

OPPORTUNITES AND CHALLENGES IN TELECOM SECTORS

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Introduction:

This mobile telephony got speed to spread up in the every part of the country and more than eight million mobile subscribers sign up for services every month. This was a kind of miracle in telecom industry which compelled the government to adopt new policies, strategies and technological help for the fast development of telecom industry.

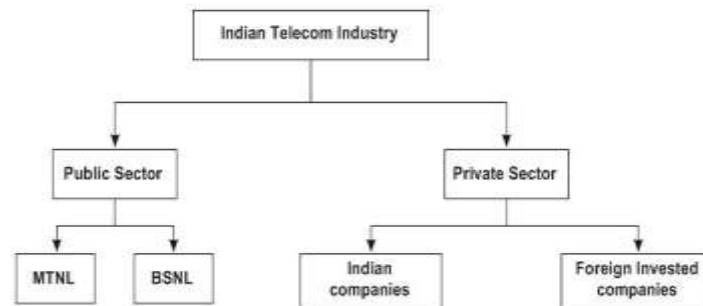
This kind of revolution in the field of telecom must be looked as a process of greater change in telecom industry due to adoption of liberalization policy in India. This liberalization has opened many avenues for private companies. Though the mobile telephone was operated by private operator for the first time in 1995 in telecom industry and credit goes to Bharti Airtel as a pioneer in the telecom sector which launched its service for the first time in Delhi. In fact, this was beyond the expectation of people and this new technology was considered to a powerful agent for change which, in turn, started contribution to the economic and social development of India.

Recently telecom sector in supposed to be one of the prime support services required for rapid growth and fast modernization of various sectors of the economy. Recognising the importance of telecommunication the government has undertaken various policy initiatives, since 1990s and therefore the Indian telecommunication experienced a complete phase of transformation since the advent of globalization in India and the Indian telecom sector has emerged as one of the fastest growing sector in India as well as world. That is why, Indian telecom sector is considered to be world's second largest network in the world. The impact of Indian telecom sector was accepted beyond expectation and it has continued to generate both direct and indirect employment opportunities for millions of youth in various areas of this sector like telecom, manufacturing, B.P.Ss, channel distribution, infrastructure development and ancillaries. Therefore it was termed that from farmers to fishermen and from vehicle machines to the local plumber have found a way to leverage the device to improve their capacity to lead a decent life. In fact, the telecom sector has a capacity to absorb millions of entrepreneurial dreams in both the rural and urban India.

The public and private sectors are playing vital role in rapid growth of telecom industry. Private players have significant participation in every segment of telecom Industry which comprises NLD, ILD, Cellular, basic and internet also. Until 1984, telecom sector was completely under the control of

Government of India. With the adoption of LPG Policies, Private companies made its entry in manufacturing segment went of telecom industry for the first time and disinvestment of VSNL in 2002 provided opportunity to private sectors in the service provider segments. Structure of the telecom industry in terms service providers may be represented through diagram which is as below –

Figure- 1



Indian telecom industry's framework may be divided into the following manners-

- (i) Independent Bodies like- TRAI, TDSAT and AUSPI
- (ii) Pure Government of India's bodies like- DoT, WPC, Telecom Commission and Government of India Telecom and IT.

Telecom Commission – The following duties are discharged by telecom commission –

- (a) Issues related to telephones, data services, telegraphs and others forms of communication of similar nature.
- (b) Policy Formulation –

WPC (Wireless Planning and Co-ordination wing) has been authorized to discharge the following works-

- (a) Licensing of wireless stations
- (b) Spectrum Management regarding frequency.
- (c) To cater to the needs of all wireless users in India.

Growth in Subscribers:

Telecommunication has become backbone of our economy due to its rapid growth only because of the various policy implemented by the government. The National Telecom policy-2012 has played vital role in the development of Telecom sector. The policy vision states to provide secure, reliable, affordable and high quality converged telecommunication services inclusive socio-economic development of the country. The important components of this policy is as such-

- (a) Standardized Telecommunication Equipment from R&D and Manufacturing stand point.
- (b) Broadband Telephony in the rural areas of the country.
- (c) Spectrum Management.

(d) Licensing and value added services (VAS)

(e) Security Provision of Data and Network.

(f) Stress on Quality of Services

The above components of National Telecom Policy- 2012 have given impetus to the fast growth of telecom industry.

