COMMUNICATIONS STATISTICS REPORT 2008

1.0 INTRODUCTION

The Communications Commission of Kenya is mandated among other responsibilities to implement policies geared towards promotion of sustained development of Communication sector and to achieve Universal access in the country. Sector data and statistics are important tools that the Commission employs in decision making and informing stakeholders and other interested parties on the development of the industry.

To achieve this objective, the Commission in 2007 revised the data collection instruments for all license categories. This was done in order to address the gaps that have existed in the database. The new strategy requires licensees to file data at the end of every quarter.

The analysis presented in this report is in accordance with the data submitted by licensees cumulatively over the calendar years. A snap shot of how the sector has performed since the Commissions inception in 1999 will form the base year of this report. It will however be important to note that some data is not readily available while other license categories have been introduced into the market after this period.

2.0 MOBILE TELEPHONY

The mobile telephone services in Kenya started in 1992 with the analogue system that was widely known as the Extended Total Access Communication System (ETACS), which was commercially launched in 1993. During this entry period the services were so expensive that it was only a few within the upper rank of the society that could afford them. The cost of owning a mobile handset was as high as Kshs.250, 000. This resulted in a marginal mobile subscriber base of less than 20,000 for a period of seven years (from 1993 - 1999).

The enactment of the Kenya Communications act, 1998 led to the introduction of competition in the cellular mobile industry. Currently the Commission has licensed four mobile operators namely Safaricom, Celtel, Econect Wireless and Telkom Kenya but only two of these have rolled out their network.

2.1 Mobile growth

Since the Commission issued the two mobile licenses in 2000, the mobile telecommunication has continued to lead the voice telephony market by having more subscriptions as compared to fixed network in the country. Over the last five years the sub sector has registered over 60% annual growth with over 11,986,007 subscribers at the end of March 2008 representing a penetration of 35.25 %. Table 2.1a illustrates the level of subscription over the years.

Table 2.1a: Mobile Telephony Subscription

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	March2008
Number of mobile subscribers	15,000	114,000	585,131	1,325,222	1,590,785	2,546,157	5,263,676	7,340,317	11,440,077	11,986,007
No of Public Payphones*	-	-	-	-	1,628	3,404	20,666	29,888	20,822	-
Mobile Penetration (%)	0.053	0.38	1.90	4.20	4.95	7.77	15.74	21.62	33.65	35.25

Source CCK database, (-) Missing data

The Community payphones that were introduced by the operators between 2002 and 2003 were on an increase during the first four years of their roll out. This has however declined from 29,888 in 2006 to 20,822 in 2007 which could be attributed to cheaper mobile handsets in the market evidenced by the 56% increase in the number of subscribers during the same period.

Over the last five years mobile penetration has registered an exponential growth from 4.95 in 2003 to 33.65 in 2007. The increase in mobile penetration can be attributed to a number of factors. First, the reduction in the value of calling cards from the lowest of Kshs 250 in 2003 to Kshs 20 by March 2008 has made calling cards affordable to low income earners thus stimulating this positive trend. Secondly, the average costs of making calls has declined from Kshs 20.18 to Kshs 16.17 to the same network and from Kshs 32.38 to Kshs 22.63 when calling another mobile network between 2004 and 2007 (the reduction in call charges is as shown in table 2.1b below). This has led to increased uptake of mobile phones as costs of calls become affordable thus increasing subscription rates and penetration. International call charges, on the other hand, have not changed much over the period. Third, even as the mobile operators adjust their tariffs, the mobile coverage has also increased with services now available to a higher population.

Table 2.1b: Average Mobile Tariffs

Year	**2004**	**2005**	**2006**	**2007**
Charges to same network	20.18	19.23	18.89	16.17
Charges to another mobile network	32.38	27.37	26.69	22.63
Charges to fixed network	28.76	27.51	25.52	22.63
International call charges	99.79	99.79	98.25	93.95
SMS same network	5.00	5.00	5.00	3.86
SMS to another network	5.00	5.00	5.00	5.00
International SMS	10.00	10.00	10.00	10.00

Source CCK database

2.2 Mobile traffic

Information on traffic flow in the country has been very scanty mainly because of the inconsistent manner in which operators have been submitting this information as illustrated in table 2.2. As indicated in the table, the mobile to fixed traffic has been on the decline over the years. This could be attributed to growth and expansion of the mobile networks, legalization of mobile to mobile interconnection and the granting of International Gateway to these operators.

