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CSPs in the World of OTTs: How Would they Win the Battle?

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Abstract

OTT (Over the Top) players provide services carried over the networks deployed by communications service provider (CSP) without it being involved in planning, selling, provisioning or servicing them. CSPs cannot book revenue directly for these services and are left only with the revenue generated for the data that is transferred. CSPs thus fear that they would eventually turn into mere dumb pipes in the future telecommunication ecosystem. The explosion of smartphones has helped operators increase Average Revenue Per User (ARPU) by getting people subscribing to data services, but it has also started to threaten their traditional revenue model due to increase in the usage of OTT applications such as WhatsApp, Google and Facebook. Gradually people world over are using WhatsApp more for texting than the traditional short messaging service (SMS). Similar trends are visible in music downloads, video chat and even voice calls.

This paper primarily discusses about the various segments of OTT players, the current services and potential future services offered by them. It would also talk about the impact of OTT players on the CSPs' traditional business of providing voice, data and value added services. It would present the value chain analysis for a telecom operator and various strategies that an operator can adopt to counter the threats from OTT players. Towards the end, it would present specific recommendations for CSP's based out of India.

Keywords: OTT, SMS, CSP, Revenue Loss

1. Introduction

OTT (Over the Top) players provide services over the networks deployed by communications service provider (CSP) without being involved in planning, selling, provisioning or servicing them. CSPs cannot book revenue directly for these services and are left only with the revenue generated from the user for the data that is transferred. With increasing penetration of smartphones and tablets, OTT players are seeing tremendous opportunities to create and provide value to the customers. Today, one can make calls, send text messages, photos, videos etc, watch online videos, play online games, group chat; all these without paying anything more than just for the data transferred through the operator's network. Most of these services are the main VAS of CSPs, hence their revenue stand to fall heavily because of OTT players. CSPs are strategizing collaboratively as well as aggressively to counter the threat posed by OTTs. These measures have produced mixed results. Still as of today operators have no clear roadmap to counter the threat posed by OTT players. This paper tries to throw some light on the various aspects of this issue. Main focus of this paper is on the text messaging service that has been a traditional cash cow for the operators but now is under serious threat from OTT players' free message applications.

In our opinion it's not possible for operators to completely stop the march of OTT applications. Given the fact that new ideas and new products naturally replace older products, telecom operators should brace themselves for such a situation in future. This paper is an attempt to analyze and recommend ways to help them retain their lost ground and pose a stiffer competition to OTT players.

2. Literature Review

This topic has been a growing area of concern for CSPs over last few years and though there have been publications emphasizing the impact of the OTT players (Nitesh Patel, Nov 2013; James Chavin, Aadil Ginwala and Max Spear, Sep 2012), there have not been any attempt to look at this phenomenon at the global level, discuss the reasons behind this holistically and suggest a comprehensive list of options available to operators. Also there has not been any attempt to explain how rise of OTTs will impact Indian operators. This paper discusses the impact of OTT players on CSPs across the globe, with a significant emphasis on the various strategies that CSPs can adopt to counter the emerging threat from these players. This paper also analyzes the unique scenario in India and provides recommendations for Indian operators as well.

3. Facts and Figures

3.1. OTTs and their user base

The table below is a compilation of most popular OTT applications in some of the most populous countries.

Table 1: Popular OTT Applications

Country	*Most Popular OTTs*
India	WhatsApp, GoogleTalk, Facebook Messenger, WeChat
China	WhatsApp, Line, WeChat, QQ2012, Fetion2013
USA	WhatsApp, Skype, Line, Facebook Messenger, Kik Messenger
UK	WhatsApp, Skype, Facebook Messenger, Kik messenger, InstaMessage
Brazil	WhatsApp, Skype, Facebook Messenger, Kik messenger, InstaMessage

Source: Nitesh Patel, Nov 2013

Shown below is the number of registered users (or monthly active users) and usage statistics for some of the popular OTTs.