Now India stands second in terms of market size and third in terms of internet users on global basis. The following facts shows the growth of telecom:-

- There has been a growth in telephone subscribers base in India which has at the rate of 19.5 percent (CAGR), between financial year 2007 to 2016.
- Telephone subscribers base grew up to 1,022.61 million in the month of September 2015 and teledensity grew by 81 percent (TRAI) that is being depicted through graph no. 5.1
- Revenue earning from mobile service market had touched to US\$ 37 billion, in the year 2017 which was a growth at the rate of 5.2 percent (CAGR) during 2014 to 2017. This growth has been observed on account of substantial increase in consumption of data on hand held services.

India has become the world's second largest telecommunication market. Every segment of telecom like- wireless, wireline and internet services has made significant progress. The wireless market segment has a share of 98.21 percent in the total subscriber base as of December 2019 and the rural subscribers has a share of about 43.50 percent in the total telephone subscribers in the country by the end of December, 2019.

As per government record, India has become the world's second largest country in terms of internet subscribers and the country has become highest data user per smart phone in the world. The gross revenue of telecom sector rose up to 121.527 crores during financial year 2019-20 and the government has increased the FDI cap in telecom sector from 74 percent to 100 percent. Various telecom policies were adopted by the government of India to make telecom competitive on world level. Therefore, recently the government has launched National Digital Communications Policy in 2018 which is supposed to attrite investment of Rs. US\$ 100 billion in the telecom sector by 2022.

In addition to above, there are many opportunities for Indian telecom industry. Now private players as well as public sector players are needed to explore the potential business opportunities in telecom sector. Though the government has done a lot thing for the development of telecom sector but there are many other opportunities which should be explored in favour of telecom sector. The followings are the main opportunities which are discussed below-

The government should take steps to boost up the telecom equipment manufacturing companies in India. In addition to above special additional duty has been withdrawn on battery, chargers wired

handsets, adapters and speakers for mobile phones. Such steps with really help the local manufacturers by making imports costlier. Also to encourage local manufacturer import duty on the inputs to be used by the local manufacturer should be removed or reduced.

To Increase Share in Infrastructure:

Telecom industry needs heavy capital expenditure because as much as 40 percent to 60 percent of capital expenditure is utilized for establishing and managing the Telecom infrastructure with the help of ARPU and above revenue generated through towers are declining over time. Therefore, sharing of towers and other infrastructure in the need of circumstances. By sharing infrastructure the service provider companies can maximize their capital expenditure and concentrate on new and innovative services for their subscribers.

Enhancement in the Mobile Value Added Services (MVAS):

It is the need of the time that VAS should cover entire utility services and we find enough opportunity in telecom sector particularly in the areas of m-health, m-commerce, m-education and m-governance. Recently the government of India has taken steps to introduce the National e-governance plan where in various online government services would be available to the people of the country.

Provision of lower tariff and Affordable Smart phone for public:

Various operators have made their entry in Indian market for hand set manufacturing. The Reliance Jio company has taken a drastic step to reduce the voice and data tariff and this step reliance Jio has compelled other service provide companies to reduce their tariff rates. It was the expectation of government that increase in telecom subscriber base may reach to 5 billion by 2020.

TRAI had also published combined data regarding mobile and landline telecom subscriber base which had touched the 1.18 billion mark by the end of February 2017. All these factors create opportunity for telecommunication.

Scope Huge Rural Telephony:

The idea of rural Telephony recognized by the government of India for connecting the rural India. As per government data, 55,669 villages in India were without telephone facility in 2016. The government targeted through National Telecom policy that the government has to improve the rural-tele-density from 42.4% in 2016 to 70% in 2017 and at the same time, it was decided that 100 percent target would be achieved by 2020. As it seems that due corona pandemic issue, it would be impossible to achieve 100 percent target by 2020.

Launching of 4G Services by the operators:

The launching of 4G services in the whole part of country is an essential aspect. It will provide fast services to the people. Though the Airtel has already launched 4G Services in 296 towns in the country.

Reliance Jio is doing their job with priority basis where as Vodafone has made its presence across the national in terms of launching 4G Services.

High Cost Way:

As was observed that sometimes state governments fix high cost of their land for lying of fiber or other kind of construction work and there is no uniformity in the charges demanded by various governments. That is why, different governments charge different costs.

In Sufficient Spectrum:

In India, available of spectrum has been found to be less than 40 percent as compared to China where in 50 percent spectrum is available while the European countries are having sufficient spectrum. Spectrum provides strength to tele-communication. Therefore, we need sufficient number of spectrum to compete developed countries.

