

## **ANALYZING THE IMPACT OF RELIANCE JIO ON THE TELECOM SECTOR OF INDIA**

Siddharth Mawandia

Sarla Anil Modi School Of Economics, NMIMS Mumbai

DOI: 10.46609/IJSSER.2021.v06i07.003 URL: <https://doi.org/10.46609/IJSSER.2021.v06i07.003>

### **ABSTRACT**

The paper attempts to analyze the impact that Reliance Jio has had on the telecom industry as a whole. It looks at how has it affected its competitors, their subscriber base, the market share and their revenues. The paper also focuses on the government owned telecom company, BSNL who once enjoyed a monopoly position in the market and then looks at its situation right now. It is clear that Reliance Jio with its entry in September, 2016 shook the entire telecom industry and its initial offers created quite a lot of stir in the market. It not only made the outgoing calls completely free of cost but also started to provide free SIMs and unlimited 4G internet data, something which was unheard of in the past. This forced the competitors to do away with their current plans and revise their prices along with upgrading the internet services that they were providing. The paper talks about the possible use of predatory pricing by the telecom giant and how it forced several companies to shut down their operations and a few others to opt for a merger. It looks at how consumers were earlier being exploited by various telecom companies and how the data prices have now fallen, offering better speed at even better prices. Primary data was also collected which threw light upon the telecom company that is preferred by the respondents, the factors considered important by them while choosing their telecom operator and whether they have experienced an improvement in data speeds.

### **Introduction**

India is home to the world's second-largest telecommunications market with an ever-increasing subscriber base of 1.20 billion people. The market has been growing rapidly from the past two decades and the revenues generated by the telecom industry are expected to rise to US\$26.38 billion in 2020. In 2017, this vital sector contributed 6.5% to the total GDP which is anticipated to increase to 8.2% by the end of this year. In terms of data usage per smartphone, India is at the top by consuming 9.8 GB data per month per user, on an average. With 70 percent of the Indian population residing in rural areas and rural subscribers forming only 43.90 percent of the total telephone subscriber base, the rural market acts as a wide ocean of opportunities and a possible

driver of growth for this sector in the coming years. From its very inception, the telecom industry has seen various reforms and policies. For the early 1990s, this sector could be categorized as a monopoly market structure because it was dominated by the Department of Telecommunications (DoT), which was the one and only service provider during that time. Following the opening up of the Indian economy in 1991, there has been a huge inflow of FDI into the sector. The government of India further raised the FDI limit from 74 percent to 100 percent in order to augment this flow. This has enhanced the technological skills, led to availability of money for big-project investments and have a bigger role as a player in the world market. In 2002, Videsh Sanchar Nigam Limited (VSNL) was privatised and TATA acquired a stake in the company. Today, a number of private operators have emerged from that point which has made this market very competitive and there exists a high degree of interdependence between them. Infrastructural developments have had a major impact on the growth of this sector which has led to an increasing number of wireless mobile phones and a decline in wired telephones. Tele-density means the number of telephones per hundred population and there has been rapid increase in tele-density from 7.04 percent in 2004 to 74.55 percent in January 2014. At present, on one hand there are a few big giants in the market while on the other hand it's becoming increasingly difficult day by day for some companies to continue its operations leading to mergers, bailouts and even shutdowns in extreme cases. The **research objective** is to find and analyze the impact that Reliance Jio has had on its competitors and on the consumers, possible use of predatory pricing by Reliance Jio and analyzing whether the telecom market is turning into a duopoly. The **rationale behind this research** is that voice and data charges are something that every consumer pays and how companies under the false pretext of providing "free" and "additional" data services take advantage of them by exploiting loopholes of the system.

### **Literature Reviews**

Jasrotia and others (June, 2019) studied the Disruptions in Indian Telecom Sector: A Qualitative Study on Reliance Jio. The Grounded Theory Approach which is a qualitative methodology is used in the research paper. Due to Jio, the shares of Bharti Airtel registered a drop of 6.4% on the Bombay Stock Exchange. In the October-December quarter the revenues of Bharti Airtel dropped from Rs. 21,777 Crores to Rs. 20,319 Crores and Jio recorded higher revenues than that of Idea cellular making it the second largest telecom operator. Factors such as brand endorsement, brand image and image of the service provider played a crucial role in Reliance Jio's success. In newspaper ads and elsewhere, Jio used PM Narendra Modi's picture which instilled trust in the general public as he is a reputed personality. Reliance Jio having the backing of Mukesh Ambani who contributed Rs. 652 Crores towards Corporate Social Responsibility (CSR) has always had a positive brand image. It reached a hundred million subscribers in one year because customers believed that they are providing them with the cheapest prices and best

internet speed. Moreover, Jio provides value added services free of cost (such as Jio Movies, news, music, etc.) whereas in the case of other telecom companies the consumer must pay for any such extra service.

Joy and Bahl (2018) studied Disruptions by Reliance Jio in Telecom Industry. A Single Cross-Sectional Data Methodology was used in the research paper. The paper shows that after the launch of Reliance Jio, there was a huge increase in consumer base with the figures of 77.7 million subscribers in fourth quarter of 2016. Also, there was an overall increase in market share of the players for all wireless subscribers in 2017 as compared to 2016, those many companies like Airtel, Vodafone, Idea, BSNL, etc lost their existing consumer base. Also, the entry of Reliance Jio led to decrease in revenues of major companies like Airtel, Idea, Vodafone, etc mainly because of the free voice call and 4G services provided by Jio. The business strategies taken by Reliance Jio Company led to a lot of disruption, namely marketing, pricing and operational. The introduction of free voice, entertainment Jio apps, advertisements by flyers and big events like Indian Super League, and low-cost mobile phones have been their major service plans to attract customers. They introduced new pricing strategy by changing the times customers were required to pay the bills, and also take note on the fact that their free voice, free chat, free roaming services furthered more consumers to use their services. From the data taken from TRAI, Reliance Jio's speed had the highest 4G download average speed at 20.3 mbps. Also, Jio had the highest call rating when people were travelling in comparison with other networks. The data shows that out of 147,720 respondents, 78 percent people were satisfied while 20 percent people were dissatisfied and complained about poor quality service.

