

EMERGING TRENDS IN INDIAN TELECOM INDUSTRY: A STUDY

Abstract

The telecommunication industry in India is rapidly growing and witnessing many developments. India is moving towards accomplishing a \$ 1 trillion economy by the end of 2025. By 2025, the telecom sector will emerge as top five employment opportunity generator in the country. This article traces the evolution of Indian telecom infrastructure during the past few years and also discusses the industry readiness of India for 5G, alongwith network expansion, investment, recent developments in the sector and highlights the Government initiatives.



CMA Tapan Bhattacharyya
Ex- Accounts Officer
BSNL
Kolkata
tapanbhattacharyya1961@gmail.com



Subha Bhattacharyya
Independent Researcher
Kolkata
subha.bhattacharyya16@gmail.com

INTRODUCTION

The telecommunication industry in India has witnessed many developments and undergone massive changes. It is one of the fastest growing industries in the world. India has developed as the second largest telecommunication market with a subscriber base of 1.17 billion. India had an overall tele- density of 82.11 per cent by the end of July 2022. The telecom sector in India is the third largest sector in terms of foreign direct investment (FDI).

TELECOM SUBSCRIPTION DATA

| Particulars | Wireless | Wireline | Total | |
|------------------------------------|----------|----------|------------------------------|--|
| | | | Figures in million July 2022 | |
| Urban Telephone Subscribers | 626.74 | 23.66 | 650.40 | |
| Monthly Growth Rate | 0.20% | 0.25% | 0.20% | |
| Rural Telephone Subscribers | 521.29 | 1.97 | 523.26 | |
| Monthly Growth Rate | -0.12% | 0.11% | -0.12% | |
| Total Telephone Subscribers | 1148.03 | 25.63 | 1173.66 | |
| Monthly Growth Rate | 0.06% | 0.24% | 0.06% | |
| Share of urban Subscribers | 54.59% | 92.31% | 55.42% | |
| Share of rural Subscribers | 45.41% | 7.69% | 44.58% | |
| Broadband Subscribers | 777.95 | 29.47 | 807.42 | |
| Rural Tele -Density (%) | 58.15% | 0.22% | 58.37% | |

| | | | |
|----------------------------------|---------|-------|---------|
| Urban Tele - Density (%) | 129.88% | 4.90% | 134.78% |
| Overall Tele- Density (%) | 83.25% | 1.86% | 85.11% |
| Source: TRAI | | | |

INDUSTRY OVERVIEW :

Telecommunications in India began with the introduction of the telegraphy. In July 1991, with the announcement of the New Economic Policy, the telecom sector was opened for private investments . In 1994, the announcement of the national Telecom Policy further stimulated the growth of the industry. With the creation of Telecom Regulatory Authority of India(TRAI) in 1997 BSNL was carved out of Department of Telecommunications for separate functions and telecom operations.

For dispute settlement an appellate body called Telecom Disputes Settlement and Appellate Tribunal (TDSAT) was formed in 2000.

MARKET SHARE OF INDIAN FIRMS

(Ranking Arranged In Decreasing Market Share)

| Wireless service providers | Market share (figures in %) by march 2022 |
|----------------------------|---|
| 1. Reliance Jio | 35.37 |
| 2. Bharti Airtel | 31.55 |
| 3. Vodafone Idea | 22.83 |
| 4. BSNL | 9.96 |
| 5. MTNL | 0.28 |

Source : www. statista.com

EVOLUTION OF TELECOM INFRASTRUCTURE OVER THE YEARS

- The introduction of 2G (Second Generation) of cellular network took place in 2008 which enabled services like SMS, multimedia messaging etc. To achieve higher data rate General Packet Radio Service (GPRS) and Enhanced Data GSM Evolution also were developed to improve the data rate for GSM networks.
- With the development of UMTS introduction of 3G took place which enabled services like multimedia chat, email, video calling.
- IEEE developed the 4G systems to provide higher data rate and advanced multimedia services. It also provided video conferencing facilities.
- 5G is expected to provide better latency, higher data rate, higher security and reliable and cloud based infrastructure networks that will create a complete revolution of mobile technology.

Under the PM *Gatishakti National Master Plan* Department of Telecom is co-ordinating to get various telecom assets like optical fiber cable (OFC), Tower/BTS mapped on the MNP

platform. About 10 lakh RKM of OFC of PSUs like BSNL, BBNL , GAIL , Powergrid , Railtel have been mapped on NMP platform. 5.72 lakh towers with about 19 lakh BTS have also been mapped. Mapping helps in quick fiberisation of the unfiberised towers, helps in utilization of the unused OFC.

Telecom tower infrastructure have developed a lot which paved the way for the growth of India’s telecom sector. The number of mobile towers rose from 400000 in 2014 to 727000 in 2022 recording a growth of 81.75 per cent since 2014 . Deployment of commercial small cells have also reached 100000. The number of mobile base transceiver stations have increased from 800000 to 2.32 mn in 2022. There has been significant increase in lattice, guyed, monopole, roof top and ground mounted towers during the past few years.

ROADMAP OF 5G NETWORK IN INDIA

The National Digital Communications Policy presents a positive vision for the industry and the nation towards realizing the ambitions of the Digital India Initiative. Under Digital India Initiative successful implementation of few schemes like Digital India Bhashini , Digital India Genesis will play crucial role in telecom sector’s growth.

