SECOND QUARTER SECTOR STATISTICS REPORT FOR THE FINANCIAL YEAR 2017/2018 (1ST OCTOBER – 31ST DECEMBER 2017)

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***Disclaimer*:**
Although every effort has been made to ensure accuracy of the data contained in this report, the Authority is not liable for inaccuracies in any of the information contained in this report, which is contingent upon the operators/service providers' compliance returns.

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LIST OF ABBREVIATIONS

DTT	Digital Terrestrial Television
EASSy	Eastern Africa Submarine Cable Systems
ICTs	Information Communication Technologies
EVDO	Evolution-Data Optimized
LION2	Lower Indian Ocean Network
GSM	Global Systems for Mobile Communications
Mbps	Megabits per second
Gbps	Gigabits per second
MMS	Multimedia Service
MoU	Minutes of Use
MVNO	Mobile Virtual Network Operator
SEACOM	Sea Sub-Marine Communications Limited
KW	Kilowatts
SIM	Subscriber Identification Module
SMS	Short Messaging Service
TEAMS	The East African Marine System
VSAT	Very Small Aperture Terminal
FY	Financial Year
DDoS	Distributed Denial-of-Service
ADN	African Digital Network Limited
OTT	Over-The-Top
KE-CIRT/CC	National Kenya Computer Incident Response Team/Coordination Centre

I. PRELIMINARY NOTES

- This report is based on data provided by 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.

II. REPORT SUMMARY

The Second Quarter Sector Statistics Report provides an overview of the communications sector performance and trends for the period 1st October to 31st December 2017 on the following service categories:

- Mobile Telephony Services
- Fixed Telephony Services
- Data/Internet Services
- Broadcasting Services
- Postal and Courier Services
- Tariffs, Promotions and Special Offers
- National Cyber Security Threats

Key ICT Indicators

INDICATORS	**Jul-Sep 2017 Q1**	**Oct-Dec 2017 Q2**	**% change Q1 to Q2**
Mobile Subscriptions (Millions)	41.028	42.815	4.4
Fixed subscriptions	71,118	69,861	-1.8
Mobile Penetration	90.4	94.3	4.3
Fixed Telephone Penetration	0.16	0.15	-6.3
VOICE TRAFFIC IN MINUTES			
Mobile On-Net Voice Traffic (Billions)	9.920	10.493	5.8
Mobile Off-Net Voice Traffic (Billions)	1.147	1.298	13.2
International Incoming Mobile Voice Traffic (Millions)	147.098	157.392	7.0
International Outgoing Mobile Voice Traffic (Millions)	111.501	107.512	-3.6
Roaming-out (Own Subscribers) (Millions)	44.265	40.660	-8.1
Roaming-in (Foreign Subscribers) (Millions)	35.053	35.010	-0.1
Total Local Fixed network traffic	603,200	585,744	-2.9
International Incoming Fixed Network Voice traffic (Millions)	2.172	2.104	-3.1
International Outgoing Fixed Network Voice traffic (Millions)	1.452	1.301	-10.4

International Outgoing Fixed Network VoIP traffic	686,886	643,109	-6.4
MOBILE SMS TRAFFIC			
SMS On-Net (Billions)	18.754	17.333	-7.6
SMS Off-Net (Millions)	539.534	697.840	29.3
International Incoming SMS (Millions)	10.053	14.595	45.2
International Outgoing SMS (Millions)	9.578	9.283	-3.1
MOBILE MONEY TRANSFER SERVICES			
Number of Active Mobile Money Transfer Subscriptions (Millions)	28.192	30.000	6.4
Number of Registered Mobile Money Agents	184,537	198,234	7.4
Number of Transactions-Sending and Withdrawal (Millions)	537.242	607.413	13.1
Value of Transactions- Sending and Withdrawal (Ksh.) trillions	1.659	1.763	6.3
DATA/INTERNET SERVICES			
Data/ Internet Subscriptions (Millions)	30.891	33.365	8.0
Total Available International Bandwidth (Gbps)	2909.512	3182.592	9.4
Total Used International Bandwidth (Gbps)	887.187	916.287	3.3
Broadband Penetration	38.8	39.7	2.3
BROADCASTING SERVICES			
Number of free-to-air TV channels	62	64	3.2
Number of Radio FM stations	178	178	0.0
Digital Terrestrial Television Signal Population Coverage (%)	83.6	85.8	2.6
POSTAL AND COURIER SERVICES			
Postal Outlets	623	623	0.0
Private Courier Outlets	997	997	0.0
Number of Letters (Up to 350 gms) Posted Locally (Millions)	16.027	16.03	0.0
Total Courier Items Sent Locally (Millions)	1.712	1.855	8.4
International Incoming Letters (Up to 350 gms) (Millions)	1.078	1.064	-1.3
International Outgoing Letters (Up to 350 gms) (Millions)	1.083	1.090	0.6
Total Population in Kenya (Millions)	45.4	45.4	0.0
NATIONAL CYBER THREAT LANDSCAPE			
Number of Cyber Security Alerts Received	-	4,589	-
Number of Cyber Threats Validated and Resolved	-	539	-

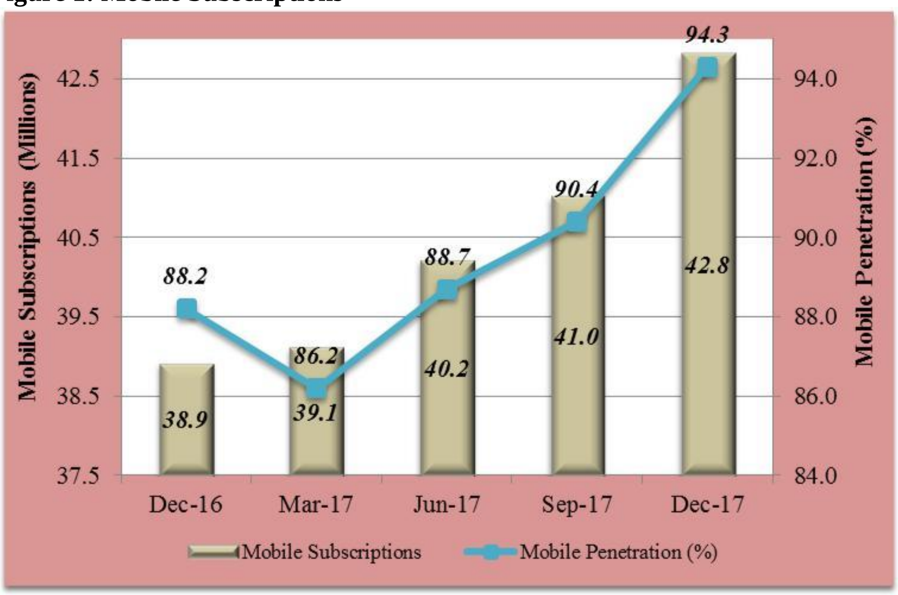
1 CELLULAR MOBILE SERVICES

1.1 Mobile Subscriptions

The performance of mobile telephony sub-sector registered substantial growth during the second quarter of the financial year 2017/18. The number of active[1] mobile subscriptions rose from 41.0 million recorded in the first quarter to 42.8 million subscriptions, which marked a growth of 4.4 per cent over the period. Subsequently, the mobile penetration level increased to 94.3 per cent from 90.4 per cent recorded in the preceding quarter.

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

Figure 1: Mobile Subscriptions



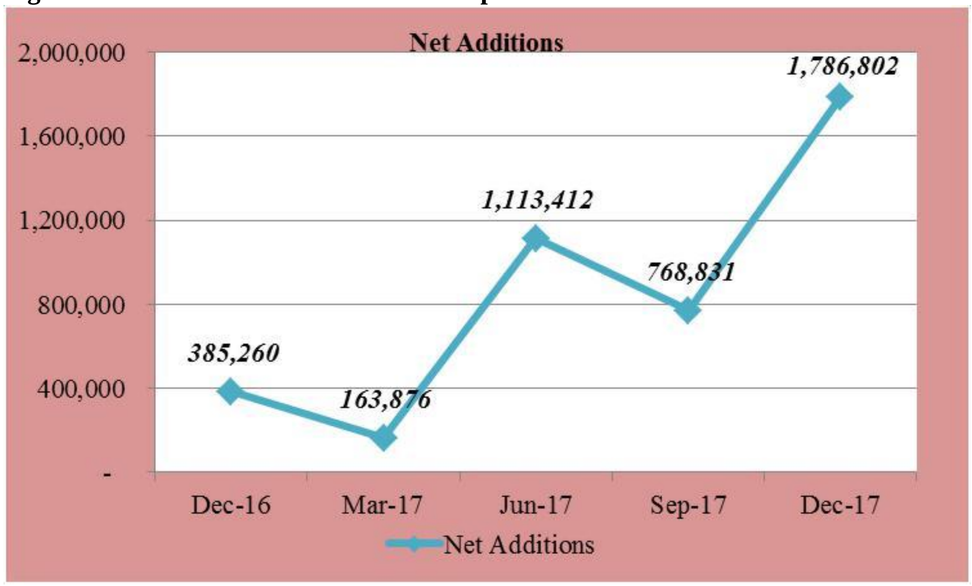
Source: CA, Operators' Returns

During the quarter under review, net additions in mobile subscriptions were recorded at 1.7 million up from 768,831 subscriptions reported in the preceding quarter.

