Key Challenges of Telecom Sector in India

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ABSTRACT: The Indian telecom sector has come to an interesting phase of its evolution. All Telecom operators are currently in the process of consolidation especially after Jio's launch in the market and looking at each cost expenditure for its optimization. The primary reason of this sudden shift is because of the entry of a big time player Jio in India. It is evident from the current scenario that the Voice alone will not be sufficient to generate revenue and hence the focus is required to be shifted towards various data services.

I.   INTRODUCTION

The Indian telecom sector has come up as one of the leading potential markets in the global perspective and has witnessed high-paced growth over the past 25 years. The telecom industry of India has experienced dramatic changes over the years. Technological innovations and regulatory changes have been the two major factors responsible for setting the stage right for the evolution in this space. The sector was liberalised in 1994 with the introduction of the National Telecommunications Policy or NTP. The Telecom Regulatory Authority of India or TRAI, an independent regulator for the Indian telecom sector, was set up in 1997 to reduce the interference of the Indian government in operational matters of telecom companies.

India is currently considered the world's second-largest telecom market. It has registered a strong compound annual growth rate (CAGR) of 19.96 per cent in its subscriber base during the last decade. The mobile segment's teledensity swelled around six times from 14.6 per cent in FY07 to 81.38 per cent in FY16. The number of Internet subscribers in the country increased at a CAGR of 78.81 per cent, with the number reaching 342.65 million in March 2016 from 8.6 million in 2006. The sector is expected to witness an extremely high growth rate in the coming years, given the favourable regulatory support by the government and the introduction of 4G. The top five players in the sector in 2016 were Bharti Airtel, Vodafone, Idea, Reliance and Bharat Sanchar Nigam Ltd or BSNL.

The telecom sector in India witnessed its first major reforms during 1990s when the Indian government opened up the sector for private investments. Owing to this initiative, the sector saw major changes in the areas of ownership, services and telecom infrastructure regulations. Several joint ventures between the State and the international players followed and during this phase, the Indian telephony services observed technological disruption and mobile telephony picked up. In July 1995, the first mobile telephone service was launched in India.

In the first decade of the 21st century, the government further liberalised the entry of private and foreign investors in the sector, especially in the mobile telephony space. The impact was affordable services for a large number of Indian residents, especially the Indian middle class. During FY08, the mobile subscriber base recorded a 50 per cent jump year on year.

Another recent disruption has been witnessed in 2016 with the entry of Jio and it has announced the Free voice calls, drop in data tariffs, sharp competition among Indian telecom companies. It has brought the telecom industry to a new level in terms of tariffs, services and technology and has also created substantial expectations among mobile customers. The launch announcement offered the lowest rate (worldwide) for the Internet data at Rs 50 per gigabyte (GB). Also, all its services were offered free, on promotional basis, till December 31, 2016 (which was further extended till March 31, 2017). This kind of cut-throat disruption by a new player (with huge financial muscle) is expected to bring consolidation in the industry.

These developments in the Indian telecom sector shook all major telecom operators. Jio has proved to be a game-changer and the company's pricing strategy has disrupted the entire market and forced all the telecom companies to devise ways and means to survive and face this stiff competition. Jio's strategy is to focus on the data business aggressively instead of the voice as the data business offers high growth rate potential. While the voice market has already matured in India, data relating to voice and non-voice service revenues of the top three

industry players (Bharti, Vodafone and Idea) reflect this trend as well. Apart from its unique pricing proposition, Jio's network is technologically more advanced and sophisticated for high-speed data business compared to other existing players in the market.

After deregulation and liberalization in the telecom sector in India, it has seen a spectacular success. It was possible to achieve with consistent efforts from Operators and regulators (TRAI) and Government sides. We could achieve unprecedented growth and lowest prices.To further fuel the growth, it is further expected that smart phones will be made available at lowest prices and Internet data plans will further be slashed to a new lower level.These smartphones has got to be equipped with various Apps in various regional languages covering local issues / utilities like information, health, financial and entertainment of their importance. The smartphones with these applications are expected to interest and fuel the growth of various data services.