Singh (2017) studied the Impact of Reliance Jio on Indian Telecom Industry: An Empirical Study. The Grounded Theory Approach which is a qualitative methodology is used in the research paper. After the entry of Reliance Jio in the market, Jio was quick to gain 50 million subscribers at the end of 2016. Company had begun with 4G services without any tariff, and their strong financial capability helped them to bear the initial losses. They have very revered and reputed personalities like Shah Rukh Khan and Amitabh Bachchan as their brand ambassadors which increase their influence on the masses. The Jio app provides services like movies, shopping, chat, cloud, games, etc which further garners the attention of consumers. Also, Reliance Jio disturbed the telecom industry with its free services and pressurized its competitors by their low data plans and free voice call which started from 1 April 2017. Though Reliance Jio had their subscriber base of 10 crore and make them convert into paying customers, the company's average revenue per user would be around 150 rupees. The company expects to have average revenue per user of 227 rupees, but still the company needs 11.1 crore consumer to achieve their breakeven point. Their dominating strategies forced Vodafone and Idea companies to merge into one company to compete against Jio 4G services. The entry of Reliance Jio has led

to drastic disruption and uncertainty in the telecom sector. They have not yet got any major company out of the telecom industry, but it has made it difficult for small players to survive in the market.

Gupta and others (June, 2019) studied The Effect on the Telecom Industry and Consumers after the Introduction of Reliance Jio. A Single Cross-Sectional Descriptive Design methodology was used in the research paper. Various statistical tools like the mean and standard deviation were used to analyze the data. The paper found out that the users of Reliance Jio tend to spend less (in the range of Rs.200-Rs.600) than the users of Bharti Airtel and other operators (in the range of Rs.400-Rs.800). 47% of the respondents have already shifted to Jio with the number increasing in the next 6 months. Major factors contributing to this shift were Jio's minimal tariff rates and better network coverage. As of June 2018, Jio held 42% share of the internet subscriber base which is predicted to touch 400 million by 2021. It initially practiced the strategy of providing free SIMs and unlimited free voice calls and 1GB high speed 4G data everyday and after that lowering its prices in relation to its competitors in order to quickly capture the market and become the leader. Post Jio's launch, Airtel's revenue fell by 78% and it introduced a minimum recharge plan of Rs. 35 whereas Idea lost Rs. 3528.79 crores and its share price fell by 11%.

Sharma and Gupta (2017) studied Reliance Jio (A pack of services): Impact on the Indian Telecom Sector. A Single Cross-Sectional Descriptive Design methodology was used in the research paper. Various descriptive statistical tools like bar graphs and pie charts were used to analyze the data. The paper shows that Reliance Jio made a huge impact on the market by providing fastest speed than any other telecom service provider like Airtel, Vodafone, etc. Jio causes a huge growth in telecom subscriber base which expanded at a CAGR of 19.96 percent and the total telephone subscription stood at 1058.86 million in 2016. The mobile segment's tele-density increased by 6 times from 14.6 percent in FY07 to 81.38 in FY16. The increase in the subscriber base required the network expansion to cover more areas and for such infrastructural investments, Reliance communication decided to sell its share in Reliance Infratel at a valuation of USD 3.68 billion. To compete with Jio 4G services, Vodafone had to launch new services like Choose Your Number facility. Similarly, Airtel launched new ad campaign 'Airtel my Plan Family' and Idea launched new campaign 'Get Idea and Dance'. As of now, Jio is making more investments to upgrade their services. Their cumulative investment in spectrum assets is nearly around 34000 crores. Reliance Jio by installing more than 2.5 lakh kilo meters of optic-fibre cables covers 18000 cities and over one lakh villages in the country.

Muhammed Thayyib (April, 2018) studied The Impact of Jio on Indian Telecom Industry. The Grounded Theory Approach which is a qualitative method is used in the research paper. The paper shows that the Reliance Jio had a base of 16 million subscribers within the first month of its operation and by October 2017, it had 130 million subscribers. It is the first telecom operator

to hold pan India unified license. Though a PIL was filed in the Supreme Court by an NGO called 'The Centre for Public Interest Litigation' challenging the grant of pan-India license to Jio, all these accusations were dismissed. The Beta launch occurred on 27 December 2015, when the 4G services were provided internally to Jio's partners, their staff members and their family members. The Commercial launch occurred on 27 September, 2016. A survey was conducted on the dealers of SIM card to analyze the impact of Jio on other service providers. Most of them have a positive opinion for Jio, and they are mostly selling Jio SIM cards only. The major impact of Jio on others is the decrease in sale of other SIM cards. Dealers also say that the customers are very appreciative of the Jio services. Due to their efficient 4G services, they have induced the increase in mobile phone sales.

Mishra and Tarannum (January, 2019) studied Impact of Reliance Jio on Indian Telecom Industry. The Grounded Theory Approach is used in the research paper. The paper shows that the mobile economy of India is rapidly increasing and estimates to contribute significantly to India's GDP. The government actions had an impact on the rapid growth of consumers in the Indian telecom market, by providing a 'stress-free' admission in the market for new entrants and efficient supervisory that provides the consumers telecom facilities at reasonable prices. The paper gives a brief abstract of the major players in the market, which are Idea Cellular, Vodafone, Airtel and Reliance Jio. Idea has a consumer base of 200 million subscribers, while Vodafone's constant set-up expansions has enabled them to have 203 million consumers. These two companies plan to come together and merge into one company, as of January 2017. Airtel Company is credited for revolutionizing the business strategies in the telecom market, being the first company to serve low call rates in India. The Reliance Jio came as a new substitute in the Indian telecom sector and quickly garnered 50 million consumers in 3 months to use their services by providing attractive alternative features like free voice call, free roaming services. Reliance is now coming up with high-speed internet connectivity, communication facilities and various digital services all over India. With the coming of Jio, Airtel's revenue fell by 55 percent in the third quarter of 2016. Airtel, Vodafone, Idea Cellular companies had to change their plans with the disruption in the equilibrium in the telecom market brought by Reliance Jio. The consumers are satisfied with the services and offers provided by Jio, which makes difficult for small companies to gather consumers and stay in the market.