Figure 2 shows the net additions in mobile subscriptions

[1] Active means subscriptions that have generated revenue within the last 90 days

Figure 2: Net Additions in Mobile Subscriptions



Source: CA, Operators' Returns.

Safaricom PLC registered 69.1 per cent market share in mobile subscriptions marking a decline of 2.8 percentage points when compared to 71.9 per cent recorded during the previous quarter.

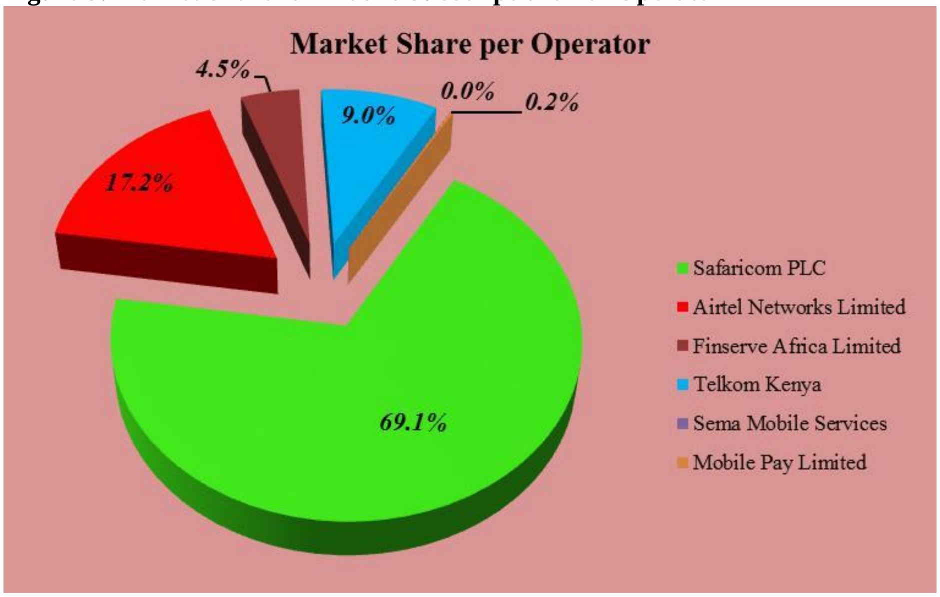
The market shares for Airtel Networks Limited rose to 17.2 per cent from 14.9 per cent recorded during the previous quarter.

Telkom Kenya Limited gained 0.6 per centage points to register a market share of 9.0 per cent from 8.4 per cent posted in the previous quarter. On the other hand, Finserve Africa Limited lost by 0.2 percentage points to post a market share of 4.5 per cent.

The market shares for Sema Mobile Services and Mobile Pay Limited remained unchanged at 0.0 per cent and 0.2 per cent respectively.

Figure 3 illustrates mobile subscriptions market shares per operator.

Figure 3: Market Share for Mobile Subscriptions Per Operator



Source: CA, Operators' Returns.

During the period under review, the number of pre-paid mobile and postpaid mobile subscriptions stood at 41.4 million and 1.4 million respectively.

Safaricom PLC reported a total of 29.5 million mobile subscriptions with 28.2 million being prepaid and 1.2 million postpaid.

The total number of mobile subscriptions recorded by Airtel Networks Limited rose to 7.3 million subscriptions from 6.1 million. This marked an increase of 20.7 per cent during the quarter.

Telkom Kenya Limited registered 12.4 per cent increase in mobile subscriptions to post 3.8 million subscriptions from 3.4 million recorded in the preceding quarter.

Finserve Africa Limited registered a growth of 1.2 per cent during the period under review to record 1.93 million subscriptions up from 1.90 million reported during the previous period.

Mobile Pay limited recorded 89,892 pre-paid mobile subscriptions up from last quarter's 88,853. On the other hand, Sema Mobile Services lost its mobile subscriptions by 50.2 percent to register 112 subscriptions from 263 recorded in the previous quarter.

The number of pre-paid and post-paid subscriptions by operator is as indicated in Table 1

Table 1: Mobile Subscriptions per Operator

Name of operator	*Dec-17*			*Sep-17*			*Quarterly variation (%)*
	Pre-paid	***Post-paid***	***Total***	***Pre-paid***	***Post-paid***	***Total***	
Safaricom PLC	28,297,097	1,267,077	29,564,174	28,241,267	1,249,029	29,490,296	0.3
Airtel Networks Limited	7,232,787	137,248	7,370,035	5,963,595	141,241	6,104,836	20.7
Telkom Kenya Limited	3,850,432	10,127	3,860,559	3,423,685	12,291	3,435,976	12.4
Finserve Africa Limited	1,930,337	-	1,930,337	1,908,083	-	1,908,083	1.2
Sema Mobile Services	112	-	112	263	-	263	-57.4
Mobile Pay Limited	89,892	-	89,892	88,853	-	88,853	1.2
Total	**41,400,657**	**1,414,452**	**42,815,109**	**39,625,746**	**1,402,561**	**41,028,307**	4.4

Source: CA, Operators' Returns.

1.2 Mobile Money Transfer

As at 31st December 2017, the number of active mobile money transfer subscriptions and agents stood at 30.0 million and 198,234 respectively. A total of 607.4 million mobile money transfer transactions[2] valued at Ksh. 1.763 trillion were carried. In addition, there were 308.6 million mobile commerce [3] transactions valued at Ksh.1.1 trillion. The value of person-to-person transfers amounted to Ksh. 596.4 million.

Table 2 shows the details of mobile money transfer and mobile commerce services.

Table 2: Mobile Money Transfer Service

Service	*Oct -Dec 17*						
	Agents	***Subscriptions***	***Number of transactions***	***Value of transactions (Kshs)***	***Mobile commerce transactions***	***Value of mobile commerce (Kshs)***	***Person to Person transfers (Kshs)***
M-Pesa	152,077	23,417,713	493,063,124	1,409,832,629,332	372,062,839	907,322,698,113	492,601,868,872
Airtel Money	23,515	2,794,543	2,614,891	1,586,285,529	3,232,246	2,996,628,670	1,015,097,253
Equitel Money	-	1,930,337	110,517,554	350,546,346,428	65,946,671	258,957,426,783	102,026,734,760
*Mobikash**	16,749	1,772,696	815,881	127,032,829	6,430	9,227,168	22,876,608
Mobile Pay	5,893	89,892	402,044	1,464,115,021	-	-	776,763,956
Total	**198,234**	**30,005,181**	**607,413,494**	**1,763,556,409,139**	**441,248,186**	**1,169,285,980,734**	**596,443,341,449**

Source: CA, Operators' Returns. *Provisional data

1.3 Mobile Number Portability

As illustrated in table 3, the number of mobile in-ports increased by four-fold during the period under review to record 1,594 in-ports from 295 in-ports reported in the previous quarter.

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[2] Mobile Money Transfer Transactions-Sending and Withdrawals

[3] Mobile Commerce Transactions-Pay Bill, Buy goods and Services

Table 3: Mobile Number Portability

Period	*Oct - Dec 17*	*Jul - Sep 17*	*Quarterly Variation (%)*	*Oct - Dec 16*
Number of in-ports	1,594	295	440.0	404

Source: CA, Operators' Returns.

1.4 Local Mobile Traffic and Usage Pattern

1.4.1 Local Voice Traffic

During the period under review, the total mobile voice traffic grew by 6.5 per cent to register 11.8 billion minutes from 11.0 billion minutes recorded in the previous period.