Table 2.2: Mobile traffic

Year	2004	2005	2006	2007
Mobile to fixed traffic (Minutes)	286,011,379	274,983,217	71,391,346	18,867,044
Total local mobile traffic (Minutes)	-	3,268,961,952	4,955,485,330	4,905,583,043
SMS sent	152,939,270	355,080,351	255,827,772	445,141,504

Source: CCK database. (-) Missing data

The use of SMS has increased over the period, which may be attributed to among others, the low cost of sending SMS, and increased use of SMS for social and commercial information dissemination.

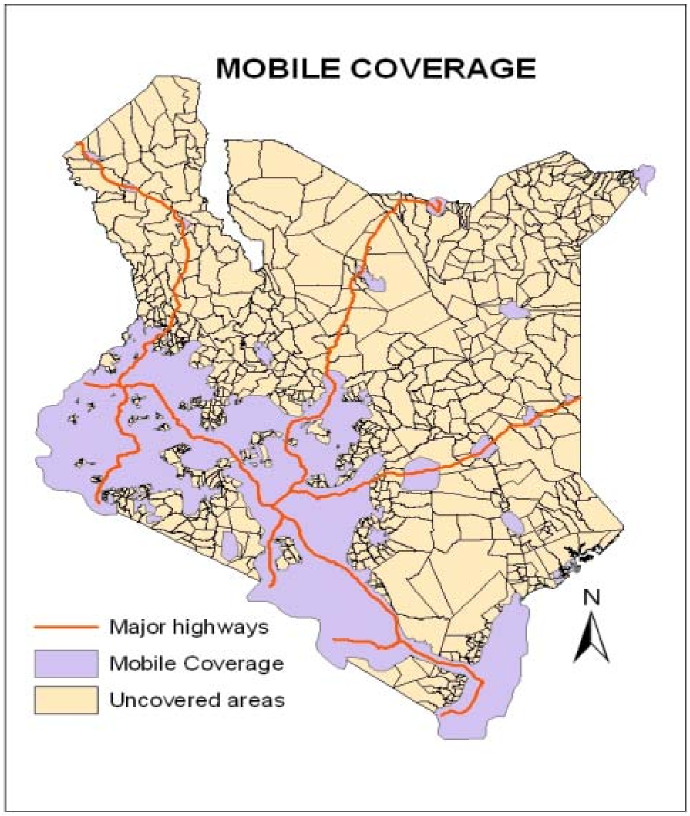
2.3 Mobile coverage

The current level of competition in the country has witnessed a network expansion by the two operators to levels that have surpassed their license conditions. Establishment of new sites in areas hitherto considered uneconomical, has in effect increased the level of population coverage including some rural areas. However, as is the case in most developing countries, this coverage is concentrated in areas with high population densities and promising economic potential especially in urban areas and along major highways.

With a national coverage of about 77% of the population, the mobile industry invariably covers over 25 million people in the country. However, the 27% geographic coverage implies that many parts of the country are not covered especially the arid and semi arid areas. The challenge is how to make these services affordable to the wider population and to encourage investment in high cost areas.

Figure 2.3 and Table 2.3 illustrate the coverage by mobile operators.

Figure 2.3: A map of mobile coverage



As shown in the figure above the covered areas count for a mere 27% while the rest of the country remains uncovered.

Table 2.3: Mobile Coverage

Year	**2004**	**2005**	**2006**	**2007**
Number of BTS	626	1,144	1,606	1,924
Population coverage	52%	62%	65%	77%
Land coverage	11%	13%	19%	27%

Source: CCK database, Safaricom and Celtel Coverage maps

2.4 Mobile Revenue and Investment

The total amount of revenue by mobile communication services has been directly proportional to the number of subscribers in this sector as shown in figure 2.4 below. The Average Revenue per User (ARPU) [1] has however dropped by an average of close to 23% annually for the last four years. This could be attributed to an increase in subscription among low income earners with low usage of the services.

