FOURTH QUARTER SECTOR STATISTICS REPORT FOR THE FINANCIAL YEAR 2019/20
(APRIL-JUNE 2020)

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LIST OF ACRONYMS

B2B Business to Business
B2C Business to Customer
C2B Customer to Business
C2G Citizen to Government
DoS Denial-of-Service
EASSy Eastern Africa Submarine Cable Systems
FY Financial Year
Gbps Gigabits per second
ICTs Information Communication Technologies
KE-CIRT/CC National Kenya Computer Incident Response Team/Coordination Centre
LION2 Lower Indian Ocean Network
Mbps Megabits per Second
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
TEAMS -The East African Marine System

PRELIMINARY NOTES

- This report is based on data provided by the service providers in the ICT 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.
- The Authority has also published and shared a manual on definitions and methodologies of collecting and reporting Telecommunication indicators with service providers and the public for purposes of common understanding of ICT indicators. The manual was developed in consultation with the International Telecommunications Union (ITU) and it adheres to the set international standards. The Manual is available on CA website https://ca.go.ke/wp-content/uploads/2020/03/ICT-Indicators-Manual-2019-.pdf

REPORT SUMMARY

The Sector Statistics Report for the Fourth Quarter of the 2019/20 Financial Year provides an overview of the performance and trends in the ICT sector for the period 1st April to 30th June 2020 in the following service categories:

- Mobile Telephony Services
- Fixed Telephony Services
- Data/Internet Services
- Cyber Security Landscape
- Postal Services

SUMMARY OF KEY ICT INDICATORS

INDICATORS	Apr-Jun 2020	Jan-Mar 2020	% Change Q4 to Q3
	Q4	Q3	
Mobile Subscriptions (Millions)	57.03	55.21	3.3
Fixed Line Subscriptions	19,100	19,848	-3.8
Fixed Wireless Subscriptions	998	1,076	-7.2
Fixed VoIP Subscriptions	49,064	49,227	-0.3
MOBILE MONEY TRANSFER SERVICES			
Number of Registered Mobile Money Agents	223,184	202,102	10.4
Number of Active Registered Mobile Money Subscriptions (Millions)	30.52	29.19	4.6
Value of C2B Transfers in Kshs. (Billions)	446.50	310.48	43.8
Value of B2C Transfers in Kshs. (Billions)	385.11	365.33	5.4
Value of B2B Transfers in Kshs. (Billions)	994.64	878.16	13.3
Value of C2G Transfers in Kshs (Billions)	8.73	23.31	-62.5
Volume of P2P Transfers (Millions)	559.04	449.89	24.3
Value of P2P Transfers in Kshs. (Billions)	722.55	674.07	7.2
Total Value of Deposits in Kshs. (Billions)	634.03	608.16	4.3
VOICE TRAFFIC IN MINUTES			
Mobile On-Net Voice Traffic (Billions)	13.34	13.55	-1.6
Mobile Off-Net Voice Traffic (Billions)	1.84	1.76	4.6
Mobile Network to Fixed Network (Million)	15.12	15.82	-4.4
International Incoming Mobile Voice Traffic (Millions)	132.18	137.84	-4.1
International Outgoing Mobile Voice Traffic (Millions)	117.40	118.08	-0.6
Out-bound Roaming Incoming Voice Traffic (Minutes) (Millions)	69.63	63.41	9.8
Out-bound Roaming Outgoing Voice Traffic (Minutes) (Millions)	10.82	13.44	-19.5
In-bound Roaming Incoming Voice Traffic (Minutes) (Millions)	57.86	60.03	-3.6
In-bound Roaming Outgoing Voice Traffic (Minutes) (Millions)	1.50	4.01	-62.6
Total Local Fixed Network Traffic (Millions)	4.86	6.05	-19.7
MOBILE SMS TRAFFIC			

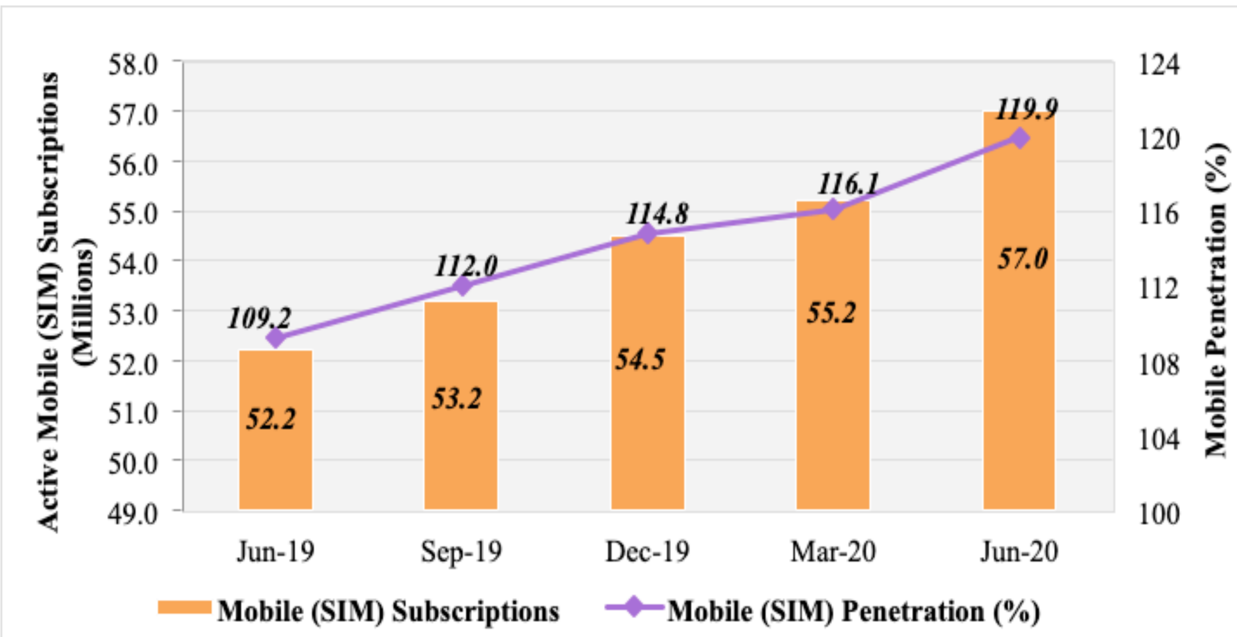
SMS On-Net (Billions)	18.71	15.67	19.4
SMS Off-Net (Billions)	1.38	1.14	21.1
International Incoming SMS (Millions)	9.29	9.83	-5.5
International Outgoing SMS (Millions)	8.03	9.47	-15.2
Out-bound Roaming Incoming SMS (Millions)	27.69	33.76	-18.0
Out-bound Roaming Outgoing SMS (Millions)	12.73	14.75	-13.7
In-bound Roaming Incoming SMS (Millions)	17.86	28.40	-37.1
In-bound Roaming Outgoing SMS (Millions)	0.65	1.77	-63.3
DATA/INTERNET SERVICES			
Data/ Internet Total Subscriptions (Millions)	41.45	39.39	5.2
Total Broadband Subscriptions	22.69	22.30	1.7
Total Available International Bandwidth (Gbps)	7,392.96	7,123.36	3.8
Total Used International Bandwidth (Gbps)	3,235.60	3,049.26	6.1
CYBER SECURITY			
Total Cyber Threats Detected	13,909,069	34,644,531	-59.9
Total Cyber Threat Advisories	20,864	17,844	16.9
POSTAL AND COURIER SERVICES			
Number of Letters (Up to 350 gms) Posted Locally (Millions)	3.58	8.52	-58.0
International Incoming Letters (Up to 350 gms) (Millions)	1.74	2.68	-35.1
International Outgoing Letters (Up to 350 gms)	332,811	865,117	-61.5
Total Population in Kenya (Millions)	47.6	47.6	0.0

1 CELLULAR MOBILE SERVICES

1.1 Mobile Subscriptions

The Kenyan government has identified telecommunications sector as a key enabler to aid economic growth. The sector has not only been vibrant but also constantly evolving due to the new technologies and infrastructure. The global outbreak of COVID-19 pandemic and its being reported in Kenya in March this year has continued to have a significant impact in the country in various sectors. As a result, the government encouraged use of ICTs through; provisions of e-government services, e-health programs and e-education as part of efforts to contain the spread of the pandemic. As at 30th June 2020, the number of mobile subscriptions stood at 57.0 million, an increase of 3.3 percent from 55.2 million subscriptions registered in the previous quarter. Consequently, mobile SIM penetration in the country stood at 119.9 percent during the period.