On-net mobile voice traffic grew by 5.8 per cent to stand at 10.4 billion minutes from 9.920 minutes recorded during the previous period. Off net mobile voice traffic rose by 13.1 per cent to post 1.2 billion minutes. Further, mobile to fixed voice traffic increased to 23.2 million minutes from 23.0 million minutes recorded in the previous quarter

The quarter under review saw traffic terminating on mobile networks increase to 11.7 billion minutes from 11.0 billion minutes recorded in the previous quarter. Incoming mobile voice traffic from other networks to own network rose by 17.4 per cent to record 1.2 billion minutes from 1.0 billion minutes. Fixed network to mobile network voice traffic declined by 11.1 per cent to register 9.7 million minutes during the period under review.

Table 4 shows a summary of local mobile voice traffic.

Table 4: Local Mobile Voice traffic in Minutes

Mobile Traffic	*Oct -Dec 17*	*Jul - Sep 17*	*Quarterly Variation (%)*	*Oct -Dec 16*
By Traffic originating (outgoing traffic)				
Own Network –Own Network	10,493,091,107	9,920,177,093	5.8	9,522,341,685
Own Network to Other Mobile Networks	1,298,099,413	1,147,363,309	13.1	1,321,393,435
Mobile Network to Fixed Network	23,253,694	23,061,836	0.8	16,362,117
Total Traffic Origination (Outgoing)	11,814,444,214	11,090,602,238	6.5	10,860,097,237
By Traffic terminating (incoming traffic)				
Own Network –Own Network	10,493,091,107	9,920,173,686	5.8	9,522,341,685

Other Mobile Networks to Own Network	1,290,211,269	1,098,769,647	17.4	1,258,551,962
Fixed Network to Mobile Network	9,791,760	11,008,590	-11.1	10,313,024
Total traffic termination (Incoming)	**11,793,094,136**	**11,029,951,923**	**6.9**	**10,791,206,671**

Source: CA, Operators' Returns.

1.4.2 Local Mobile Voice Traffic per Operator

Safaricom PLC recorded a total of 8.55 billion minutes of local mobile voice traffic during the quarter under review up from 8.51 billion minutes registered in the previous quarter. On -net and off-net mobile voice minutes stood at 8.2 billion and 350.9 million minutes respectively. Despite the increase in voice traffic, its voice market share declined by 4.4 percentage points during the period under review to stand at 72.5 per cent.

Airtel Networks Limited recorded mobile voice traffic of 2.5 billion minutes up from 1.9 billion minutes recorded in the previous quarter. Consequently, its voice market share went up by 4.6 percentage points to stand at 22.0 per cent.

Telkom Kenya Limited on the other hand recorded a total of 608.6 million minutes in local mobile voice traffic up from 589.8 million minutes reported during the previous period. However, its voice market share declined marginally by 0.1 percentage points to stand at 5.2 per cent.

Finserve Africa Limited recorded local mobile voice traffic of 37.5 million minutes during the quarter marking a decline of 7.2 per cent when compared to 40.4 million minutes registered in the preceding quarter. Its voice market share stood at 0.3 percent.

Sema Mobile Services reported growth in local mobile voice traffic during the period under review to record 39,711 minutes from 39,255 minutes recorded during the previous period. On the other hand, Mobile Pay Limited registered a decline of 8.7 per cent in voice traffic to post 27,448 minutes whereas the market share remained unchanged at 0.0 percent. .

Local mobile voice traffic by operator and their respective market shares is illustrated in Table 5

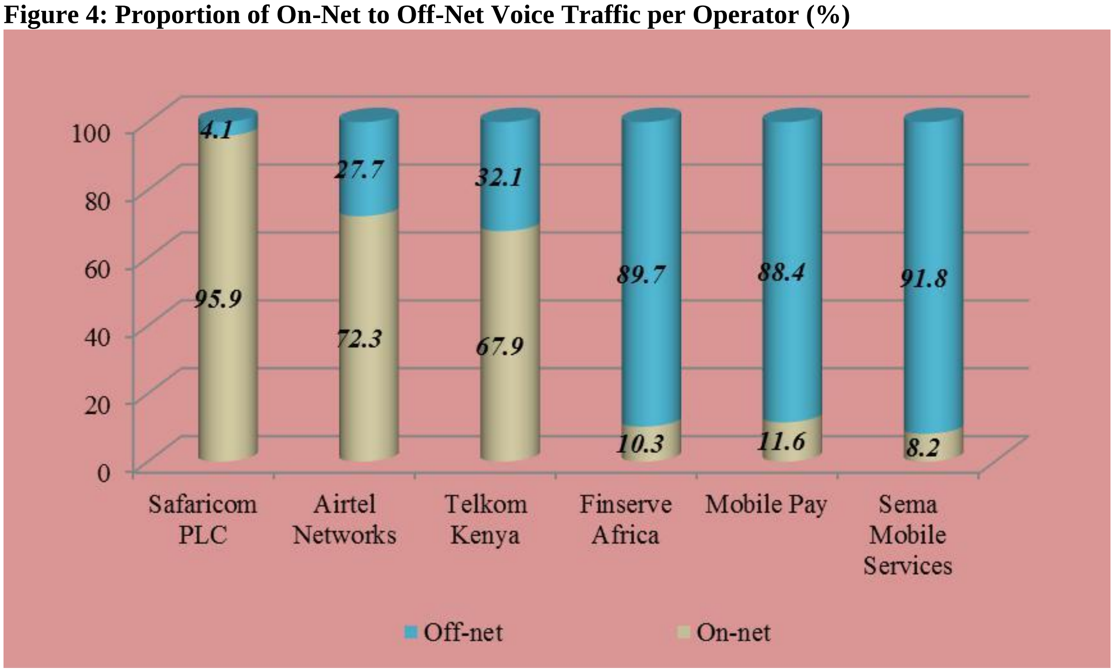
Table 5: Local Mobile Voice traffic by Operator

Period	*Name of Operator/Indicator*	*Safaricom PLC*	*Airtel Networks Kenya Limited*	*Telkom Kenya Limited*	*Finserve Africa Limited*	*Sema Mobile Services*	*Mobile Pay Limited*
Oct - Dec 17	*On-net*	8,200,724,633	1,874,925,780	413,559,948	3,874,294	3,258	3,194
	Off-net	350,913,622	718,367,640	195,092,257	33,665,187	36,453	24,254
	Total	**8,551,638,255**	**2,593,293,420**	**608,652,205**	**37,539,481**	**39,711**	**27,448**
	Market share (%)	72.5	22.0	5.2	0.3	0.0	0.0
Jul - Sep 17	*On-net*	8,199,176,321	1,311,373,880	405,843,313	3,777,017	3,407	3,155
	Off-net	310,876,214	615,752,439	184,032,672	36,639,218	35,848	26,918
	Total	**8,510,052,535**	**1,927,126,319**	**589,875,985**	**40,416,235**	**39,255**	**30,073**
	Market share (%)	76.9	17.4	5.3	0.4	0.0	0.0
Oct - Dec 16	*On-net*	8,343,311,000	765,210,000	409,803,391	4,013,903	3,391	-
	Off-net	398,022,273	699,698,004	181,107,643	42,526,701	38,814	-
	Total	**8,741,333,273**	**1,464,908,004**	**590,911,034**	**46,540,604**	**42,205**	**-**
	Market Share (%)	80.6	13.5	5.4	0.4	0.0	-

Source: CA, Operators' Returns.

