

# Emergence of OTT Communication Services and Sustenance of Revenue among Kenya Telcos.

Timothy Kipkorir Sawe.

Department of Computer Science and Information Technology, Kabarak University,  
Nakuru , Kenya

## Abstract

The telecommunication services in Kenya have experienced dynamic changes since mobile telephony was introduced. The over the top services, in the recent past, have brought a new revolution in the telecommunication industry because of wide adoption by Kenya consumers. The over the top(OTT) is the delivery of communication services over the internet without the involvement of service provider. The user-friendly features and affordability of over the top services have made Kenyan consumers to shift away from traditional communication services. The use of Short Messaging Services(SMS) and voice calls have been reported to reduce among the Kenya telcos because of the OTT alternatives. The adoption of the over the top services is threatening the revenue of Kenya telecommunication companies. This paper proposes some additional measures which can be adopted by the Kenya telcos to survive in the market in the midst eroding revenues by the OTT players.

Keywords: *Over the top(OTT), net neutrality, telcos, Communication Authority(CA)of Kenya.*

## 1. Introduction

Over the top (OTT) services is the delivery of services over the internet without the carrier having control over distribution of the content. The OTT communication services include delivery of text, video, audio other multimedia services. They are considered as over the top services because they ride on the infrastructure of internet service providers to realize their implementation. The delivery of OTT services use packet switching technique rather than circuit switching techniques used by the traditional carriers. The OTT communication services have become so attractive to consumers and has made them to move from traditional telco communication services. In Kenya, these communication services were initially exclusively offered by traditional telecommunication carriers which gave them good source of revenue. The dynamics of Kenya's telecommunication sector has favored the use of over the top services. Explosion of smartphones and tablets accessibility has increased the internet penetration in Kenya. The country has 89.2% of internet penetration as of March 2016 compared to 87.7%

recorded in the previous quarter. [1] Furthermore 78% of Kenyans have access to 3G enabled phones[2] and the number is expected to rise. The study by the Communication Authority(CA) of Kenya show that that the use of OTT communication services in Kenya will likely to increase over time. This will cause threat to the Kenya telcos revenue if they continue depending on the traditional services.

The over the top services cannot be wished away and the traditional carriers should take the OTT services as an opportunity rather than a threat. This paper attempts to find out a balance in which the Kenya telcos can sustain their revenues while consumers enjoy communication services offered by the over the top(OTT) services. This is with the reality that the OTT services cannot be stopped because of consumers preferences.

## 2. Literature Review

Different studies have been done concerning the impact of Over the top(OTT) services on telcos. Few of these studies have proposed solutions to the telecommunication carriers dwindling revenues caused by the emergence of the OTT services.

The Communication Authority(CA) of Kenya reported that short messaging services(SMS) in Kenya dropped by 19.7% in the quarterly statistics ending March 2016. The significant drop was attributed to the emergence of OTT services.[1].

Sujata et al gives a conceptual framework of various factors and trends which have led to dramatic adoption of OTT services leading to impact on telcos revenue. He identifies Cost, Content availability, Convenience, Smartphone and mobile internet penetration, User experience, Features and Net neutrality as factors that are instrumental in the increased adoption of OTT services [3]. Ken Davison, observes that OTT apps have destroyed the commercial value of similar products across broad industries because many are offered for free.

This has led the consumers to shift their minds away from the traditional providers who have enjoyed consumer relationships for years.[4]

### 3. Kenya Telcos

Kenya Telecommunication sector consist of five mobile operators namely Safaricom, Airtel Kenya, Finserve Africa, Telkom Kenya and most recently Sema mobile services. Safaricom and Airtel controls 83.1% of the market share. Total of 38.3 million subscriptions were reported by March 2016. This was an increase of 3.5 million subscribers in a period of three months. Mobile penetration was also reported to be 89.2% up from 87.7% during the same period.

The overall number of Short Messaging Services(sms) among all the operators dropped by 19.3% to record 6.5 billion messages down from 8.1 billion messages sent during the previous quarter. The decrease is attributed to the rise in the popularity of over the top communication services among the Kenya population.

