The Telkom Sector in Kenya:

A Historical Journey from 1999 to Date
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Telkom Sector Historical Journey; 1999 to Date

Introduction

The telecommunications sector in the country has grown exponentially since it was liberalized back in 1999. This was achieved through firstly, the Telecommunications and Postal Sector Policy Statement of February 1997, which was subsequently followed by the enactment of the Kenya Information and Communications Act, 1998 – more commonly referred to as KICA. The policy statement outlined the government’s acknowledgement of the important input that the information and communications sector could make to the economic development of the country.

The Act was passed to license and regulate telecommunications, radio communication and postal services in Kenya, and had the following responsibilities:- Licensing (telecommunications and postal/courier) operators and ensuring compliance; Regulating tariffs; Establishing interconnection principles; Type-approving communications equipment; Managing the radio frequency spectrum; Formulating telecommunications numbering schemes and assigning them to network operators; Implementing Universal Service/Access policies for both postal and telecommunications services, and Ensuring consumer protection.

Since 1999, reviews of the policy statement have been undertaken in December 2001 and also in March 2006. The KICA has also undergone various amendments in order to align it to the dynamic information communication technologies developments, bearing in mind the impact on the society in general. Also, there are numerous regulations that have been passed to guide the sector operations. These include Tariff Regulations, 2010; Fair Competition and Equality of Treatment Regulations, 2010; Consumer Protection Regulations, 2010; Numbering Regulations, 2010; and Licensing and Quality of Service Regulations, 2010 among others.

Notably, some of the changes that are worth writing home about over the period include the rise in connectivity to both urban and rural areas not only in terms of connections, but also accessibility and quality of service being offered by the various providers. Amongst the services that came on board include those by Internet Service Providers (ISPs), Fixed and Mobile Telephone connections, Paging Services, and Payphones – commonly referred to as ‘Simu ya Jamii’.

During the period to date, there have been major changes in the mobile telephony market buoyed the versatility of the Kenyan consumers, and what has now come to be known as Kenyans’ peculiar calling habits. However, mobile providers in Kenya have faced diverse challenges forcing some to close shop, others to relocate, and yet others to merge. The biggest impediment being what the
other players in the industry claim to be unfair competitive environment – dominance by the market leader.

It is also important to note that over the period, Kenya has had four licensed mobile service providers, the highest ever; Safaricom, Kencell/Celtel/Airtel, Econet Wireless, and Telkom Kenya (which is also the sole national fixed network operator). However, market dynamics have led to closure and buyout of Econet by Airtel Kenya.

There is belief that the journey in the information communications and technology front has not ended yet, and is not ending anytime soon, and that resilient Kenyans are preparing for more changes based on the high levels of innovations in the country, and the ability to forge new ones for varied used across various sectors of the economy.

This report looks at this tremendous and historic journey of the telecommunications sector in Kenya since it was liberalized back in 1999. Consequently, the IEA-Kenya has demarcated this historic journey in four distinct phases as; Phase 1 – Liberalization; Phase 2 – Mobile Phone; Phase 3- Mobile Money Platform; and Phase 4 – Digitization. Each phase has been allocated a specific time period within which various actions by the government and industry, and reactions by consumers and industry, will be looked at.

For each of the phases which are chapters in this report, the laws and Regulation during that phase will be brought forward, their effect and also changes that they caused to the market dynamics, or indeed how the market responded to these, will be discussed.
Chapter 1: Phase 1; Liberalization - 1998 to 2000

Liberalization has been undertaken in various countries and in various sectors of their economies in a bid to ensure there is economic growth and benefit to the population at large, industry operations bearing the largest burden. For a start, we note that liberalization of the telecommunications sector brought about an end to the monopoly that Kenya Posts and Telecommunications Company (KPTC), had enjoyed since independence. It led to entry of new players into the telecommunications sector in Kenya and as such, consumers were able to reap many positive benefits.