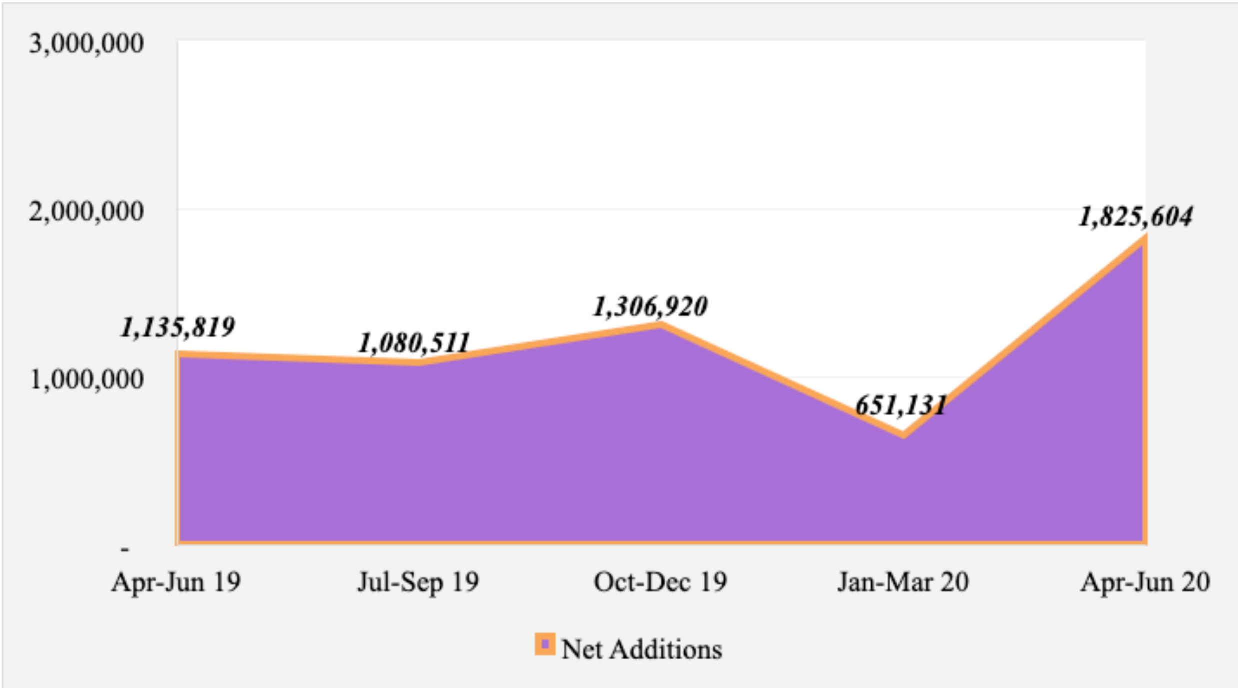
Figure 1 illustrates the trends in mobile subscriptions and penetration levels.



Source: CA, Operators' Returns.

Figure 1:Mobile Subscriptions and Penetration

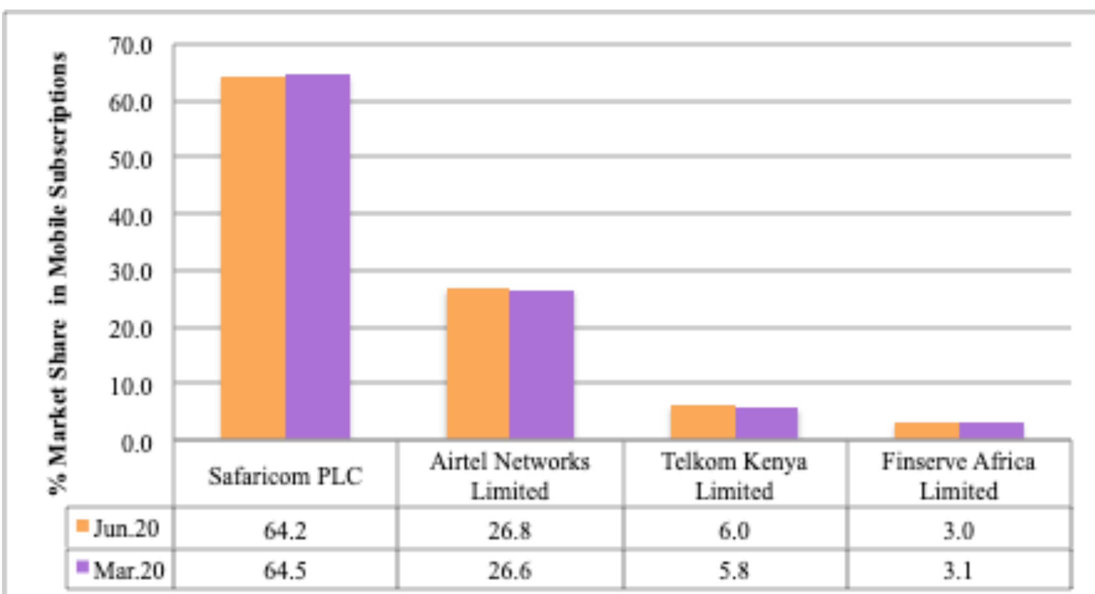
During the quarter under review, there were 1.8 million net additions in mobile SIM subscriptions. The significant growth is attributed to consumers taking advantage of various products such as SMS and data promotion/tariffs. Moreover, the directive by the Government on the use of cashless payment systems to contain COVID-19 pandemic and the attendant waiver of transaction costs for amounts equal to or less than KSh. 1,000 played a key role. Total net additions for the fiscal year stood at 4.8 million.



Source: CA, Operators' Returns.

Figure 2: Net Additions

During the fourth quarter, Safaricom PLC lost 0.3 percentage points in market shares to post 64.2 percent share in mobile subscriptions. Airtel Networks Ltd and Telkom Kenya Ltd on the other hand gained by an equal margin of 0.2 percentage points to record 26.8 percent and 6.0 percent shares respectively. Equitel registered the least market share of 3.0 percent after losing 0.1 percentage points.



Source: CA, Operators' Returns. * Mobile Pay Ltd data not available due to non-compliance by the operator

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

Operator Name /Indicator	***Jun-20***			***Mar-20***			***Quarterly Variation (%)***
	Pre-paid	**Post-paid**	**Total**	**Pre-paid**	**Post-paid**	**Total**	
Total Mobile Subscriptions	**55,890,070**	**1,142,162**	**57,032,232**	**54,062,291**	**1,144,337**	**55,206,628**	**3.3**
Safaricom PLC	35,587,262	999,874	**36,587,136**	34,590,154	1,017,148	**35,607,302**	2.8
Airtel Networks Limited	15,201,347	106,075	**15,307,422**	14,575,603	106,690	**14,682,293**	4.3
Telkom Kenya Limited	3,405,149	36,213	**3,441,362**	3,170,162	20,499	**3,190,661**	7.9
Equitel	1,696,312	**-**	**1,696,312**	1,726,372	**-**	**1,726,372**	-1.7

Source: CA, Operators' Returns

1.2 Mobile Money Services

As at 30th June 2020, active mobile money subscriptions stood at 30.5 million, whereas active mobile money agents stood at 223,184. M-Pesa continued to dominate the mobile money service with a market share of 98.9 percent. The values transacted during the period increased significantly from the previous quarter following the Governments directive on the use of cashless payment systems to curb the spread of COVID-19.

The values of transactions in Kenya Shillings made from Customers to Businesses (C2B), Business to Customer (B2C), Business to Business (B2B), Customer to Government (C2G), Person to Person (P2P) and total deposits per mobile money brand are as shown in Table 2.

