Study of telecommunication industry and its contribution to India's market trends and development

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Abstract

This paper analyses the telecommunications industry has the characteristics of natural monopoly, economies of scale and the difficulty of monitoring, then the combination of economic and technology trends analysis showed that the telecom industry's future development will be the body the following aspects: technical progress speed to promote the transfer of value, industrial integration to promote business competition, and user involvement to drive the experience economy and depth involved in the process of national information. The telecommunication trade in Bharat is quickly growing and witnessing several developments. it's had many transformations that has crystal rectifier to severe competition within the trade. this text traces the foremost policy reforms within the Indian telecommunication sector. Moreover, the article additionally discusses the changes methods adopted by the 2 key market players-Vodafone and Airtel. The paper can give a comprehensive data on the recent developments within the sector and can facilitate highlight the changes within the telecommunication trade.

Keywords - *Telecommunications industry, development trend, competitive information.*

I. Introduction

The telecommunications trade in Bharat has witnessed several developments and undergone tremendous changes. it's one in all the quickest growing industries within the world and has established to be international success story. Bharat has developed as the second largest telecommunication market with 898 million subscribers as on March 2013.

Indian telecommunication sector has undergone a serious method of transformation through many policy reforms and laws. The sector is turning into additional competitive day-by-day, with the introduction of recent players and has revolutionized the method we tend to communicate and share information. This article is a try to capture the dynamic situation of the telecommunication trade of Bharat.

The study additionally tries to unravel the amendment methods adopted by the key players within the trade.

Changing Telecom Scenario

With the announcement of the New policy in July 1991, the telecommunication sector was declared hospitable the personal sector. In 1994, the govt. declared the National telecommunication Policy that any stirred the growth of the trade by provision of world category services at affordable rates, promotion of exports, stimulation each domestic and foreign direct investments. The entry of personal players within the sector necessitated the requirement for regulation. As a result, the Telecom administrative body of Bharat (TRAI) was established in 1997 to control telecommunication services. TRAI has been issue a giant variety of laws from time to time so, transforming the once government owned non-competitive telecommunication market to a multi-operator open competitive market.

Soon thenceforth, the New telecommunication Policy was declared within the year 1999 that arranged down a clear road map for future reforms by gap by all the sectors in telecommunications to private players. During the recent years, numerous policy initiatives and developments have given a lift to the telecom sector. the subsequent section describes some of the foremost changes in the recent years.

II. Technological developments

The growth of telecommunication trade has additionally been fuelled by the launch of newer telecommunication technologies like 3G, and BWA, and emergence of cloud technologies. Efforts are continuously created to develop reasonable technology for plenty and energise the maturing urban markets and facilitate in delivery balanced growth of economy.

Muller (1990) in his analysis attributed the success of mobile commerce to the personal nature of wireless devices and declared that the sustained growth of mobile commerce around the world has been additional thanks to transfer of technology consistent with native geographical needs. consistent with Uehara (1990); King (1990); Glynn (1992); Mutoh (1994), technological changes in telecommunication and computers have radically changes the business situation. Telecom based technological innovations have been spurred by new demands of business. Singh (2004) highlighted the exponential growth of information services within the years to return and pointed out that broadband is probably going to a lead within the development of the Indian telecommunication Sector.

Declining tariff

The phone tariffs have declined dramatically over the years creating the mobile telephone affordable to the commoner. an oversized variety of choices are created on the market to the subscribers to select from the market relying upon their usage profile. All this has resulted in accumulated competition among the varied market players.

Mobile Value-Added Service (MVAS)

MVAS trade in Bharat has calculable size folks $ a pair of.7 billion that derives its revenues mainly from game applications, music downloads, etc. a similar is calculable to grow United States $10.8 billion by 2015, making a next wave of amendment within the semi-urban and rural areas.

Telecom equipment manufacturing

The astounding growth of the telecommunication sector has crystal rectifier to the event of the telecommunication equipment producing and alternative supporting industries. The Indian mobile phone market posted revenue of Rs. 359.46 billion in 2012-13, compared to Rs. 313.30 billion within the earlier fiscal year. Thus, it will be determined that deregulating, launch of newer technologies, changing client behaviour in conjunction with intense competition among the players were the key drivers of amendment within the telecommunication trade. The trade is poised for additional changes in the returning years with new policy initiatives.