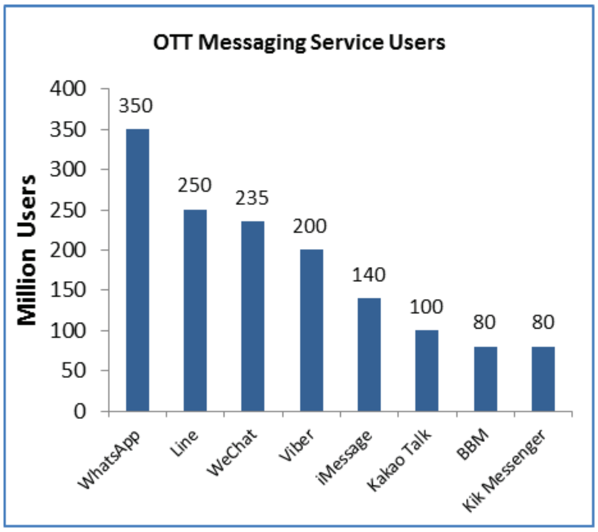
It is evident that OTT applications have made a strong connection with users. Subscribers are using them extensively with some of the OTTs like WhatsApp transacting approximately 10 Billion messages daily.

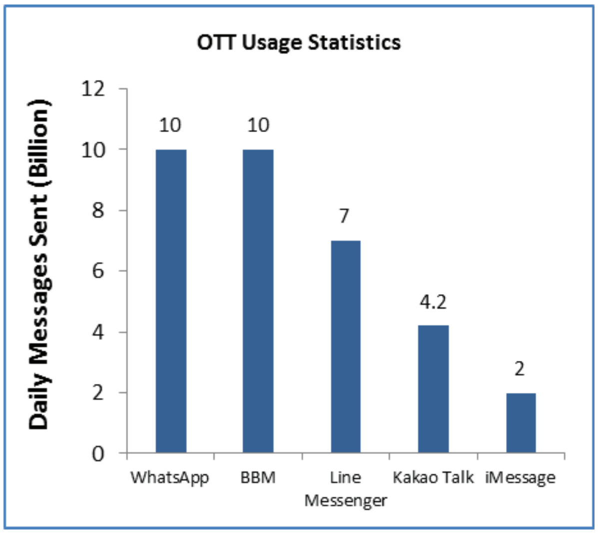
3.2. Region-wise Data on Operator and OTT Text Messaging

Asia Pacific, Middle East and Latin America still see growth in traditional text messaging (SMS) whereas other developed regions e.g. North America and Europe show saturation or even fall in SMS traffic. OTT text messaging is growing extremely fast in all the regions. Following are the details about how OTT text messaging has impacted SMS traffic across regions:

- Almost two third of European countries have either stable or declining SMS traffic with only remaining one third showing any growth.
- In Asia-pacific, only India and China show some amount of organic growth.
- While US shows decline in SMS traffic, Canada still looks like a healthy messaging market.
- Latin America still shows an upward trend in SMS usage. So far OTT messaging has not made much dent in Latin American SMS market

Figure 1: OTT Usage Statistics





Source: Wireless Media Strategies, Nov 2013

- Countries from Africa and Middle East still exhibit a healthy growth in SMS market.

For further details please refer to facts and figures available in Appendix I.

4. Factors Driving OTT Growth

For most of the countries, the factors discussed below work in conjunction with each other and cannot be ascribed to the decline of SMS number independently.

4.1. OTT Applications as Cheaper Alternatives

While OTT clients are almost free of cost traditional messaging rates are relatively much expensive. WhatsApp users only pay $0.99 annually from the second year of use.(FAQ, WhatsApp official website). Other popular applications Line, We Chat, Kakao Talk do not charge anything from the users. These OTTs do have virtual currencies to be earned and used for in-app gaming etc but there is no physical money involved. On the other hand, for every Byte of data transferred through operator's network subscribers pay the highest while sending text messages. It forces them to look for cheaper alternatives – bundled plans or OTT applications – wherever possible.

4.2. Increasing Smartphone Penetration

Smartphones have made an abundance of mobile apps and plenty of OTTs accessible to users thus transferring the control from operators to mobile application developers. Users don't need to wait for provisioning and activation of a service as it is readily available as a feature in an OTT.