Kalra and others (January, 2018) studied the Impact of Jio on the Indian Telecom Industry through their Marketing Strategies. A Single Cross-Sectional Descriptive Design methodology was used in the research paper. Reliance Jio's success and wide acceptance from all the strata's of society was primarily due to its pre-launch offer where customers were given access to their services free of cost for a brief period of time. It provided a high-speed internet and covered a lot of cities and towns in India. It was accessible to the lower classes of India due to its free call and

roaming service and cheap data plans. It also diluted the need of paperwork and time by making Jio SIM's activated within 15 minutes. As a reaction to Jio's entry with these new features, one of Jio's rival companies Idea Cellular decided to improvise their strategy by allowing its users to operate whichever apps they wanted to in their service while the Jio customers had the only option of using Jio apps. However, Jio's high-speed internet service, cheap availability and apps for all sorts of entertainment enabled the company to capture a huge mass of audience. Their entry changed the perception of customers and other companies for the telecom sector by catching the pulse of customers' needs that was latent and forced other companies to renew their marketing strategies. Some of the companies were unable to adapt to the change Jio brought within the sector and a handful of mergers and acquisitions happened as a result.

Pawan Kalyani (October, 2016) studied An Empirical Study on Reliance Jio Effect, Competitor's Reaction and Customer Perception on the JIO's Pre-Launch Offer. The paper shows that the two pre-launch offers of Jio were the data and voice from Reliance and Mobile device LYF. Reliance Jio's strategy was very much price sensitive, perhaps because the Indian market scenario itself is price sensitive. Also, Reliance Jio provided an offer that the people who have 4G compatible phones can use JIO SIM, therefore providing another lucrative service. The other big players are Bharti Airtel, Vodafone, Idea and BSNL and thus, competitors for Reliance. Before the coming of Reliance Jio, Airtel was the ruling the 4G sector in India, while Vodafone was also trying to provide 4G services across the nation after spreading their 3G reach. The major factor is consumer satisfaction, since the market is consumer driven and so a survey was online conducted. The data shows that Jio's customers were main age group users are the youth ranging from 15 to 25 years. Reliance targeted this age group specifically because they are the ones who would make most use of free voice call, internet, gaming, and online entertainment services. The speed is rated to be good by most of the people. Also, due to innovative advertisements and intense publicity, most of the people are aware of the 'LYF' brand Smartphone launched by the company. Therefore, we can say that Reliance Jio has acquired a significant amount of market share and kept their customers satisfied with their service offer and market strategies.

Rathi and Gupta (July, 2017) studied the Factors Affecting Consumer Satisfaction from Reliance Jio. Primary data was used in the study and the candidates were asked several questions which affect consumer satisfaction and the acceptance of this new player into a market which already had well established giants at that time. It covered various factors relating to the availability of network, brand loyalty, activation time of the SIM and the offers in general, attractiveness of offers, quality of the customer care services, advertisement strategies, 4G data network speed, voice call quality and other services that are provided through Jio apps. The paper finds that there are a total of three major factors affecting consumer satisfaction the most with brand loyalty at the top, followed by services provided by Reliance Jio and then at third position is

attractiveness of offers. These three factors played a crucial role in influencing consumer mindset and encouraging them to change their mobile operators to Jio.

Arora N. and Arora P. (March, 2018) studied A Comprehensive Analysis on the Factors Affecting Acceptance of Reliance Jio. A Single Cross-Sectional Data Methodology is used in the research paper. The paper shows that the entry of Reliance Jio in the telecom market got a huge consumer base because of its free services. The paper aims to find the level of satisfaction that the consumers derived from the services of Reliance Jio and they conducted a survey to find this out. The answers of the 385 respondents show that that the majority of people use it for its high-speed data, then the others were for its free voice chat, while free video calling was next highest response and least were using it for free roaming. More than 80 percent of the respondents are not willing to switch to other telecom services. Though other telecom companies provided 3G services, they could not surf their internet due to low internet speed. Around 333 of the total respondents say that they would continue to use Jio, while only 14 percent of them are not sure or they intend to change to any other service provider. 50 percent of the respondents told that they are satisfied with Jio's services and 18 percent are highly satisfied. Only few were dissatisfied with their services, while 24 percent are neutral in the sense that they are indifferent to the continuance of their usage with Jio or any other service provider. Most of the users are satisfied with Jio's services which ensures Reliance Jio's dominance in the telecom industry and this may lead to losses of other telecom service companies.

Narendra Jadhav (March, 2018) reviewed the strategies adopted by Reliance Jio and its effects on Indian telecom industry. The paper asserts that India will be home to 700 million internet users by the end of 2025 as a result of favourable policies adopted by the government and 4G services being provided to the consumers at considerable prices. Reliance Jio demonstrated a "Disruptive Market Penetration" strategy by providing free SIMs and unlimited internet up to 4GB a day (post which the speed reduced 128kbps) under its "Welcome Offer" at a time when Bharti Airtel used to provide 2-2.5GB internet data at a price of Rs. 200-250 per month. Owing to this, Reliance Jio created a world record for itself by crossing 16 million subscribers within a month. However, the issue of call drops on its network was very much prevalent. Jio blamed its competitors for not providing the interconnect facility to its users whereas what other operators suggested was that the calls were dropping due to excess congestion on Jio's network. Giants like Idea Cellular and Bharti Airtel faced a loss of 35% in operating profit as they had to lower their tariff rates too in order to stand a chance to compete. The AGR (Adjusted Gross Revenue) of almost all the existing operators plunged with that of Vodafone Idea declining by a sharp 12.6 per cent in 2017.