Table2.4: Mobile revenue and investment

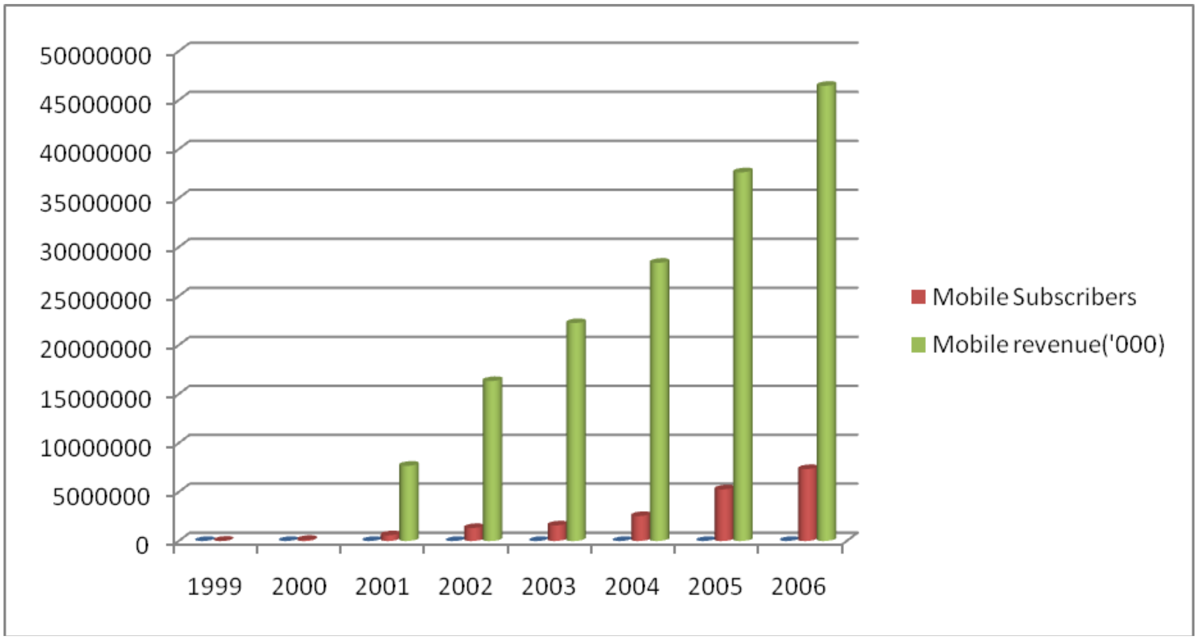
Year	2001	2002	2003	2004	2005	2006
Mobile Annual revenue(Millions)	7,674-	16,322	22,239	28,393	37,627	46,456
ARPU	13,115.02	12,316.43	13,979.89	11,151.32	7,148.43	6,328.88
Mobile annual investment(Millions)	11,851	19,173	23,662	28,920	38,670	44,600

Source: CCK database

It is envisaged that the upward trend in total revenue and investment levels will continue as the operators expand their networks to cater for increasing demand for mobile services. This can be seen from the subscriber growth recorded as at the end of 2007. However, the actual data on mobile revenue and investments for 2007 will be established once the audited accounts are published by the operators.

[1] ARPU is computed by dividing the total revenue by the total number of subscribers

Figure 2.4 Mobile subscription and revenue



3.0 FIXED TELEPHONY

Fixed network has experienced challenges with its growth, especially after the introduction of mobile telephone services. Prior to 2004, Telkom Kenya (TKL) was the sole provider of fixed line services in Kenya. The incumbent was part of Kenya Post and Telecommunications Corporation (KPTC) but was incorporated as an independent company in 1999 under the Companies Act. The national operator was mandated among other responsibilities to offer universal access on data, voice and Internet services in the country.