Rules and Regulations

Liberalization of the telecommunications sector was occasioned by the governments Telecommunications and Postal Sector Policy Statement of February 1997. This policy statement outlined the government’s acknowledgment of the important input that the information and communications sector could make to the economic development of the country. It was subsequently followed by the enactment of the Kenya Information and Communications Act, 1998 – more commonly referred to as KICA.

The KICA led to the establishment of three distinct entities in July 1999;

1. The Communications Commission of Kenya (CCK); which is the regulatory body

   KICA led to the establishment of Communications Commission of Kenya (CCK) in early 1999, tasked with ensuring that the sector is regulated.

2. Postal Corporation of Kenya; Is a government corporation in charge of postal services

   The Postal Corporation of Kenya (POSTA), which was established by the Postal Corporation of Kenya Act, 1998, is the public postal licensee with the specific role to ensure universal access of postal services. POSTA will have exclusivity only in stamp provision and private letter boxes but compete in all other segments.

3. Telkom, which is also a wholly owned government initially, and to be privatized with time which will deal with the telecommunications business.

   Telkom Kenya Limited was established as a public telecommunications operator under the Companies Act. It has universal access service requirements in its licence and is obliged to provide interconnection facilities to other duly licensed operators.
The above can be visualized as in the figure below:

Figure 1: Transition of KPTC

Transition of KPTC as a result of KICA, 1998

Source: Author, 2018

The KICA was passed to license and regulate telecommunications, radio communication and postal services in Kenya, and had the following responsibilities:- Licensing (telecommunications and postal/courier) operators and ensuring compliance; Regulating tariffs; Establishing interconnection principles; Type-approving communications equipment; Managing the radio frequency spectrum; Formulating telecommunications numbering schemes and assigning them to network operators; Implementing Universal Service/Access policies for both postal and telecommunications services, and Ensuring consumer protection.

In order to effectively counter competition in the liberalised economy, the telecommunications department was reorganised into five core business activities. These are; Local Access Network, Engineering Trunk Network, Commercial Services, International Telecoms Network and Communications Regulatory Affairs.

Despite stiff challenges from other communications service providers, the department realised commendable achievements more so noting the expansion of Safaricom in terms of coverage to a larger Nairobi. Instafon installed the Fixed Wireless Telephone System in Nairobi; a telephone
service which combines the use of both card and coins – *Combiphone*. Internet access for Internet Service Providers was also installed – *Jambonet*.

**Policy Changes**

Since 1999, the first review of the policy statement was undertaken in December 2001. In the revised Telecommunications and Postal Sector Policy Statement, there was an increase as pertains to foreign equity participation which was increased to 70 from 30 percent. This was meant to encourage foreign investment in the communications sector in the country, and also gave special consideration to the use of Very Small Aperture Terminals (VSAT). VSAT was used for among others, social services such as tele-education, telemedicine, as well as in offering of public services more so in communication, meteorology, among others.\(^1\)

With the incoming of new operators in the telecommunications space, more specifically on the cellular mobile front, the country witnessed growth in cellular mobile subscriptions from 330,000 to 980,000 in one year – almost three-fold. On the other hand, and more specifically as pertains to fixed telephone services, growth was not as impressive. This was as a result of lack of capital investment and a realization of the dynamic changes that technology was perceived to play in the near future. On the negative aspect also, quality of service performance was below expectation because at the time, there was evidence of network congestion and consumers also complained specifically, of high call-drop rates.

It is in the late 90’s and early 2000’s that cyber cafes emerged – ensuring that internet access became more accessible and affordable to the common person as a direct result of increased competition leading to reduction in prices and tariffs. In the same vein, other factors that led to increased connectivity included the downward trend in tariffs, cheaper connection charges and additional special offers on tariffs.

