



Indian telecommunication industry at cliff's edge after new entrant of reliance jio time for consolidation and network up gradation

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Abstract

India has shown great promise in adopting digital lifestyle faster than any other country. India has moved from 150th position to number 1 in terms of mobile data usage worldwide. The Indian telecoms sector has traditionally been voice driven. Commoditizing voice calls and offering tiered data tariffs would shift the business model from a voice to a data centric one. Reliance Jio's recent entry in telecom sector has made India number 1 country in mobile data usage with Jio users consuming more than 100 Crore GB per month and shaken up the sector that had three dominant players Bharti Airtel, Idea cellular and Vodafone India. Jio since its launch in September managed to get 100 million subscriber plus and more than 72 million of them have signed up for its paid services., Jio is being seen as a game changer in telecom market.

Keywords: data usage, digital life, 100 million subscriber, merger, and telecom sector

1. Introduction

The Telecom sector in India is regulated by Telecom Regulatory Authority of India (TRAI). It was established with effect from 20th February 1997 by an Act of Parliament, called the Telecom Regulatory Authority of India Act, 1997, to regulate telecom services, including fixation/revision of tariffs for telecom services which were earlier vested in the Central Government. Inadequate regulations could dampen investment and innovation in this sector. The main objectives of TRAI is to provide a fair and transparent policy environment which promotes a level playing field and facilitates fair competition. India's telephony regulators have divided the country up into a number of regions, called 'Telecom Circles' or 'Telecom Service Areas. At present, there are 22 Telecom Circles or Service Areas. They are broken down into 4 groups: 'Metro circles' and then 'A', 'B', and 'C' circles. For a large part of 2016, mobile tariffs remained steady. However, with the disruptive entry of a new operator Reliance Jio, the sector witnessed innovative tariff structures. The biggest impact is advent of unlimited voice calls along with tiered data plans for a fixed rental

1.1 Jio expertise in Telecom sector

In December 2002, Reliance group company, Reliance Infocomm unveiled India's most extensive information and communication technology project that seeks to offer every Indian affordable options to stay connected in a networked world by Chairman and Managing Director Mukesh Ambani. Reliance Infocomm has built a nationwide optic fibre network of 60,000 km covering 90 per cent of India's population. The broadband network is digital state of the art, and in a single move catapults India from megabit to terabit data, voice and image communication capability. Reliance Infocomm launched nationwide mobile services under the brand name

Reliance India Mobile. The service attracted stupendous initial response, and within the first ten weeks of the launch Reliance gathered a record subscriber base of over a million.

In 2002, when Dhirubhai Ambani, Founder of Reliance Group died, there were some major ownership issues between his two sons Anil Ambani & Mukesh Ambani. After some public feud between both the brothers for the control of Reliance Empire, their mother intervened and split Reliance into two parts in 2005. Anil Ambani got telecom, power, entertainment and financial services business while Mukesh Ambani received Reliance Industries and IPCL. Although Anil Ambani got the Reliance Communications, it was Mukesh Ambani who started it and revolutionized the Indian mobile industry by reducing the call rates in the early 2000s, which made mobile phones affordable to Indians. It was his baby all the way, while Anil Ambani was not even having a seat in its board of directors. To revent Mukesh Ambani from making another telecom company and competing with Reliance Communications, they had inserted a non-compete clause in the agreement. In 2010, as soon as the non-compete agreement was scrapped/expired, Mukesh Ambani bought 96% stake in Infotel Broadband which had won 4G spectrum in all sectors in India, Later they renamed it to Jio, and started building fibre optic network around the country

Reliance Jio first launched Jio's partner and employees on 27 th December 2015. The service was commercially launched on 5th September 2016. Reliance Jio crosses 50 million subscriber in 83 days. Airtel reaches the milestone in 12 years. Vodafone and Idea took 13 years. Jio users consumed More than 100 Crore GB of data on the Jio network. That is more than 3.3Crore GB a day. Today India is the number one country in the world for mobile data usage. Jio users consume nearly as much mobile data as the entire United States of America and nearly 50% more mobile data than all of China.