Mobile Number Portability (MNP)

MNP services were launched in the year 2011 that allowed subscribers to retain their existing mobile signalling even they switch from one service supplier to a different irrespective of mobile technology. Implementation of MNP has not solely benefitted the subscribers by providing them a good vary of selections however has additionally prompted service suppliers to offer innovative, affordable, and competitive tariff plans for the advantage of the subscribers.

Foreign Direct Investment (FDI)

The government has determined to permit 100 percent FDI in telecommunications sector that is expected to change foreign telecommunication corporations to shop for out their Indian partners. At present Bharat permits up to seventy-four FDI during this sector – forty ninth through the automated route and therefore the rest once Foreign Investment Promotion Board approval. The government intends to create Bharat a transport hub. This initiative is anticipated to draw in foreign investments, higher technology, and property employment opportunities in the country.

Competition

Deregulation, declining tariff, gap up of the sector to foreign investments, changing customer demands and last however not the smallest amount technological developments has crystal rectifier to accumulated competition among the telecommunication service suppliers.

III. Research Methodology and Analysis

India's tele-density has improved from under 4% in March 2001 to around 79.38% by the end of March 2015. The mobile subscriber base (GSM and CDMA combined) has grown from under 2 m to touch almost 996.5 m at the end of March 2015. Tariff reduction and decline in handset costs has helped the segment to gain in scale. The cellular segment is playing an important role in the industry by making itself available in the rural areas where the tele-density is far lower (48.37%) than that in urban India (148.61%). As far as wireless broadband connections are concerned, India's internet users have risen considerably from 50 million in 2007 to 100 million in 2010 and more than 300 million in 2014, with close to 60% users accessing internet via mobiles (as per Internet & Mobile Association of India. This makes India the world's second-largest internet market after China. Consumption of data services continues to grow at an exponential pace.

VODAFONE INDIA

Vodafone is one of the world's largest mobile communications companies by revenue, operating across the globe providing a wide range of communication services. Its vision is to unleash the power of Vodafone to help transform societies and enable sustainable living for all. It aims to be the communications leader in an increasingly connected world. In an effort to achieve its vision the company has undergone extensive restructuring, and has endeavoured to empower its customers and people through their "Power to You" and "The Vodafone Way" programmes.

BHARTI AIRTEL

Bharti Airtel Limited, a group company of Bharti Enterprises, is among Asia's leading integrated telecom services provider. It has its presence in 20 countries and its global revenues touched Rs. 803.1 billion. It has been ranked 4th globally for its customer base. Keeping in line with the competitiveness of the industry, Airtel has introduced many changes in its organization.

IDEA CELLULAR

Idea Cellular is a wireless telephony company operating in various states in India. It initially started in 1995 as a joint venture between the Tatas, Aditya Birla Group and AT&T by merging "'Wings Cellular'" operating in Madhya-Pradesh, UP West, Rajasthan and Tata Cellular as well as Birla AT&T Communications. Initially having a very limited footprint in the GSM arena, the acquisition of Escotel in 2004 gave Idea a truly pan-India presence covering Maharashtra, Goa, Gujarat, Andhra Pradesh, Madhya Pradesh, Chhattisgarh, Uttar Pradesh (East and West), Haryana, Kerala, Rajasthan and Delhi (inclusive of NCR). The company has its retail outlets under the "Idea n' U" banner. The company has also been the first to offer flexible tariff plans for prepaid customers. It also offers GPRS services in urban areas.

BSNL

Bharat Sanchar Nigam Limited (abbreviated BSNL) is an Indian state-owned Telecommunications company headquartered in New Delhi, India. It was incorporated on 15 September 2000 and took over the business of providing of telecom services and network management from the erstwhile Central Government Departments of Telecom Services (DTS) and Telecom Operations (DTO), with effect from 1 October 2000 on a going concern basis. It is the largest provider of fixed telephony, largest broadband services provider with more than 60% Market share, and fifth largest mobile telephony provider in India. However, in recent years the company's revenues and market share have plummeted into heavy losses due to intense competition in the Indian telecommunications sector. BSNL is India's oldest and largest communication service provider (CSP). It had a customer base of 117 million as of January 2014.

