

A Review of Users' Intentions Towards the Adoption of 4G Mobile Services

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Abstract:

The Indian mobile users now have a huge appetite for data and mobile services which has been fueled by 4G adoption and market penetration strategies adopted by Reliance JIO. Telecom companies have come to realize the importance of retaining their customers and ensuring their satisfaction. As the customers are becoming more rational and informed, and with the exponential growth in the service offerings of the competitors, companies operating within the telecom industry need to be on their feet to survive and outperform in the cut-throat competition.

In light of such considerations, the present study reviewed the factors influencing the users' intention to adopt 4G services in India and the strategies being followed by the telecom service providers. The study also summarizes the limited literature to reach a conclusive stance on the strategies that can be used by the telecom companies to preserve and amplify their market share.

The review uncovered that in the telecommunication industry, disruptive market strategies, market penetration, mergers, acquisitions, tie-ups with the smartphone manufacturers, market segmentation, quality considerations, economy pricing, and aggressive tariffing are the strategies currently in use. The users' 4G adoption intent relies on their ability to access less complicated, user-friendly and modernized voice and data services at competitive prices. Thus, the telecom companies can focus on rendering user-friendly experience while simultaneously prioritizing quality enhancement, customization, increased network coverage, and competitive pricing to outwit their competitors.

Keywords: 4G, mobile, network, telecommunication, adoption, services, satisfaction

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I. Introduction

The telecommunications industry is an engine of growth for any economy given the rapidly growing adoption of mobile phones and the internet. In the past few years, the telecommunication market has witnessed substantial growth and a rapid change in domestic as well as global market. The Indian telecom sector had witnessed a

resurgent growth rate of 45% even a decade ago in the year 2007, which is the highest in the world. Based on a more recent statistics published in the Annual report of TRAI, towards the end of the financial year 2017-18, the general telecom subscriber base expanded to 1206.22 million when contrasted with 1194.58 Million towards the end of the FY 2016-17 registering an overall expansion of 11.64 million

subscribers. The wireless industry has also been making a healthy contribution to the growth of the telecom sector of India (TRAI, 2017). The telecommunication sector, especially the mobile phone sector in India is one of the fastest-growing business segments of the country which provides a lot of value addition to the society with its service and creation of employment opportunities. The telecommunication revolution has truly changed the socio-economic landscape of India and played a pivotal role in the growth and development of the economy. This rapid growth of services industry has changed the dynamics of business. As the market growth slows down or as the markets become more competitive, firms are more likely to attempt to maintain their market share by focusing on retaining the current customers. (Choi et al, 2008).

The fourth-generation mobile communication system, 4G, combined 3G with a fantastic picture and video transmission with a top-quality television technology (Velmurugan and Velmurugan, 2017). It opened up entryways for rapid exchange of both voice and data (Parikh and Basu, 2011). One reason for moving from 3G to 4G among the customers was that 3G doesn't focus on building up its specialized norms (Xu et al., 2017). 4G network services were introduced by Airtel telecom in India in the year 2012. Where the Indian users were expecting the 4G data plans to cost an arm and a leg to them, to their surprise, 4G was launched in India at very competitive rates, i.e., there was only a marginal difference between the rates of the 3G and 4G data plans which acted as a cultivating ground for the growth of 4G technology in India.

Thus, using a competitive pricing strategy, the telecom operators were able to twist the arm of their customers with respect to the adoption of the 4G technology in India. Resultantly, the 4G telecom operators gained ground for spurring the growth of 4G, majorly in the urban sector of India. However, within the industrial context, while all the telecom operators were trying to have an edge over others, Reliance JIO entered the market as a game-changer (Sodani and Vyas, 2016).

To cut to the chase, in lieu of speedy shift of customers from 3G to 4G, relatively prompt entry of Reliance JIO in the market, and its expeditious acquisition of the largest market share in the 4G market, the present review was considered significant. While there have been several isolated pieces of information concerning the factors influencing the user intentions to adopt 4G technology and a few discussing the changing scenario of Indian telecom industry, emergence of Reliance JIO causing inexplicable turbulence in the 4G market with other telecom service providers merely waiting for the dust to settle which never happened, and the strategies that were adopted and are being adopted by the Indian telecom service providers to survive the competition, yet, there is a lack of a unified study discussing the same in the context of the Indian economy. Hence, this review paper is aimed at bridging this research gap by studying and summarizing the limited literature that has discussed the users' intention to adopt 4G technology in India, the factors which have been prompting the Indian users to embrace 4G with open arms and the strategies of the telecom service providers that have proved to be successful

in this respect. This paper will also lay down a foundation for the researchers who seek to conduct meaningful research in the said area and shall be helpful for the research scholars in understanding the transforming 4G market scenario in the Indian context.

II. Objectives

The purpose of this review is to study and identify the factors influencing the users' intention to adopt 4G services in India and the strategies of the telecom service providers that have proved to be successful in this respect. The specific objectives that this review aims to achieve are as follows:

- To examine the changing scenario of the Indian telecommunications industry.
- To assess customer retention strategies being adopted by the 4G companies in India.
- To study the factors influencing users' intention towards the adoption of 4G mobile services in India.
- To review the extent to which the customers are satisfied with 4G connectivity in India.