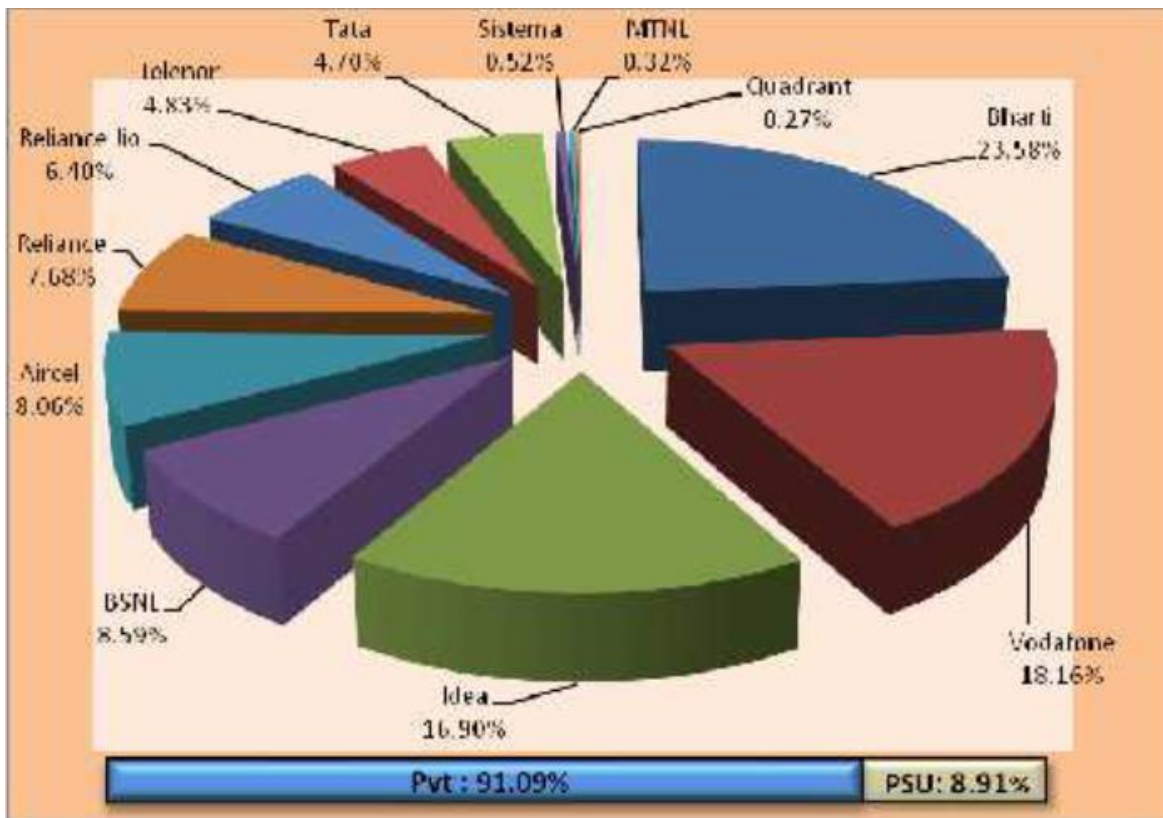


Fig 1: Wireless subscriber base as on 31st December 2016

Table 1: The world's largest Top 10 terrestrial mobile phone network operators measured by number of subscribers

Rank	Company	Headquarters	Country	Major Market	Total subscribers in millions
1	China mobile	Beijing	China	China, Hong Kong Pakistan	851.2
2	Vodafone	London	United Kingdom	United Kingdom, India, Italy	469.7
3	Airtel	Bombay	India	India, Sri Lanka, Kenya	348.1
4	America Movil	Mexico	Mexico	United Kingdom, Mexico, Brazil	280.6
5	Telefonica	Madrid	Spain	Spain, United Kingdom, Germany	276.5
6	China Unicom	Beijing	China	China	265.1
7	MTN group	Johannesburg	South Africa	South Africa, Iran, Swaziland	234.7
8	China Telecom	Beijing	China	China	216.8
9	Telenor	Fornebu	Norway	Norway, Thailand, Denmark	214.0
10	Vimpelcom	Amsterdam	Netherland	Pakistan, Italy, Bangladesh	205.5