AIRCEL

Aircel Indian mobile network operator headquartered in Gurgaon, which offers voice and 2G, 3G and 4G data services. Maxis Communications holds a 74% stake and Sindya Securities and Investments holds the remaining 26%. Aircel was founded by C Sivasankaran and commenced operations in Tamil Nadu in 1999. It is the fifth largest mobile service provider in India with a subscriber base of 83.05 million subscribers as of June 2015. Aircel is a market leader in Tamil Nadu and has considerable presence in Odisha, Assam and North-East telecom circles.

JIO

Reliance Jio Infocomm Limited doing business as Jio, is an LTE mobile network operator in India. It is a wholly owned subsidiary of Reliance Industries headquartered in Mumbai, that provides wireless 4G LTE service network (without 2G/3G based services) and is the only 'VoLTE-only' (Voice over LTE) operator in the country which lacks legacy network support of 2G and 3G, with coverage across all 22 telecom circles in India. • The services were first beta-launched to Jio's partners and employees on 27 December 2015 on the eve of 83rd birth anniversary of late Dhirubhai Ambani, founder of Reliance Industries, and later services were commercially launched on 5 September 2016.

RELIANCE COMMUNICATION

Reliance Communications (formerly Reliance Infocomm), along with Reliance Telecom and Flag Telecom, is part of Reliance Communications Ventures (RCoVL). According to National Stock Exchange data, Anil Ambani controls Telecommunications Company. It is the flagship company of the Reliance-Anil Dhirubhai Ambani Group, comprising of power (Reliance Energy), financial services (Reliance Capital) and telecom initiatives of the Reliance ADA Group. Reliance Infocomm is currently managed by Anil Dhirubhai Ambani. It uses CDMA2000 1x technology. Reliance Communications is also into Wireline Business throughout India and has the largest OFC backbone architecture [roughly 110,000 km] in the country. The company also has licenses in the GSM telecom services space for most of the Telecom Circles (zones in layman's words). It currently operates in 8 circles and plans to launch in the others soon.

TATA COMMUNICATION

Tata Teleservices Limited (TTSL) is a part of the Tata Group of companies, an Indian conglomerate. It runs under the brand name Tata Communication in India, in various telecom circles of India. The company forms part of the Tata Group's presence in the Telecommunication Industry in India, along with Tata Teleservices (Maharashtra) Limited (TTML) and TATA COMMUNICATIONS LTD. It was founded in the year 2000 and its chairman is Natarajan Chandrasekaran. TTSL also announced that it would provide CDMA mobile services targeted towards the youth, in a joint venture with Virgin, UK, on a Franchisee model basis.

MTS INDIA

Sistema Shyam Tele Services Limited (SSTL), doing business as Mobile Tele Systems India (MTS India), is the Indian subsidiary of the Russian mobile operator MTS. The company is headquartered in New Delhi, India. It provides wireless voice, broadband Internet, messaging and data services in India. MTS India is the tenth largest mobile operator in the country with 6.71 million subscribers as of October 2016. MTS launched EVDO Rev A based high-speed mobile broadband service, M Blaze, in November 2009 and has seen tremendous market acceptance with over 5 lakh (As per February 2011 Data) customers in a short span of time. In April 2010, MTS launched MTS TV for MTS M Blaze customers. MTS M Blaze has coverage in 100+ cities as of February 2011. MTS has also announced pan-India roaming for its users in April–May 2010. MTS also provides M Browse which is CDMA-1x technology-based internet service. According to Vsevolod Rozanov, President & CEO, MTS India, with a view to enhance customer experience, MTS has prepared a blue print to take the mobile broadband usage in the country to the next level. In a phased manner, MTS will be launching seamless HSD services across some of the busiest highways in the country. On 5 September, MTS India announced the commercial availability of its EVDO Rev B Phase 2 network. On 23 October 2013 SSTL announced it roll out plan of its 3GPLUS network in nine circles namely Delhi NCR, Kolkata, Gujarat, Rajasthan, Karnataka, Tamil Nadu, Kerala, Uttar Pradesh (West) and West Bengal.