Bhatia and Palepu (September, 2016) studied Reliance Jio: Predatory Pricing or Predatory Behaviour? Bharti Airtel, Vodafone and Idea Cellular together account for close to 75% of the

entire market for telecom services in India and 61% in terms of subscribers. In 2010, during the Broadband Wireless Access (BWA)4G auctions Jio acquired the spectrum in 2,300 MHz band. However, the way in which it did so was considered to be controversial and it was alleged that the government was apparently "sold" to the company because it extended an unfair first mover advantage to Jio. In India, it is not allowed to conduct prelaunch trials at the scale at which Reliance Jio conducted. Hence, the Cellular Operators Association of India (COAI) complained to the Department of Telecommunications (DoT) regarding the same. The media always extended its support to Mukesh Ambani calling him a game changer and a revolutionary with the Prime Minister backing its advertisements. Both Airtel and Vodafone had to significantly cut its data prices and incur huge losses. The former reduced the prices for as much as 80% and Vodafone started offering 300 MB of data for Rs. 100. Adhering to the Competition Act, Jio cannot be legally accused of predatory behaviour because at the time of its entry into the market it did not have a dominant position. However, the company does not explain the technological intricacies involved in order to benefit from the free voice call services, the fact that just changing the operator will not entitle the customers to any of such benefits and that they will have to fulfil specific conditions can definitely be called as predatory behaviour.

### **Data Source and Methodology**

I have made use of both primary and secondary data in my project. Most of the secondary data has been collected from the website of Telecom Regulatory Authority of India (TRAI). A survey was conducted for the collection of primary data and a total of 155 responses were recorded. A year-on-year analysis has been done pertaining to market share, subscriber base and gross adjusted revenues in order to compare how things were before and after the arrival of Jio into the market. The grounded theory approach which is a qualitative research methodology has been used in the paper.

### **Data Analysis**

#### **Impact on market share**

In January 2016 before the entrance of Jio, a lot of players were available in the market ranging from Telenor which had a market share of 5.05% to Bharti Airtel which was the market leader with a share of 24.15%. There were quite a few small players in the market like Videocon, Sistema, etc. having a market share of less than 1%. However, things drastically changed in September 2016 with the entry of Reliance Jio into the market.

Within 5 months of its arrival, Jio by the end of January 2017 made its presence felt in the sector. Under the "Welcome Offer" its users got a free access to all the services of Jio including unlimited voice calls and internet data due to which its market share rose to a staggering 7.88%



in such a short span of time. During this time, almost all the other competitors in the market lost a little bit of their market share to the new entrant.

A year later in 2018, Jio doubled its market share. However, all the other major competitors experienced a slight increase in their market share but not as much as Jio. This was majorly because a few small players had to exit the market due to fierce competition and Anil Ambani's Reliance Communication which had 7.54% of market share in 2017 lost a major chunk of it and were left with only 1.05% by January 31, 2018.

In 2019, the telecom industry became more refined in terms of the number of players that exist in the market. Reliance Jio continued its trend of widening its reach in the market and even Bharti Airtel increased its market share but only by a small amount. However, in August 2018 Vodafone and Idea decided to merge in order to ensure its survival in the industry. As a result of that, Vodafone Idea (Vi) held a market share of 35.12% during the first month of 2019 making it a dominant player in the market.

Things changed for Vodafone Idea in 2020, when their market share dropped. Reliance Jio once again became the market leader with a share of 32.56% followed by Vi and Bharti Airtel catering to 28.45% and 28.38% of the market respectively. When it came to government owned companies, BSNL was the lone wolf with a market share of around 10%.

The situation remains more or less the same for telecom industry in 2021 with Reliance Jio, Bharti Airtel and Vodafone Idea as the three major players in the market having market shares of 35.30%, 29.62% and 24.58% respectively. It is important to note that although Vi started with a much larger share in 2018, it has lost that advantage to its competitors due to better services being provided by them.

### **Impact on subscriber base**

The telecom industry as a whole has grown over the years and the wireless subscriber base expanded to 1163.41 million by the end of January 2021 with a tele-density of 85.53%. We look at the additional subscriber base which shows the number of subscribers added (or lost) by the various telecom companies over the previous month.

Reliance Jio in its very first month of operation added almost 1.6 crore subscribers to their network whereas its closest competitor Bharti Airtel could only add about 20 lakh subscribers. In fact, even if we combine all the competitors' addition to their subscriber base for September, still Jio would be way ahead than them illustrating how grand its entry was.

**The following table gives us information about the subscribers added by major companies during various months from 2016 to 2021:**

	Sept. 2016	Dec. 2017	Dec. 2018	Dec. 2019	Dec. 2020	Jan. 2021
Reliance Jio	15,979,745	8,013,707	8,564,228	82,308	478,917	1,956,812
Bharti Airtel	2,432,282	576,575	1,501,498	-11,050	4,051,750	5,892,855
Vodafone	525,281	1,503,087	-	-	-	-
Idea	1,913,319	2,431,152	-	-	-	-
Vodafone Idea	-	-	2,331,627	3,644,453	-5,690,219	1,710,563
BSNL	1,401,578	421,836	556,065	427,089	-252,501	83,738
Aircel	426,862	2,654,140	-	-	-	-

As it is clear from the above table Aircel in December 2017 lost around 26.5 lakh subscribers whereas on the other hand Mukesh Ambani’s Jio gained 80 lakh customers. In both December 2019 and December 2020, Vodafone Idea lost quite a large number of subscribers and the reason for the same can be attributed to the poor quality of services being offered by them. However, Bharti Airtel has been adding to their subscriber base lately a huge pool of customers which is indicated by the data of the two consecutive months (December 2020 and January 2021). It is because Bharti Airtel has recently been offering plans which are not only slightly cheaper than Reliance Jio but also provide the benefit of unlimited outgoing calls on any network.

**Impact on Revenues**

In 2016, Reliance Jio posted huge losses and understandably so because of its policy of providing unlimited free network and internet services to all its user for a period of 3 months initially. However, other major private companies during the same time posted a single growth in revenues as they had not made any changes to their existing plans or prices.

**The following table indicates the Gross Adjusted Revenue (in Rs. crores) earned by various telecom companies starting from the calendar year 2016 to 2019:**

	Year 2016	Year 2017	Year 2018	Year 2019
Reliance Jio	-303	7,466	31,097	44,800
Bharti Airtel	48,880	36,922	26,971	28,827
Vodafone	34,680	26,308	24,173	26,625
Idea	29,436	22,616	7,777	0
BSNL	13,110	10,564	8,072	8,392
Aircel	11,164	5,082	0	-
TATA	9,957	6,478	1,987	2,137

On one hand, it can be seen that Jio is experiencing a very high rate of growth in revenues whereas on the other hand, Bharti Airtel who was once the industry leader is experiencing a constant decline in the same. Aircel had to shut down its operations and hence, its revenues fall down to zero in 2018. The Gross Adjusted Revenues of both BSNL and TATA show a downward trend however they have slightly increased during the year 2019.