Presence of Low Broad Band in India:

As compared to developed countries low broadband penetration is found in India which is a matter of great concern for our country. According to a report presented on broadband in the International Telecommunication Union (ITU), we find that India is having only 7 percent of broadband penetration. Such a small percentage of broadband penetration in India causes loss on many fronts to the government and specially heavy loss of revenue to the government at one hand and lack of facility to the consumers on the other side. Rural people are more victims of this situation.

Lack of Infrastructure in Hilly and Rural areas:

Hilly, semi rural and rural parts of our country are worst victim of telecom infrastructure. Due to lack of telecom infrastructure, the people of these areas have failed to enjoy telecom facility. Facilities like broadband and Internet are rarely available in these areas which causes loss of revenue to the government and customers are deprived of such kind of facilities.

Stiff Competition among Telecom operators:

It was observed that there is a stiff competition among telecom operators. Sometimes Airtel and Reliance Jio drop their tariff rate which creates problem for other telecom operator. Reliance Jio has been taking such kind of step at various occasions.

As we find that there is very less spending on R&D in the telecom industry which makes us dependent on other countries. Expenditure on R&D creates an environment for manufacturing in the country that can help the country in exporting telecom equipments like mobile handsets CCT.V. Cameras etc.

In addition to above some new opportunities are to be emerged in recent futures which are discussed below.

Recently telecom service providers have come with a rich set of services and service providers as well as customers are in search of reliable and secured services. Various smart phones are equipped with new technologies and several facilities like biometric finger print readers. The customers demand in on rise for such kind of mobile set. This technology is recently being used by government offices, retailers financial institutions, schools and universities and also by the private sector offices to verify attendance and identities.

On the same pattern, other biometric mechanisms are used for facial or retinal recognition. These trends would pickup steam in recent future. It is also expected that the telecom companies would also introduce SIM cards very soon to curb crimes and terrorist attacks in our country.

Introduction of 5G Networks:

Telecom service providers are working hard to introduce 5G Network by the end of 2020 or in the first quarter of 2021. The chairman of Reliance Jio, Mr. Mukesh Ambani has announced in AGM Meeting of his company in the 3rd week of July 2020 that Reliance Jio would introduce 5G Networks very soon. In fact, the introduce of 5G Networks would provide enormous wave of faster internet services.

The telecom department is seriously thinking over addition of artificial intelligence capabilities to smart phones that will introduce the new shift in telecommunication technology. Artificial intelligent will provide additional feature to smart phone to perform highly sophisticated functions like speech recognition, indoor navigation Augmented Reality (AR), learning the daily task and also preference for a customer to enable digital assistants such as – Siri and Alexa. In addition to above there are various scope under Artificial Intelligence which h are mentioned below-

These kinds of feature of Artificial Intelligence are practiced by some of the leading service providers in telecommunication sector. The main features of this applications are AT & T'S self healing and self learning hardware that get power by artificial intelligence. But this is challenge before Indian telecom sector in the current scenario. In view of its features Indian telecom sector has to adopt in the coming time.

In the current position IoT in considered as a big challenge for Indian Telecom Sector but it will emerge as a big opportunity for telecom service providers in coming years. When the operator4s would become an IoT connectivity service provider and provide Machine to Machine (M2M) devices, then it will open new scope of revenue generation for the telecom operators. But till now it is a challenge before

them. As per an estimate it is expected that there would be nearly 20 billion devices likely to be connected to IoT by the end of 2020 and that IoT product and Services would generate a revenue of \$300 billion for the service providers. According to a survey conducted by Tata Consultancy Services (TCS), the telecom sector ranks fourth in terms of spending on IoT technology. Hence, IoT technology is definitely a challenge before telecom sector in the present situation but is would emerge with various opportunities in the years to come. IoT is considered to be a strong technology to improve the operational efficiency with remote monitoring and management of equipment, IT infrastructure and better security with IoT enable devices in telecommunication Videsh Sanchar Nigam Limited (2002) in its 16th Annual report clearly mentioned that on the pattern of many other countries India also adopted a gradual approach to telecom sector reform by way of selective privatization and accepted to manage competition in various segments of telecommunication sector. 1992 may be considered as a landmark year because India also introduced private competition in value added services in this year by making open to cellular and basic services for local area to competition. India also took decision to introduce competition in National Long Distance (NLD) and International Long Distance (ILD) nearing the same time.