The end of the exclusivity period saw increased competition in this market with Licensing of Local loop operators (LLOs). The incumbent and the LLOs introduced Code Division Multiple Access (CDMA) to offer fixed wireless services.

The recent privatization of TKL that brought in France Telecom as the main strategic investor is expected enhance network growth while offering affordable services in the Country.

3.1 Fixed Network Growth

Despite "the monopoly" enjoyed by the incumbent in the nationwide provision of the fixed line services, the sub-sector has continued to experience a 6.1% annual decline in the number of subscribers. In 2007, the fixed line network had 264,882 subscribers down from 309,379 in 2000 which translated into fixed tele-density of 0.9 per hundred inhabitants in 2007. The subscription level is against a total network capacity that has continued to increase from 420,360 in 2000 to 503,903 in 2007, a 20.0% increase which could be attributed to the desire for network growth in other services offered by the incumbent.

The introduction of fixed wireless technology using Code Division Multiple Access (CDMA) 2006 has however increased the total subscriber base. The operation in the fixed wireless network registered 10,685 subscribers in 2006 and increased to about 193,064 subscribers at the end of 2007.

The majority (about 90%) of fixed network subscribers are urban customers. The 10% coverage of the rural areas poses a threat to the Universal Service as majority of the population reside in these areas and the technology may not address the challenge of access gaps in the country. In addition as can be observed from Table 3.1, the threat to Universal Service Obligation has been exacerbated by the declining number of Public Payphones, from 8,184 in 1999 to 5,805 in 2007.

Table 3.1: Fixed network Subscribers

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007
Fixed line capacity	404,990	420,370	446,302	490,000	508,000	508,236	517,131	518,423	503,903
Fixed teledensity	1.018	1.024	1.042	1.042	1.021	0.86	0.86	0.86	0.90
Number of Wire line subscribers	292,131	309,379	321,482	328,116	328,158	279,884	286,729	293,364	264,882
Subscribers in urban areas	278,280	294,600	303,996	309,878	309,070	265,598	271,925	279,079	243,875
Subscribers in rural areas	13,426	14,779	17,486	18,238	19,288	14,446	14,803	14,285	26,668

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007
Number of payphones	8,184	8,684	9,135	9,264	9,964	9,273	8,273	7,913	5,805