### **Impact on a Public Sector Undertaking - BSNL**

Once a monopoly, India's biggest state-owned telecom firm is now a mere loss-making firm. The gap between falling revenues and increasing expenses has been widening. The company is reeling under a Rs. 13,000 crore debt. With big private players in the market, BSNL lags from them in terms of technological advancements and with the arrival of Reliance Jio, their problems have only worsened. While other companies are testing 5G services, BSNL is still stuck on 4G services. The company which had already been underperforming for quite a while, their financial status has gone down to such a state that they could not even pay salary to their employees. It has asked for the immediate help of the government along with a payment of Rs. 850 crores. There are several factors that have led to the downfall of BSNL ranging from poor management to its incapability of coping with fierce competition from other players in the market. Its competitors are already looking ahead to capitalize on the 5G market while BSNL does not even offer efficient 4G services to its subscribers. The accumulation of operational costs due to overstaffing consequently resulting in high employee costs, lags in infrastructural changes and poor government policies can be held responsible for the downfall of BSNL.

## **Results and Interpretation**

### **Impact on consumers**

Before the entry of Reliance Jio in 2016, data prices in India were amongst the highest in the world. Bharti Airtel provided internet data plans which used to cost Rs. 225 per month for 1 Gigabyte (GB) of 2G data. From there, we have moved on to become a country that offers mobile internet data at \$0.09 per GB which is also the cheapest in the world.

Bharti Airtel was also rolling out its 4G services in a restricted manner in 2016 however, the idea of unlimited 4G data at such minimal prices was unheard of in those days. This is what contributed most to the success of Reliance Jio in India despite the presence of well-established players in the market. Earlier outgoing calls were a major source of revenue for the telecom companies in India, however that completely changed with the entrance of Jio into the market.

It made outgoing calls completely free initially under various offer heads but due to this it also had to suffer from a high dropped call rates as users frequently complained about facing technical issues while calling someone who used a mobile network other than Jio. Jio accused its rivals of not giving it enough Points of Interconnection (POIs) which basically allow transfer of calls from one network to another.

It has definitely caused a drastic change in the telecom sector of India by making internet affordable for even the poorer sections of the society and has also increased online consumption of media by people in India. Earlier when people had access to only 1-2 GB data throughout the month but now, they have access to higher quantity of data on a per day basis. Many telecom companies like Jio and Airtel provide complimentary or discounted services on various Over the Top (OTT) platforms like Disney Hotstar, Netflix, Amazon Prime, etc. when you subscribe to their relatively costlier recharge plans.

### **TRAI and Reliance Jio**

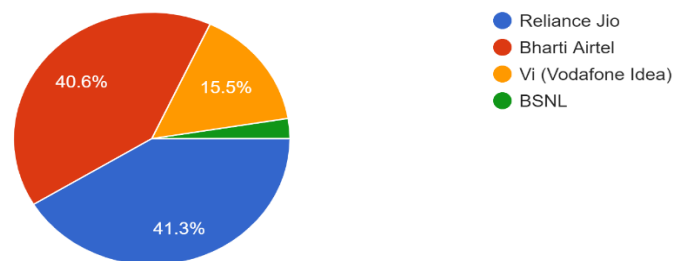
Bharti Airtel filed a complaint against Reliance Jio services on charges of “creating a monopoly for itself” at Competition Commission of India (CCI). Airtel also accused them by saying that Jio’s ‘predatory free pricing strategy’ is injuring competition in the telecom sector, so as to earn huge amounts of profits in the long run. According to Airtel, it is Jio’s business strategy to gain more market power and reduce competition. It also claimed that Reliance Jio aims to lure people to use their services with attractive offers like free voice call and they will eventually increase the cost or even charge the consumers for voice calls and consumers would continue to use their services since the company till then will successfully remove most of the competition from the market, leaving customers with very limited choices. Airtel’s complaint to CCI mainly accuses

Jio for their anti-competitive activities and their predatory pricing strategy adversely affecting competition in the telecom market. The Competition Commission of India (CCI) in this case nullified Airtel's accusation for reasons that in a competitive market scenario, it is not anti-competitive for a new company to attract customers by providing attractive and efficient schemes. CCI has also said that providing services below average variable cost is not predatory pricing unless it is in accordance with abuse of dominant power and since Reliance Jio had no dominant power in their arrival, there is no abuse on their part. When Jio made its entry into the market, its zero-revenue policy was definitely lower than its costs but in no way was it in a dominant position. However, it is a very different scenario now when it holds more than one-third of the country's subscriber base and is definitely a leader of the market. Jio also did business with Apple Inc. where it had provided an offer of giving free services worth Rs. 18000 to iPhone 7 and iPhone 7 Plus users. The provisions of Competition Act 2002 establish that these offers are not anti-competitive as well. The CCI has elaborated that consumers have no restrictions to use the network services of other companies on any mobile handset and the lock-in arrangement with iPhone was for a specific period and not forever.

### **A survey based on the primary data collected**

A total of 155 respondents were surveyed for the collection of primary data. In our survey too, the majority participants used Reliance Jio (64 subscribers) as their network and internet service provider which was closely followed by Bharti Airtel (63 subscribers). Vodafone Idea (24 subscribers) was ranked third in terms of the number of users of their network in our survey and BSNL with only 4 subscribers emerged as the least popular option. The following pie chart illustrates the same:

Your current network and internet service provider  
155 responses

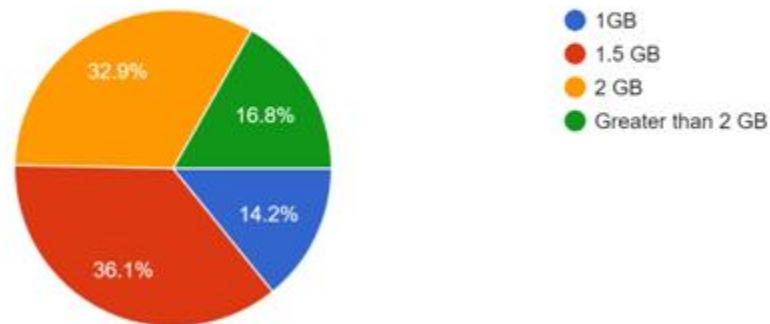


Moreover, out of our total respondents, almost 50% of them reported buying a plan which gives them 2GB or greater than 2GB amount of data on every day basis. This shows the consumers'

ever increasing hunger for the quantity of data that they are willing to consume in today's day and age where a good mobile internet connection has become a necessity and due to the presence of such services we are able to use it for almost everything from digital payments to video calling.