Table 2:Mobile Money Transfer Services

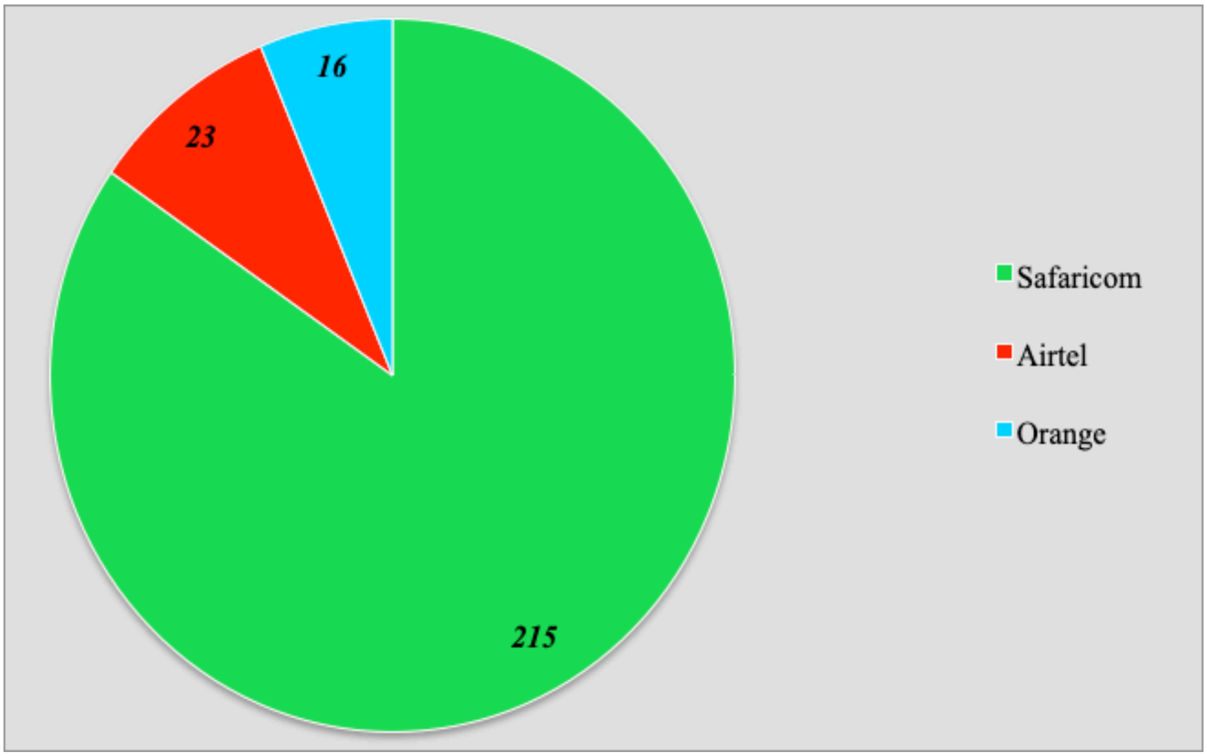
Mobile Money Brand/Indicator	***M-Pesa***	***Airtel Money***	***T-Kash***	***Total***
Agents	195,854	24,805	2,525	**223,184**
Active Registered Mobile Money Subscriptions	30,193,831	310,359	13,999	**30,518,189**
Value of C2B Transfers in KShs.	446,041,860,371	458,927,976	27,681,874	**446,501,470,221**
Value of B2C Transfers in Kshs	384,872,163,446	225,290,145	10,836,318	**385,108,289,909**
Value of B2B Transfers in Kshs.	994,641,119,809	-	-	**994,641,119,809**
Value of C2G Transfers in Kshs.	8,710,521,269	14,783,561	-	**8,725,304,830**
Volume of P2P Transfers	557,767,243	1,206,155	69,066	**559,042,464**
Value of P2P Transfers in Kshs.	721,929,034,399	561,452,988	61,283,181	**722,551,770,568**

Total value of Deposits in Kshs	632,382,762,032	1,625,144,206	19,647,448	**634,027,553,686**

Source: CA, Operators' Returns

1.3 Mobile Number Portability

In Quarter Four, 254 numbers were ported amongst the three mobile operators with Safaricom PLC recording the highest in-ports at 215. Airtel Networks Ltd and Orange registered 23 and 16 in-ports respectively as illustrated in Figure 4.



Source: CA, Operators' Returns

Figure 4: Mobile Number Portability per operator

The trends in mobile number portability for the two quarters and two Financial Years are as outlined in Table 3.

Table 3:Mobile Number Portability

Period	*Apr-Jun 20*	*Jan-Mar 20*	*Quarterly Variation (%)*	*FY 2019/20*	*FY 2018/19*	*Annual Variation (%)*
Number of in-Ports	254	265	-4.2	1,057	1,498	-29.4

Source: CA, Operators' Returns

1.4 Mobile Traffic and Usage Pattern

1.4.1 Local Voice Traffic

During the quarter under review, the total local mobile voice traffic originating from mobile networks stood at 15.2 billion minutes, which was a decline of 0.9 percent from 15.3 billion minutes recorded in the previous quarter. This is attributed to reduced business activity during the lockdown and curfew period occasioned by COVID-19 pandemic, which affected normal calling patterns. However, in general, there was an increase in local mobile voice traffic during the 2019/20 Financial Year despite the COVID-19 pandemic, which was reported in country in mid-March 2020.

The volume of local on-net mobile voice traffic declined by 1.6 percent to post 13.3 billion minutes during the quarter under review. Nevertheless, compared to 2018/19 Financial Year, the total intra-network voice traffic increased by 2.5 percent during the fiscal year that translates to 56.2 billion minutes.

The volume of off-net mobile voice traffic rose by 4.6 per cent to post 1.8 billion minutes from 1.7 billion registered in the third quarter. On a similar trend, off-net mobile voice traffic recorded a growth of 8.8 percent during the year under review, to register 7.0 billion minutes.

Mobile-to-fixed network voice traffic dropped by 4.5 percent during the Fourth Quarter to 15.1 million minutes from 15.8 million minutes reported in the last quarter.

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 20*	*Jan-Mar 20*	*Quarterly Variation (%)*	*FY2019/20*	*FY2018/19*	*Annual Variation (%)*
Total Outgoing Traffic	**15,190,399,010**	**15,323,482,843**	**-0.9**	**63,386.342,706**	**61,739,056,838**	**2.7**
Own Network – Own Network	13,337,462,149	13,550,922,882	-1.6	56,273,422,806	54,914,778,317	2.5
Own Network to Other Mobile Networks	1,837,820,237	1,756,736,665	4.6	7,051,457,039	6,767,792,350	8.8
Mobile Network to Fixed Network	15,116,624	15,823,296	-4.5	61,462,861	56,486,171	2.7

Source: CA, Operators' Returns

1.4.2 Voice Traffic by Operator

During the review period, the volume of local voice traffic originating from Safaricom PLC dropped to 9.1 billion from 10.0 billion minutes recorded during the preceding quarter. The decline is attributed to conclusion of *Stori Ibambe (Storo Bonus)* promotion, which ended on 13th May 2020. During the same period, the operator's traffic market share fell by 5.4 percentage point to 60.3 percent. Nonetheless, the total voice traffic for the fiscal year under review grew to 39.3 billion from 37.4 billion minutes recorded during the previous Financial Year.

Mobile voice traffic originating from Airtel Networks Limited grew to 5.4 billion minutes from 4.7 billion minutes recorded in the previous quarter. This is attributed to the roll out of *Tubonge 10* plan tariff, a voice bundle pack introduced by the operator where consumers were paying 10 Kenya Shillings for 100 minutes per day. Consequently, its market share rose by 5.2 percentage points to 36.1 percent. During the financial year, the total voice traffic increased to 21.7 billion from 21.4 billion minutes reported in the last Financial Year.

Telkom Kenya Limited's outgoing voice traffic rose from 486.7 million posted in the previous quarter to 524.2 million minutes in the Fourth Quarter. Equally, its market shares grew by 0.3 percentage points to stand at 3.5 per cent. In contrast, the total traffic for the fiscal year amounted to 2.0 billion minutes, which was a decline of 21.4 percent from 2.6 billion minutes posted in the previous year.

Equitel's outgoing voice traffic declined to 25.3 million minutes during the period under review from 31.8 million minutes recorded in the preceding quarter. During the same period, its voice market share stood at 0.2 percent.

The traffic volumes per service provider and the respective market shares are as 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*	*Equitel*	*Mobile Pay Limited**	*Total*
Apr-Jun20	On-net	8,668,565,811	4,336,270,714	330,026,478	2,599,146	-	13,337,462,149
	Off-net	482,141,260	1,138,697,023	194,236,480	22,745,474	-	1,837,820,237
	Total	**9,150,707,071**	**5,474,967,737**	**524,262,958**	**25,344,620**	-	**15,175,282,386**
	Market share (%)	60.3	36.1	3.5	0.2		
Jan-Mar 20	On-net	9,559,475,830	3,691,211,160	295,271,608	4,964,284	-	13,550,922,882
	Off-net	495,566,341	1,042,803,227	191,436,832	26,930,265	-	1,756,736,665
	Total	**10,055,042,171**	**4,734,014,387**	**486,708,440**	**31,894,549**	-	**15,307,659,547**
	Market share (%)	65.7	30.9	3.2	0.2		
FY2019/20	On-net	37,355,032,964	17,626,134,378	1,275,089,379	17,162,814	3,271	56,273,422,8065
	Off-net	1,983,870,144	4,156,663,905	804,088,846	106,806,334	27,810	7,051,429,229
	Total	**39,338,903,108**	**21,782,798,283**	**2,079,178,225**	**123,969,148**	**31,081**	**63,324,879,845**
	Market share (%)	62.1	34.4	3.3	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	3.4	0.2	0.0	

Source: CA, Operators' Returns, * Mobile Pay Ltd data not available due to non-compliance by the operator

During the review period, the average minutes of use per call for on-net was 1.7, whereas for off-net was 1.1.

Airtel Networks Ltd had the highest duration of on-net minutes per call at 4.1, while Telkom Kenya Ltd recorded the highest duration of off-net minutes per call at 1.4 due to relatively low tariffs offered by the operator. On the other hand, Safaricom PLC recorded the least duration of on-net and off-net calls at 1.3 and 0.9 respectively.

Table 6 presents average Minutes of Use per Call per operator.