Source: CCK database

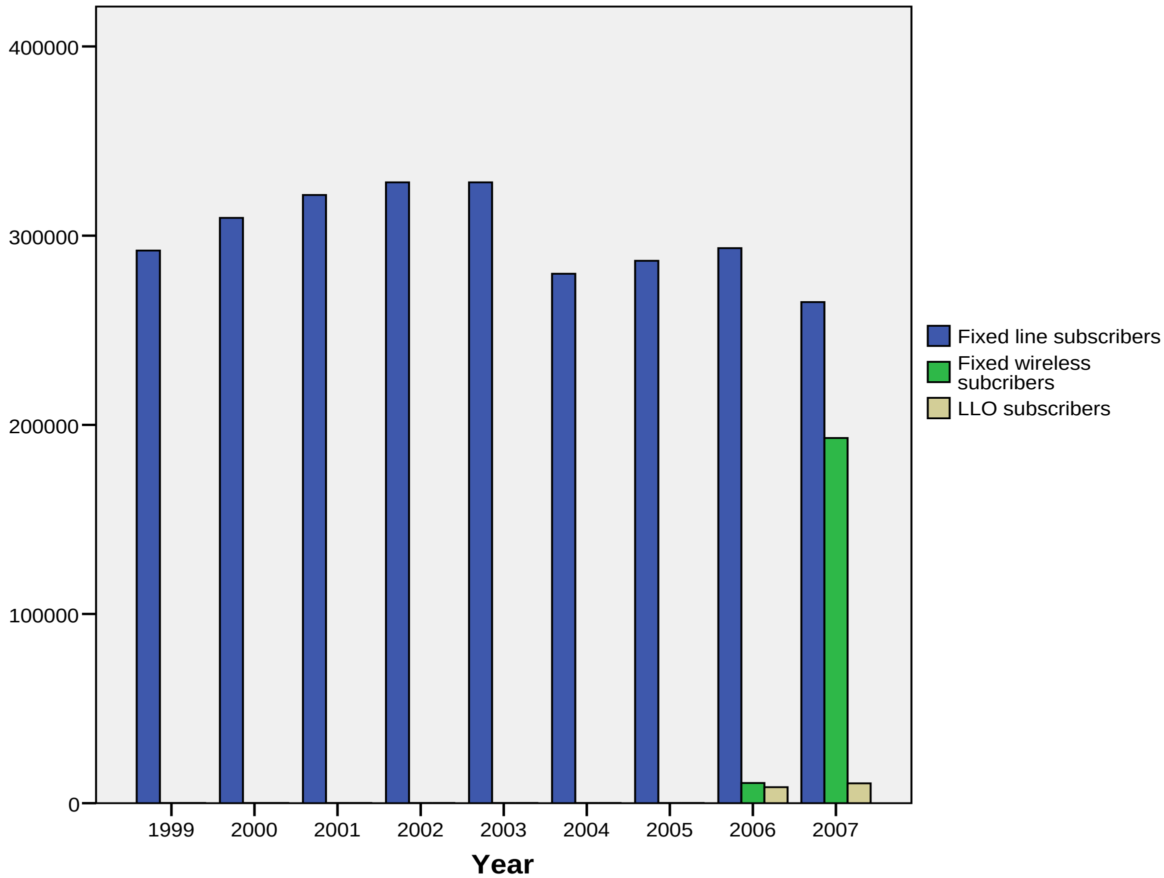
In order to effectively monitor market developments, the Commission at the end of 2007 introduced a requirement for the operators to disaggregate the information on service provision to customers. This include among others the number of business lines and residential lines which stood at 127,957 and 155,957 respectively at the end of 2007. At the same time the number of internet customers for fixed line services stood at 43,491.

3.2 Local Loop Network

The Local Loop operators are small operators with nation wide license to complement the fixed line services and complete the last mile. However, their license condition limits their on-net traffic to a geographic district and any traffic from one district to another can only be through major operators (fixed and mobile). This license is very open and the Commission has licensed 24 potential operators out of which only 2 are operational. And even the operational ones have not exercised their principle objective of completing the last mile but are in direct competition with major operators in Nairobi.

Despite these challenges, the combined subscriber base of the two operators has registered an upward growth of 10,312 at the end of March 2008 from 8,481 at the end of 2006. At the same time the total capacity stood at 40,000 at the end of December 2007.

Figure 3.1: Fixed network subscriber growth



3.3 Fixed Network Traffic

The fixed line traffic has been registering fluctuation over the years, which could be attributed to the different phases that sector has undergone. As illustrated in Table 3.3, the national incoming traffic[2] which was initially on an increase between 1999 and 2003 started declining after exclusivity period indicating the impact of liberalization on the incumbent. Additionally, the national outgoing traffic[3] has also been on a decline which signifies decrease in demand of fixed wire line services.

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[2] National incoming traffic is traffic from Telkoms major routes outside Nairobi namely, Mombasa, Nakuru, Nyeri, Kisumu, Kakamega and Eldoret.

[3] National Outgoing traffic is traffic to Telkoms major routes outside Nairobi namely, Mombasa, Nakuru, Nyeri, Kisumu, Kakamega and Eldoret.

The international outgoing traffic has not been stable before and after the end of exclusivity. This could be due to the use of other means of traffic transfer which include legalization of Voice over Internet Protocol (VoIP) to Internet Service Providers (ISPs) in 2005 and granting of International gateways to mobile operators to offer international voice services. Additionally international Incoming traffic was on an increase before the end of exclusivity but began to decline after this period. This signifies the effect of liberalization on the incumbent.

The end of exclusivity era also witnessed reduction in the traffic to mobile networks which could be due to the reduction in customer base of the incumbent.