The proportion of on-net to off-net mobile voice traffic per operator is illustrated in figure 4

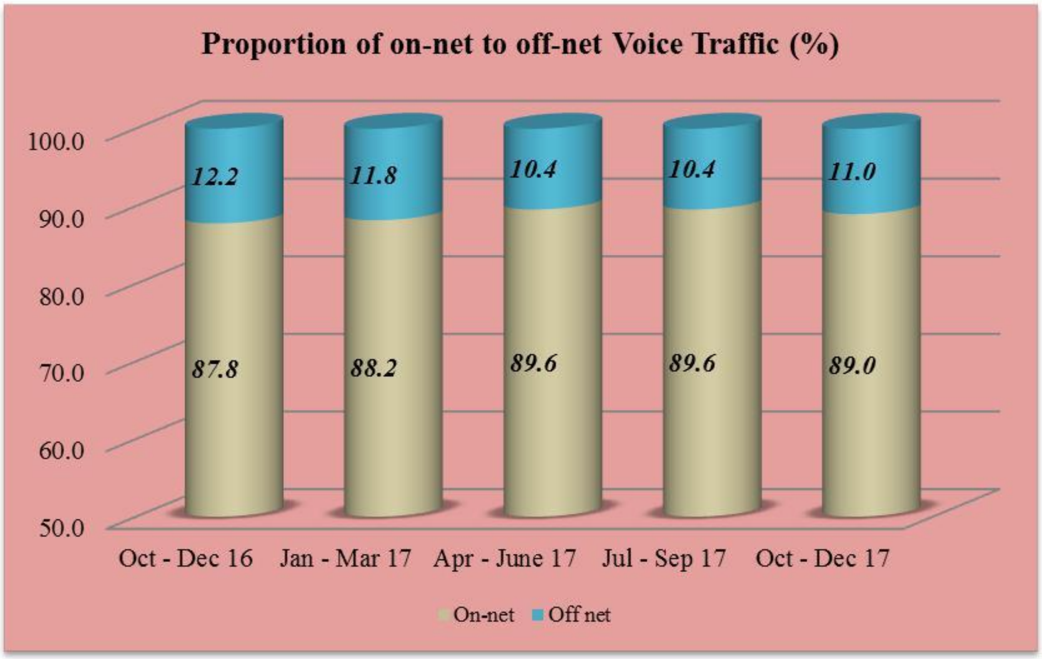
Figure 4: Proportion of On-Net to Off-Net Voice Traffic per Operator (%)



Source: CA, Operators' Returns.

As illustrated in figure 5, on net traffic accounted for 89.0 per cent of the mobile voice traffic during the period under review.

Figure 5: Proportion of Total On-Net to Total Off-Net Mobile Voice Traffic

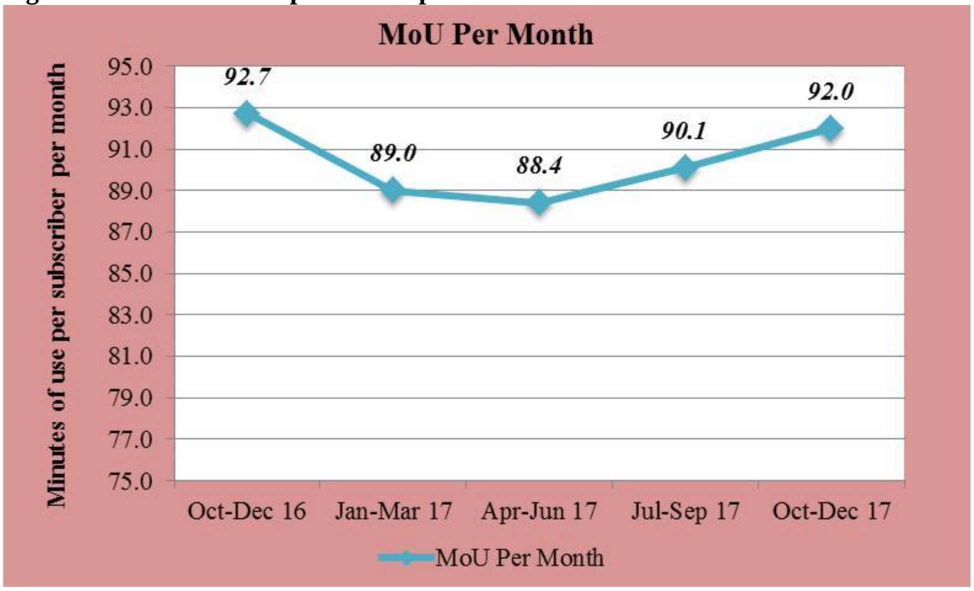


Source: CA, Operators' Returns.

1.4.3 Minutes of Use per Month per User

The Minutes of Use per Month per User was registered at 92.0 minutes during the period up from 90.1 minutes recorded in the previous quarter

Figure 6: Minutes of Use per Month per User



Source: CA, Operators' Returns.

1.4.4 Domestic Short Messaging Service (SMS)

The total number of messages sent from Safaricom PLC network stood at 17.1 billion down from 18.7 billion messages recorded in the previous quarter. Equally, its SMS market share dropped to post 96.3 per cent from 97.0 per cent registered in the preceding quarter.

The volume of SMS traffic originating from Airtel Networks Limited rose by 12.7 per cent during the period under review to post 557.9 million messages from 495.2 million messages recorded in the previous quarter, thus recording a market share of 3.1 per cent.

Telkom Kenya Limited on the other hand recorded a total of 99.3 million messages sent from its network up from 66.7 million messages registered in the previous quarter. Its SMS market share stood at 0.6 per cent up from 0.3 per cent posted in the preceding quarter.

Finserve Africa Limited registered a growth of 2.4 percent to record 8.5 billion messages during the period under review from 8.3 billion recorded in the preceding quarter.

During the period under review, Sema Mobile Services and Mobile Pay Limited registered 7,633 and 23,093 outgoing messages respectively. Each of their market shares stood at 0.0 per cent.

SMS traffic and the corresponding market share per operator is as shown in Table 6

Table 6: Short Messaging Service per Operator

Period	*Name of Operator/Indicator*	*Safaricom PLC*	*Airtel Networks Kenya Limited*	*Telkom Kenya Limited*	*Finserve Africa Limited*	*Sema Mobile Services*	*Mobile Pay Limited*
Oct-Dec 17	*On-net*	16,924,173,424	184,995,402	22,896,061	1,581,536	510	2,442
	Off-net	241,318,520	373,003,788	76,499,650	6,990,772	7,123	20,651
	Total	**17,165,491,944**	**557,999,190**	**99,395,711**	**8,572,308**	**7,633**	**23,093**
	Market share (%)	96.3	3.1	0.6	0.0	0.0	0.0
Jul-Sep 17	*On-net*	18,553,469,372	183,995,402	15,434,827	1,379,787	952	2,412
	Off-net	169,983,328	311,263,007	51,279,958	6,992,663	9,485	5,656
	Total	**18,723,452,700**	**495,258,409**	**66,714,785**	**8,372,450**	**10,437**	**8,068**
	Market share (%)	97.0	2.6	0.3	0.0	0.0	0.0
Oct-Dec 16	*On-net*	14,891,334,324	346,466,628	25,253,090	1,108,527	1,319	-
	Off-net	188,113,470	346,925,711	49,824,968	8,488,753	14,426	-
	Total	**15,079,447,794**	**693,392,339**	**75,078,058**	**9,597,280**	**15,745**	**-**
	Market Share (%)	95.1	4.4	0.5	0.1	0.0	-

Source: CA, Operators' Returns.

1.5 Roaming Traffic

The volume of Roaming-out[4] voice traffic stood at 40.6 million minutes with roaming traffic within EAC region posting 34.4 million minutes. The out roamers sent 12.7 million messages and consumed 6.0 million MB of data.

The volume of Roaming-in[5] voice traffic was recorded at 35.0 million minutes with in-roamers from EAC region contributing 31.2 million minutes. Also the in-roamers send 6.1 million messages and used 16.0 million MB of mobile data.

Table 7: Roaming Traffic

Name of Country	*Oct- Dec 2017*					
	Roaming-Out (Own Subscribers)			***Roaming-In (Foreign Subscribers)***		
	Voice	***SMS***	***Data***	***Voice***	***SMS***	***Data***
Uganda	27,545,796	4,426,511	1,340,172	18,689,523	451,201	490,106
Tanzania	1,870,730	2,104,293	1,240,889	408,845	1,247,343	310,742
Rwanda	2,264,832	406,291	294,214	6,238,350	105,304	138,917
Burundi	24,629	26,285	4,939	8,727	11,147	1,161
S. Sudan	2,732,734	520,905	14,298	5,873,369	69,221	3566
Others	6,221,939	5,257,965	3,108,148	3,792,175	4,255,522	15,074,624
Total	40,660,660	12,742,250	6,002,660	35,010,989	6,139,738	16,019,116

Source: CA, Operators' Returns.

[4] Roaming-out is traffic originated and terminated by subscribers of national networks as users of foreign networks.

[5] Roaming -in is traffic originated and terminated by foreign subscribers as users of local network.