**Effects of Policy Changes**

With liberalization and subsequent review of both the policy statement and KICA, the market would forever change for the better. Firstly, more players were allowed into the market, which meant that consumers would be able to have a wide array of service providers to choose from. Secondly, it heightened competition in the telecommunications sector and consequently led to reduction of prices to the benefit of consumers. Thirdly, consumers were able to get access to

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\(^1\) Annual Report of the Board for the Financial Year 2001/2002
other additional services such as internet access through their mobile phones, and at reduced rates as tariffs and prices were reduced. It is also during this period that we note the entry of paging services, which having been embraced elsewhere was entirely new in the Kenyan market.

The number of card-phones and mobile phone subscribers went up significantly in 1999 and the year 2000, attributed to introduction of the Global System for Mobile communication (GSM) services in other major towns in Kenya, such as Mombasa. Also, the introduction of Very Small Aperture Terminal (VSAT) service under the brand name KENSAT played a major role in the expansion of networks to other parts of the country.
Chapter 2: Phase 2; Mobile Service – 2001 to 2007

Soon after liberalization, the entry of other firms brought increased and additional competition to the then monopoly sector. There was an increase in demand for fixed line connections by the only provider then, Telkom Kenya Limited. The entry of Safaricom which then was a subsidiary of Telkom, brought about increased competition and a realization of an enhanced demand for cellular phone connections. In the year 2001, Kencell Communications limited joined the market after being issued with a license to provide cellular phone services.

It is from this period that we witness an exponential growth in the cellular phone connection - statistics show that the subscription of mobile telephone services was twice that of landline as at the end of 2001. This large unprecedented increase in the subscription for this service presented an alternative mode of communication to the fixed lines. With this, coverage of the mobile telephone services was thus expanded to cover other urban and rural areas as well as major highways in the country, beyond what landlines could achieve. Liberalisation of the telecommunications sector also effectively triggered the growth of other service providers such as Internet service providers (ISPs), resale services and cyber cafes.

It is in this phase also that well over 80 towns across the country were installed with, and had access to the cellular phone service network, while several roads were wholly connected. One of the service providers, Kencell, introduced Wireless Access Protocol (WAP) services, the first one in the country, for aiding its users in terms of network connections. Availability of cheaper and efficient means of communication such as E-mail and Voice Over Internet Protocol (VOIP) came into being, overshadowing telex, telegraph and bureau fax services that continued to face stiff challenge in uptake and usage.

While the changing environment had its different outcomes, Telkom endeavoured to offer competitive services especially on fixed lines – their core business and key strength at the time. In this view, it merged several exchange centres as part of a restructuring programme aimed at promoting efficiency. In the same period, the various mobile service providers also rolled further network with an ultimate goal of connecting all households at affordable rates, install card-phones and other essential phone services.

It is also in this phase that payphones were introduced and installed by Kencell in major towns and centres across the country. Simu ya Jamii (Community Phone) mobile pay-phones were introduced in the market late by Safaricom Limited. ‘Simu ya jamii’ phones were mostly used by people who did not have or, did not own their personal cellular phones. However, it was also
thought of to be much cheaper option to using the personal mobiles by then. At a fee which depending on the mobile operator was charged per minute or per second, one would pay to make a call to a destination of their choice. These phones are still in existence though are seldom used since majority of people have, or own mobile phones.

*Policy Changes*

In the year 2006, the government released the Information and Communications Technology Sector Policy Guidelines (ICT Policy). This policy was anchored on internationally accepted standards and best practices, more so those pertinent to the Common Market for Eastern and Southern Africa (COMESA) Model as was ratified and adopted by the COMESA Council of Ministers in March 2003.

The main aim of this policy was to; facilitate sustained economic growth and poverty reduction, promote social justice and equity, mainstream gender in national development, empower the youth and disadvantaged groups, stimulate investment and innovation in ICT and achieve universal access. It has specific policy objectives on information technology, broadcasting, telecommunications, and postal services among others.

One of the key outcomes in this phase has to do with the development of a large-scale telecommunications infrastructure in Kenya, which was capable of delivering efficient and affordable info-communications services.