It is widely accepted that data is a new big source of revenue. All operators must aspire to take their pie in the overall data market space. In order to achieve this, operators have to face the following challenges:

- Availability of sufficient spectrum
- Technology to enable faster connections and availability by new compression and other techniques
- Making available more innovative and interesting applications for customer's usage.
- The government and the regulators (TRAI)must provide the right mix of policy to help in making all that happen.
- In the whole echo system all operators, phone manufacturers, software / application developers, infrastructure providers should remain agile and healthy.

KeyChallenges

The primary responsibility to come out of the situation lies with the telecom operators. However, other companies like Mobile handset manufacturers, equipment companies, contents providers and mobile apps producing companies, social media firms such as Facebook / Whatsapp and video game manufacturers also have to play a very important and critical role.

Technological Constraints

To be able to provide access, mobile operators need spectrum, which is a scarce resource. In comparison to other countries the amount of spectrum available for commercial use is low. Since the practice of the government is to auction it at an exorbitant cost. Therefore, it becomes difficult for mobile operators to provide services at reasonable speeds and at low prices that encourage adoption and usage.

The probable solution is not to rely fully on licensed spectrumbut there is a need to depend on unlicensed spectrum i.e. Wi-Fi which operates in 2.4 GHz band. We should also think of offloadingtheir data onto fixed networks and SP-Wi-Fi network.It is because of the fact that 80% of the time customers are either in office or their homes or some static places. They should be using licensed band only when they need mobility and rest of the time, they should be latched on to either fixed line work or Wi-Fi network available at various strategic points.

Handsets Constraints

In order to experience a good Internet browsing, download and Video, it really becomes important for us to provide consumers a phone having advanced features at an affordable cost. Such phones are widely called as smartphones. These phoneshave many other features over and above providing access to the Internet. The current price of smartphones is also a hurdle to adoption.

This telecom sector is a technologically dynamic industry as the new products and technologies are being invented and deployed quite frequently. Smartphone prices are expected to decline further and new technologies related to network &handsets are being used to make more efficient use of the available spectrum.

Constraints with Contents

More and more contents are to be made available in all of regional languages. Also, these contents should be focussed in addressing their local problems or providing knowledge to the prevalent occupation of that region. Currently, most of the content that is available on the Internet is in English. This languageis still spoken by a small fraction of the people in India. Also, using the Internet or browsing is not a pleasant experience on the small screens of a mobile phone. So most of the usage is restricted to chatting on applications such as WhatsApp and playing games.

With more and more utility based apps coming in, Internet data usage is on the increasing trend. Apps has made the Internet accessing and navigation through various Internet pages easier and is becoming more useful to the user. It becomes really easy to navigate within that App for various other options.

Now there are apps developed for mobile commerce and banking usage. A large number of government services have started becoming available on various apps. The use of apps makes the experience of using the Internet easier for all kinds of uses as it optimizes the interface for the smaller screen of different mobile phones.

However, it is still difficult to read documents on mobile phones. Therefore, it is unlikely that mobile phones will completely replace desktops, laptops and tablets.

Apps developers are producing apps for various applications. For example, an App providing cricket scores requires access to this information that lies with news providers such as television channels and newspapers. Further to provide access to the app the developer needs to have access to the mobile network. Over the Top (OTT) applications such as WhatsApp, OLA, Viber and so on do not need permission or a pact with a telecommunications company (telco). It was necessary earlier for app providers to deal with telecom operators to collect money from customers through billing but now OTTs run on a different business model either funded by business or through revenue earned through advertisements. Due to lack of credit card penetration, the app provider will have to go through a telecom operator in the event it has to charge customers. So either a mobile operator has to buy the app or make it available for purchase on its platform. Therefore, app developer finds himself squeezed between these two - content provider and the network operator and does not get good returns on his effort.