The Economic Survey of Government of India (2002-03) clearly said about two important goals of Indian telecom sector- (a) delivering low-cost telephony to the largest number of individuals and, (b) delivering low cost high speed computer networking to the largest number of firms. The teledensity, which may be defined as phone lines per 100 persons of the population, improved rapidly from 43.6 in March 2001 to 4.9 in December 2002.

In a study conducted by Dutt and Sundram in 2004, it was mentioned in the study report that in order to boost communication for business, many new models of communication are now being implement in several cities of India like cellular mobile phones, Radio paging, E-mail, Voice-mail, Video, Text and Video-conferencing. They clearly mentioned that value-added hi-tech services, access to internet and also introduction of Integrated Service Digital Network have been introduced in the various parts of country.

As per ASEAN India Synergy sectors report, (2005) it was clearly mentioned in the report that high quality telecommunication is the essential pillar for the growth of information technology based services. In view of above fact, telecommunication policy recognized vision of world class telecommunication services should be provided at a reasonable rate. It was also accepted that provision of telecom services in rural areas should be another thrust areas to attain the goal of accelerated economic development as well as social change.

Indian Infrastructure Report (2005) clearly stated in its report that that fast expanding telecom sector is observing a tuff competition which has resulted in lower tariff rates as well as better quality of

services. Many telecom services such as mobile as well as basic, internet, national long distance as well as international long distance have observed rapid growth in 2005.

As per a study conducted by the Associated chamber of commerce and Industry of India (2005), India would be a big manufacturing hub as well as big market of telecommunication equipment. It was mentioned in the study report that 30% of new mobile subscribers added by the service providers worldwide would come from India by the end of 2009 and 10% of the third generation (3G) subscribers would also come from India by the year 2011. The report also spoke that Indian handset could see a revenue generation between US\$ 13 billion to US \$ 15 billion by 2016. The report expected that there would be a great opportunity for equipment vendors to make India a manufacturing hub-which really happened.

Narinder K. Chhiber (2008) found in his study that the mobile telecommunication technology is evolving fastly in the whole world only because of the fact that people are demanding mobile services on larger scale with longer band width and newly introduced services such as connectivity anywhere, anytime with other features also like multimedia, T.V., Interoperability and seamless connectivity having full protocols and standards. An important fact was stated by Business today (1992) regarding Indian Telecom that owing to absence of technical and financial resources particularly foreign exchange, the department of Telecommunication is found to be lagged behind to achieve standard level of technology. It was also pointed out that India's indigenization program in the switching segment that was carried out by C-DoT has been fully successful in the introduction of especially designed exchanges for rural areas keeping in mind that Indian atmospheric conditions like heat dust and humidity.

Now a days the Indian telecom sector has achieved a prestigious position in the world in terms of subscriber base and also marketing base. Most significant development has been observed in Indian telecommunication sector since 1999 in the form of progressive reduction in tariff rates which has been facilitated by way of multi operator environment. In fact, it was dramatic reduction in tariff rates which was Rs. 16/- per minutes to Rs. 2/- per minute (Ghose 2003).

The challenges, in fact, is that a competitor come up in one of your established markets with new technology, better network of companies for support and a better management style and try to steal huge chunk of your business before you respond your competitor (Mathar, 2005).

Many researcher have mentioned various reason behind competition in Indian Telecom Industry. One of the researchers mentioned various factors contribute to competition to the Indian telecom sector. In addition to lowering of prices, increased efficiency, greater innovation, highly technical industry and better service quality are some the important factors which contribute to competition among various telecom operators (Mitra, 2005).

Recently new innovations, new technology and handset6s are equipped with various facilities which boost to competition and challenges before telecom industry. In the coming time, mobile Internet and big data will create larger opportunities before telecom service providers. It is expected that mobile internet will come with boom in telecom sector very shortly. Recently telecom service providers are trying to develop customer loyalty and enhance the migration charges for changing the mobile numbers and switching over service operators. In fact, huge number of use base has been the biggest tool to win the market share in the mobile internet age and at the same time telecom service providers are capable of securing a large number of low-end users by way of subsidizing low-cost Android based technology.