Table 6: Minutes of Use per Call per Operator

	Apr-Jun 20		***Jan-Mar 20***	
Operator	***On-net***	***Off-net***	***On-net***	***Off-net***
Total	**1.7**	**1.1**	**1.6**	**1.1**
Safaricom PLC	1.3	0.9	1.3	0.9
Airtel networks Limited	4.1	1.2	4.0	1.3
Telkom Kenya Limited	2.2	1.4	1.8	1.3
Equitel	1.7	1.3	1.3	1.3
Mobile Pay Limited	-	-	-	-

Source: CA, Operators' Returns, Mobile Pay Ltd data not available due to non-compliance by the operator

1.4.3 Domestic Short Messaging Service (SMS) Traffic

The total SMS sent from local mobile networks during the quarter rose by 19.5 percent to record 20.0 billion messages. Similarly, during the year under review, the number of messages sent grew by 5.4 per cent to stand at 69.6 billion. The growth is as a result of attractive SMS bundles promotion/tariffs offered by the operators during the period under review. In addition, it is worth noting that SMS communication is popular among the young population who have been actively at home following prolonged closure of educational institutions in response to COVID-19 safety measures.

Safaricom PLC recorded 19.0 billion messages sent from its network in the Fourth Quarter up from 15.9 billion messages reported in the third quarter. The increase is attributed to "*The Safaricom SMS promotion*" promotion that was ran by the operator from 28th March to 26th May 2020 where subscribers who purchase any of the daily, weekly or monthly SMS bundles stood a chance to win airtime, weekly SMS, monthly SMS and phones. Consequently, the operator's SMS traffic grew remarkably to 66.1 billion during 2019/20 Financial Year from 62.5 billion messages reported in the previous fiscal year.

SMS traffic and the respective market shares per operator are shown in Table 7.

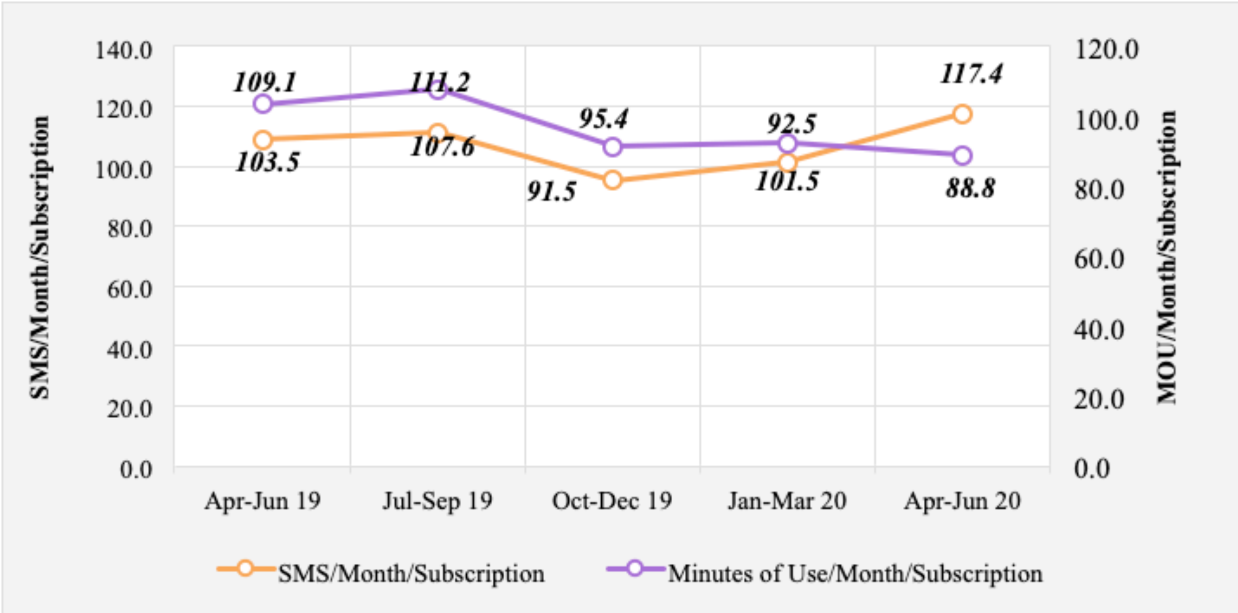
Table 7:Local Mobile SMS Traffic by Operator

Period	***Name of Operator/Indicator***	***Safaricom PLC***	***Airtel Networks Kenya Limited***	***Telkom Kenya Limited***	***Finserve Africa Limited***	***Mobile Pay Limited****	***Total***
Apr-Jun 20	*On-net*	18,422,694,999	274,698,011	12,069,402	3,834,948	-	**18,713,297,360**
	Off-net	666,880,055	626,774,628	76,215,596	6,898,838	-	**1,376,769,117**
	Total	**19,089,575,054**	**901,472,639**	**88,248,998**	**10,733,786**	**-**	**20,090,066,477**

Period	Name of Operator/Indicator	Safaricom PLC	Airtel Networks Kenya Limited	Telkom Kenya Limited	Finserve Africa Limited	Mobile Pay Limited*	Total
	Market share (%)	95.0	4.5	0.4	0.1		
Jan-Mar 20	On-net	15,485,640,638	176,357,877	10,419,218	1,835,368	-	**15,674,253,101**
	Off-net	482,456,704	583,176,631	72,583,692	5,272,752	-	**1,143,489,779**
	Total	**15,968,097,342**	**759,534,508**	**83,002,910**	**7,108,120**	**-**	**16,817,742,880**
	Market share (%)	94.9	4.5	0.5	0		
FY2019/20	On-net	64,055,149,539	1,024,322,636	43,517,334	10,208,906	2,503	**65,133,200,918**
	Off-net	2,082,320,490	2,107,222,793	352,888,639	23,047,141	21,163	**4,565,500,226**
	Total	**66,137,470,029**	**3,131,545,429**	**396,405,973**	**33,256,047**	**23,666**	**69,698,701,144**
	Market share (%)	94.9	4.5	0.6	0.0	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	

Source: CA, Operators' Returns, * Mobile Pay Ltd data not available due to non-compliance by the operator

As illustrated in Figure 5, the number of short messages sent per Subscription per Month grew to record 117.4 up from 101.5 registered in the previous quarter. This is due to increased popularity of SMS communication among the young population who are now actively at home following prolonged closure of schools. In contrast, Minutes of Use per Subscription per Month declined to 88.8 from 92.5 minutes recorded last quarter.



Source: CA, Operators' Returns

Figure 5: MoU/Month/Subscriptions vs SMS/Month/Subscription

1.4.4 International Mobile Traffic

During the April-June 2020 period, there was a general decline in international incoming and outgoing voice and SMS traffic. This is attributed to the increased uptake of Internet-based calls, which also provide video services.

The trends in international voice and SMS traffic within the EAC region and other countries across the globe for the two quarters and the two Financial Years are as outlined in Table 8.

Table 8: International Mobile Traffic

Traffic	*Region*	*Apr-Jun 20*	*Jan-Mar 20*	*Quarterly Variation (%)*	*FY2019/20*	*FY2018/19*	*Annual Variation (%)*
International Incoming Mobile Voice Minutes	*EAC*	75,028,102	76,480,009	-1.9	319,974,271	290,056,369	10.3
	Others	57,153,793	61,359,253	-6.9	247,363,520	262,601,723	-5.8
	Total	**132,181,895**	**137,839,262**	**-4.1**	**567,337,791**	**552,658,092**	**2.7**
International Outgoing Mobile Voice Minutes	*EAC*	54,017,563	56,751,306	-4.8	218,294,880	203,703,869	7.2
	Others	63,377,586	61,331,876	3.3	237,613,149	220,100,663	8.0
	Total	**117,395,149**	**118,083,182**	**-0.6**	**455,908,029**	**423,804,532**	**7.6**
International Incoming Mobile SMS		9,291,689	9,829,089	-5.5	40,857,305	43,264,945	-5.6
International Outgoing Mobile SMS		8,029,641	9,465,167	-15.2	39,391,139	35,441,941	11.1

Source: CA, Operators' Returns

1.4.5 Roaming Traffic

The trends in Out-bound and In-bound roaming for voice, SMS and data services are as outlined in Table 9 and Table 10.