*Effects of Policy Changes*

With the dynamic ICT environment, the network capacity of the fixed telephone lines increased during the period. In contrast, the number of available payphones reduced – with the decline being associated to stiff competition from community telephone services offered by mobile telephone operators. It was expected that the large mobile phones customer base was likely to result in low quality of services as a result of network congestion. Noting the complaints hinged on quality of service, the issue of network expansion could as well be slowed down to fix this problem.

In the same period, mobile telephone industry witnessed substantial investment in infrastructure expansion and upgrades to adequately respond to rising demand for mobile telephone services in the country, and stem the challenges being faces as enumerated earlier. As a consequence, mobile phone subscriber numbers were recorded to be 4.6 million in 2005. This continued to rise into 2006 where the number of subscribers shot up to 6.4 million.
During 2006, the communications sub-sector was characterised by dynamism with both fixed and mobile services witnessing extensive rollout of new products and improvements of existing facilities. Other additional services were also noted. Top of these was that of Short messaging service (SMS) which assumed an increasing and critical role in communication with an estimated 400 million messages sent out from the two mobile networks (Safaricom and Kencell) in 2005.

The introduction of wireless technology for providing telephone services by Telkom Kenya and Local Loop Operators (LLO) led to a tremendous boost in the sector. Growth in subscriber base and exchange capacity for fixed, wireless and mobile network led to an improved total tele-accessibility that was recorded at 9.9 in 2006. Wireless network service was introduced in October 2006 as part of the initiative to cover potential markets and manage rampant vandalism of telephone cable/wires.
Chapter 3: Phase 3; Mobile Money Platform – 2007 to 2015

In 2007, there was the introduction of Code Division Multiple Access (CDMA) technology which led to significant increase in wireless connections - from about 6 thousand connections in 2006 to about 200 thousand connections in 2007. This growth was mainly supported by the widening of coverage of the wireless network in the country.

During this period also, the telecommunication sector experienced major developments in both service delivery innovations and infrastructure. On service delivery, the introduction and provision of financial services via mobile phones has improved financial intermediation services. Money transfer services using mobile phones were launched by the two leading mobile service providers.

Policy Changes

In 2010, with an eye to deepening these initiatives and ensuring the reach of mobile technology far and wide, the Central Bank issued guidelines to enable banks to offer a broad range of banking services through agents. This framework differs from that for payment agents, which is currently guided by requirements set by telecommunication companies. In this respect, the relevant legislations that influenced the operations within Kenya during this phase include the following:


ii. Banking Act (enacted 1991, amended in 2010), regulating the activities of banking institutions within the financial sector in Kenya.

iii. Guideline on Agent Banking (2010), providing for the appointment of agents to extend banking services within Kenya.

iv. Draft Electronic Retail Transfers Regulation and Draft E-Money Regulation (stakeholder consultations have been organized and comments to the draft are now being integrated), regulating electronic money issuance and exchange, as well as its transfer between different parties within Kenya.

v. The Kenya Information and Communications Act (enacted 1998, amended in 2010 and 2013), which provided the Communications Authority of Kenya (CA) and a framework to regulate the information, communications, media, and broadcasting subsectors.

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vi. Regulations pertaining to information and communications that were made by the Minister in charge of Information and Communications in line with the CA – to regulate various aspects of the sector that include competition, tariffs; consumer protection, mobile numbering, inter-connection, and quality of service among others.

vii. The Kenyan Competition Act No. 12 of 2010 which includes which includes Consumer Welfare. This act repealed the Monopolies and Price Control Act. Based on the Act, the Competition Authority of Kenya was established as an independent agency.

Effects of Policy Changes

Noting the legal regulatory background above, and with Vodafone having carried out due diligence, M-Pesa was launched in March of 2007 and by November of the same year, it had about 1 million active users, which skyrocketed to 2 million by end of the first quarter in the following year. This goes to show the high acceptability and penetration levels of the service soon after it was introduced into the market. Zain had been quick to launch a competitor money transfer service, Sokotele, in 2007, but this failed. In October 2008, Zain applied for permission from the Central Bank of Kenya to launch its new money transfer service christened ‘Zap’, which was being rolled out across other Zain subsidiaries in the African continent. However, it wasn’t until August 2011 that Airtel Money was launched.