As per Portio research out of top 10 countries with highest smartphone penetration, 5 have already seen significant drop in total SMS messaging traffic between 2010 and 2012 (ranging from 11% to 24%), 2 have witnessed stagnation and SMS traffic growth is very slow, 2 of them are still seeing good growth in SMS traffic and no concrete data is available for 1 (Mobile Messaging Futures 2013-2017, Portio Research, July 2013.)

For all the countries rated by McKinsey as high risk markets (James Chavin, et al. Sep 2012) following is the smartphone penetration trend in last three years (Scott Bicheno, Dec 2012. Global Smartphone User Penetration Forecast by 88 Countries: 2007 to 2017).

Table 2: Smartphone Penetration & CAGR in High-Risk Markets

Country	*Smartphone Penetration*			
	2010	*2011*	*2012*	*CAGR*
Netherlands	19.41%	28.24%	38.57%	41.61%
South Korea	14.04%	38.29%	67.62%	120.76%
Japan	26.83%	31.48%	39.92%	22.02%
Spain	17.41%	25.89%	35.14%	42.32%
Germany	17.30%	26.21%	36.08%	44.49%
Switzerland	19.74%	29.44%	36.47%	37.41%
United Kingdom	28.36%	37.44%	46.59%	29.14%
Singapore	24.44%	38.41%	53.07%	50.73%
Russia	7.90%	12.18%	17.87%	51.04%

Source: Scott Bicheno, Dec 2012

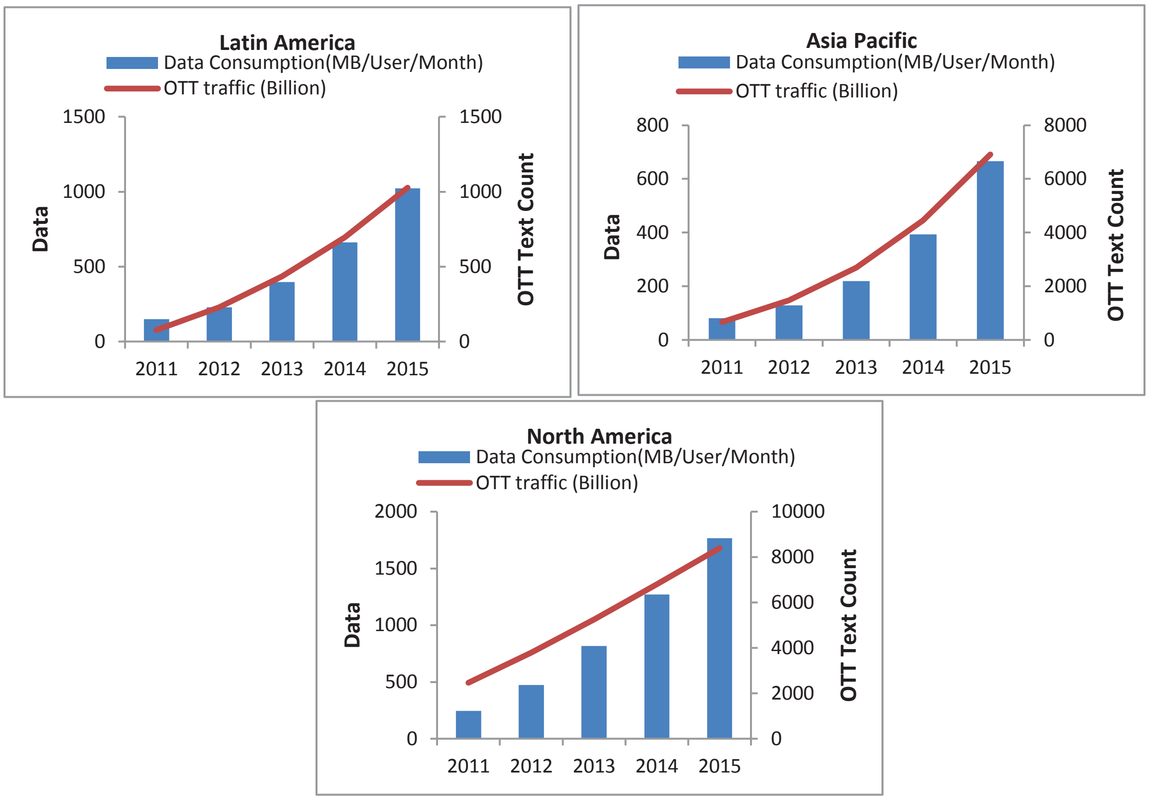
It is evident from the table that there has been a sharp rise in smartphone penetration in all the above countries – CAGR as high as 120%in some cases. This has certainly contributed to the increasing use of OTT applications and declining SMS usage.