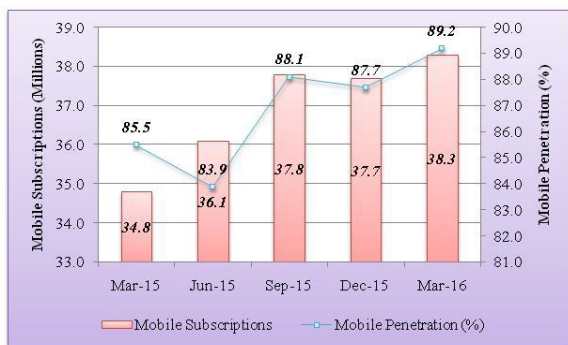


Fig 1: Mobile Subscriptions  
Source: CA, Operators' Returns

The use of internet has also grown significantly among the Kenyans. The internet penetration was reported to be 87.2% with the mobile internet connection taking the largest share. The number of mobile data subscription increased to 24.7 million subscriptions by March 2016 up from 23.7 million in the previous quarter.

The increase in the data usage is attributed to the access to the 3G mobile phones which contributes to the massive use of data.

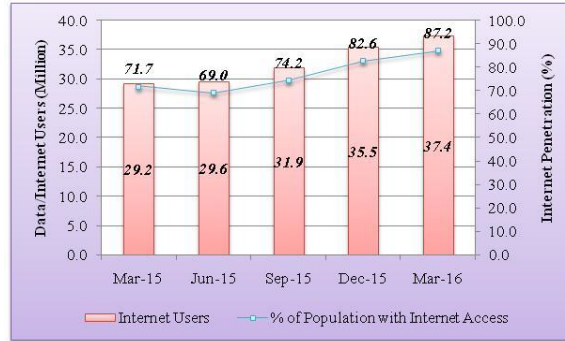
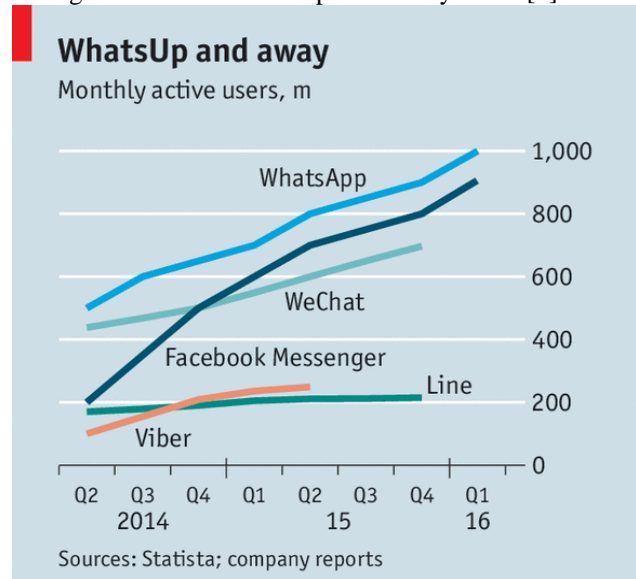


Fig 2: Estimated Number of Internet Users and Internet Penetration  
Source: CA, Operators' Returns.

### 4. OTT growth in Kenya

The number of mobile users using OTT services in Kenya has grown significantly over time. Common OTT services used include Whatsapp, Facebook messenger, Skype and Viber. At the onset of 2014, it was reported that Whatsapp was a single defining trend that would accelerate communication in Kenya[5]

The global monthly users of Whatsapp was recorded to be average of 1 billion users as per February 2016. [6]



Economist.com

Fig. 3:Whatsapp global monthly users

By February 2014 almost half of the Kenya mobile users were using Whatsapp as their key messaging tool[7]. The extraordinary adoption of Whatsapp was because of its ease of use and reduced cost of operation.

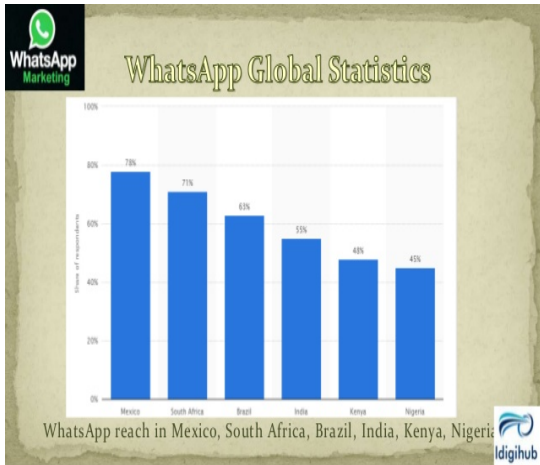


Fig 4: Whatsapp global statistics  
Source: idigihub.com

#### 4.1 Internet and Smartphone penetration

Internet access by many Kenyan has grown significantly in the recent years. The country has 89.2% of internet penetration as of March 2016 compared to 87.7% recorded in the previous quarter[1]. The Smartphones that were sold by May 2015 were 150,000 devices monthly which amounted to 58% of all the phones sold in Kenya.[8] This has favored the growth of the OTT services considering that most of the smartphones come with pre-installed OTT applications.