Other mobile service providers, Telkom Orange and ESSAR mobile Kenya LTD (Yu Mobile), by then the other mobile service providers, introduced their mobile money platforms to offer competition to M-pesa and Airtel Money.

As at Dec. 2014 mobile money transfer services had about 26 million users which accounted for about 62% of total population then. In the same timeframe, there were about 122,000 Mobile Money Transfer Agents countrywide.

The mobile telephony sub-sector continued to experience intense competition among the four operators which included; Mpesa (owned by Safaricom, and so far the most widespread and with the largest number of subscribers), Airtel Money (Owned by Airtel and is, in terms of coverage, second to Safaricom), Telkom Money (formerly Orange Money - Owned by Telkom Kenya limited), and Yu Cash (owned by Essar). Other products that were launched by financial institutions in collaboration with mobile network operators include PesaPoint, M-Kesho, M-Shwari, PesaPap, and Lipa na Mpesa for various goods and services.
It has now become norm to pay for goods and services, and even utility bills through mobile money platforms e.g. Water bills, Electricity bills, and even to pay for shopping at convenience stores. Pioneered by Safaricom then, Safaricom takes the lead and lion’s share of Government institutions that have begun to integrate mobile money payment solutions into their systems. For instance one can pay for their parking fees in Nairobi’s Central Business District (CBD) through the mobile phone, and also renew their driving licences through mobile money, just to mention a few. There are also tests that are aimed at exploring ways of enabling taxpayers to pay taxes through mobile payment systems. The uses to which mobile payment systems are put will only continue to grow.

Some of the benefits that have been noted as to have led to the uptake and increased usage of the mobile money platform include the fact that it is very convenient, fast, relatively safe, and much more cheaper in comparison to the traditional options.

Other than the mobile money platform, we note that total fixed telephone capacity including the wireless capacity stood at 837 thousand by the end of 2007, up from 533 thousand in 2006 – this is a big leap. Consequently, the total number of connections increased from 291,200 in December 2006 to 468,400 by December 2007 - a 60.9 per cent increase. However, the number of conventional and community payphones decreased from 6,000 booths in 2006 to 5,000 booths in 2007. This decline was attributed to the entry and availability of affordable personal handsets, and the introduction of lower call charges.

The telecommunications industry witnessed an increase in foreign direct investment as a result of the privatization of Telkom Kenya – the country’s only fixed line operator. This was made possible through a consortium led by France Telkom, which bought 55 per cent of the Government stake in Telkom Kenya. In the period, competition in the market intensified as a result of entry by other market players; Orange Mobile and the launching of mobile communication services by Econet Kenya Limited.

With these newcomers in the market, some of the promotional offers by competing firms provided tariffs as low as KSh 1.00 for on net calls, KSh 6.00 for off net calls and KSh 1.00 on Short Messaging Service (SMS). This fuelled an increase in the mobile phones subscription numbers, and penetration in the country.

The Communications Commission of Kenya (CCK) further assigned frequencies and numbering resources to Telkom Kenya and Econet Wireless for deployment of Global System of Mobile (GSM) Communication. Safaricom limited was also assigned a spectrum for 3G commercial
services which was initially rolled out in Nairobi and Mombasa. The expansion of existing networks also bolstered competition in the telecommunication industry.

On the same note, an influx of more affordable handsets in the market coupled with low denomination calling cards, as well as lower calling charges by the operators, continued to impact negatively on the number of public and community payphone booths available in the country.

