	4.60
Total Utilized Bandwidth Capacity		**1,341.30**	**1,149.32**	**16.7**	**931.40**

Source: CA, Operators' Returns.

3.3 Registered Domain Names

As at 30th June 2019, the total number of *.KE* domains was recorded at 87,807 up from 83,915 domains reported as at the end of March 2019. As shown in Table 15, *.CO.KE* sub-domain recorded the highest number of users whereas *MOBI.KE* recorded the least number of users.

Table 15: .KE Domains

SUBDOMAIN		Jun 19		Mar 19	
	USER	No. of Users	% Share in Users	No. of Users	% Share in Users
CO.KE	Companies	82,721	94.21	77,820	93.0
OR.KE	Non Profit-Making Organizations	1,908	2.17	1,976	2.4
AC.KE	Institutions of Higher Education	919	1.05	891	1.1

SC.KE	Lower and Middle Level Institutions	1,139	1.3	1,212	1.4
NE.KE	Personal Websites and E-mail	153	0.17	277	0.3
ME.KE	Personal Websites and E-mail	223	0.25	345	0.4
MOBI.KE	Mobile Content	43	0.05	180	0.2
INFO.KE	Information	163	0.19	443	0.5
GO.KE	Government Institutions	538	0.61	502	0.6
TOTAL		87,807	100	83,646	100

Source: CA, Operators' Returns.

4 BROADCASTING

4.1 Broadcasting Services

The total number of Free-to-Air TV Stations grew by 6.3 percent to record 86 stations from 81 stations recorded in the previous period. On the other hand, digital TV subscriptions declined by 7.1 per cent to 5.4 million during the quarter under review. The wane in subscriptions for digital TV is attributed to the increased uptake of streaming services especially among younger consumers, as more homes get connected devices.

Table 16: Broadcasting and Media Services

Indicator/Period	***Apr-Jun 19***	***Jan-Mar 19***	***Quarterly Variation (%)***	***Apr-Jun 18***
DIGITAL TV SIGNAL DISTRIBUTORS				
Broadcast Signal Distributors (Common Carrier)	2	2	0	2
Self-Provisioning Broadcast Signal Distributors	3	3	0	3
Total Digital TV Signal Distributors	**5**	**5**	**0**	**5**
Commercial FTA TV Stations	85	80	6.3	131
Community FTA TV Stations	1	1	0	38
Total FTA TV Stations	**86**	**81**	**6.3**	67
Digital Terrestrial Television Signal Population Coverage (%)	86.0	86.0	0	86.0
DIGITAL TV SUBSCRIPTIONS				
Cable TV	171,936	170,852	0.6	153,462
Direct to Home Satellite	1,209,799	1,161,220	4.2	995,012
Digital Terrestrial Televisions (STBs)	4,080,324	4,546,448	-10.3	3,809,244
Total Digital TV Subscriptions	**5,462,059**	**5,878,520**	**-7.1**	**4,957,718**
Radio Stations				
Commercial FTA Radio	131	131	0.0	131
Community FTA Radio	42	42	0.0	38
Total Radio Stations	**173**	**173**	**0.0**	**169**

Source: CA, Operators' Returns.

4.2 Local Content Quota Genre Performance

Table 17 shows that during the period under review, religious programmes had the highest weekly average of 31.1% on local content, talk shows came in second at 19.6 % and music content third at 18.9 %. Comedy, children's programming and current affairs genres had the lowest local content across most of the stations monitored during the period under review registering 1.3%, 1.7% and 1.9 % respectively.

Table 17:Performance of the Various Genre of Local Content

Genre	Apr-Jun 19	Jan-Mar 19
Music	18.9	24.9
Religious	31.1	26.6
Talk shows	19.6	23.5
Children	1.7	1.7
Reality	3.9	4.1
Drama	4.6	5.5
Comedy	1.3	1.1
Docs/Education	9.7	7.9
Sports	2.0	0.0
Current affairs	1.9	1.0
Magazine	5.3	3.6

Source: CA, Operators' Returns.

5 National Cyber Threat Landscape

5.1 Cyber Threats Statistics

During the period April - June 2019, the National KE-CIRT/CC detected 26.6 million cyber threat events as compared to 11.3 million cyber threat events detected in the period Jan –Mar 2019. This increase in the number of cyber threat events detected is attributed to the global increase in malware including ransomware attacks during this period.

Table 18: Cyber Threats Detected

Cyber Threat	**Jul-Sep 19**	**Oct- Dec 18**	**Jan-Mar 19**	**Apr-Jun 19**	**Totals FY 2018/19**
Malware	1,844,897	9,026,924	8,883,862	21,137,458	40,893,141
DDOS/Botnet	911,298	453,371	1,133,893	2,353,460	4,852,022
Web Application Attacks	1,064,971	737,289	1,222,237	3,084,687	6,109,184
System vulnerabilities	2,548	3,449	13,319	28,597	47,913
Totals	3,823,714	10,221,033	11,253,311	26,604,202	51,902,260

Source: National KE-CIRT/CC

The National KE-CIRT/CC analyzed the cyber threat events and issued cyber threat advisories to the affected critical infrastructure service providers. During the period April – June 2019, the National KE-CIRT/CC issued 16,347 advisories, which is a 15.3% increase from the 14,174 advisories sent in the previous period.