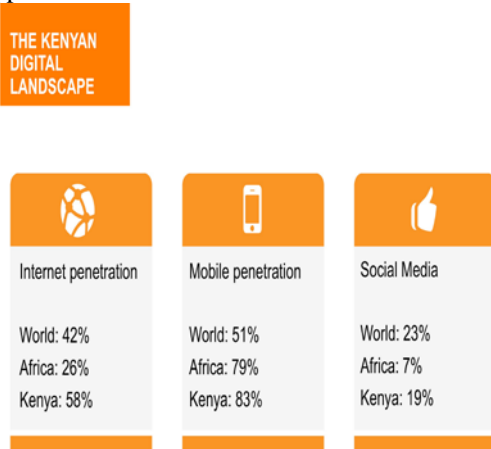


Fig.5: Internet, mobile and social media penetration figures: Global vs Africa vs Kenya  
Source: Jumia Kenya 2015

#### 4.2 Affordability

Due to competition in smart phones brands in Kenya, the price of the devices have reduced significantly making it

affordable to a wider population. There are over 22 brands of smart phones in the Kenya market. By the end of 2015, the average cost of a smart phone in Nairobi was KSh 10,000[8]. Kenya has a large population of the middle class who can afford to purchase a smartphone. Most of the smartphones are friendly to many applications including OTTs content.

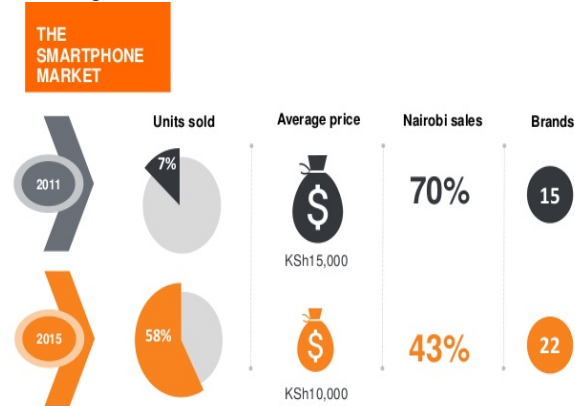


Fig. 6: The Kenya smartphone market  
Source: Jumia Kenya 2015

Furthermore, the over the top(OTT) services provide better multimedia features compared to conventional SMS by the telcos. The OTTs also provide low cost or free-of-charge alternatives giving the user to pay only for the data consumed.

#### 4.3 Net neutrality

The principle of net neutrality expects that all the data traffic must be considered as equal irrespective of its content. The traditional carriers who are also the internet service providers are expected not to interfere with the internet users on the choice of the content they access. This rule makes it difficult for the Kenya telcos to regulate and interfere with any content passing through their infrastructure. It is because of this that the over the top(OTT)communication services have thrived in Kenya.

### 5. Proposals for Kenya Telcos

The Kenya telcom operators should see the emergence of OTTs as an opportunity rather than a threat to their revenue. The Telecom sector in Kenya is well established with Safaricom Limited evidently as the market leader. The Telcos still have advantage over OTTs because of established wireless infrastructure which the OTTs depend to ride on. All the Telcom players should look for ways of

surviving in the market irrespective of the over the top (OTT) services intruding their revenue. They should also remember to address the needs of the customer which makes them to gravitate towards the over the top services. The following are the proposed alternative that Telcos can adopt.

### 5.1 Develop their own applications.

Kenya telcos can venture into development of local applications to gain competitive advantage over OTTs. It is evident that the growth OTT communication services cannot be stopped and it is there to stay. This then should make the telcos to look for alternatives to gain a competitive advantage over OTTs. Mobile money transfer service which has been introduced among all the Kenya operators. This is an example of applications outside the traditional telco services. The M-PESA money transfer platform, for example has enabled Safaricom Limited to earn a lot of revenue compared to voice, SMS and data combined. This is an evidence that there are enormous opportunities to be ventured by telcos apart from traditional services. Mobile-based applications in areas such as health, agriculture, business and security can be explored by the mobile operators. They can also develop telco-based local over the top services to capture the customers who are loyal to OTT services. All these, when realized, will retained the customer base and hence the revenue is sustained.