1.6 International Mobile Traffic

During the quarter under review, the volume of international incoming mobile voice traffic rose by 7.0 per cent to post 157.3 million minutes from 147.0 million minutes recorded in the preceding quarter. Traffic originating from EAC region increased by 1.7 percent to post 47.6 million minutes from last quarter's 46.8 million minutes. Voice traffic from non-EAC region was recorded at 109.6 million minutes up from 100.2 million minutes recorded during the previous quarter.

On the other hand, International outgoing mobile voice traffic declined during the period under review to record 107.5 million minutes from 111.5 million registered during the previous period. Traffic originating from EAC region dropped significantly by 7.3 percent to record 47.1 million minutes from 50.8 million minutes.

International incoming mobile messages increased considerably by 45.2 per cent during the period under review to record 14.5 million messages from 10.0 million registered in the previous quarter.

International outgoing mobile SMs traffic declined by 3.1 per cent to post 9.2 million messages from 9.5 million messages recorded during the previous period.

The increase in the number of international incoming mobile voice and SMS traffic is attributed to reduction of roaming agreement plans by Airtel Networks Limited resulting to the growth of international traffic.

Table 8: International Mobile Traffic

Traffic	*Region*	*Oct - Dec 17*	*Jul - Sep 17*	*Quarterly Variation (%)*	*Oct - Dec 16*
International Incoming Mobile Voice Minutes	*EAC*	47,694,065	46,873,708	1.8	44,520,389
	Others	109,698,601	100,225,091	9.5	102,636,939
	Total	**157,392,666**	**147,098,799**	7.0	**147,157,328**
International Outgoing Mobile Voice Minutes	*EAC*	47,195,312	50,896,946	-7.3	48,653,026
	Others	60,317,485	60,604,538	-0.5	68,097,836
	Total	**107,512,797**	**111,501,484**	-3.6	**116,750,862**
International Incoming Mobile SMS		14,595,128	10,053,817	45.2	9,226,640
International Outgoing Mobile SMS		9,283,732	9,578,075	-3.1	9,000,009

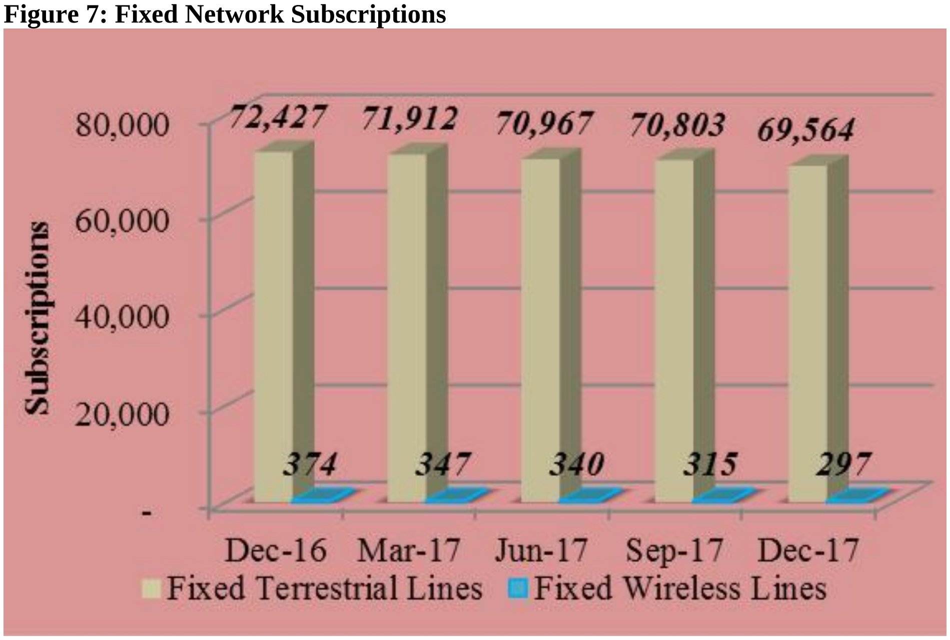
Source: CA, Operators' Returns.

2 FIXED TELEPHONE SERVICE

2.1 Fixed Network Subscriptions

During the quarter under review the number of fixed terrestrial connections stood at 69,564 down from 70,803 connections registered in the previous quarter. Fixed wireless subscriptions dropped to 297 from 315 lines reported in the preceding quarter.
The fixed network has exhibited a downward trend over time as illustrated in figure 7. This is attributed to the slow expansion of the network and adoption of its services due to the stiff competition from mobile networks that are easily accessible and less prone to vandalism.

Figure 7: Fixed Network Subscriptions



Source: CA, Operators' Returns.

2.2 Fixed Network Traffic

During the period under review, the total local fixed network voice traffic dropped by 2.9 per cent to post 585,744 minutes from 603,200 minutes recorded in the previous quarter. Fixed-to-fixed local traffic recorded 257,874 minutes down from 303,504 minutes recorded in the previous quarter while fixed wireless to fixed wireless traffic increased to 327,870 minutes from 299,696 minutes.

Table 9 illustrates the trend in fixed network traffic.

Table 9: Local Fixed Network Traffic in Minutes

Local Fixed Network traffic	***Oct - Sep 17***	***Jul-Sep 17***	***Quarterly Variation (%)***	***Oct - Dec 16***
Fixed-fixed	257,874	303,504	-15.0	339,715

Fixed wireless-fixed wireless	327,870	299,696	9.4	335,408
Total Local Fixed network traffic	**585,744**	**603,200**	**-2.9**	**675,123**

Source: CA, Operators' Returns.

2.3 International Fixed Voice Traffic

International incoming fixed voice traffic dropped by 3.1 per cent during the period under review to register 2.10 million minutes from 2.17 million minutes recorded in the previous quarter.

Similarly, fixed voice traffic terminating on other countries was recorded at 1.3 million minutes down from 1.4 million minutes registered during the previous quarter.

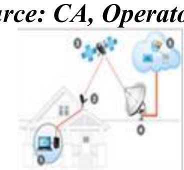
International outgoing fixed network VoIP declined by 3.9 per cent to register 643,109 minutes from 668,886 minutes registered in the previous quarter.

The trend in International fixed network traffic is outlined in Table 10.

Table 10: International Fixed Voice Traffic

International Fixed Network traffic	*Oct - Dec 17*	*Jul-Sep 17*	*Quarterly Variation (%)*	*Oct - Dec 16*
International Incoming Fixed Network Voice traffic	2,104,847	2,172,315	-3.1	2,573,212
International Outgoing Fixed Network Voice traffic	1,301,545	1,452,130	-10.4	2,090,833
International Outgoing Fixed Network VoIP traffic	643,109	668,886	-3.9	1,000,509

Source: CA, Operators' Returns.



3 DATA/INTERNET SERVICES

3.1 Data/Internet Subscriptions

The uptake of data services has continued to grow significantly as witnessed during the quarter under review, which is largely constituted by mobile data subscriptions. Total data/Internet subscriptions stood at 33.3 million up from 30.8 million subscriptions reported in the previous quarter marking an 8.0 per cent growth.

Mobile data/Internet has witnessed strong growth over the past quarters as observed during the period under review. The number of mobile data/Internet subscriptions rose to register 33.0 million from 30.6 million posted during the preceding quarter marking growth of 8.0 per cent.

The tremendous growth is attributed to the increased roll out of 3G and 4G mobile networks across the country.

During the quarter under review, the number of terrestrial wireless data subscriptions grew by 29.2 per cent to record 82,362 subscriptions from 63,749 recorded in the preceding quarter.

Satellite subscriptions registered 8.0 per cent growth to stand at 769 from 712 subscriptions recorded in the previous quarter. On the other hand, Fixed DSL subscriptions dropped to 1,953 from 2,106 subscriptions recorded during the preceding quarter.

Fibre Optic data subscriptions increased to 99,643 during the quarter under review from 90,548 subscriptions reported in the previous quarter marking a growth of 10.0 per cent during the period.

During the quarter under review, the number of fixed cable modem subscriptions declined by 2.7 per cent to 96,876 from 99,564 subscriptions reported in the previous quarter. Other fixed data subscriptions rose by 9.4 per cent to reach 6,700 from 6,127 subscriptions recorded during the previous quarter.

The number of data/Internet subscriptions and users is as indicated in Table 11.