4.3. Improving Mobile Internet Connectivity

High speed mobile data connectivity, from 3G and 4G adoption is within reach of most of the consumers. In countries having 3G or better wireless connectivity subscribers are always online through Mobile phones. A subscriber connected through smartphone is more likely to send a text message using an App than using traditional SMS due to better user experience. Figure 2 shows the trend between data consumption and OTT traffic for some regions.

These charts depict a clear pattern – with every passing year OTT text messaging is growing along with growth in data consumption.

Figure 2: Data Consumption and OTT Traffic



Source: Portio Research, July 2013.; ABI Research, September, 2013

4.4. Changing Demographics

Demographic changes are another important factor in many countries driving OTT messaging growth. Youth are not satisfied with simplistic SMS when they have options to communicate with much richer and fun-filled options such as smileys and emoticons provided by OTTs. Young generation also finds it cheaper to do so by spending just for data.

4.5. Abundance of Features Provided by OTT Applications

OTT applications provide plethora of features such as sending text messages, pictures and videos, group chat, rich stickers and emoticons, presence and location information, video call etc. Most of these applications such as WhatsApp are cross-platform applications. Furthermore, OTT applications allow users create their visual profile. One can update WhatsApp status everyday

Table 2: Snapshot of Popular OTTs' Features

Sl No	*OTT Application*	*Features*
1	WhatsApp	Individual Messaging, Group Messaging, Photo Video and other media Sharing, Presence information.
2	Line Messenger	Individual Messaging, Group Messaging, Photo Video and other media Sharing, Presence information, stickers, VoIP, Video Calling, in-App games.
3	We Chat	Individual Messaging, Group Messaging, Photo Video and other media Sharing, Presence information, VoIP, Group Calling
4	Kakao Talk	Individual Messaging, Group Messaging, Photo Video and other media Sharing, Presence information, VoIP, Group Calling, in-App games.
5	Viber	Individual Messaging, Group Messaging, Photo Video and other media Sharing, VoIP, Video Messaging.

with what he/she is doing, what was his/her latest purchase, thus catering to one's alter-ego. Such features bring OTT applications closer to popular social networking sites such as Facebook thus rapidly fueling its adoption in certain segments of users. It's not difficult to see that traditional messaging doesn't stand a chance when compared with the features provided by OTT applications.

The table below gives a snapshot of the features provided by some of the popular OTTs.

4.6. Network Externality

Another important factor driving OTTs' growth is 'Network Externality'. As more people use an application, a network of users is created. As the network grows, value provided by the application to its users grows exponentially. Once a critical mass is achieved by the network, being outside this network is quite inconvenient or disadvantageous for users. Hence they stick with the network and it keeps growing with more people joining in.

An example of this is South Korea where two of the popular apps are Kakao Talk, with 70Musers and Tic Toe Plus with 2M users. To keep themselves connected to bigger mass new joiners prefer Kakao Talkto TicToe resulting in much healthier growth of Kakao Talk than TicToePlus. As per Strategy Analytics, between April-2011 and April-2012 Kakao subscribers grew from 10M to 50M adding approximately 3M per month. Between April-2012 and Dec-2012 Kakao added 20M subscribers growing by approximately 2.5M users per month (Nitesh Patel, Nov 2013).

5. Strategies and Recommendations

Realizing the imminent threat from OTTs to their traditional services, particularly to SMS, CSPs have started taking counter steps ranging from blocking to promoting them. This section looks at possible strategies and recommendations that can be adopted by CSPs in dealing with OTTs.