Table 9: Out-bound Roaming Traffic

Country / Indicator	*Incoming Voice (Minutes)*	*Incoming SMS*	*Outgoing Voice (Minutes)*	*Outgoing SMS*	*Data Volumes (MB)*
Uganda	60,712,894	3,178,831	4,596,908	3,162,241	7,380,574
Tanzania	150,919	7,505,730	213,467	890,105	924,362
Rwanda	3,757,801	400,660	328,783	235,850	101,429
Burundi	2,833	232,474	1,530	25,993	1,438
S. Sudan	4,141,402	635,969	1,141,220	852,273	34,847
Others	867,948	15,731,942	4,538,762	7,566551	6,990,877
Total	**69,633,797**	**27,685,606**	**10,820,670**	**12,733,013**	**15,433,527**

Source: CA, Operators' Returns

Table 10: In-bound Roaming Traffic

Country / Indicator	*Incoming Voice (Minutes)*	*Incoming SMS*	*Outgoing Voice (Minutes)*	*Outgoing SMS*	*Data Volumes (MB)*
Uganda	42,748,284	3,729,943	546,997	119,544	91,876
Tanzania	44,203	6,784,532	60,562	62,919	111,502
Rwanda	10,677,325	1,040,126	139,055	24,166	29,020
Burundi	73	8,719	558	269	_
S. Sudan	4,077,674	360,239	45,655	214,343	28,137
Others	307,931	5,940,100	709,732	231,757	18,200,101
Total	**57,855,490**	**17,863,659**	**1,502,559**	**652,998**	**18,460,636**

Source: CA, Operators' Returns

1.5 Mobile Service Revenue and Investment

As shown in Table 11, in 2019, the mobile service sub-sector generated a total of 276.6 billion Kenya Shillings in revenues[1], which was an increase of 4.6 per cent when compared to 2018.

[1] Revenue from all telecommunication services refers to revenue earned from retail fixed-telephone, mobile-cellular, Internet and data services offered by telecommunication operators (both network and virtual) providing services within the country during the financial year under review. It includes retail revenues earned from the transmission of TV signals, but excludes revenues from TV content creation. Revenue (turnover) consists of retail telecommunication service earnings (therefore excluding wholesale revenues, such as interconnection revenues) during the financial year under review. Revenues from device sales and rents, VAT and excise taxes should be excluded. Wholesale revenues, such as mobile termination rates, should be excluded.

During the same period, there was a drop in amount spent in investments[2] by 41.0 per cent to record 35.6 billion from 60.3 billion Kenya Shillings posted in 2018.

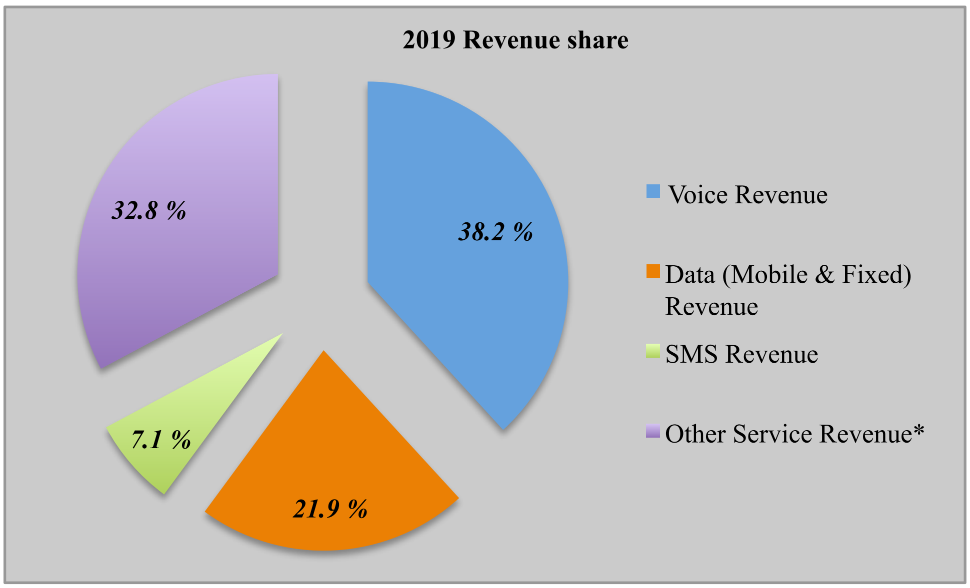
Table 11: Mobile Service Revenue and Investments

Indicator/Period	2019	2018**	*Annual Variation (%)*
*Mobile Service Revenue * (Billions)*	276.6	264.4	4.6
Investment (Billions)	35.6	60.3	-41.0

Revenue included fixed revenues from TKL and Safaricom, **Revised data

In 2019, voice service recorded the highest revenue share of 38.2 percent. Other mobile services (mobile money transfer and roaming) came second with 32.8 percent; data (Mobile and Fixed) revenue was 21.9 percent and finally SMS revenue stood at 7.1 percent.

Figure 6 and 7 illustrate the percentage revenue shares per service and per operator



Source: CA, Operators' Revenues.

Figure 6: Revenue Share per Service

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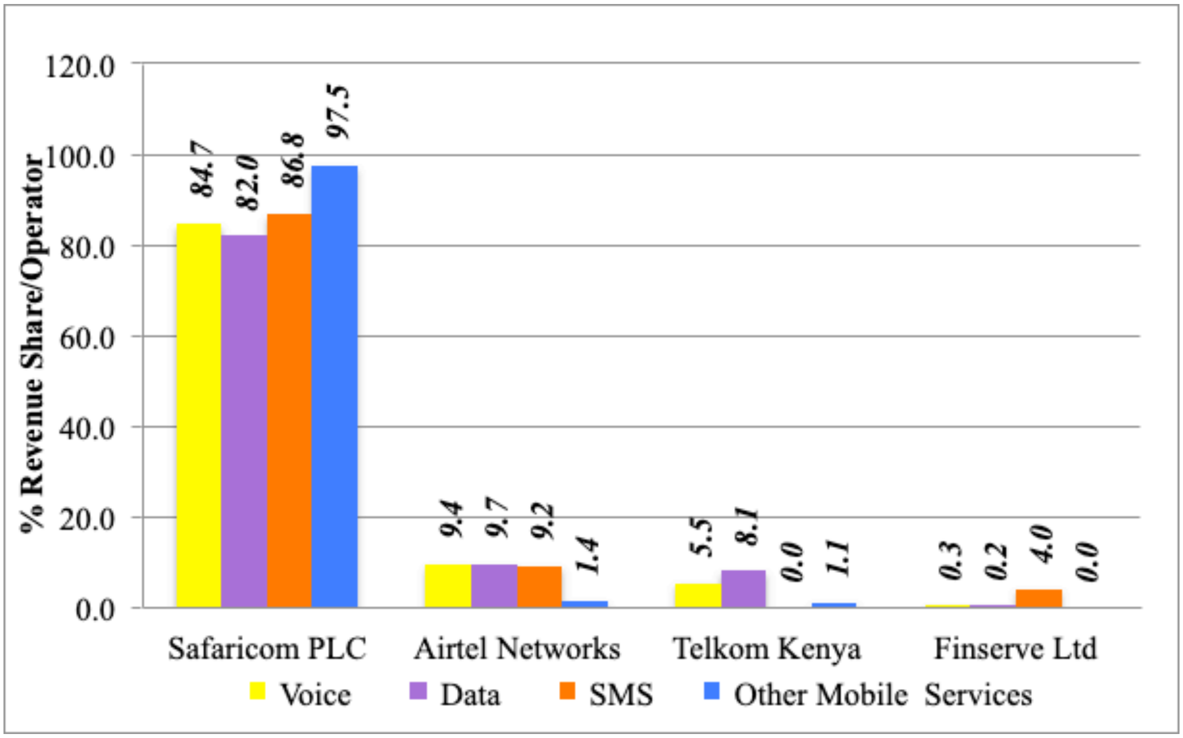
2 Annual investment in telecommunication services refers to the investment during the financial year made by entities providing telecommunication networks and/or services (including fixed, mobile and Internet services, as well as the transmission of TV signals) for acquiring or upgrading fixed assets (usually referred to as CAPEX), less disinvestment owing to disposals of fixed assets. Fixed assets should include tangible assets, such as buildings and networks, and non-tangible assets, such as computer software and intellectual property. The definition closely corresponds to the concept of gross fixed capital formation, as defined in the System of National Accounts 2008. The indicator is a measure of investment made by entities providing telecommunication networks and/or services in the country, and includes expenditure on initial installations and additions to existing installations where the usage is expected to be over an extended period of time. It excludes expenditure on fees for operating licences and the use of radio spectrum