Active Role of Government and Regulator

There is a need to examine the role of the government and the various institutional actors in the fray. The government's prime concern seems to be in the revenue it collects through various auctions of Radio frequency spectrums. The Ministry of Communications and Information Technology and its agency the Department of Telecommunications (DoT) have some social concerns regarding access, which is reflected in schemes such as the National Optical Fiber Network (NOFN) which is aimed to provide fibre access to all villages through universal service fund. Various other ministries and government agencies are interested in e-governance or m-governance but the extent of the involvement of the Ministry of Communications and Information Technology and the Department of Telecommunications (DOT) is unknown. The only agency that seems to be interested in the daily travails of the telecommunications industry is the Telecom Regulatory Authority of India (TRAI). It is because TRAI shares a close relationship with the industry. Whatever may be the reason, its workings are fairly transparent and in fact, often provides an insight into the thought process of operators.

An instance of this is the problem of OTT applications. For a fairly long time mobile phone operators had a lucrative source of revenue from short message service (SMS). A typical SMS costs very little to send but the charges were correspondingly higher, but still relatively very low. Since the volume of SMS sent was very high the operators made a huge amount of money from the SMS service given to Customers. This source of revenue came under threat from OTT applications such as Viber and WhatsApp. These applications affected the SMSservice revenue of the telecom operators. The service was free and the look and feel of the interface was novel and exciting, particularly for the young people. The applications relied on advertising for revenues and used the infrastructure of the Internet for its operations.

The mobile phone operators have raised their voice because they had invested heavily in the towers and switches that made these services available, viable but these services were using the same infrastructure to skim revenues away from them. An alternative was to provide a slower or degraded connection to these services through technologies such as deep packet inspection (DPI) which makes it possible to find, identify, classify, reroute or block packets with specific data or code payloads that conventional packet filtering (which examines only packet headers) cannot detect. But, that would have gone against net neutrality. In all of this, none of the institutional actors except the TRAI played any meaningful role.

One area that the ministry of telecommunications has been fairly active in dealing with electromagnetic field (EMF) radiations from both towers and all types of mobile handsets. The alleged harmful effects of these radiations have always been a source of some contention to the people at large. The radiation is a by-product of the strength of the signals that mobile towers and handsets. The stronger the signal the better the connection and more the number of connections a tower is able to handle. In a similar way, a stronger signal from a mobile handset means better reach to the mobile tower. Therefore, a weaker signal means more towers would be required to serve the same set of connections, which would ultimately increase the costs. Also, the linkage between higher EMF radiation and health risks is mixed. Apart from this, the Indian standards have been set at 10% of the existing International Commission on Non-ionizing Radiation Protection (ICNIRP) standard, making it more stringent than 90% of the countries, according to the Department of Telecommunication (DOT). The other source of interest for both the government and the DOT is spectrum. A large part of this interest seems to lie in the revenues generated from its auctions. This interest could lie at the bottom of numerous restrictions on sharing and trading of spectrum. One would expect that the DOT would be interested in efficient use of spectrum, which would be facilitated by sharing and trading. The guidelines for this are expected shortly from DOT. For 3G as none of the operators, except the public operator BSNL/MTNL, could obtain spectrum for all the submarkets (there are 22 submarkets called circles in India) they entered into mutual agreements to share their 3G spectrum with each other in order to have a pan India 3G coverage. These agreements were called 3G

Intra Circle Roaming (ICR) pacts, and DOT appealed against the Telecom Disputes and Settlements Appellate Tribunal (TDSAT) allowing sharing agreements between different telecom operators. Spectrum and policy towards it is a complex tale.

Telecommunications is a very dynamic, complex, capex intensive industry. Its sustenance success requires the active participation of all stakeholders in the overall telecommunications eco-system.

II.   CONCLUSION

The telecom sector in India have to deal with various challenges like maintaining the sufficient spectrum, Adoption of new technologies faster to be able to use new features and techniques to serve the customers with better and feature rich service, Government and regulatory agencies, various mobile handsets available from various companies brings lot of issues and content partners etc.Also, it is evident from the current scenario that the Voice alone will not be sufficient to generate revenue and hence the focus is required to be shifted towards various data services.

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