5.1. Collaborative Strategy

- **Introducing Innovative Data Plans**: CSPs can offer data plans at a lower price specifically designed for OTT applications. These plans would increase mobile data adoption and lead to CSP's gain in the longer run.DiGi (Malayisa), SingTel(Singapore), RCOM and Tata Docomo (India)offer such plans allowing subscribers to use WhatsApp without subscribing to full-fledged data plans (WhatsApp – 5 Days RM5 (100MB) Plan Dec 2013, Digi Official Website Dec 2013; Get WhatsApp & Facebook at just Rs.16 a month!, Reliance Communications Official Website Dec 2013; Tata Docomo launches unlimited WhatsApp data packs, TOI Article Dec 2013; Prepaid Mobile Social Plans, Singtel Official Website Dec 2013)
- **Launching New Collaborative Services**: CSPs can have exclusive partnerships with OTTs to offer differentiated services. For example catering to specific needs of immigrant community to keep in touch with their contacts in native country. 3 Hong Kong offers "WhatsApp Roaming Pass" enabling users to freely use WhatsApp service across 113 destinations and 150 networks worldwide for a daily fee (WhatsApp Roaming Pass, Three (HK) official website, Dec 2013). KDDI, Verizon and 3 UK offers services allowing users to make local/international calls using Skype at a discounted price. (KDDI and Skype partner to bring a new communications experience to Japanese consumers, KDDI official website, Dec 2013; Skype Mobile FAQ, Verizon official website Dec 2013; 3 UK makes new Skype push, Total Telecom Dec 2013). These would help CSPs differentiate its offerings while opening new revenue streams.

5.2. Aggressive Strategy

- **Blocking OTT services**: CSPs might also seek support from regulators to block/surcharge OTT services. Since it's against the principle of network neutrality, operators might have to be cautious in adopting this approach.

  Till date only South Korean regulator has agreed to such demands. The Korea Communications Commission has allowed SK Telecom, KT and LGU+ to charge their customers extra fees to use VoIP apps or block their use entirely. (Charging extra for OTT: good luck with that, Telecom Ramblings 2013)
- **Acquisition and consolidation of OTTs**: CSPs might also think of acquisition, if possible, to gain access to the huge volume of users OTT application has already attracted. This would allow the CSP to

have usage pattern, location and many other details of a large number of users. With the use of analytics this information about customers can be used for developing better offerings. Such consolidation would also ensure that CSPs have to compete against lesser number and type of players. Here it's imperative to mention that before embarking upon such aggressive strategy CSPs must perform adequate financial due diligence.

5.3. Opportunistic Strategy

- **Charging premium for OTT services**: CSPs may also look at the growth of OTTs as an opportunity to improve data revenue. Some CSPs had introduced data plans in the past charging higher if consumers avail OTT services. Telisonera in Sweden and Spain introduced a data plan charging consumers extra for VoIP calls (Skype, Google Talk etc). Later they quashed it and simply raised their standard data plan rates to account for lost voice traffic revenue (Telia Sonera drops extra VoIP fees but raises rates, A gigaom article Dec 2013).

5.4. Competitive Strategy

- **Launching own OTT application**: CSPs may launch their own OTT applications with comparative features to prevent subscribers from migrating to other alternatives. These apps can be developed incentivizing users into consuming other services e.g. linking it with SMS allowing user to send text message without having to worry about receiver's phone type – smartphones with the app receive it inside the app whereas other phones receive as text message.

  Orange's Libon and Telefonica's TuMe/TuGo are examples of OTT applications introduced by CSPs (Now your number is truly mobile, O2 official website Dec, 2013; Orange's Libon official website Dec, 2013).They aim to generate revenue through advertising and offering premium services.

- **Launching an all-feature interoperable App**: In collaboration with GSMA many operators have come together to launch an interoperable rich communication solution named JOYN. Movistar, Orange and Vodafone in Spain; Deutsche Telekom, T-Mobile, Vodafone in Germany; Orange in France; KT and SK Telecom in Korea are trying their best to popularize it (Joyn News, Joyn official website Dec, 2013). As more operators join hands and promote it, JOYN might gradually turn into a solution for CSPs.