2. Jio Business model

The Indian telecom market consists of 100 crores mobile subscriptions, only 34% of India’s population is connected to internet and only 10% use 3G data or above. Global consumers pay either calls and texts or data. They do not pay for both. This universal truth helps Jio a new industry policy. Jio believes that Data is oxygen of digital life and oxygen must be never be in short supply. Data is the Oil of the 21st century. Money is lying in every street of India. One must know how to collect them. Jio, is not just giving affordable internet but also trying to make it a bad habit without which Indian cannot live. Jio business model refers to a plan which talks about how a company uses its resources, how it competes, how it develops business relationships, how it deal with consumers, and how the firm creates value to generate sustainable earnings from leading Global consultant forecasting like revenue transition from voice to data in 1-2

years. Voice revenue to reduce from Rs 1.5 lakh crores to Rs 0.5 lakh crore. Shift of Rs 1 lakh crore from voice will take data revenue to Rs 1.3 lakh cr. Overall Industry Revenue to grow to Rs 3 lakh crore by 2020-21. Demand for data at 500 - 600 crore GB/month. At yield of Rs 50/GB it translates to Rs 3.0 -3.6 lakh crore/year. Equivalent to 1.35 -1.6 % of projected GDP (still lesser than 2.5% in developed economics. Jio is trying to do business on volumes rather than on margins. The higher the volume, the more profit it will generate. As of now, main focus is on volume and market coverage. In case of voice calls, Jio is transmitting voice calls over internet, i.e. VoIP. So basically Jio is providing pure internet service to its subscribers which is enabling it to present it as free voice calls service.

British gave free Tea to Indians. Indian left drinking milk and started tea and today India consume more Tea. Similarly JIO will offer free data via Preview offer Customer will develop

habit of consuming more data and when speed will be above 20Mbps data will be consumed at higher rate. And at the end consumer will be forced to buy higher rental plans worth Rs 500 and 1000 at least. Once consumer use data in 4G (VO-LTE) they will never turn back to 3G or LTE network of other operator. E.g. after Owning & Driving Audi car we will never buy small car like Maruti 800. Reliance Jio Infocomm is targeting a revenue market share of 50% by 2021.

2.1 The Reliance Jio Master Plan

This is actually a very calculated risk Jio taking based on their nearly 2 decades experience. The whole master plan is based on volume of subscriber base. The step followed are

1. Undercut the market price by giving attractive discounts
2. Let everyone switch to Jio for internet use at cheap rates
3. Unleash the power of fibre optic network to give super-fast internet
4. Grow subscriber base
5. Recover investment using the large number of users

3. Jio marketing strategy

3.1 Loss leader business strategy

Loss leader business strategy is a product pricing model, which aim at getting new customers by offering products for low or no profit, sometimes with a loss. Many businesses have implemented this strategy successfully. Loss leader strategy is considered a good strategy for building a brand image within customers, and it works especially well for news businesses. Loss leader pricing model works when 1) Market a related product for high profit, 2) Build a public image of a competitive company, 3) Outrun your competition, 4) Sell out your products quickly. 5) Target a broad sector of customers and 6) when company is in rapid growth phase with enough financial backup. But loss leader strategy is not so problem-free. Dealing with money and consistently selling the product and services for lower cost can destroy company's future. So this strategy is implemented with proper goals, planning and financial backup. Make them only short-term practices for specific occasions. Reliance Jio's loss leader strategy is simple. Short term (even if it's as long as 3-4 years) profitability, have more Indians come online/use data, hike prices slowly and reap the rewards of the larger addressable market. A loss leader strategy like this is an almost tried and tested approach by many companies in the world. Rival companies may need more spectrum to compete with Reliance Jio and yet the upcoming spectrum auctions have already been deemed by analysts as a probable flop show. The other telecom companies take risk aggressive bidding to counter Jio's commercial launch even though paying larger spectrum acquisition costs usually translates to higher call and data rates which is something they cannot afford. Jio betting on its infrastructure network. Once the infrastructure is built, the running costs of a telecom network is low. A network therefore does not incur costs per call, or cost per data packet it transmits. Consequently, revenue is not the revenue per call or revenue per Gigabytes (GB) of data, or in telecom language, the average revenue per user (ARPU). It is the monthly bill that customer pay that really matters. Existing

telecom operators, about 70% of their income is from voice calls. If it is consider them as data, the voice consumers are being charged 60 to 70 paise per call minute, which should only be 2 paise per minute in data terms. So, the companies that still earn a huge part of their current revenue from voice are upset. They have had a good run, built their fortunes on gouging the voice consumers in India. When mobile Telephony started in India; the initial rates were Rs. 16 and Rs.10 per minute for making and receiving calls