MTNL

Mahanagar Telephone Nigam Limited (MTNL) is a state-owned telecommunications service provider in the metro cities of Mumbai and New Delhi in India and in the island nation of Mauritius in Africa. The company had a monopoly in Mumbai and New Delhi until 1992, when the telecom sector was opened to other service providers. "Transparency makes us different" is the motto of the company. The Government of India currently

holds 100% stake in the company. In recent years, MTNL has been losing revenue and market share heavily due immense corruption within MTNL itself, due to which subscribers faced connectivity issues, outages, customer service is also a tedious task as MTNL employees are lazy in their work and carry a DO NOT CARE attitude towards their customers. • MTNL has set up a wholly owned subsidiary called Mahanagar Telephone Mauritius Limited (MTML) in Mauritius, providing mobile and international long-distance services. MTML is the second operator in Mauritius. Necessary licenses were obtained in January 200MTML has already started its ILD & CDMA based basic services in Mauritius. In Mauritius, 44,312 telephone connections are operational from a total switching capacity of 50,000. Moreover, through joint ventures with local telecommunications providers, MTML plans to offer Internet access through its wireless network by February 2007.

IV. Market trends and developments

1) Premium Content and Cross-Industry alliances in the Telecommunication Industry:
Telecoms want to get back on the front row: in other words, less being the underlying vessel for delivering voice and data services, but more about managing and providing exclusive content. We could soon expect that Telcos would own the companies that are producing entertaining content, for example, popular TV shows, live sports games, etc.

2) Telecommunication Industry will fully unleash the power of 5G:
It is expected that pioneering players in the telecommunications industry will enable 5G in-between 2018 and 2021. Chasing the G's appears to be a good strategy as in each new wireless standard telecoms see opportunities for revenue growth. But one should not only focus on speed increase: 5G detaches the network infrastructure hardware and software, thus enabling new possibilities such as ad-insertion, cashing and high-quality content delivery.

3) Optimize with no compromise:
Telecoms continue to struggle with decreasing revenues and have to make tough decisions. It recently came out that a well-known European telecom is planning to cut around 7,000 jobs to stay efficient. Furthermore, rumors have it that the goal is to employ some 2,000 young staff. This is an ongoing problem, which many telecommunication industry players have been facing in the past years.

4) Let's commoditize Augmented Reality and Virtual Reality for Telecommunication Industry:
Augmented Reality (AR) is gaining more power and popularity every day. The core purpose of AR is to empower digital visualizations on real images. Many trendy games are using it to make the user experience even more enriching and real. Face filters on Instagram, Snapchat and Facebook are some of the simplest examples of the everyday usage of AR. Augmented Reality had one of its peaks in 2016 when Niantic released Pokémon Go, which later turned into a blockbuster. We expect this trend to grow bigger in the upcoming years, thus creating a demand for more sophisticated applications. This will enlarge the provider's devices and gadgets' portfolios. Smartphone users will start embracing Augmented Reality more than ever. We expect the majority of AR usage to involve creating viral content through smartphone cameras.

5) In progress laws for the Telecommunications trade:
The Telecommunications trade has been facing several regulation challenges thanks to the character and complexness of the encompassing surroundings. Last year, the EU born down all roaming charges. This new policy, however, had important pitfalls for the telecoms. Such trends in laws can continue within the forthcoming years also. the most popular topic, circling around media these days is that the GDPR laws. in line with critics, creating your telecommunication GDPR-compliant can value your millions. Yet, failing to suits it, can bring even additional headaches. All telecoms got to defend the private information of their customers, to stay them from falling in frauds or being exposed to undesirable ads.

6) Machine Learning and computing for the win:

Artificial Intelligence (AI) and Machine Learning (ML) two of the most popular ideas circling round the world within the past year. These 2 also will play a vital role in telecoms development since they're going to facilitate in automating and bettering several back-office operations and

trivial client interactions. client service chatbots, speech recognition, and voice services for patrons also as prognosticative maintenance already in use of a number of the most important telecoms round the globe. They perceived the advantages of delivery such technologies to their usage.