5.5. Further Recommendations

In addition to the above strategies CSP's can follow the recommendations given below.

- The CSPs can collaborate with OTTs to augment their portfolio reducing time to launch new services e.g. Video calling. A feature-rich Video Calling app would attract subscribers and boost data revenue. A CSP can also offer these services through video calling Booths where it can enhance QoS by combining the dual advantage of state of the art infrastructure and rich features of OTT Application.
- Adoption of OTTs has fuelled growth in wireless data usage. CSPs should perform a detailed assessment for SMS revenue decline due to cannibalization against data revenue increase due to uptake of wireless data plans. They may price data services in a manner compensating average loss in SMS revenue by average gain in data revenue.
- Countries where smartphone penetration is high, CSPs should not adopt aggressive strategy of blocking OTTs in their network. With growing spread of Wi-Fi hotspots and rollout of small cells, they may even lose data services subscribers. A better approach would be to provide additional advantages to own customers thus incentivizing their loyalty.
- Countries where smartphone penetration is low and increasing at a modest rate CSPs should adopt a competitive strategy of launching their own App. Subscribers can make a decision on the available options without taking network externality as a factor. Such Apps can be a combination of messaging Apps e.g. WhatsApp/Viber and existing Apps provided by operators for managing user accounts, bill payments etc. To drive adoption of the app CSPs may devise innovative plans such as texting/calling from inside the app would be charged at a lower rate.
- Countries where majority of subscribers have moved to OTTs, CSPs should even consider offering SMS free of cost or at a very low price. It might take away some of its revenue but would most certainly compensate the loss by attract new subscribers from competitors.

- CSPs should promote apps using text messaging as their intrinsic features e.g. SOS, an Android application. Using this app a user in emergency can quickly send pre-configured text messages to contacts. Such apps rely only on operator's SMS hence must be promoted by CSPs. Growth of such Apps would ensure a steady SMS revenue to the operator.
- Most of the OTT applications would certainly try to earn money in future in some way or the other, most likely asking users to pay up. Operators being indispensable part of this value chain can innovatively demand OTTs to share this revenue e.g. part with some of the revenue if data transferred is more than certain limit. CSPs can even help OTTs with their billing through its own billing and charging systems. Even users would find it convenient paying to OTTs with their airtime.
- CSPs can also focus on other segments in order to augment their revenue and substitute for the declining profits due to emergence of OTT players. A relevant example is recent acquisition of DirecTV by AT&T (DirecTV's acquisition by AT&T, AT&T official website, Jul 2014). This acquisition has provided AT&T access to DirecTV video services which it can bundle and augment its triple-play offerings.

6. OTT Landscape in India

India is amongst the countries where until recently CSPs were not much impacted by the emergence of OTTs primarily because of below reasons:

- Smartphone penetration in India is only 6%, lowest among top 30 smartphone markets (India has 67M smartphone users; A Tech circle Report Dec, 2013)
- Mobile broadband penetration is quite low, estimated to be 4.9% in 2012 compared to123.3% in Singapore and 113.1% in Japan (The State of Broadband 2013: Universalizing Broadband, A report by the Broadband Commission,Sep 2013)
- Non-voice (SMS, data etc.)revenue is only 9.59% of gross revenues compared to close to 50% in USA and UK. (Top 12 Predictions for 2012 and Beyond. A CCS Insight Report. Dec 2013)
- Messaging rates in India are amongst the lowest in the world and unlimited messaging plans cost lesser than data plans.

Because of these reasons most industry analysts e.g. McKinsey rate India as a country with low risk for operators from OTTs (James Chavin, Aadil Ginwala and Max Spear, Sep 2012). Recent steps taken by some operators further substantiate this fact- Aircel partnering with Nimbuzz to offer free data, RCom offering unlimited Facebook messenger for Rs.16/month (India Telecommunications Report, March 2014)

This trend may soon change as smartphone penetration is increasing rapidly with year-on-year growth being 52%, second fastest in the world. For the first time, a major CSP in India accepted that OTT messaging apps are becoming a threat to non-data VAS revenues (Free Messaging Apps A Threat To Non-Data VAS Revenues – Idea Cellular, A Medianama Report, Dec 2013).