Table 3.3: Fixed network Traffic

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007
National incoming traffic	251,799,720	228,486,852	205,173,984	256,778,664	259,423,728	244,512,828	221,822,328	120,223,888	18,625,448
National outgoing traffic	238,678,128	213,660,231	188,642,334	178,334,364	172,940,508	145,582,248	130,801,008	115,158,327	99,515,464
International outgoing traffic(Minutes)	26,224,892	16,960,328	21,035,000	26,298,000	26,496,000	37,229,356	57,458,061	48,291,314	29,945,789
International Incoming traffic(Minutes)	23,462,312	25,896,761	56,298,000	36,235,000	121,832,000	170,798,778	161,811,948	109,780,010	97,099,216
Traffic to mobile networks(Minutes)	-	-	80,000,000	160,000,000	219,972,177	186,634,225	156,662.048	137,189,413	100,446,472

Source: CCK database, (-) Missing data

3.4 Fixed Revenue and investment

As illustrated in Section 3.1, the performance of the incumbent operator has been on the decline. This has equally affected its revenue base. From 2000 to 2003 the increase in number of subscribers matched the impressive revenue generation. This was followed by a decline in 2004 and 2005. However in 2006, the incumbent has registered an increase in revenue which may be attributed to the increasing subscription to the fixed wireless network.

At the same time the operator was experiencing increased operational costs between 2000 and 2004 but declined in 2005 to 2006. This signifies the effect of competition by cellular operators and inability by the fixed network operators to upgrade to new services. The trend is however likely to be reversed with roll out of the CDMA in the entire country and the general restructuring of the company.

Table 3.3: Fixed network Revenue and investment

Year	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Fixed Annual revenue(Millions)	20,440	22,901	24,098	20,916	20,540	17,657	49,211
Fixed annual Investment(Millions)	34,931	35,499	37,447	36,430	35,416	12,568	5,533

Source: CCK Database

The positive growth in subscription levels for the wireless services as well as the general restructuring of the incumbent is expected to register an upward increase in revenue and investment levels in 2007.

4.0 DATA COMMUNICATION SERVICES

Prior to the introduction of Data Carrier Network Operators (DCNO) license, data infrastructure comprised two levels Public Data Network Operator (PDNO) and Internet Backbone Gateway operator (IBGO) or a Commercial VSAT Operator (CVO). The DCNO license, as a technology neutral license, combined the CVO and IBGO license and also provided users with a one-stop-shop by incorporating the PDNO functions.

4.1 International Gateway Bandwidth

The increase in demand of data services has led to increase in internet bandwidth provision. As depicted in Table 4.1a below, the total bandwidth has increased from 160.17 mbps in 2005 to 485.14 mbps in 2007.

Table 4.1a: International Gateway bandwidth

Year	2005	2006	2007
International gateway downlink bandwidth(Mbps)	89.89	100.96	337.18
International gateway uplink bandwidth(Mbps)	70.28	73.47	147.14
Total International gateway bandwidth(Mbps)	**160.17**	**174.43**	**485.14**

Source CCK Database

The Commission licensed 22 Data carrier Network Operators as at December 2007 which is a positive trend towards enhancing competition in provision of data services. This has in effect reduced the cost of connection to internet backbone to ISPs which fell from Kshs 455,600 in 2005 to 390,000 in 2007 as shown in table 4.1b below. This reduction in bandwidth costs is expected to bring about positive growth in this market segment.

Table 4.1b: Bandwidth charges to ISPs

Year	2005	2006	2007
Bandwidth charges for 32K (Kshs)	17,000	14,740	12,480
Bandwidth charges for 64 (Kshs)	34,850	29,905	24,960
Bandwidth charges for 128 (Kshs)	62,900	56,410	49,920
Bandwidth charges for 256 (Kshs)	119,000	109,420	99,840
Bandwidth charges for 512 (Kshs)	231,200	215,440	199,680
Bandwidth charges for 1024 (Kshs)	455,600	422,800	390,000

Source CCK Database

4.2 Internet Service

Among the telecommunication services, the Internet has been among the least accessible service in country. Although the Commission has issued 78 licenses to prospective Internet Service Providers, only 35 of them are operating.