What is the amount of internet data that you get on your plan each day?

155 responses

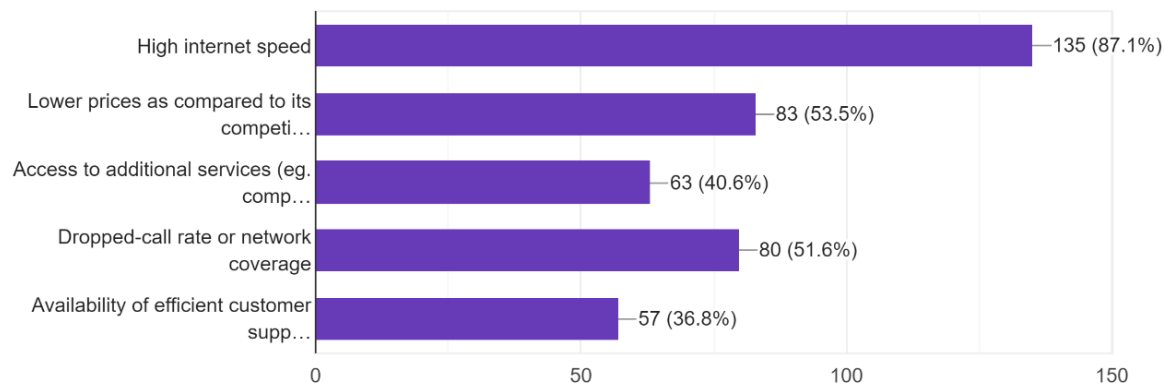


Out of the 64 respondents who reported Reliance Jio as their primary network, 47 of them stated that they have changed their network in the last 4-5 years. However, when we look at Bharti Airtel only 21 of their total 63 subscribers changed and switched to their network. This shows the greater inclination of the public to switch to Jio because of the brand image that they have created in the market and answers the question why do they have a growing subscriber base.

We asked our respondents in the survey what are some of the factors that they feel are significantly important while choosing their network and internet service provider and the results of the same are reflected in the chart below (they were allowed to choose multiple factors):

What factors do you regard as significantly important while choosing your mobile network and internet service provider?

155 responses



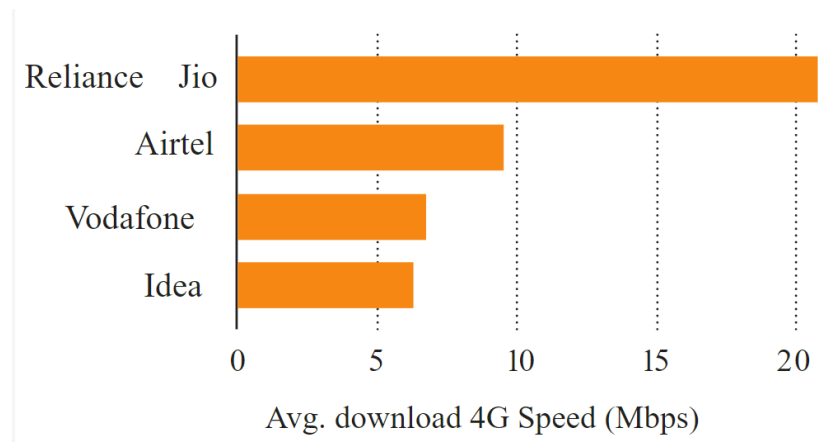
High internet speed and lower prices as compared to competitors are the two factors influencing the decision of the majority of the consumers. Network coverage is the third most important factor with 80 respondents voting for it and the least significant factor comes out to be availability of efficient customer support which only 36.8% of respondents regard as important.

We now analyze the response of the participants when they were asked about whether they feel that there has been an improvement, deterioration or no change in the speeds of mobile internet over the last few years. The responses recorded are summarized in the table below:

	Experienced an improvement	Experienced a deterioration	Largely remained the same
Reliance Jio	38	7	19
Bharti Airtel	24	10	29
Vodafone Idea	5	13	6
BSNL	1	1	2

It can be concluded that those who have subscribed to Reliance Jio clearly felt that there has been an improvement in data speeds over the last few years, whereas the responses in the case of Bharti Airtel were majorly divided between experiencing an improvement and stating that the speeds have more or less remained the same over the years. However, when it comes to Vi majority of its users felt that the speeds have deteriorated. The above results are in line with the

average 4G mobile data speeds that have been observed till May 31, 2019 and are presented below:



Also, when we asked the participants whether they rely on their mobile data to stream a video or for using social media websites, almost 50% of participants in the case of Jio stated that depending on it works perfectly fine for them. The same was not the case when it came to other operators.

Finally, the respondents were asked about the network coverage in their area. The responses are recorded in the table below:

	Excellent	Good	Bad	Worst
Reliance Jio	18	35	11	-
Bharti Airtel	9	41	9	4
Vodafone				
Idea	4	9	9	2
BSNL	-	4	-	-

Again it is reflected that Jio has outperformed its competitors by some margin. 53 respondents regarded Jio’s network as excellent or good with only 11 categorizing it as bad. For Airtel, 50 respondents felt that the network coverage can be described as either excellent or good however, 13 of the respondents regarded it as bad or even worst.