Unlike in developed nations, share of non-voice revenue is decreasing in India. Since profit margin on non-voice services is higher this is not a favorable situation for CSPs. They expect that increasing smartphone penetration and improved wireless connectivity would increase non-voice revenue. Since data plans are costlier than SMS plans this would not have large impact on SMS revenue.

Indian CSPs should take OTT growth as an opportunity to increase mobile broadband subscription and even collaborate with OTTs to offer differentiated services. This would benefit them in following ways:

- Improved non-voice revenue, leading to better profit margin.
- Differentiated services, leading to increased market share.
- Improved subscriber loyalty, leading to reduced churn

7. Conclusion

It is evident that operators in many parts of the globe are feeling the heat due to rise of OTTs. Due to increasing smartphone penetration, improving wireless connectivity and other inter-connected drivers there is no easy escape for them. Operators must accept that OTT applications are here to stay and its best for both the parties to live symbiotically. Operators should create a harmonious relationship with OTT players thereby ensuring that they recover their losing revenue and also keep text messaging services relevant even in future.

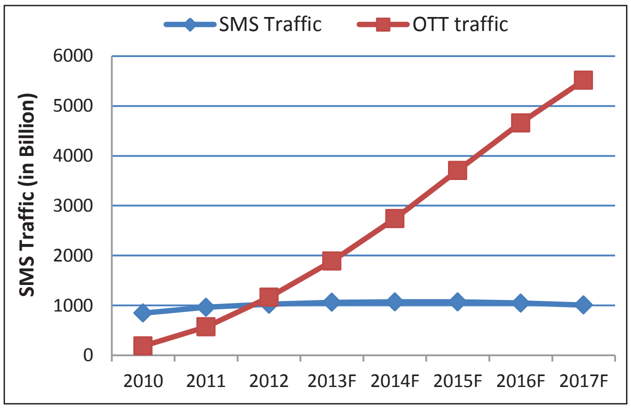
8. Appendix I

Here we look at the comparative charts on both types of traffic for various regions. Data has been forecasted for 2013 and beyond.

8.1. Europe

In Europe mobile subscriber's adoption of OTT messaging has a significant impact on SMS traffic. McKinsey has categorized Spain, Netherlands, Germany, Switzerland, Russia, UK as high risk countries in terms of threat from OTT applications (James Chavin, et al. Sep 2012)

Figure 3: Messaging Data for Europe

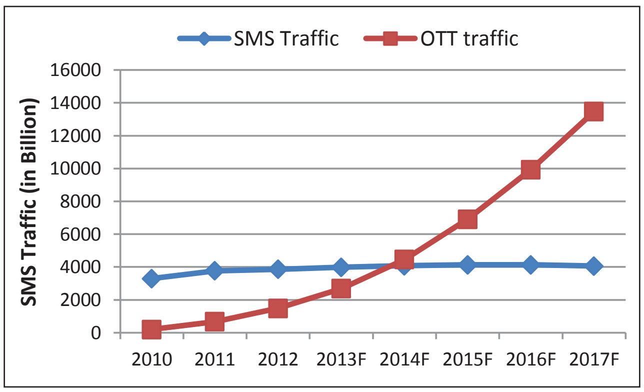


Source: Portio Research, July 2013

8.2. Asia-Pacific

In Asia some of the large SMS markets are China, India, South Korea, Philippines, Singapore and Japan. McKinsey has rated South Korea, Japan and Singapore as high risk countries, meaning OTT messaging in these countries has reached such a high level that it is causing material threat to SMS volumes and revenue.(Other markets where some amount of organic growth was visible until recently are China and India. Even these markets have started leveling off in SMS traffic since H2-2012 (Mobile Messaging Futures 2013-2017, July 2013. Portio Research).