Among the telecommunication services, the Internet was the least accessible service in the country. This low uptake was attributed to lack of infrastructure and relevant local content. Enhancement of the competition regulatory framework as well as operationalization of the National Fiber Optic cable was expected to boost internet penetration. On this note, CCK issued 127 licenses to Internet Service Providers (ISPs) out of which 56 were operational by 2008. The industry witnessed the issuance of 2 cable landing rights licenses to the East Africa Marine System (TEAMS) and Sea Submarine Communications (SEACOM) Limited aimed at ensuring cheap and high speed communication and connectivity in the country, along with affordability and improved international connection between Kenya and other countries around the globe.

During this phase, CCK initiated the process of developing guidelines for Mobile Number Portability (MNP) framework to facilitate provision of the services in the country. This is a feature that gives subscribers the freedom to switch their service providers without having to change their mobile phone numbers. Upon implementation, MNP will enable subscribers retain their subscriber numbers when changing service providers. This was aimed at enhancing consumer choice and competition in a multi-operator environment and also, to level the playing ground for operators in the market.

Another important issue in this phase pertains to counterfeit mobile phones. In September 2012, the government ordered and effected the switching off of all counterfeit mobile phones. This was in order to protect customers and in the same vein, safeguards the gains achieved in the mobile industry. In the same year, the government issued a directive for all holders of SIM cards to have them registered by end of the year.

Some of the regulations\(^3\) that can be noted during this period include;

*The Kenya Information and Communications (Tariff) Regulations, 2010*

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These Regulations provide a framework for the determination of tariffs and tariff structures by:

- Ensuring that licensees maintain financial integrity and attract capital
- Protecting the interests of investors, consumers and other stakeholders
- Providing market incentives for licensees to operate efficiently
- Promoting fair competition

*The Kenya Information and Communications (Fair Competition and Equality of Treatment) Regulations, 2010*

The main purpose of these Regulations is to provide a regulatory framework to promote fair competition and equal treatment in the communications sector and to protect against the abuse of market power or other anti-competitive practices within the communications sector. They also seek to:

- Provide for the standards and procedures to be applied by the CAK in determining whether particular conduct is anti-competitive
- Clarify the agreements, conduct or practices that the CAK considers to be anti-competitive, and prohibited under the KICA
- Provide for the standards and processes that the CAK shall apply when determining whether a telecommunication service provider is dominant in a given market

*Guidelines for Supply, Installation and Maintenance of Internal Communication Infrastructure, 2012*

- The scope of these guidelines is that in a liberalised ICT environment, the CAK expects fair competition to prevail among all network operators, vendors and contractors in the manufacturing, marketing, supply, installation and maintenance of telecommunications wiring, terminal equipment and accessories.
Chapter 4: Phase 4; Rise of Digitization – From 2016

The mobile phone has become a key partner not only to individuals, but to corporates and the government too. It is being used in a variety of ways and means and with the ever-dynamic ICT industry, this is deemed to give rise to new outputs.

Firstly, let us note the updated number of users per operator, shown in the Chart below and also illustrated in figure 3, as reported by Sector Statistics report by the Communications Authority of 2017/2018.

Table 1: Mobile Subscription per Operator, July 2017

<table>
<thead>
<tr>
<th></th>
<th>Operator</th>
<th>Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Safaricom Limited</td>
<td>29,490,296</td>
</tr>
<tr>
<td>2</td>
<td>Airtel</td>
<td>6,104,836</td>
</tr>
<tr>
<td>3</td>
<td>Finserve Africa Limited</td>
<td>1,908,083</td>
</tr>
<tr>
<td>4</td>
<td>Telkom Kenya Limited</td>
<td>3,435,976</td>
</tr>
<tr>
<td>5</td>
<td>Sema Mobile Services</td>
<td>263</td>
</tr>
<tr>
<td>6</td>
<td>Mobile Pay Limited</td>
<td>88,853</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>41,028,307</td>
</tr>
</tbody>
</table>

Source: First Quarter Sector Statistics Report for the Financial Year 2017/2018

Figure 3: Mobile Subscription Per Operator, July 2017

Source: First Quarter Sector Statistics Report for the Financial Year 2017/2018
Policy Review

One of the ways of making sure that government services reach a wider audience is by embracing new and cutting edge technological advancements. Notable, the numbers above show that majority of Kenyans are connected to one network or the other – thus give a clear-cut avenue for the government to reach and provide its services to the ultimate consumers, the citizens. It is in this respect and realization that the Central Bank of Kenya in December 2014 passed regulations that govern the digitization of government services and payment platforms. This was aimed at strengthening the already existing legal and policy frameworks for a much safer, efficient and transparent system of payment.