Table 19:Cyber Threat Advisories

Cyber Threat Advisories	Jul-Sep 19	Oct- Dec 18	Jan-Mar 19	Apr-Jun 19	Totals FY 2018/19
Malware	1,478	2,365	1,286	1,586	6,715
Botnet	159	243	378	88	868
Web Application Attacks	828	271	249	387	1735
System Vulnerabilities	3,565	9,101	11,900	13,754	38,320
Others	354	217	361	532	1464
Totals	6,384	12,197	14,174	16,347	49,102

Source: National KE-CIRT/CC

6 POSTAL AND COURIER TRAFFIC

The number of letters sent locally during the fourth quarter of the 2018/19 Financial Year was registered at 9.7 million down from 11.2 million letters sent during the previous quarter. On a similar trend, the number of letters sent during the Financial Year under review dropped by 24.4 per cent to 47.1 million from 62.3 million recorded in the Financial Year 2017/18. This may be attributed to the enhanced uptake of mobile messaging services and OTTs such as WhatsApp in the country because of their fast and affordable nature.

The total courier items/parcels sent locally increased by 22.2 percent to register 885,862 items during the period under review. This is mainly attributed to the increased uptake of e-commerce in the country especially by micro, small and middle-sized enterprises.

The number of letters received from other countries declined by 0.8 percent to register 2.72 million from 2.74 million letters received during the preceding quarter. On the other hand, international outgoing letters increased by 8.7 percent to record 1.3 million letters.

The postal and courier traffic is as shown in Table 20.

Table 20:Postal and Courier Traffic

Post and Courier Traffic	Apr-Jun 19	Jan-Mar 19*	Quarterly Variation (%)	FY2018/19	FY2017/18	Annual Variation (%)
Number of Letters (Up to 350 gms) Posted Locally	9,797,709	11,278,173	-13.1	47,133,168	62,358,060	-24.4
Total Courier Items Sent locally	885,862	724,866	22.2	3,824,842	6,692,212	-42.8
International Incoming Letters (Up to 350 gms)	2,724,435	2,747,181	-0.8	9,633,593	4,211,990	128.7

International Outgoing Letters (Up to 350 gms)	1,307,964	1,202,830	8.7	4,483,413	5,301,256	-15.4

Source: CA, Operators' Returns. * Revised data by PCK

7 TARIFFS, PROMOTIONS AND SPECIAL OFFERS

The Authority received 17 applications for tariffs and promotions & special offers during the quarter under review. The number of tariff applications remained constant while the total number of promotions and special offers declined by 14.3 percent.

A detailed distribution of the applications for tariffs and promotions & special offers for the 4 quarters is illustrated in Tables 21 and 22 respectively.

Table 21: Tariffs

Period/Indicator	Type of Tariff							
	Voice	SMS	Data	Airtime	Bundle	Mobile Money	Other[4]	Total
Apr-Jun 19	0	0	3	0	2	0	0	5
Jan-Mar 19	0	0	2	0	3	0	0	5
Apr-Jun 18	-	-	4	-	2	-	-	6

Table 22: Promotions and Special Offers

Period/Indicator	Type of Promotion and Special Offer								
	Voice	SMS	Data	Bundle	Airtime	Lucky Draw[5]	Mobile Money	Other	Total
Apr-Jun 19	1	0	5	4	2	0	0	0	12
Jan-Mar 19	0	0	7	2	2	1	1	1	14
Apr-Jun 18	2	-	6	2	1	-	1	4	16

Source: CA, filed promotions and special offers

8 CONCLUSION

The Economic Survey Report 2019 indicated that the value of the ICT Sector grew by 12.9 percent in 2018 to 390.2 billion from 345.6 billion Kenya Shillings recorded in 2017. The cutting-edge

[4] Other" refers to promotions that cannot be clearly attributed to any particular service or bundle of services, neither can they be attributed to a lucky draw

[5] Lucky draw is a game of chance where the operator has no control over the specific user to receive a reward set out.

digital tools and services are expected to keep playing a major role in economic development and advancement of other sectors such as agriculture, manufacturing and healthcare, which are fundamental to the attainment of the *Big 4Agenda*. Further, ICTs will continue to play a key role in increasing efficiencies and enhancing quality through innovation in the delivery of goods and services across the private and public sectors in the near future. The revolution of fintech and development of more advanced mobile technologies such as 4G is highly likely to drive the demand for mobile services in the country.