Figure 4: Messaging Data for Asia-Pacific

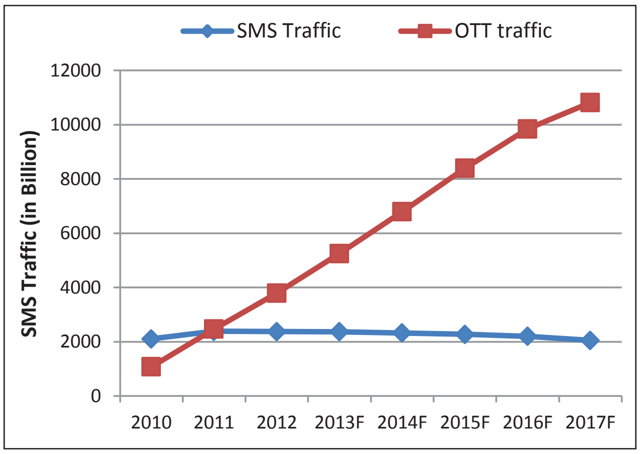


Source: Portio Research, July 2013

North America

The US and Canada are two biggest SMS markets in the world. Industry experts believe that US texting market has reached its peak in 2011. Canada, rated by Portio research as world's second highest SMS Usage market (Mobile Messaging Futures 2013-2017, July 2013. Portio Research), still looks like a healthy messaging market where organic growth is visible clearly. Despite this there has been a good growth in WhatsApp usage as well.

Figure 5: Messaging Data for North America

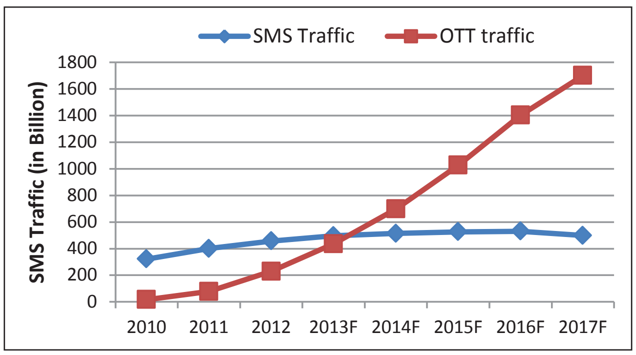


Source: Portio Research, July 2013

8.4. Latin America

Latin America still shows an upward trend in SMS usage. So far OTT messaging has not made much dent in Latin American SMS market. Market analysts predict that it would take few more years before Latin American countries see SMS market growth flattening out. Organic growth would continue even after OTT messaging finds a healthy acceptance among the subscribers.

Figure 6: Messaging Data for Latin America

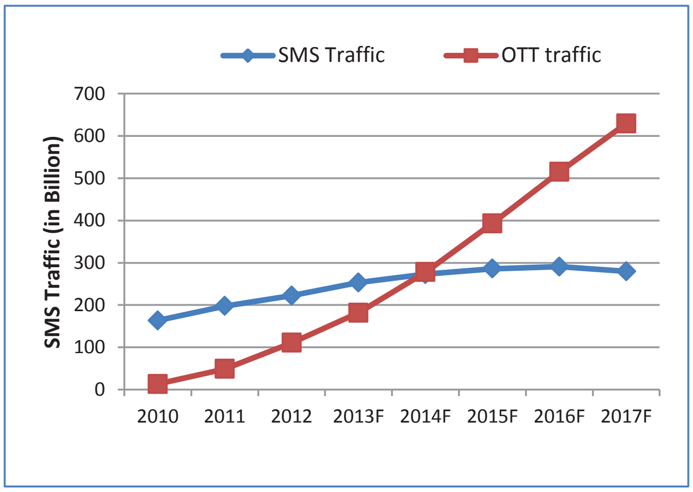


Source: Portio Research, July 2013

8.5. Middle East and Africa

Countries from Africa and Middle East still exhibit a healthy growth in SMS market and would continue in near future. As smartphone penetration increases, it is expected that SMS market would gradually be cannibalized in the price sensitive African continent. In Middle East Saudi Arabia, Israel, UAE and other matured markets have witnessed high growth in penetration of smartphonesand operators have observed steep decline in SMS traffic (Mobile Messaging Futures 2013-2017, July 2013. Portio Research).

Figure 7: Messaging Data for Middle East and Africa



Source: Portio Research, July 2013

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AUTHORS' PROFILE

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