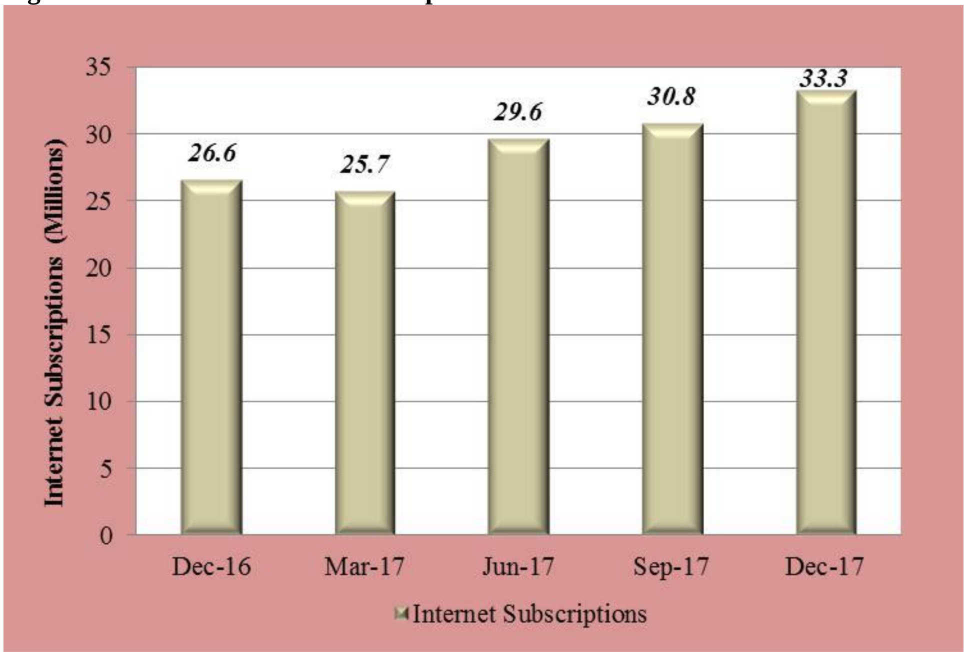
Table 11: Data/Internet Subscriptions

Internet/Data Subscriptions	*Oct-Dec 17*	*Jul-Sep 17*	*Quarterly Variation (%)*	*Oct-Dec 16*
Mobile Data Subscriptions	33,076,894	30,628,340	8.0	26,521,037
Terrestrial Wireless Data Subscriptions	82,362	63,749	29.2	29,724
Satellite Data Subscriptions	769	712	8.0	584
Fixed DSL Data Subscriptions	1,953	2,106	-7.3	2,483
FixedFibreOptic Data Subscriptions	99,643	90,548	10.0	39,255
Fixed Cable Modem Subscriptions	96,876	99,564	-2.7	86,139
Other Fixed Data Subscriptions	6,700	6,127	9.4	-
Total Internet Subscriptions	**33,365,197**	**30,891,132**	**8.0**	**26,679,222**

Source: CA, Operators' Returns.

As illustrated in Figure 8, the number of data/internet subscriptions stood at 33.3 million at the end of the quarter under review

Figure 8: Total Data/Internet subscriptions



Source: CA, Operators' Returns. The information on Internet Penetration was not included in this report because the Authority is in the process of reviewing the methodology for estimating Internet Penetration in line with current market developments and international standards.

Safaricom PLC mobile data/Internet subscriptions recorded a market share of 72.8 per cent down from 76.0 per cent recorded in the previous quarter. On the other hand, the market share for Airtel Networks Limited rose by 2.8 percentage points to reach 18.5 per cent.

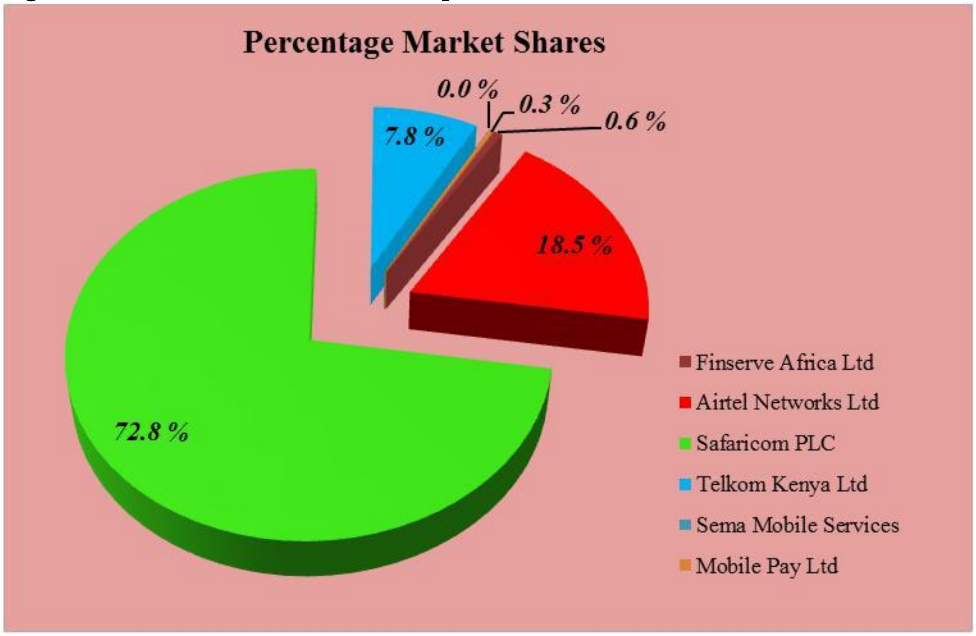
Telkom Kenya Limited posted a market share of 7.8 per cent up from 7.3 per cent reported in the preceding quarter.

The market share for Finserve Africa Limited stood at 0.6 per cent down from 0.7 per cent posted in the preceding quarter.

Mobile Pay Limited and Sema Mobile Services market share for mobile data remained unchanged at 0.3 per cent and 0.0 per cent respectively.

The market shares for mobile data/Internet market per operator are shown in Figure 9.

Figure 9: Mobile data/Internet Subscriptions



Source: CA, Operators' Returns.

During the period under review there were substantial changes in fixed/wireless data subscriptions and the respective market shares per service provider. Wananchi Group Limited recorded the largest market share at 36.7 per cent, which was a drop compared to 41.0 per cent registered in the previous quarter.

Safaricom PLC gained 1.5 per centage points to register a market share of 16.7 per cent. Similarly, Mawingu Networks Limited recorded an increase of 4.7 per centage points to stand at 16.1 per cent during the period under review. Jamii Telecommunications Limited was fourth with a market share of 12.5 percent.

Other operators offering fixed/wireless data/Internet recorded a market share of 0.5 per cent representing 1,500 subscriptions, which was a decline of 0.1 per centage points.

The number of fixed/wireless data subscriptions and respective market shares per service provider is as show in table 12.

Table 12: Fixed/Wireless Internet Subscriptions by service provider

Name of Service Provider	*Oct - Dec 17*	*Market share (%)*
Wanachi Group (Kenya) Limited	105,713	36.7
Safaricom PLC	48,267	16.7
Mawingu Networks Limited	46,527	16.1
Jamii Telecommunications Limited	36,179	12.5
Argon Telecom Services Limited	22,466	7.8
Access Kenya Group	13,623	4.7
Liquid Telecommunications Kenya Limited	8,754	3.0
Telkom Kenya Limited	3,772	1.3
Iway Africa Kenya Limited	906	0.3
Mobile Telephone Networks Business Kenya Limited	596	0.2
Other fixed/Terrestrial wireless service providers	1,500	0.5
Total	**288,303**	**100.0**

Source: CA, Operators' Returns.