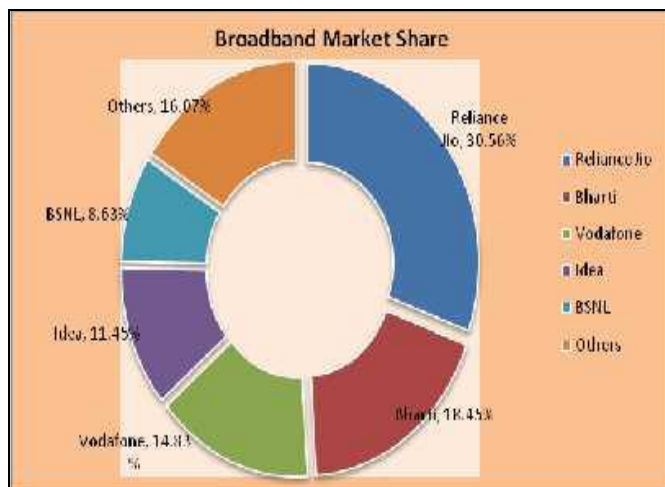


Fig 2: Market share of Broadband services as on 31st December 2016

4. Jio business philosophy

The Art of War lays out a brilliant strategic philosophy that has proven itself over the millennia in all types of competitive endeavors. Jio adopted this policy to capture the telecom market in India.

1. If you know the enemy and know yourself you need not fear the results of a hundred battles (Reliance Jio invested \approx 150,000 Crores (\$ 22 billion) into this fibre optic network Put this in perspective - this is more than two times the combined investment of Airtel, Idea and Vodafone in the 4G segment)
2. The supreme art of war is to subdue the enemy without fighting. (Capture a big part of a small market rather than a small part of a big market 'People often think Jio is trying to create competition in the telecom sector. They are trying to drive out competition to create a monopoly.)
3. What is essential in war is victory, not prolonged operations. ((Jio has crossed the 100 million customer mark in 170 days Jio is fast, reliable, future ready 5G & 6G).
4. Use Speed to Overcome Your Competition (The reason why most internet providers limit the data is basically because they do not have enough bandwidth to handle so much data. In the case of Jio, they have already laid an awesome fibre optic network which is designed to even handle the 5G and maybe 6G. So, they do not have much of the data bandwidth problem)
5. Victory usually goes to the army who has better trained officers and men. (Reliance Jio had highly professional Engineers who can handle any type of situation)

5. Optimization

Optimization is finding an alternative with the most cost effective or highest achievable performance under the given constraints, by maximizing desired factors and minimizing undesired ones. Desired factors includes more superior and future ready network to adopt future technology, more coverage, more subscriber, more profit and low tariff. Undesired factors are call failure and maintenance.

5.1 More superior and future ready network

Reliance-Jio is primarily banking on Voice over Long Term Evolution (VoLTE), which is essentially voice over internet protocol or IP-based LTE network. LTE is referred to as 4G. Similar to how the internet works, VoLTE relies on the IP Multimedia Subsystem (IMS) network, resulting in voice services being delivered as data flows. VoLTE has been launched include Australia, Canada, China, Hong Kong, Japan, Singapore, the UK and US. Jio network is also future proof and capable of offering 5G and 6G connectivity as and when the technology materializes.

5.2 More coverage

Reliance Jio network already covers 18,000 cities and towns, and over 2 lakh villages. It covers 90 percent area of India. Jio has successfully created the largest only 4G and LTE networks not only in India, but in the world. A 2,50,000 kilometers route of fibre optic cables and 90,000 eco-friendly 4G towers work to provide unmatched 4G coverage in all of India's 22 telecom circles

5.3 More Subscriber

Reliance Jio has managed to cross 100 million in subscribers, achieving the number in less than six months of its launch

5.4 More profit

Fuelled by an investment of Rs 1,50,000 crore and backed by partnerships with eight global carriers British Telecom, Deutsche Telecom, Millicom, MTS, Orange, Rogers, TeliaSonera and Tim. Reliance Jio payback period will be within 4 years.

5.5 Call failure

At present due to Point of Interconnection with other operator Call failure is more. It will be with in limit once POI problem is solved.

5.6 Maintenance

Since new technology and new equipment the maintenance will be very low for atleast 5 years.

5.7 Low tariff

For the current network providers in India, the monthly average revenue per user (ARPU) is around Rs 150. Reliance Jio rate is one of the lowest tariff in India.

6. Competitor's Game plan

The existing telecom operators would have to rejig their operations quickly to meet the Jio threat. One route they have taken is denying Jio interconnections, leading to call failures when Jio subscribers call a person on a network other than Jio.