The Internet market study carried out by the Commission in 2006 revealed that the low uptake of these services is attributed to low literacy levels, lack of infrastructure and relevant local content. The table 4.2 below shows the number of internet customers and internet users in the country.

Table 4.2: Internet Customers

Year	2005	2006	2007
Number of leased line customers	1,922	2,648	7,637
Number of dial up customers	5,399	6,160	17,737
Internet users	1,054,920	1,423,546	1,712,191

Source CCK Database

The estimated internet users of 1.7M are still too low as it only represents 5% of the population. The issuance of the DCNO license by the Commission in 2007 is anticipated to provide ISPs with innovative means and choice of access to their customers. The continued reduction in the cost of Personal Computers (PCs) through the government initiative of zero rating import duty in 2003 is expected to increase affordability of PCs which will eliminate the barrier to internet access.

4.3 Revenue and Investment from Data services

As illustrated in Table 4.3 the revenue generation in the data services has improved over the years and by 2006, the sub-sector generated over Kshs 4.9 billion. The Commission started collecting information on investment by Data services operators in 2005. During that period, investment in the sector increased from Kshs 196,320,845 in 2005 to Kshs 764,215,858 in

2006. As demand for data services increase, the trend in revenue and investment levels are expected to increase in 2007.

Table 4.3: Revenue and investment

Year	2002	2003	2004	2005	2006
Total annual revenue	1,556,109,556	1,962,525,350	2,256,549,493	3,495,641,619	4,949,472,726

Source: CCK Data Base.

5.0 BUSINESS PROCESS OUTSOURCING (BPO)

The first Business process Outsourcing (BPO) was licensed by the Commission in 2004 as a Call centre and since then the number has grown to 18 centers. This is a positive trend as government has identified this sector as one of the pillars of growth in Vision 2030.

The Commission initiated data collection mechanisms from this sector towards the end of 2007. It was revealed that more than Kshs 13 Million was earned in revenue during the year 2007 while a total of Kshs 40 Million was invested in this sector which signifies a positive trend towards economic growth in this sector.

6.0 POSTAL AND COURIER SECTOR

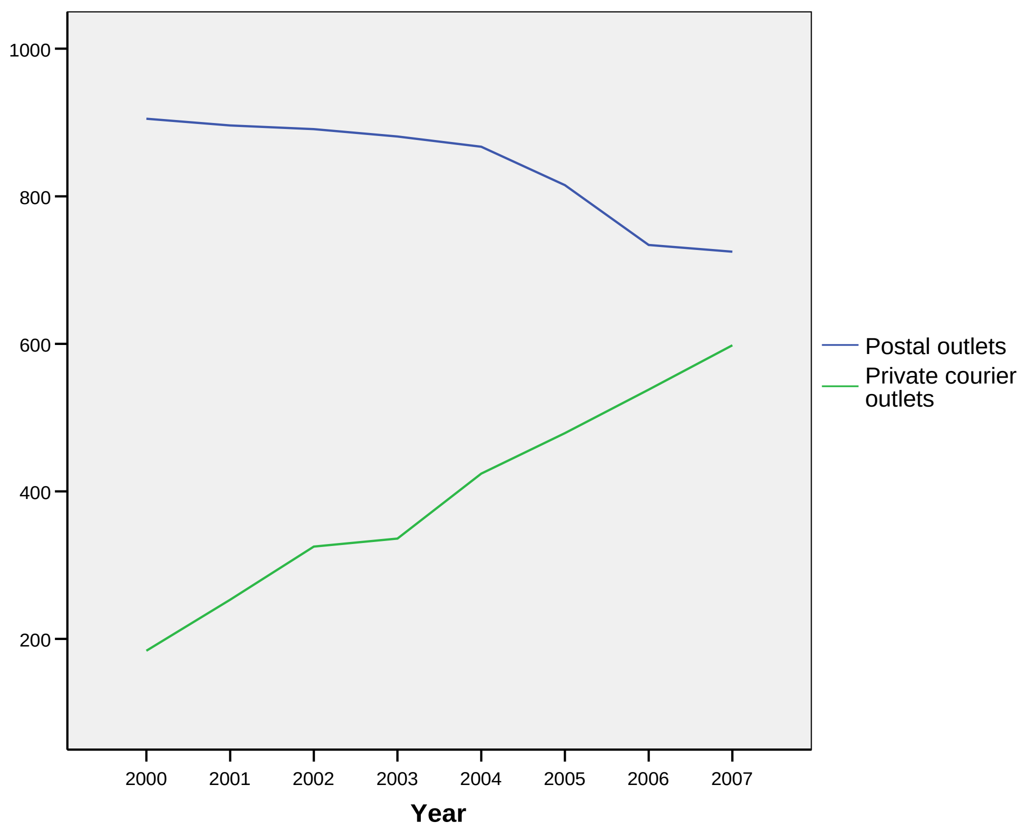
A study conducted by the Commission in 2001 revealed among other things that there were a number of courier operators who were in operation without proper licenses. The efforts made by CCK in enforcing license requirements have resulted in an increase in the number of licensed courier operators in the country from 30 in 2000 to 140 in 2007. The growth in the number of operators owing to the liberalized postal and courier sub-sector has created stiff competition in the industry evidenced by the declining business volume of the public postal licensee in inland parcels market. This is as illustrated in Table 6.1 and figure 6.1 below.