**Conclusion**

The telecom industry has grown at a rapid pace over the past decade and has seen a lot of infrastructural changes. Price and data wars have become a peculiar feature of the telecom industry due to the existence of fierce competition among the current players. Reliance Jio



although started its operations with negative revenues but it has experienced a strong growth whereas the adjusted gross revenue of other players in the market declined. However, it is the consumers who have benefited the most as a result of all this. The data speeds have significantly improved, prices have fallen and a wider choice is available in the market for the consumer to choose from. Bharti Airtel who was once the market leader has been overthrown by Reliance Jio and these two companies along with Vodafone Idea control almost 90% of the market share. Hence, the telecom industry cannot exactly be categorized as a duopoly. The survey conducted demonstrates that over 50% of the respondents are satisfied with the prices that they have to pay for their mobile plans and over 75% of the participants describe the network coverage in their area as either good or better than that. Reliance Jio could successfully influence the decision making behaviour of the consumers to the extent that even though if their current plans are less beneficial to them as compared to its competitors, but they would still stick with Jio due to the image created by them.

### **Limitations**

The primary data collected through the survey consists of 155 respondents. Hence, the sample size is small. Due to the pandemic, no face-to-face surveys could be conducted which limited the reach of the study and it made direct feedback impossible to be collected.

Response bias could be another limitation of the study which can make the data inaccurate as the participants might have stated responses that do not concur with their true beliefs or experiences.

### **References**

- Anand, N. (2017, July 24). Predatory Pricing – A Case Study on Reliance Jio. Retrieved January 2020, from <https://speakingthreads.com/2017/07/24/predatory-pricing-a-case-study-on-reliance-jio/>
- Arora, P., & Arora, N. (2018). studied A Comprehensive Analysis on the Factors Affecting Acceptance of Reliance Jio. *Online Journal of Multidisciplinary Subjects*, 11(4), 93–98. Retrieved from [http://www.researchguru.net/volume/Volume\\_11/Issue\\_4/RG12.pdf](http://www.researchguru.net/volume/Volume_11/Issue_4/RG12.pdf)
- Baruah, P., & Baruah, R. (2014). Telecom Sector in India: Past, Present and Future. *International Journal of Humanities & Social Science Studies (IJHSSS)* , 1(3), 147–156. Retrieved from <http://oaji.net/articles/2014/1115-1417594607.pdf>
- Bhatia, J., & Palepu, A. R. (2016). Reliance Jio: Predatory Pricing or Predatory Behaviour? . *Economic & Political Weekly*, 51(39). Retrieved from

<https://www.epw.in/journal/2016/39/web-exclusives/reliance-jio-predatory-pricing-or-predatory-behaviour.html>

- Gairola, M. (2017, April 1). TRAI Is Wrong When It Comes to Reliance Jio's Promotional, Free Data Offers. Retrieved March 2020, from <https://thewire.in/business/tra-i-wrong-comes-reliance-jios-promotional-free-data-offers>
- Gupta, A., Raghav, K., & Dhakad, P. (2019). The Effect on the Telecom Industry and Consumers after the Introduction of Reliance Jio. *International Journal of Engineering and Management Research*, 9(3), 118–137. Retrieved from <http://www.ijemr.net/DOC/IJEMR2019090321.pdf>
- IBEF. (2019, December). Telecom Industry in India. Retrieved April 2020, from <https://www.ibef.org/industry/telecommunications.aspx>
- Jasrotia, S. S., Sharma, R. L., & Mishra, H. G. (2019). Disruptions in Indian Telecom Sector: A Qualitative Study on Reliance Jio, *11*(1), 37–45. Retrieved from <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwjKhoGPiNLoAhXTX3wKHRYVCVUQFjAAegQIBBAB&url=https://www.iimidr.ac.in/wp-content/uploads/Vol11-1-03.pdf&usq=AOvVaw0ah6RUAEWQLqvjdjhCXJnp>
- Jadhav, N. (2018). A Review on Reliance Jio Market Entry Strategies and its Effects on Indian Telecom Industry. *IJCRT*,6(1), 1-5. Retrieved from <http://www.ijcrt.org/papers/IJCRTDRBC023.pdf>
- Joy, T., & Bahl, S. (2018). Disruption by Reliance Jio in Telecom Industry. *International Journal of Pure and Applied Mathematics*, 118(20), 43–49. Retrieved from <http://www.acadpubl.eu/hub/2018-118-21/articles/21a/6.p>
- Kalra, S., Padacheril, M., & Chandak, S. (2018). To Study The Impact of Jio on The Indian Telecom Industry Through Their Marketing Strategies. *IJCRT*,6(1), 1-7. Retrieved from <http://www.ijcrt.org/papers/IJCRT1705136.pdf>
- Kalyani, P. (2016). An Empirical Study on Reliance JIO Effect, Competitor's Reaction and Customer Perception on the JIO'S Pre- Launch Offer. *Journal of Management Engineering and Information Technology (JMEIT)*, 3(5), 19–36. Retrieved from <http://jmeit.com/JMEITVol.3Issue5Oct2016/JMEITOCT0305005.pdf>