Table 2: Snapshot of POIs required at different points of time and the POIs provided by Airtel

Date	Access(With in circle)					NLD(Outside circle)				
	Poise required	Poise allotted	Calls attempted on that day(cr)	Calls Failure on that day(cr)	Failure %	Poise required	Poise allotted	Calls attempted on that day(cr)	Calls Failure on that day(cr)	Failure %
30.09.16	10260	2363	8.29	4.9	59.1	2494	651	0.35	0.10	29.4
31.10.16	10260	5384	10.16	3.95	38.9	2494	1966	1.48	0.62	41.8
30.11.16	23502	10727	10.65	0.15	1.4	10043	2815	2.03	0.39	19.3
31.12.16	23502	12412	17.12	0.28	1.7	10043	3010	5.14	2.93	57
31.01.17	23502	18557	19.01	0.11	0.6	10043	4432	4.92	2.63	53.4

The fact is that over 2.6 crore NLD calls are still failing daily amounting to 53.4% call failure (as on 31-Jan-2017)as against TRAI norm of 0.5%. This types of problem leads to Jio customer dis satisfaction. In addition the Incumbents had formed a cartel to deny Reliance Jio Infocomm adequate points of Interconnection (POI) leads to major Call failure.

The financial distress of operators and continuous pressures on profitability have set the sector consolidation. A potential merger of Vodafone India Ltd. and Idea Cellular Ltd. would dethrone Bharti Airtel Ltd. in revenue market share and create a new leader in the Indian telecom landscape. The merger expects result in a combined revenue market share of 43 percent, significantly higher than Bharti Airtel's current share of 33 percent. The merged entity will also have the highest spectrum holding across the industry.

Reliance Communications Ltd of the Reliance Anil Dhirubhai Ambani Group has agreed to merge its mobile phone services business with smaller rival Airtel. The RCom-Airtel combination will create a telecom operator ranked fourth by customer base and revenues and number three operator by

revenues in 12 important circles. RCom and Maxis ommunications Berhad (MCB) of Malaysia, which owns Airtel, will hold 50 per cent each in the merged entity with equal representation on the board and committees. The merged company will be one of India's largest private sector companies, with an asset base of over Rs 65,000 crore and net worth of Rs 35,000 crore.

Bharti Airtel's buyout of Telenor's Indian operations is the latest sign of a shakeout in the sector after Reliance Jio Infocomm's entry spurred incumbents to consolidate and weaker telcos to exit altogether, ratings agency Fitch Ratings said, warning that even with fewer players, pricing power won't return to the industry in the short term.

The ongoing consolidation in the telecom industry will bring in much needed stability. While there will be challenges in the short term, but the mergers tends to create a stronger, larger, better financially positioned player with better spectrum holdings that can invests more in their network over the long term. This consolidation will lead to a more robust industry that will then be able to invest both in the capital expenditure

as well the operational expenditure. In addition most of telecom companies are doing is workforce rationalization, to stay competitive in line with the needs of the market.

7. Conclusion

As compared to developed and emerging telecoms market, India boasts of one of the lowest data tariffs. For instance, data rate for 1 GB data in India before tariff revision was priced at US\$3.5. In comparison, the cost of 1 GB data equates to: US\$30 in Japan; US\$18 in Korea; US\$15 in UK, China and Germany; US\$10 in the US; US\$7.5 in Spain; US\$6 in South Africa. The Indian telecoms sector is likely to stabilize to a five to six players in the long term. Further decline in data tariffs and erosion of domestic voice revenue would impact operators' profitability and sustainability. Spectrum is the most precious asset in wireless. Spectrum is essential to all wireless networks for over the air transmission of analog and digital signals including voice, video and data. Spectrum scarcity will likely remain a key industry theme. Increasing foreign direct investment and facilitating mandatory clearances for companies that could give a big leg up to 'ease of doing businesses in the telecom sector. Entry of Jio the consumer is benefiting and economic/financial health of the sector keeps worst due to heavy price war. The new telecom policy will be made to focus connect the unconnected area to take Wi-Fi to all gram panchayats and consumer is king. All telecom companies will continue to engage in full-blown brand clashes by taking recourse to 'mother- of-all-bombs kind of advertising. India moved from voice phase to video consumption and next phase will be virtuality which need humongous data availability and networks. This will be a real challenge.

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