7) In-Flight property kicks in:
In-flight property is turning into a game-changer for airline firms. even as property is remodelling our daily lives, connected craft can redefine the means airline client service operates. analysis shows that the power to use your smartphone whereas traveling by plane is among the highest 3 issues folks have once selecting Associate in Nursing airline.

8) Digitisation in client support for improved potency:
Customer support is that the most typical service shoppers searching for once line their telecom's centre. the complete method is often slow and ugly for either side. to not mention typically the difficulty remains, even when the decision. digitisation in client Support is that the final game-changing trend we'll discuss during this article. for instance, future analytics-based digital support centres already in use by one international telecommunication. The public-service corporation came upon a complicated system to trace and foresee issues of shoppers. This new approach offers users self-service capabilities to resolve queries and difficulties on their own, that reduced the quantity of support calls by ninetieth. These systems generally give 3 levels of support.

V. Limitations

1. Eliminate Face-To-Face Contact
Adopting telecommunication systems might enable company staff to act from completely different locations, however it does not supply colleagues an opportunity to fancy a one-on-one speak. Most of the conferences control over video conference systems are principally business or project bound and don't afford socialization. That will increase unhealthy relationship at work, one thing that will influence business performance within the future.

2. Increase the Communication prices of a corporation
Acquiring and putting in telecommunication system and/or computer code might need a large budget. Right from high-quality webcams to large digital display screens for the duration of refined video conferencing computer code, a business will very pay a great deal in obtaining everything came upon. And before formally introducing the system to the business, it would be necessary to coach staff on a way to use the new communication technology. that will mean even additional disbursal. And not forgetting the large prices associated system maintenance. Putting in a communication system may bring convenience and adaptability; however, it's going to cause inflated prices within the long haul.

3. Isolation between Employers and Their staff

The use of telecommunication systems has inspired several employers and staff to adopt the work or work-from-home job format. This mode of operating keeps employers and staff apart, one thing that may hurt the performance of a business. Though most firms organize for physical conferences sporadically, it's still not enough to handle the underlying work problems. When colleagues are operating apart, they will not have beyond regular time to share skilled concepts or workplace gossip. Interaction is vastly embedded on laptop or on-line based mostly systems, that throughout breakdowns will cut the association between colleagues. And since telecommunication systems value variant knowledge bundles to run, there will be a limit to the extent at that staff act. that will cause partial or maybe complete isolation among staff and/or employers.

4. Increase Vulnerability to info Hacking and Attacks
One of the key issues related to the employment of telecommunication systems is security attacks. With sensitive knowledge being transmitted and shared over the web and different networks, there is a chance individual can attempt to hack it either for his or her own pleasure or to be used by the competition. And so as to counter that, system users may have to be compelled to update passwords sporadically or invest

in advanced knowledge encryptions. that produces communication through video conferences, teleconferences and video calls, unsafe and expensive to a bigger extent

VI. Conclusion

It can be concluded that the Indian Telecom Industry contributes significantly to the overall socioeconomic development of India. It is an essential tool for the growth of the nation. The various telecom service providers offer voice and data services to the customers across different regions of the country including both urban and rural areas thereby facilitating the growth of this industry. The telecommunication sector over the years has seen vital growth and development. The gap up of the Indian economy semiconductor diode to the release of the sector that intense the competition amongst its numerous players. The result of competition has been felt in the declining tariffs, provision of various and innovative tariff plans customised for various segments, loyalty programs and celebrity endorsements. Further, organizations have been perpetually attempting to align their vision and structure structures with the dynamic and ever ever-changing business surroundings. Airtel and Vodafone, that are the leading telecommunication operators within the Indian market, function excellent samples of organizations managing amendment with success over the years. The trade within the returning years is foretold to be even additional competitive and aggressive with launch of latest technology and it'll be fascinating to envision however the key players adapt themselves and move in adjust with the fluctuations in surroundings.

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