There are various challenges before the Indian telecom sector but these challenges would emerge in the form of larger opportunities in the coming years because those factors are considered challenges would be the need for the telecommunication operator and customers in future. The telecom service operators should take a more informed approach for implication of their business that would help them catch the digital transformation wave. India has become the world's second largest telecommunication market. Every segment of telecom like- wireless, wireline and internet services has made significant progress. The wireless market segment has a share of 98.21 percent in the total subscriber base on of December 2019 and the rural subscribers has a share of about 43.50 percent in the total telephone subscribers in the country by the end of December, 2019.

Telecom industry is needs heavy Capital expenditure because as much as 40 percent to 60 percent of capital expenditure in utilized for establishing and managing the Telecom infrastructure with the help of ARPU and are declining over time. By sharing infrastructure the service provider companies can maximize their capital expenditure and concentrate on new and innovative services for their subscribers. Various operators have made their entry in Indian market for hand set manufacturing. The Reliance Jio company has taken a drastic step to reduce the voice and data tariff and this step Reliance Jio has compelled other service provide companies to reduce their tariff rates. It was the expectation of government that increase in telecom subscriber base may reach to 5 billion by 2020.

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target would be achieved by 2020. As it seems that due corona pandemic issue, it would be impossible to achieve 100 percent target by 2020.

High cost way – As was observed that sometimes state governments fix high cost of their land for laying of fiber or other kind of construction work and there is no uniformity in the charges demanded by various governments. That is why, different governments charge different costs.

Declining in Average Revenue- Average Revenue per user is declining which has affected the profit of Service provider companies and in some cases they have to face serious losses. This situation has compelled the operators to think over alternate ways and one of the alternatives is to consider over consolidation as the best way to boost revenue.

Little penetration of fixed- line in the country - India lacks of fixed line penetration in its network as compared to developed countries. In developed countries there is a heavy penetration of fixed lines which is popularly known as telephone line that are connected either metal wire or optical fiber. In the case of India only 25% of Towers are connected with fibre networks maximum developed countries are having it in excess of 70 percent.

In addition to above, our country does not have essential tools for 5G Network. 5G network essentially requires such kind of towers that are connected with very high-speed system and recently these high speed systems are not possible in India.

In sufficient Spectrum – India, availability of spectrum has been found to be less than 40 percent as compared to China where in 50 percent spectrum is available which the European countries are having sufficient spectrum. Spectrum provides strength to telecommunication. Therefore, we need sufficient number of spectrum to compete developed countries.

Indian Telecommunication has face fluctuation in regular mode which has to face connection problem with the whole system from Central Server to customer. The rural areas are more victim of such kind of problem. Though the government has taken steps to digitalize the entire telecom system but it will take time to be updated as compared to International standard.

Due to application of over the top (OTT) like whatapps, OLA and many Chinese apps do not seek permission from telecommunication department as a result of which these applications generate heavy revenue loss to the telecommunication department.

As compared to developed countries low broadband penetration is found in India which a matter of great concern is for our country. According to a report presented on broadband in the International Telecommunication Union (ITU), WE FIND THAT India is having only 7 percent of broadband penetration. Such a small percentage of broadband penetration in India causes loss on many fronts to

the government and specially heavy loss of revenue to the government at one hand and lack of facility to the consumers on the other side. Rural people are more victims if this situation.

Hilly, Semi rural and rural parts of our country are worst victim of telecom infrastructure. Due to lack of telecom infrastructure, the people of these areas have failed to enjoy telecom facility. Facility like broadband and Internet are rarely available in these areas ;which causes loss of revenue to the government and customers are deprived of such kind of facilities.

The government takes unnecessary time in policy decision which causes revenue loss to operators as well as government. Though there is a separation of different segments in telecommunication department for quick disposal of any matter. Despite that, it becomes too late in policy decision and execution of decision taken as a policy matter.

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Conclusion:

Before liberalization period growth of Indian telecom was restrained by various factors. Those days, to live with a telephone was a matter of status symbol. Today mobile is in the hands of rich and poor and it has become essential goods for the purpose of earning bread and butter. We must remember that the telephone customer's base which was only 80,000 in 1948 has grown to five million by 1991 since we adopted principle of market economy in 1999. This mobile telephony got speed to spread up in the every part of the country and more than eight million mobile subscribers sign up for services every month. This was a kind of miracle in telecom industry which compelled the government to adopt new policies, strategies and technological help for the fast development of telecom industry.

India has become the world's second largest telecommunication market. Every segment of telecom like- wireless, wireline and internet services has made significant progress. The wireless market segment has a share of 98.21 percent in the total subscriber base on of December 2019 and the rural subscribers

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