5G spectrum auction has taken place in which major players were Reliance Jio, Airtel, Vodafone idea. Adani enterprises is the new entrant in the sector and also participated in 5G auction . Reliance Jio came first winning \$11 billion out of India’s 5G spectrum auction \$ 19 billion. Airtel \$ 5.4 billion, Vodafone Idea \$ 2.4 billion. New entrant Adani group acquired 400 MHZ of spectrum worth Rs 212 crore .To start with Kolkata, Chennai, Lucknow, Pune , Delhi , Mumbai , Gurugram, Hyderabad, Jamnagar , Bengaluru, Ahmedabad, Chandigarh, Gandhinagar will get 5G initially from October. 5G technology will help easy access to services like e-health etc.

RECENT DEVELOPMENTS IN THE SECTOR

- Huawei and Bharti Airtel conducted India’s first successful 5G network trial in Manesar, Gurgaon at Airtel’s network experience centre. MOU signed with Nokia and Ericsson by Airtel to support the company in its preparations for 5G rollout. Ericsson will start manufacturing 5G radio products in India for domestic consumption.
- Reliance Jio engaging with vendors like Nokia, Ericsson and Samsung for 5G trials. It had done trials in Mumbai with its indigenous equipment. Other than Mumbai Jio had applied for trials in Gujarat, Hyderabad, Delhi.
- In the absence of Chinese vendor Vodafone Idea has proposed 5G trials with vendor like Ericsson.
- In Pragati Maidan , Prime Minister Narendra Modi tests driving a car in Europe virtually from Delhi by

using India's 5G technology. Government of India will set up 100 labs for 5G technology across India

and at least 12 labs are to be used to train students and conduct experiments.

5G Technologies will enhance:

- + Internet of things (IOT)
- + Artificial Intelligence.
- + Cloud computing

IOT Applications:

- Home automation.
- Parking sensors .
- Connected Car.

Artificial Intelligence Applications :

- Robotics.
- Gaming.
- Space exploration

Cloud Computing Applications:

- File storage System.
- Big Data Analysis.
- Anti-virus Applications

SWOT ANALYSIS IN TELECOM SECTOR

SWOT stands for Strengths, Weaknesses, Opportunities and Threats

| | |
|---|--|
| <p>1. Strength : Huge customer Potential.</p> <p>1. Weaknesses: Most competitive market.</p> | <p>3. Opportunities: More quality service.</p> <p>4. Threats : Maintaining high ARPU.</p> |
|---|--|

INVESTMENT AND GOVERNMENT INITIATIVES IN THE SECTOR

Why telecom sector is attracting a lot of investment nowadays because of emerging opportunities in the sector like :

Marketing Analyst in this sector examines exponential data growth, finds new customer segments, growing subscriber base, better return on investment, positive efforts by government by allowing FDI limit upto 100%.

- ⊙ *National Infrastructure pipeline* provides attractive investment worth more than Rs 100 crore . A well planned NIP will attract more infrastructure projects and, empower businesses to generate more jobs .
- ⊙ Under *Atmanirbhar Bharat Abhiyan* production linked incentives (PLI) scheme is planned for manufacturing of telecom and networking products worth Rs 12195 cr. For the design led manufacturing scheme of the existing PLI scheme incentives worth more than Rs 4000 cr is planned.
- ⊙ *Bharat Net project* is one of the world's largest rural broadband connectivity programme using optical fiber. Implementation of the project will take place in two phases .Target set by DOT is to provide 100 per cent broadband connectivity in the villages.

| Particulars | Upto end of 2022 | Upto end of 2025 |
|--|------------------|------------------|
| Percentage of Fiberisation of mobile towers. | 55% | 70% |
| Average boardband speed | 25mbps | 50mbps |
| Optical fiber coverage (in km) | 3000000 | 5000000 |

Source : investindia.com

Earlier this project was declared valid upto 2024 but has

ssince been extended till 2025.

Bharat net Projects aims to provide internet connectivity in remote and rural areas . Investment under this scheme is to the tune of Rs 61,109 crore. Upto July 2022, 5,84,747 km length of OFC had been laid connecting 1, 87,245 Gram Panchayats. In 1,81,888 Gram Panchayats the service is ready on fibre and satellite.

- ⊙ *FDI inflow* : The Government allowed FDI limit upto 100 per cent in this sector which helps to attract more investors. During 2000- 2022, the FDI inflow in telecom sector has been ~Rs 3833 crore. Due to FDI in telecom sector, consumers will be able to make more choices of networks. It will also improve the telecom infrastructure and enable providing telecom connectivity to all corners of the country.
- ⊙ The Government in the Union Budget 2022-2023, has provided Rs 84,587 crore to the Department of Telecommunications for the development and growth in the sector whereas in UNION BUGDET 2021- 2022, Rs 58737 crore was allocated to this Department . A significant increase of investment by the Government to the telecom sector is clearly seen from the recent policy measures.

CONCLUSION

Despite various challenges to the telecom sector, it emerges as one of the employment generating sector of the country. Government initiatives play a critical role in the development of this sector. Steps taken by the Government will help to bridge the digital divide and strengthen the make in India initiative. Although, the telecom industry is facing many challenges in infrastructure sharing, spectrum sharing etc the industry will still generate jobs to lakhs of skilled workers in 5G related technologies by 2025.

Successful trials of 5G will pave the way for better tele-medicine, tele-education and such other services in the near future. The future prospect of telecom industry is bright where the industry will contribute in the vision of accomplishing a \$1 trillion economy by the end of 2025. **MA**

References

1. www.trai.gov.in
2. www.investindia.gov.in
3. *economic times*
4. www.indiabudget.gov.in