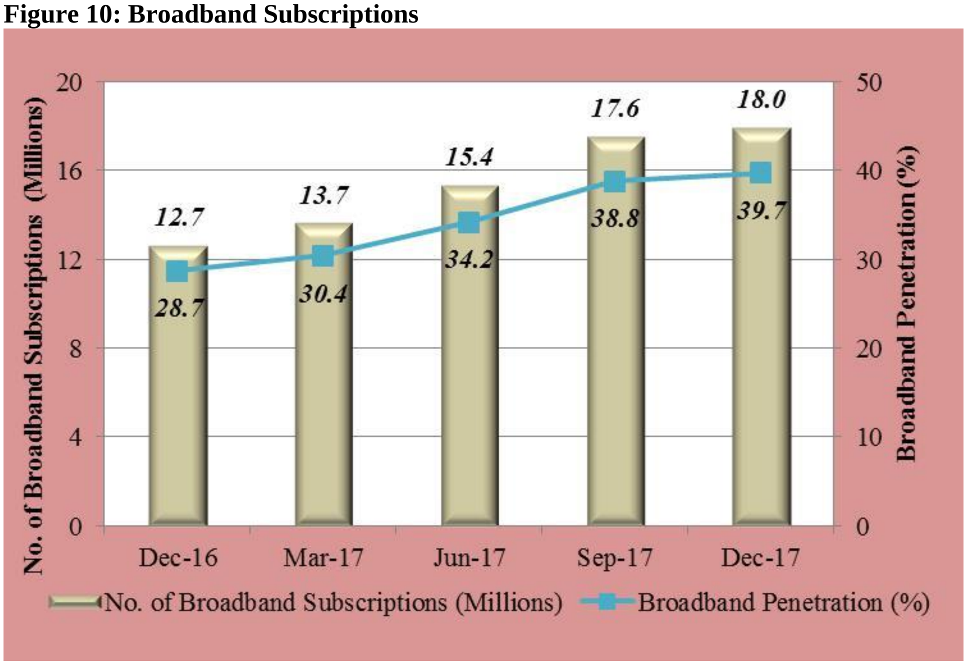
3.2 Broadband Services

3.2.1 Broadband Subscriptions

During the quarter under review, the total number of broadband subscriptions stood at 18.0 million up from 17.6 million subscriptions registered in the previous quarter. This translated to broadband penetration level of 39.7 per cent during the period under review.

The trend in broadband subscriptions and penetration levels is illustrated in Figure 10.

Figure 10: Broadband Subscriptions

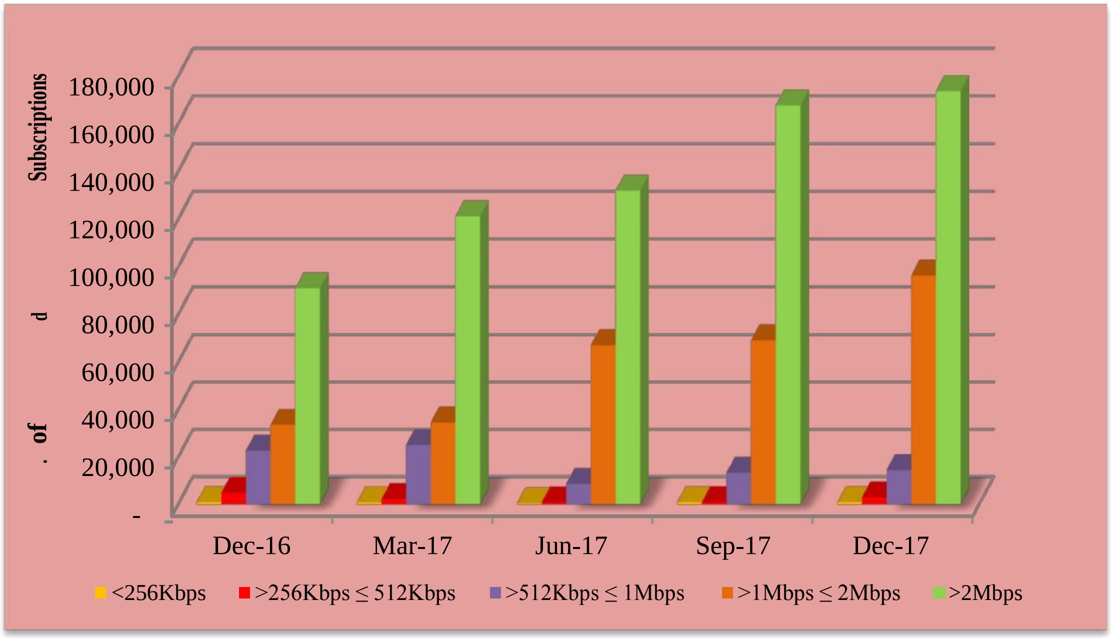


Source: CA, Operators' Returns.

3.2.2 Fixed Broadband Subscriptions by Speed

As illustrated in figure 11, speeds less than or equal to 256Kbps recorded the least number of subscriptions whereas speeds greater than 2Mbps registered the highest number of subscriptions.

Figure 11: Fixed Broadband Subscriptions by Speed



Source: CA, Operators' Returns.

3.3 International Bandwidth

The total international Internet bandwidth available in the country (Lit/equip capacity) increased to 3,182.592 Gbps during the quarter under review, up from 2,909.512 Gbps recorded in the previous quarter, representing a growth of 9.4 per cent. The increase to 148.6 Gbps from 83.0 is attributed to the expansion of capacity by Lion 2, a submarine cable lading company, in order to meet the increasing demand for bandwidth in the country.

During the period under review, Satellite Internet Bandwidth increased by 79.7 per cent to stand at 5.592 Gbps from 3.112Gbps recorded during the previous quarter.

The trend in international available bandwidth is as shown in table 13.

Table 13: International Internet Available Bandwidth (Gbps)

International Connectivity Bandwidth	*Oct-Dec 17*	*Jul-Sep 17*	*Quarterly Variation (%)*	*Oct-Dec 16*	*Jul-Sep 16*	*Quarterly Variation (%)*
SEACOM	2,020.0	2,020.0	0.0	1,250.0	1,250.0	0.0
TEAMS	702.0	702.0	0.0	700.0	700.0	0.0
EASSY	106.4	101.4	4.9	39.1	39.1	0.0
Lion 2	148.6	83.0	79.0	39.2	39.2	0.0
Satellite Internet Bandwidth	5.592	3.112	79.7	0.473	0.473	0.0
Total International Internet Bandwidth (Gbps)	**3,182.592**	**2,909.512**	**9.4**	**2,028.745**	**2,028.745**	**0.0**

Source: CA, Operators' Returns.

The total international used Internet bandwidth rose to 916.287 Gbps during the quarter under review from 887.187 Gbps recorded in the preceding quarter marking a growth of 3.3 per cent. This translates to 28.8 per cent of the total International available bandwidth being used in the country.

During the quarter under review, the used undersea cable bandwidth stood at 911.80Gbps up from 884.50Gbps recorded in the preceding quarter. Similarly, used satellite bandwidth increased by 67.0 per cent to stand at 4.487Gbps.

The trend in international used bandwidth is illustrated in Table 14.

Table 14: International Internet Used Bandwidth (Gbps)

International Leased (Used) Bandwidth	*Oct-Dec 17*	*Jul-Sep 17*	*Quarterly Variation (%)*	*Oct-Dec 16*
International Undersea Internet Connectivity Bandwidth (Gbps)	911.80	884.50	3.1	860.30
International Satellite Internet Connectivity Bandwidth	4.487	2.687	67.0	0.270
Total International Internet Connectivity Bandwidth (Gbps)	**916.287**	**887.187**	**3.3**	**860.570**

Source: CA, Operators' Returns.

3.4 Registered Domain Names

As at 31st December 2017 the total number of domains stood at 73,972 with ".co.ke" recording 68,430 domains which translated to 92.51 per cent of the total domains as shown in Table 15

Table 15: Number of Domain Names

Sub-Domain	Use	*Oct-Dec 17*		*Jul-Sep 17*	
		No. of Domains	**Percentage (%)**	**No. of Domains**	**Percentage (%)**
CO.KE	Companies	68,430	92.51	64,575	92.82
GO.KE	Government Entities	414	0.55	400	0.57
OR.KE	Non Profit Making Organizations	1,981	2.68	1,994	2.87
AC.KE	Institutions of Higher Education	768	1.04	738	1.06
SC.KE	LowerandMiddleLevel Institutions	1,027	1.39	991	1.43
NE.KE	Personal Websites and E-mail	466	0.63	324	0.47
ME.KE	Personal Websites and E-mail	386	0.52	327	0.47
MOBI.KE	Mobile Content	126	0.17	52	0.07
INFO.KE	Information	374	0.51	166	0.24
Total		**73,972**	**100**	**69,567**	**100**

Source: Kenya Network Information Centre (KeNIC)

4 National Cyber Threat Landscape

4.1 Cyber Threats Detected

During the quarter under review, a total of 4,589 cyber threats were detected by the National KE-CIRT/CC.

4.2 Validated and Responded to Cyber Threats

The National KE-CIRT/CC analyzed and validated the 4,589 cyber threats. It also identified 539 cyber threats that were critical and required immediate response. The most experienced cyber threats were various forms of system misconfigurations that made computers/networks to be vulnerable and susceptible to cyber-attacks. These type of threats were recorded at 187. Malware attacks were also very prominent at140 cases, indicating the growth of malicious activities by this method. This was followed closely by online impersonations that stood at 104. This may have been occasioned by the heightened political and electioneering environment during the period.