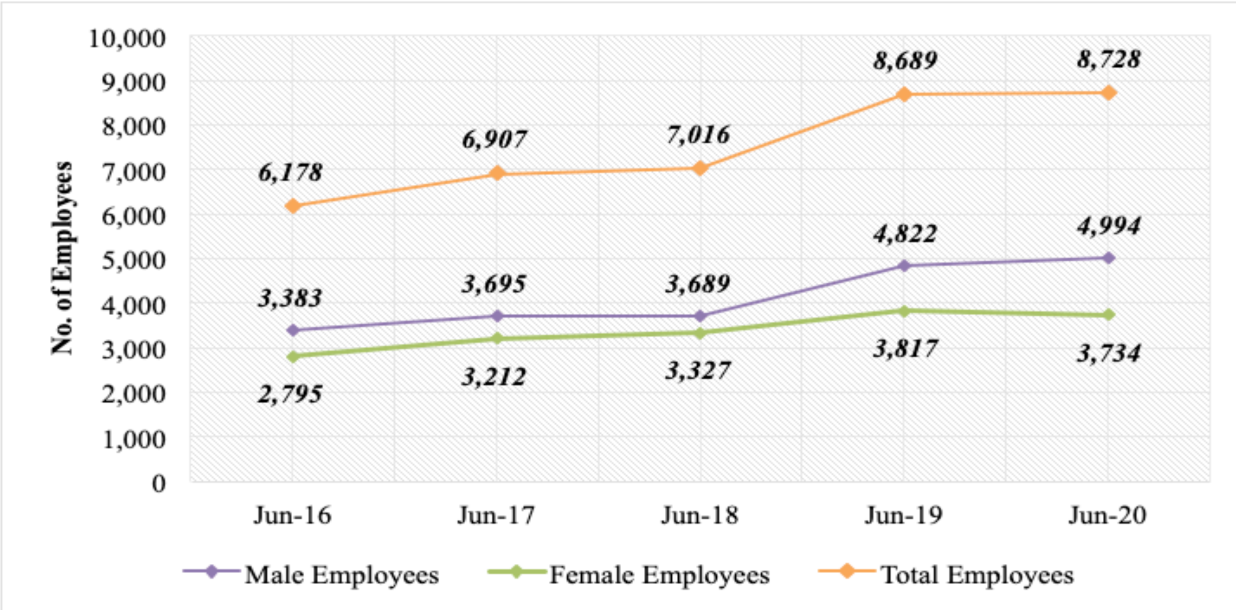


Source: CA, Operators' Returns.

Figure 7: Revenue share Per Operator

1.6 Employment in the Mobile Service Sub-Sector

As at June 2020, the number of employees in the mobile sub-sector stood at 8,728 from 8,689 recorded in the previous year. The five-year trend of employment in the mobile service sub-sector is as illustrated in Figure 8.



Source: CA, Operators' Returns

Figure 8: Employment in Mobile Service Sub-Sector

2 FIXED TELEPHONE SERVICE

2.1 Fixed Network Subscriptions

As has been the trend in the recent quarters, fixed line services continued to decline even as mobile services, Internet access and Over-The-Top (OTT) services continued to grow. During the review period, fixed line services fell by 3.8 percent to stand at 19,100 while fixed wireless and VoIP subscriptions dropped by 7.2 and 0.3 percent respectively.

The trends in local fixed voice network traffic are as shown in Table 12.

Table 12: Fixed Network Subscriptions

Subscriptions	*Jun-20*	*Mar-20*	*Quarterly Variation (%)*
Fixed Line	19,100	19,848	-3.8
Fixed Wireless	998	1,076	-7.2
Fixed VoIP	49,064	49,227	-0.3

Source: CA, Operators' Returns

2.2 Fixed Network Traffic

The local fixed voice network traffic registered a notable decline during the period under review, with the shift from fixed to mobile services. The total local fixed network traffic declined by 19.7 percent to 4.8 million from 6.0 million minutes registered during the previous quarter.

This is attributed to declined activities at office facilities as most employees adopted 'working from home' arrangement, directed by the government as part of measures to curb the spread of COVID-19 pandemic.

Table 13 shows trends in international fixed voice network traffic.

Table 13:Local Fixed Network Traffic in Minutes

Local Fixed Network Traffic	***Apr-Jun 20***	***Jan-Mar 20***	***Quarterly Variation (%)***	***FY2019/20***
Fixed-Fixed	156,290	252,035	-38.0	937,117
Fixed Wireless-Fixed Wireless	197,297	295,477	-33.2	1,122,606
Fixed to Mobile	4,505,416	5,503,900	-18.1	21,333,355
Total Local Fixed Network Traffic	**4,859,003**	**6,051,412**	**-19.7**	**23,393,078**

Source: CA, Operators' Returns

2.3 International Fixed Voice Traffic

International incoming fixed voice traffic fell by 11.8 percent to 4.3 million minutes from 4.9 million registered in the last quarter. During the Financial Year under review, the international incoming fixed voice traffic decline to 21.0 million from 27.0 million minutes recorded in the FY 2018/19.

Similarly, International outgoing fixed voice traffic decline by 14.8 per cent during the review period, to record 3.3 million minutes from 3.9 million recorded in the previous quarter. On the contrary, the international outgoing fixed voice traffic for the fiscal year under review registered a slight growth of 1.1 percent, to record 14.9 million minutes from 14.7 million minutes recorded in FY 2018/19.

International outgoing fixed network VoIP declined by 13.2 per to 459,941 minutes from 530,022 minutes registered last quarter.

Table 14 shows trends in international fixed voice network traffic.

Table 14:International Fixed Voice Network Traffic

International Fixed Network traffic	***Apr-Jun 20***	***Jan-Mar 20***	***Quarterly Variation (%)***	***FY 2019/20***	***FY 2018/19***	***Annual Variation (%)***
International Incoming Fixed	4,386,451	4,971,037	-11.8	21,090,650	27,008,848	-21.9

Network Voice traffic						
International Outgoing Fixed Network Voice traffic	3,334,865	3,915,695	-14.8	14,932,262	14,755,426	1.1
International Outgoing Fixed VoIP traffic	459,941	530,022	-13.2	1,785,271	2,345,201	-23.9

Source: CA, Operators' Returns

3 DATA/INTERNET SERVICES

3.1 Data and Broadband Services

The number of data/Internet subscriptions continued to grow due to increased demand for access to information online, coupled with transfer of more services to the digital space.. With the COVID-19 pandemic, many consumers continue adopt video-conferencing services as they work from home, access online entertainment and streaming Video-on-Demand services. In addition, learners continue to access Kenya Institute of Curriculum Development (KICD) e-content and lessons at home, as learning institutions remain closed across the country, as a measure to contain the spread of Covid-19 Pandemic.

Table 15 provides a breakdown of data/Internet subscriptions, based on the type of technology.

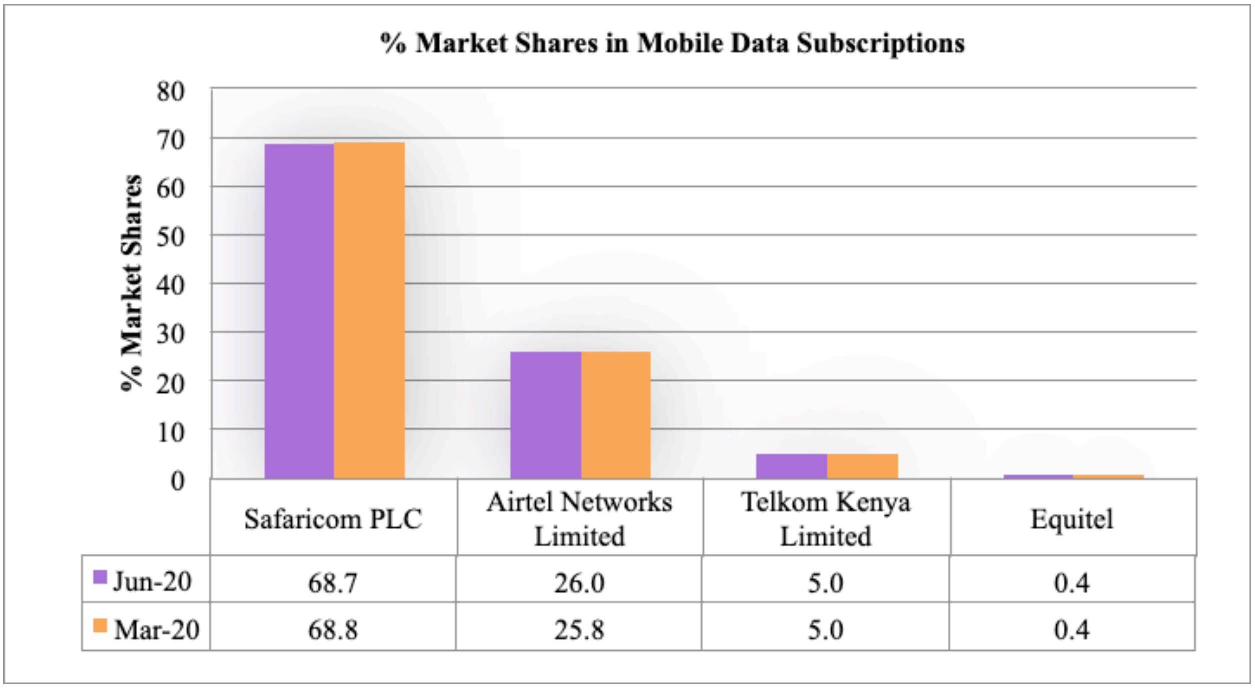
Table 15:Data/Internet Subscriptions

Indicator/Period	***Apr-Jun 20***	***Jan-Mar 20***	***Quarterly Variation (%)***
Total Wireless Subscriptions	**40,922,499**	**38,937,033**	**5.1**
Mobile Data Subscriptions	40,832,642	38,853,101	5.1
Terrestrial Wireless Data Subscribers	88,159	82,403	7.0
Satellite Data Subscribers	1,698	1,529	11.1
Total Fixed (Wired) Subscriptions	**529,722**	**457,669**	**15.7**
Fixed DSL Data Subscribers (Copper)	997	1,027	-2.9
Fixed Fibre Optic Data Subscribers	351,332	289,726	21.3
Fixed Cable Modem Subscribers	176,589	166,112	6.3
Other Fixed Data Subscribers (e.g. Radio)	804	804	0.0
Total Subscriptions	**41,452,221**	**39,394,702**	**5.2**

Source: CA, Operators' Returns, Provisional data for Liquid Telecommunications

3.2 Market Shares in Mobile Data/Internet Subscriptions by Operator

During the reference period, Safaricom PLC registered the highest market share in mobile data subscriptions that stood at 68.7 percent, whereas Equitel posted the least market share of 0.4 percent as illustrated in Figure 9.