Embracing technological methodologies in reaching a wide array of the population by the government at one go, and in a safe, transparent and cost-effective manner is through embracing mobile phone technologies, in addition to other enablers such as Commercial Banks, SACCO’s, and Microfinance Institutions.

Effects of Policy Changes

Noting the two levels of government; county and national, we note that at the county level, residents and businesses or business owners can pay for council parking, their rental properties rates and taxes, individual or corporate business permits, land rates as well as construction permits. At the national level also, systems have been put in place to allow for citizens, foreign residents, visitors and local business owners to apply for, and make payment for various services through the “e-Citizen” online platform.

On this note, it is important to bring to the fore the importance that mobile service providers have been able to achieve. In partnership, they have integrated payment platforms and have also transcended international boundaries to inculcate pay giants such as Paypal. Payment technologies available include mobile money, and even cards. One of the key highlights in this era is the floatation of M-Akiba, which would allow mobile phone owners to purchase infrastructure bond entirely via mobile money platforms.

Digitizing payments in the recent past has also presented an opportunity for governments to realize significant financial rewards in terms of increase in revenue collected – for example in parking fees and licences, reduction in fraud, and more importantly, increase in the level of efficiency as pertains to service provision.
These developments have led to making of initially complex and manual long-winded processes much straightforward, simpler, and easier to the consumer. This therefore saves a lot of time for the citizens, and in the process also, saves the state extra financial burden. Challenges such as issuance of fake documents and receipts have been eliminated as individuals and businesses can conveniently access legitimate channels. A good example is the establishment of ‘Huduma Centres’ – one in each country, thus 47 centres across the country. The centres are one-stop shops set up by the government to complement the e-Citizen online platform. It aids in provision of additional services more specifically on issues or matters that require the physical presence or special assistance from a government official.
Conclusion

Mobile technology has proved to be an enabler of myriad opportunities in the era of dynamic ICT environment. Liberalization of the telecommunications sector no doubt led to increase in a number of things with benefits and downsides being felt on different scales for both industry players and consumers.

Liberalization opened up the industry operational environment allowing other players to come into the market. This led to increased competition in addition to an increased array of services that consumers could choose from. Some of the most salient benefits for both that can be noted include increase in mobile phone owners and subscriptions to mobile service providers (as in figure 4 below), increased transparency in service provision, increased modes of using the same product to meet different needs, and ease of communication between different parties.

Figure 4: Number of Mobile Connections; 1999 – 2016

![Graph showing the number of mobile connections from 1999 to 2016.](source)

*Source: Compilation from various editions of Annual Reports by CCK; 2001 – 2016*

Also, it is important to note that the telecommunication space in the country upon liberalization led to introduction of new services such as ISPs, Paging Services, Internet Services, Mobile Payment services, payphone and card phone services, VSAT operators, Public Data Network Operators, and Local Loop Operators among others.
Key points in the same vein include noting the fact that technological change and advancements have given rise to more innovations that have made positive contributions to individuals and the country at large. Revisiting the third and fourth phases, it is clear to note that the ICT sector has made it possible for a more widespread inclusion especially in the financial realm, more specifically for the unbanked. This is hinged on the partnerships that have been created by the many service providers, thereby enabling their clients to transact various transactions through their handsets.

On the same note and more so in the fourth phase, we note the governments’ initiatives to further utilized technology in service provision to ‘wanjika’. This is based on the cost effectiveness of mobile systems and technologies to reach a wider audience, and also, in a safe and secure manner.