The various categories of the cyber threats handled during this period is indicated in table 16:

Table 16: Cyber threats validated and responded

Cyber Attack Vector	*Oct - 17*	*Nov - 17*	*Dec - 17*	*Total*
DDOS	1	0	2	3
Domain Impersonation	0	2	2	4
Fake News	3	3	0	6
Malware	10	9	121	140
Online Fraud	8	9	7	24
Online Hate Speech	30	26	6	62
Online Impersonation	26	45	33	104
Phishing	3	2	1	6
Spam	0	1	0	1
System Misconfiguration	14	28	145	187
Website defacement	1	1	0	2
Total	**96**	**126**	**317**	**539**

Source: National KE-CIRT/CC

5 BROADCASTING

5.1 Digital Terrestrial Television

At the end of the quarter under review, the number of free-to-air TV channels on the digital terrestrial platform stood at 64 up from 62 channels reported in the previous quarter. On the other hand, the number of pay TV service providers on the Digital Terrestrial Television (DTT) platform remained unchanged (GoTV and StarTimes).

5.2 Digital Terrestrial Television sites rollout

The digital TV broadcasting signal population coverage increased to 85.8 per cent as at the end of the period under review up from 83.6 per cent reported as at 30th September 2017. This is attributed to signal rollout by ADNL in Kilifi, Taita Taveta, Tana River, Kitui, Makueni, Samburu, Trans Nzoia, Busia, Baringo, Bomet and upgrade of transmitters by SIGNET to high power in Wajir and Maralal sites.

5.3 Set top Boxes

As at 31st December 2017, the number of Free-to-Air set top boxes (FTA STBs) and Pay TV decoders purchased stood at 969,896 and 4,523,210 respectively.

5.4 FM Radio Stations

The number of FM radio stations in the country remained at 178 stations as at the end of the period under review.

6 POSTAL AND COURIER

SERVICES 6.1 Postal and Courier Traffic

The number of letters posted locally stood at 16.03 million during the period under review up from 16.02 million letters recorded in the previous quarter. Total courier items sent locally were recorded at 1.8 million up from 1.7 million items posted during the previous period marking an increase of 8.4 per cent.

International incoming letters declined by 1.3 per cent during the quarter under review to post 1.06 million from 1.07 million letters posted in the previous quarter. On the contrary, international outgoing letters grew by 0.6 per cent to post 1.09 million letters.

The postal and courier traffic is shown in Table 17

Table 17: Postal and Courier Traffic

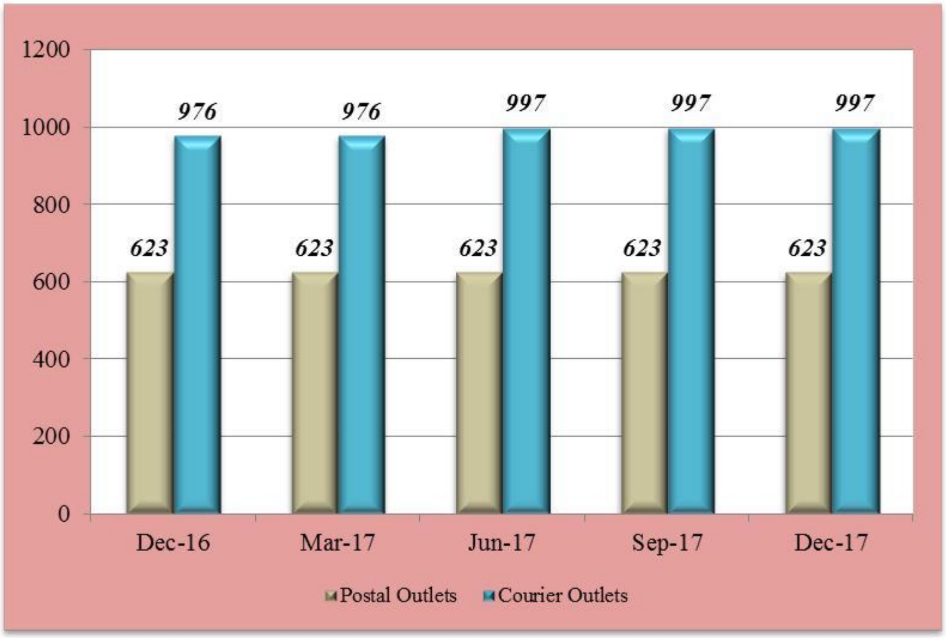
Post and Courier Traffic	*Oct-Dec 17*	*Jul-Sep 17*	*Quarterly Variation (%)*	*Oct- Dec 16*
Number of Letters (Up to 350 gms) Posted Locally	16,030,166	16,027,218	0.0	15,894,540
Total Courier Items Sent Locally	1,855,492	1,712,189	8.4	1,679,188
International Incoming Letters (Up to 350 gms)	1,064,615	1,078,968	-1.3	2,299,588
International Outgoing Letters (Up to 350 gms)	1,090,331	1,083,343	0.6	1,907,271

Source: CA, Operators' Returns.

6.2 Number of Postal and Courier Outlets

As shown in figure 12, the number of postal and private courier outlets remained unchanged at 623 and 997 respectively.

Figure 12: Number of Postal Courier Outlets



Source: CA, Operators' Returns.

7 TARIFFS, PROMOTIONS AND SPECIAL OFFERS

During the quarter under review, the Authority received a total of 34 applications for tariffs and promotions & special offers, all of which were reviewed and approved. The total number of applications received during the period increased by 70 per cent in comparison to those received in the previous quarter.

Tables 18 and 19 show the detailed distribution of the applications

Table 18: Tariffs

Service provider			*Oct – Dec 17*					
	Voice	***SMS***	***Data***	***Airtime***	***Bundle***	***Mobile Money***	***Others***	***Total***
Safaricom PLC	-	-	-	-	1	-	2	3
Airtel Networks Limited	-	-	3	-	-	-	-	3
Telkom Kenya	-	-	6	-	2	-	-	8
Total	-	-	9	-	3	-	2	14

Source: CA, Operators' Returns.

Table 19: Promotions and Special Offers

Service provider			Oct – Dec 17					
	Voice	*SMS*	*Data*	*Bundle*	*Airtime*	*Lucky Draw*[6]	*Others*[7]	*Total*
Safaricom PLC	-	-	6	2	3	-	5	16
Airtel Networks Limited	-	-	-	-	-	1	-	1
Telkom Kenya	-	-	-	-	1	-	2	3
Total	-	-	6	2	4	1	7	20

Source: CA, Operators' Returns.

8 CONCLUSION

The Second Quarter of the Financial Year 2017/18 was marked by significant growth and uptake of ICT services in the country. This growth is evidence that the current government policies, regulations and initiatives on ICT are quite effective. Local mobile voice traffic increased significantly as a result of the several special offers and promotions carried out by the various service providers during the festive season.

The completion of the Voice Infrastructure project being undertaken by the Authority under the Universal Service Fund and aimed at closing voice gaps in 78 sub-locations is expected to grow mobile penetration in the country. Further, mobile money services played a key role in providing safe, secure and cheap financial services in areas where many Kenyans have no access to formal banking systems. The mobile money platform is expected to maintain an upward trend in the coming quarters due to the significant increase in the number of services offered on the platform and subsequently the increasing demand and popularity of the services.

The data/Internet segment maintained an upward trend during the period under review as Kenyans continued to embrace and take up e-commerce services. The increased uptake of social media platforms, OTTs and other technological developments such as video on demand have resulted to increased demand for and use of bandwidth in the country. The same trend is expected in the coming quarters as the Authority is currently undertaking a key project on Education Broadband that is aimed at providing broadband connectivity of 5 Mbps downlink and 1Mbps to 896 Public Secondary Schools during the current financial year. The Authority is also in the process of licensing new players for LTE/4G services through the assignment of 700MHz, 800 MHz and 450 MHz. These initiatives are expected to play a major role in boosting internet penetration levels in the country in the near future.

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

[7] "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

The postal and courier market segment which exhibited downward trends in the previous quarters reported an increase in the number of letters and courier items sent during the period under review. This growth was as a result of the National Examinations which are conducted around the same period as well as the Christmas and New Year festive seasons during which families, relatives and friends highly exchanged success cards and greetings cards respectively.

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