Source: CA, Operators' Returns

Figure 9: Market Shares in Mobile Data Subscriptions per Operator

3.3 Fixed Data/Internet Subscriptions by Speed

As at end of the quarter under review, Fibre-to-the-home/office data/Internet subscriptions registered the highest number of broadband[3] as the fiber-optic technology that allows subscribers to access higher speed of Internet services, continued to be rolled out in the country. On the other hand, fixed wireless had the highest share of narrowband[4] subscriptions.

Table 16 shows the breakdown of fixed data/Internet subscriptions by speed and technology.

Table 16: Fixed Data/Internet Subscriptions by Speed and Technology

Internet Technology/Speeds	*<256Kbps*	*=>256Kbps < 2Mbps*	*=>2 Mbps <10 Mbps*	*=>10Mbps <30 Mbps*	*=>30 Mbps <100Mbps*	*=>100Mbps*	*Totals*
Cable Modem	-	-	130,415	19,798	25,680	696	**176,589**
Copper (DSL)	58	212	686	41	-	-	**997**
FTTH/O	2	3,884	146,067	113,189	86,294	1,896	**351,332**
Fixed Wireless	9,861	7,767	69,420	987	124	-	**88,159**

[3] Broadband; Data/Internet speeds equal to or above 256Kbps
[4] Narrowband; Data/Internet speeds below 256 Kbps

Satellite	47	448	1,038	165	-	-	**1,698**
Other Fixed	-	105	355	198	84	62	**804**
Totals	**9,968**	**12,416**	**347,981**	**134,378**	**112,182**	**2,654**	**619,579**

Source: CA, Operators' Returns

Table 17 shows Fixed Data Subscriptions by service provider and their respective market shares

Table 17: Fixed Data Subscriptions by Service Provider

Name of service Provider	*Number of data/Internet subscriptions*	*Percentage Market share*
Safaricom PLC	207,398	33.5
*Wananchi Group (Kenya) Ltd**	201,605	32.5
Jamii Telecommunications Ltd	118,493	19.1
Poa Internet Kenya Ltd	54,831	8.8
Mawingu Networks Ltd	10,708	1.7
*Liquid Telecommunications Kenya Limited***	9,444	1.5
Internet Solutions Kenya Ltd	9,115	1.5
Telkom Kenya Ltd	4,780	0.8
Mobile Telephone Network (MTN)	474	0.1
Other Fixed Service providers	2,731	0.4

Source: CA Operators' Returns, * includes Wananchi Group, Wananchi Telecom, ISAT and Simbanet, ** Provisional data,

3.4 Broadband Services

3.4.1 Mobile Broadband

As at 30th June 2020, total broadband subscriptions stood at 22.6 Million from 22.3 million subscriptions posted in the last quarter. Mobile broadband subscriptions remained high at 97.3 percent of total broadband subscriptions. However, total fixed broadband subscriptions registered a remarkable growth of 14.7 percent to stand at 609,611 due to high demand of broadband services, as most consumers worked from home and learners continued to attend on-line lessons and access e-content during the COVID-19 pandemic.

The volume of mobile data consumed in Quarter Four stood at 132,397,651 GB, which was 19.7 percent more than that consumed during the previous quarter.

Table 18: Broadband Subscriptions

Indicator/Period	*Apr-Jun 20*	*Jan-Mar 20*	*Quarterly Variation (%)*
Total Broadband Subscriptions	**22,693,715**	**22,304,101**	**1.7**
Total Fixed Broadband Subscriptions	**609,611**	**531,600**	**14.7**
3G Broadband Subscriptions	14,074,018	14,037,454	0.3
4G Broadband Subscriptions	8,010,086	7,735,047	3.6
Total Mobile Broadband Subscriptions	**22,084,104**	**21,772,501**	**1.4**
Consumed Mobile Data Volumes (GB)	132,397,651	110,642,771	19.7

Source: CA, Operators' Returns.

3.4.2 Fixed Broadband Subscriptions

Table 19 illustrates broadband subscriptions by speed and technology

Table 19: Fixed Broadband Subscriptions by Speed and Technology

Internet Technology/Speeds	*=>256Kbps < 2Mbps*	*=>2 Mbps <10 Mbps*	*=>10Mbps <30 Mbps*	*=>30 Mbps <100Mbps*	*=>100Mbps*	*Totals*
Cable Modem	-	130,415	19,798	25,680	696	176,589
Copper (DSL)	212	686	41	-	-	939
FTTH/O	3,884	146,067	113,189	86,294	1,896	351,330
Fixed Wireless	7,767	69,420	987	124	-	78,298
Satellite	448	1,038	165	-	-	1,651
Other Fixed	105	355	198	84	62	804
Totals	**12,416**	**347,981**	**134,378**	**112,182**	**2,654**	**609,611**

Source: CA, Operators' Returns.

3.5 International Bandwidth

During the review period, total undersea bandwidth capacity leased in the country rose by 3.8 percent to record 7,392.96 Gbps from 7,123.36 Gbps registered in previous quarter.

The undersea bandwidth capacity utilized within the country increased by 6.1 percent to stand at 2,002.11 Gbps during the period. Undersea bandwidth capacity sold to other countries increased by the same margin to stand at 1,233.49 Gbps.

Satellite capacity lit and used satellite capacity during the quarter under review remained unchanged at 5.48 Gbps and 2.61 Gbps respectively.

The trends in International Lit/Equip and Utilized Bandwidth are as shown in Table 20.

Table 20:International Internet Bandwidth (Gbps)

Indicator/ Operator	***Apr-Jun 20***		***Jan-Mar 20***		***Quarterly Variation (%)***	***Apr-Jun 19***
Total Available (Lit/Equip) Bandwidth Capacity	**7,392.96**		**7,123.36**		**3.8**	**4,707.46**
Undersea Bandwidth Capacity	***SEACOM***	2,940.00	2,940.00		0.0	2,840
	TEAMS	1,618.00	1,618.00		0.0	702
	EASSY	2,520.00	2,310.00		9.1	912.84
	Lion 2	308.48	249.88		23.5	247.04
Satellite Bandwidth Capacity	**5.48**		**5.48**		**0.0**	**5.58**
Utilized Bandwidth in Gbps						
Total Utilized Bandwidth Capacity						
Undersea Bandwidth	***Sold In***	***Sold in***	***Sold In Kenya***	***Sold in***		

Capacity	***Kenya***	***other Countries***		***other Countries***		
	2,002.11	1,233.49	1,957.01	1,092.25	6.1	1,336.20
Satellite Internet Capacity		**2.61**		**2.61**	**0.0**	**5.13**

Source: CA, Operators' Returns.

3.6 Registered Domain Names

The total number of *.KE* domains grew by 4.8 percent to post 95,974 domains at the end of the Fourth Quarter of 2019/20 Financial Year.

Table 21 illustrates the various sub-domains and their respective use as at 30th June 2020.

Table 21: .KE Domains

SUB-DOMAIN	***USE***	***Jun 20***		***Mar 20***	
		Domains	**% Users**	**Domains**	**% Users**
CO.KE	Companies	91,445	95.3	87,090	95.1
OR.KE	Non-Profit-Making Organizations	1,844	1.9	1,811	2.0
AC.KE	Institutions of Higher Education	907	0.9	877	1.0
SC.KE	Lower and Middle Level Institutions	759	0.8	769	0.8
NE.KE	Personal Websites and E-mail	51	0.1	79	0.1
ME.KE	Personal Websites and E-mail	185	0.2	207	0.2
MOBI.KE	Mobile Content	41	0.0	39	0.0
INFO.KE	Information	153	0.2	153	0.2
GO.KE	Government Institutions	589	0.6	578	0.6
Total		**95,974**		**91,603**	

Source: CA, Operators' Returns.