- Mishra, K., & Tarannum, A. (2019). Impact of Reliance Jio Indian Telecom Industry. *Academic Journal of Accounting and Finances*, 1(1), 25–29. Retrieved from [https://www.xournals.com/assets/publications/AJAF\\_V01\\_I01\\_P25-29\\_01-2019.pdf](https://www.xournals.com/assets/publications/AJAF_V01_I01_P25-29_01-2019.pdf)
- Mukherjee, A. (2019, June 27). BSNL may shut down: It has no money to pay employees, all you need to know about BSNL crisis. *India Today*. Retrieved from <https://www.indiatoday.in/technology/features/story/bsnl-may-shut-down-it-has-no-money-to-pay-employees-all-you-need-to-know-about-bsnl-crisis-1556217-2019-06-26>
- Raj, A. (2017, February 6). Airtel files complaint with CCI against Reliance Jio over pricing. *LiveMint*. Retrieved from <https://www.livemint.com/Industry/drw43sQpjPqGXNIrD977eI/Airtel-files-complaint-with-CCI-against-Reliance-Jio-over-pr.html>
- Rana, S. S. (2017, November 2). Are JIO Schemes Unfair? - Anti-trust/Competition Law - India. Retrieved March 2020, from <https://www.mondaq.com/india/AntitrustCompetition-Law/642476/Are-JIO-Schemes-Unfair>
- Rathi, S., & Gupta, D. S. (2017). Factors Affecting Consumer Satisfaction From Reliance Jio. *UNNAYAN : International Bulletin of Management and Economics*, 7, 63–67. Retrieved from <https://pdfs.semanticscholar.org/34ff/2cde868aa704f7052b3aa3f38bf85e080830.pdf?ga=2.234217502.1428097920.1586114101-1383660653.1586114101>
- Sharma, N. (2019, June 26). Once a monopoly. Retrieved April 2020, from <https://qz.com/india/1653047/how-indias-bsnl-lost-the-telecom-war-to-airtel-jio-idea/>
- Sharma, P., & Gupta, T. (2017). Reliance Jio (A pack of services): Impact on Indian telecom market. *CBS Mohali*, 8(1), 122–131. Retrieved from [http://cbsmohali.org/img/Journal\\_1-122-131.pdf](http://cbsmohali.org/img/Journal_1-122-131.pdf)
- Singh, R. (2017). Impact of Reliance Jio on Indian Telecom Industry: An Empirical Study. *International Journal of Scientific Research and Management*, 5(7), 6469–6474. Retrieved from <http://ijsrm.in/index.php/ijsrm/article/view/1009>
- Thayyib, M. (2018). The Impact of Jio on Indian Telecom Industry. *International Journal of Research in Management, Economics and Commerce*, 8(4), 78–82. Retrieved from [https://www.academia.edu/37452823/The\\_Impact\\_of\\_Jio\\_on\\_Indian\\_Telecom\\_Industry](https://www.academia.edu/37452823/The_Impact_of_Jio_on_Indian_Telecom_Industry)

- Deck, A. (2020, July 15). How Mukesh Ambani won India's mobile data price war. Retrieved April 3, 2021, from <https://restofworld.org/2020/how-india-mobile-data-became-worlds-cheapest/#:~:text=At%20one%20point%20in%202016,still%20hovered%20at%20around%2017%25.>
- Hariharan, S. (2020, August 25). India's Data Plans Cheapest. Retrieved April 3, 2021, from <https://timesofindia.indiatimes.com/business/india-business/at-0-09/gb-indias-data-plans-cheapest/articleshow/77728709.cms>
- TELECOM REGULATORY AUTHORITY OF INDIA (Press Release No. 16/2021). (2021, March 17). Retrieved April 1, 2021, from [https://traf.gov.in/sites/default/files/PR\\_No.16of2021\\_0.pdf](https://traf.gov.in/sites/default/files/PR_No.16of2021_0.pdf)
- TELECOM REGULATORY AUTHORITY OF INDIA (Press Release No. 29/2020). (2020, May 8). Retrieved April 02, 2021, from [https://traf.gov.in/sites/default/files/PR\\_No.29of2020.pdf](https://traf.gov.in/sites/default/files/PR_No.29of2020.pdf)
- TELECOM REGULATORY AUTHORITY OF INDIA (Press Release No. 33/2017). (2017, April 28). Retrieved April 3, 2021, from [https://traf.gov.in/sites/default/files/PR\\_33\\_Eng\\_28\\_04\\_2017\\_0.pdf](https://traf.gov.in/sites/default/files/PR_33_Eng_28_04_2017_0.pdf)
- TELECOM REGULATORY AUTHORITY OF INDIA (Press Release No. 35/2018). (2018, March 23). Retrieved April 3, 2021, from <https://traf.gov.in/sites/default/files/TSDReportJan23032018.pdf>
- TELECOM REGULATORY AUTHORITY OF INDIA (Press Release No. 95/2020). (2020, December 3). Retrieved April 3, 2021, from [https://www.traf.gov.in/sites/default/files/PR\\_No.95of2020.pdf](https://www.traf.gov.in/sites/default/files/PR_No.95of2020.pdf)
- TELECOM REGULATORY AUTHORITY OF INDIA (Press release No.06/2021). (2021, February 18). Retrieved April 3, 2021, from [https://traf.gov.in/sites/default/files/PR\\_No.06of2021\\_0.pdf](https://traf.gov.in/sites/default/files/PR_No.06of2021_0.pdf)
- TELECOM REGULATORY AUTHORITY OF INDIA (Press Release No.117/2016). (2016, December 9). Retrieved April 3, 2021, from [https://traf.gov.in/sites/default/files/PR\\_No\\_117\\_Eng\\_09\\_Dec\\_2016\\_0.pdf](https://traf.gov.in/sites/default/files/PR_No_117_Eng_09_Dec_2016_0.pdf)

- TELECOM REGULATORY AUTHORITY OF INDIA (Press Release No.16/2021). (2021, March 17). Retrieved April 3, 2021, from [https://traigov.in/sites/default/files/PR\\_No.16of2021\\_0.pdf](https://traigov.in/sites/default/files/PR_No.16of2021_0.pdf)
- TELECOM REGULATORY AUTHORITY OF INDIA (Press Release No.17/2020). (2020, February 25). Retrieved April 3, 2021, from [https://traigov.in/sites/default/files/PR\\_No.17of2020\\_0.pdf](https://traigov.in/sites/default/files/PR_No.17of2020_0.pdf)
- TELECOM REGULATORY AUTHORITY OF INDIA (Press Release No.22/2016). (2016, March 23). Retrieved April 3, 2021, from [https://traigov.in/sites/default/files/Press\\_Release\\_No.22\\_English.pdf](https://traigov.in/sites/default/files/Press_Release_No.22_English.pdf)
- TELECOM REGULATORY AUTHORITY OF INDIA (Press Release No. 22/2019). (2019, March 20). Retrieved April 02, 2021, from [https://traigov.in/sites/default/files/PR\\_No.22of2019.pdf](https://traigov.in/sites/default/files/PR_No.22of2019.pdf)
- Where India's mobile Internet speed ranks globally, which operator offers the fastest download speeds, and more. (2020, February 12). Retrieved April 3, 2021, from <https://www.thehindu.com/data/data-where-indias-mobile-internet-speed-ranks-globally-which-operator-offers-the-fastest-download-speeds-and-more/article30800987.ece>