Table 6.1: Indicators for the postal and courier sector

Period	1999	2000	2001	2002	2003	2004	2005	2006	2007
Total post offices	973	905	896	891	881	867	815	734	725
Private courier outlets	-	184	253	325	336	424	479	538	598
Number of Private letter boxes installed	347,521	369,861	391,201	395,926	396,771	398,089	399,842	409,966	412,036
Number of letter posting boxes	994	994	976	946	1,102	1,057	1,049	994	946
Number of registered & insured items posted	-	-	2,363,440	1,814,892	1,996,661	2,042,019	1,790,604	1,730,634	1,563,964
Number of inland parcels posted	-	-	48,804	39,972	61,776	56,336	41,058	36,925	33,240
Number of international parcels posted	-	-	9,580	11,812	11,888	12,794	13,396	12,178	16,156
Number of International parcels delivered	-	-	71,640	105,362	86,526	79,688	81,567	72,396	63,496

Source: CCK database, (-) Missing data

Figure 6.1: Postal and Courier outlets



PCK has continued to close down postal outlets thus posing a threat to the Universal Service Obligation. This closure has been attributed to non viability of the outlets which challenges the Universal Service Obligation privileges enjoyed by PCK.

6.2 Postal and Courier Revenue

A considerable amount of revenue has been received from courier services over the years. The increase in revenue and investment levels shows significant growth in this sub-sector with expansion of the private courier outlets as indicated in section 6.0 above. The summary of the revenue and investment levels is as shown in the table below.

Table 6.2: Postal and Courier Sector

Year	**2004**	**2005**	**2006**
Postal Annual Revenue	2,321,558,144	2,534,055,880	2,582,570,762
Postal Annual investment	131,414,144	172,373,225	65,934,332
Courier Annual Revenue	-	3,085,075,133	3,484,710,609
Courier Annual investment	-	162,385,639	256,597,752
Total revenue from postal and courier operations	**2,321,558,144**	**5,619,131,013**	**6,067,281,371**
Total investment from postal and courier operations	**131,414,144**	**334,758,864**	**322,532,084**

Source: CCK Database, (-) Missing data

Even though the number of postal outlets has continued to decline, the total amount of revenue earned by PCK has continued to increase. This could be attributed to the tariff increase awarded to PCK for various categories of services by the Commission between 2005 and 2006, service diversification and improved management of postal services.

7.0 FUTURE OUTLOOK

The future prospects for telecommunications, postal and courier services are poised on the great promise of mobile and courier network expansions. As demand for these services increases, new technological innovations will emerge leading to increased capital investment. Review on the regulatory framework will be compelled to cater for challenges while encouraging increasing competition.