4 National Cyber Threat Landscape

4.1 Cyber Threats Statistics

During the Fourth Quarter, the National KE-CIRT/CC detected 13.9 million cyber threat attempts, which was a 59.9 percent decrease from the 34.6-million cyber threat attempts detected in the previous quarter. This decrease was attributed to timely incident response mechanisms and increased endpoint security measures adopted to protect end user devices.

Table 22: Cyber Threats Detected

Cyber Threat	***Apr-Jun 20***	***Jan-Mar 20***	***Quarterly Variation (%)***	***FY 2019/20***	***FY 2018/19***	***Annual Variation (%)***
Malware	12,508,275	33,747,678	-62.9	101,651,143	40,893,141	148.6

DDOS/Botnet	267,931	287,481	-6.8	1,475,537	4,852,022	-69.6
Web Application Attacks	1,102,840	582,281	89.4	7,662,793	6,109,184	25.4
System vulnerabilities	30,023	27,091	10.8	108,596	47,913	126.7
Totals	**13,909,069**	**34,644,531**	**-59.9**	**110,898,069**	**51,902,260**	**113.7**

Source: National KE-CIRT/CC

In response to these cyber threat attempts detected, the National KE-CIRT/CC issued 20,864 advisories to the affected organizations. The number of advisories issued during the period was a 16.8 percent increase compared to the 17,844 advisories issued during the previous quarter.

Table 23:Cyber Threat Advisories

Cyber Threat Advisories	*Apr-Jun 20*	*Jan-Mar 20*	*Quarterly Variation (%)*	*FY 2019/20*	*FY 2018/19*	*Annual Variation (%)*
Malware	2,398	1,559	53.8	7,718	6,715	14.9
Botnet	457	111	311.7	1,829	868	110.7
Web Application Attacks	204	147	38.8	687	1,735	-60.4
System Vulnerabilities	17,364	15,517	11.9	60,593	38,320	58.1
Others	441	510	-13.5	1,645	1,464	12.4
Totals	**20,864**	**17,844**	**16.9**	**72,472**	**49,102**	**47.6**

Source: National KE-CIRT/CC

5 POSTAL TRAFFIC

During the quarter, the total number of letters posted locally recorded a substantial decline of 58.2 percent to post 3.5 million from 8.5 million letters in the last quarter. The decline is attributed to the COVID-19 pandemic, which impacted on economic activities thus limiting letter postage as a means of communication among corporates, SMEs and individuals. In addition, some public institutions adopted online services especially during the COVID-19 pandemic, affecting postage of letters as well. Consequently, the total number of letters sent in the 2019/20 Financial Year dropped to 32.2 million from 47.1 million recorded in the 2018/2019 Financial year.

During the Fourth Quarter of FY 2019/20, the volume of international incoming letters dropped by 35.2 percent to register 1.7 million from 2.6 million posted in the last quarter. Similarly, the number of letters sent to other countries recorded a decline of 61.5 percent to stand at 332,811 during the quarter under review.

The postal traffic is as shown in Table 24.

Table 24:Postal Traffic

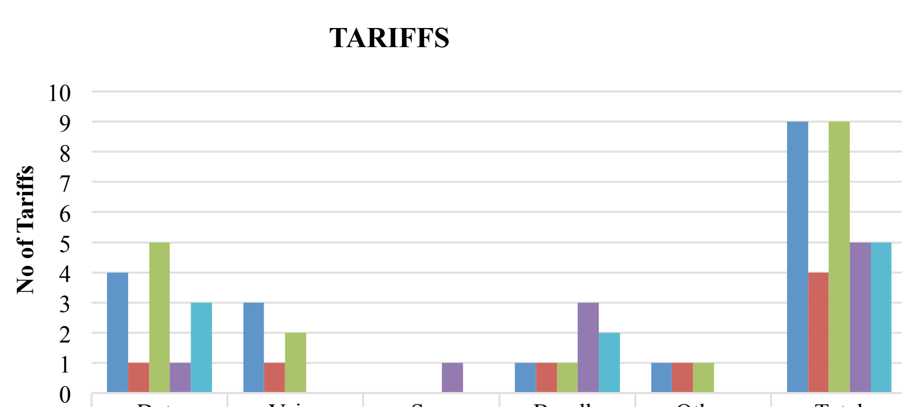
Postal Traffic	***Apr-Jun 20***	***Jan-Mar 20***	***Quarterly Variation (%)***	***FY2019/20***	***FY2018/19***	***Annual Variation (%)***
Number of Letters Sent (Up to 350 gms) Posted Locally	3,577,851	8,518,805	-58.2	32,272,709	47,133,168	-31.5
International Incoming Letters (Up to 350 gms)	1,736,629	2,681,610	-35.2	8,842,715	9,633,593	-8.2
International Outgoing Letters (Up to 350 gms)	332,811	865,117	-61.5	3,070,136	4,483,413	-31.5

Source: CA, Operators' Returns.

6 TARIFFS, PROMOTIONS AND SPECIAL OFFERS

During the quarter under review, the Authority received 15 applications for new tariffs, and promotions & special offers, which represented a 7.14 percent growth in applications received from the previous quarter. Further, the Authority received 8 applications for revision of existing tariffs, and promotions & special offers during the Fourth Quarter of the FY 2019/20.

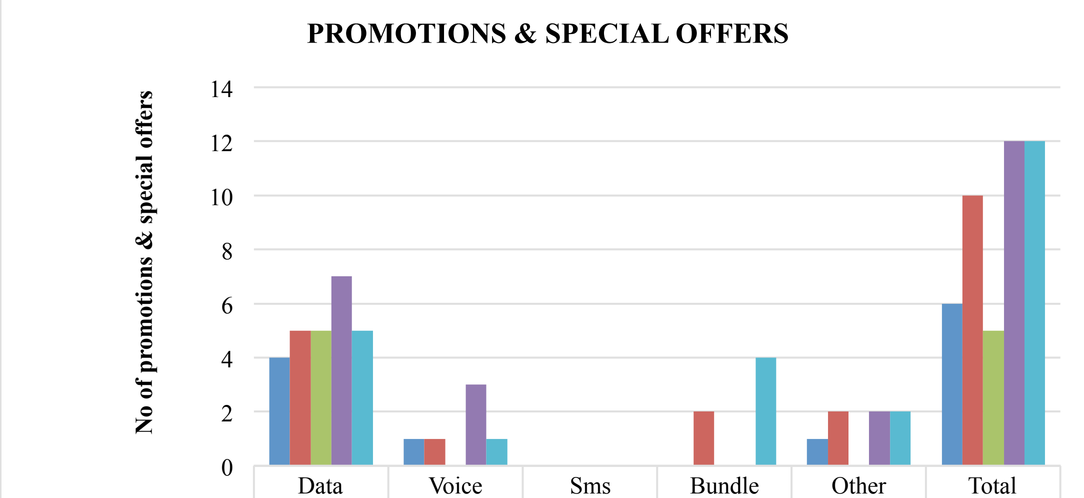
A detailed distribution of new applications for tariffs, and promotions & special offers over the past five quarters is illustrated in Figures 10 and 11 respectively.



	Data	Voice	Sms	Bundle	Other	Total
April- June 2020	4	3	0	1	1	9
Jan- March 2020	1	1	0	1	1	4
Oct-Dec 2019	5	2	0	1	1	9
July- Sept 2019	1	0	1	3	0	5
April- June 2019	3	0	0	2	0	5

Source: CA, filed promotions and special offers

Figure 10: Tariffs



	Data	Voice	Sms	Bundle	Other	Total
April- June 2020	4	1	0	0	1	6
Jan- March 2020	5	1	0	2	2	10
Oct-Dec 2019	5	0	0	0	0	5
July- Sept 2019	7	3	0	0	2	12
April- June 2019	5	1	0	4	2	12

Source: CA, filed promotions and special offers

Figure 11: Promotions and Special Offers

7 CONCLUSION

The Country's telecommunications sector grew relatively strong during the 2019/20 fiscal year. The growth was supported mainly by growth in the digital economy, mobile telephony and data/Internet penetration. The telecommunication services which play a crucial role in the economy will need to be more resilient in the face of unforeseen disruptions such as the COVID-19 pandemic which continues to impact many sectors of the economy.

The ICT sector continues to play a critical role in Kenya's response to the pandemic, especially mobile money, which is a critical enabler of financial inclusion,

Internet access has become a gateway to critical information, services and opportunities available to many people. The number of mobile Internet users will continue to grow due to an increased demand for access to information online as a result of the proliferation of digital services.

With the introduction of Alphabet's Loon balloons in collaboration with Telkom Kenya in early July 2020, it is expected that the unconnected population in remote areas will be able to access Internet services. The digitization of government services is expected to impact the postal sub-sector immensely, particularly the letter post, as communication moves to the digital platforms.