### 5.2 Partner with OTT content developers.

The Kenya telcos should explore ways of partnering with OTT players. Kenya telcom operators have partnered with other companies in the past to deliver better services to consumers. Safaricom limited for example, has partnered with Huawei, a China based mobile manufacturer to deliver mobile phones to the Kenya consumers. Some of the carriers in the world have partnered with OTT content developers and both parties have had win-win partnerships. Unicom, for example, partnered with Tencent to launch Weixin-Wo customized SIM card which offers special services and data plans for WeChat users over China Unicom's network[9]. The Kenya Telcom operators have an advantage of large subscribers and established infrastructure while the OTT players can strengthen market positions with their innovative features. Both these strengths can complement each other and thus translate to high revenue.

### 5.3 Charge on every OTT content passing through their infrastructure.

The OTT content developers use business models which are free-of-charge or at very low cost. This has attracted consumers away from traditional mobile communication to the use of OTT communication services.

The Communication Authority of Kenya should consider charging the consumers of the OTT services at a premium rate. This will ensure that no service offered in Kenya is tax free. Although this may lead to customers' dissatisfaction, it will ensure that the operators will still get revenues by use of the OTT services riding through their medium. The carriers can also invest in smart mobile traffic optimization and throttling tools integrated with mobile data monetization tool to regulate the bandwidth consumption and bill the OTT services passing through their infrastructure.

### 5.4 Introduce new business models

The Kenya telecommunications operators should develop new unique business models in order to effectively stay competitive in the market. It is evident that existing Kenya Telcos' business models cannot stand the challenges posed by the over the top services. With the growth of internet penetration in Kenya, there are many opportunities created for different business models. The Kenya Telcos should shift from product based business to platform based business. There is a very high demand of digital platforms because of many programs introduced in Kenya. In 2013 for example, Kenyan government introduced digital literacy programme which seeks to integrate ICT in education. This is a new avenue where the Telcos can provide platforms for learning. As the program advances it will need good internet connection to cover all the schools in Kenya. The telcos are in a good position to offer this because of their good network distribution countrywide. The telcos can also venture to support e-commerce operations which has gained popularity in Kenya. They can partner with many existing goods delivery companies to offer logistics platform to their operations.

## 6. Conclusions

All these proposals should be done with the awareness of the emerging issues of net neutrality. Net neutrality should be seen as an opportunity of fairness rather than an obstacle. The Kenya government through the ministry of ICT and Communication Authority should ensure that the

OTT regulatory framework is supportive to both telcos and OTT players. Since OTT are the main drivers of internet adoption by Kenya consumers, the telcos must improve their network infrastructure to attract them to their networks. They can hold on to the last mile of access as the providers of best quality.

## References

- [1] Quarterly Sector Statistics Report: Third quarter for the financial year 2015/2016(January-March 2016) *Communication Authority of Kenya*
- [2] ICT Access Gaps study (2016 March 11). *intelecon Research and Consultancy Ltd.* Submitted to Communication Authority of Kenya.
- [3] Sujata J., Sohag S., Tanu D., Chintan D., Shubham P., & Sumit G. (February 2015). Impact of Over the Top (OTT) Services on Telecom Service Providers. *Indian Journal of Science and Technology, Vol 8(S4), 145–160,*
- [4] Over-The-Top: A dramatic Makeover of global communications(July 2014). *Wesley Glover newsletter. 4-5*
- [5]Kaigwa M., Madung O. & Costello S.(2014). Nendo 2014/15 Social Media Trend Report. *Nendo Ventures in partnership with OdipoDev. 16*
- [6] Bots, the next frontier.(2016 April 9). *The Economist.* Retrieved from <http://www.economist.com/news/business-and-finance/21696477-market-apps-maturing-now-one-text-based-services-or-chatbots-looks-poised>
- [7] Adika O.(2014 March 5). 49% of Kenyan Mobile Users are on Whatsapp. *Techweez Technology News and Reviews.* Retrieved from <http://www.techweez.com/2014/03/05/49-of-kenyans-mobile-users-on-whatsapp>.
- [8] Zab S.(May 2015). The growth of the smartphone market in Kenya. *Jumia.*
- [9] Horwitz J. (2013 July 18). China Unicom in Guangdong to offer new SIM card with WeChat data. *Thenextweb.* Retrieved from <http://thenextweb.com/asia/2013/07/18/tencent-partners-with-china-unicom-in-guangdong-to-offer-new-unlimited-wechat-sim-card/#gref>