The scenario of the Indian Telecommunication Industry

Until the mid-1980s, Indian telecommunication sector was handled as a non-competitive, state-owned, departmentally run monopoly. Allowing telecommunication equipment manufacturing to the private sector began with customer premises equipment and was later extended to cables and switches. Gradually, rapid changes in telecommunications technology have whetted people's appetites and raised

expectations. Developments in mobile, wireless, radio communications and a variety of value-added services are now possible. They can be set up rapidly, at an affordable cost. Since the telecommunications sector in India was liberalized in the early 1990s, it paved the way for a significant influx of private as well as foreign direct investment in the sector. These investments have been a key driver for accelerating economic growth through technology transfer and improved access to managerial expertise, global capital, product markets and distribution network. Based on the statistics of over a decade ago, in 2007, this sector experienced exponential growth in subscriber base and crossed the 150 million mark (Boston Analytics, 2007) and the mobile phone service providers are now operating in a highly competitive environment with tight margins and fleeting customer loyalty. Contemporarily, India is the world's 2nd largest telecommunications market having an overall subscriber base of 1.183 billion. India ranks 3rd on a global scale in the internet business. With a consistently growing number of android users in India, the economy holds the 4th position in the app market on the planet (Joy and Bahl, 2018).

Research evidence suggests that customer satisfaction has a direct effect on the financial performance of a company (Smith and Wright, 2004). Moreover, satisfied customers have a higher propensity to stay with their existing service provider than the less satisfied ones (Cronin et al., 2000) and are more likely to recommend the service provider to others, leading to improved bottom line for the company (Reichheld 2003; 2006). Reliance

JIO, a subsidiary of Reliance industries limited, launched its services in the Indian market on 5th September 2016 and entered the Indian Telecom market as a strategically destructive force occupying the market share of all the existing players in the industry. After the mere first month of the commencement of their commercial operations, Reliance JIO announced the successful acquisition of 16 million subscribers. It marked the most agile ramp-up made by any telecom operator anywhere in the world till date. The company crossed the mark of 10 crore subscribers by the end of February 2017. In the chase of saving their remaining customer base from the paws of Reliance JIO, the mobile network giants such as Airtel and Vodafone were forced to cut down on the price of their data plans and other service offerings (Mahalakshmi and Kumar N, 2017).

In light of such a changing scenario, mobile phone operators would want to make customer satisfaction a strategic priority. Therefore, at present, it is imperative that Indian mobile phone operators gain a better understanding of the relationship between the service-related factors, customer satisfaction, repurchase intentions and recommendation of services to others. With other telecom giants in the Indian economy giving chase to Reliance JIO, a focus on ensuring customer satisfaction for customer retention and using competitive pricing for consumer acquisition may act as the last resorts for them to safeguard and retrieve their market share.

Customer retention strategies adopted by companies

For understanding the dynamics of future economic, business and technological environments, gaining insight and thereby generating new strategies for reducing risks and taking advantage of opportunities are imperative (Ahn & Skudlark, 2010). One of the overall generic aspects of the strategy is the management of strategic change and flexibility (Sushil, 2005) such as arrival of new techno-economic paradigm, facilitating the adoption of specific standards and thereby influencing the markets' competitive environment. Hence, as discussed in the previous section, in the Indian telecommunication industry, for many organizations, it is really important to maintain their position in the market. As competition increases between companies, customer churn becomes a great issue to deal with by the telecommunication providers. For this, a case study has been conducted in telecom industry of Turkey by applying Bayesian Belief Network approach to analyze customer churn (Kisioglu & Topcu, 2011). As portrayed by Mittal and Agrawal (2016), consumer loyalty can be viewed as the relationship between quality, price, trust, brand image, and the like. The sole reason due to which the consumers would consider switching from their existing telecom subscriber would be due to service dissatisfaction. Besides, for the new subscriber to which the consumers would shift, the motivation would be service satisfaction. Consequently, once the customers are satisfied in terms of quality, price, trust, brand image (whatever serves as the prime motivation to the individual), the

consumers are more likely to be loyal to their current subscribers.

Besides, the companies try to retain their existing customers, instead of acquiring new ones (Kisioglu and Topcu, 2011) and the important drivers are post-sales services, cost and quality considerations etc. for effective retention management. Customer satisfaction, customer loyalty, and switching barriers have been recognized to be the key determinants of customer retention in the Indian telecom industry (Sharma and Sonwalkar, 2016). The recent launch of Reliance JIO in the Indian telecommunication industry brought about a radical change in the industry. The company adopted a disruptive marketing strategy to increase the customer base by first offering free services to the customers for some time to acquire customers and thereafter, it started pricing its services at a discounted price as compared to its competitors. The impact of this new entrant affected the symmetry in the 4G telecom industry to a considerable extent. As a result, the competitors became vulnerable and had to resort to strategies such as price structure changes and mergers/acquisitions to strengthen their service offerings to be able to retain their consumer base (Hasan and Haq, 2018).

Many telecom companies in India such as Reliance Communications and Aircel, Airtel with Tikona and Telenor South-Asia, and Vodafone and Idea, have been resorting to merger and acquisition deals in order to achieve financial and operational synergies so as to survive the competition brought in by Reliance JIO. Thus, industry consolidation can be viewed as the most popularly used strategy by the telecom

service providers in India in the present scenario (Sardana, 2017). Talking about the incumbent players of the industry, Airtel has chosen to dump customers who purchase recharge plans costing under Rs35 per month. Airtel outlines this new strategy to take on adversary Reliance JIO, which brought industry-wide prices to the absolute bottom. The organization expects that this will decrease the quantity of minor customers, enable them in having control over selling, general and managerial cost and help center consideration around improving services for the better-paying users. While a subscriber is a source of income, yet, at the same time, it is an expense for the operator. Essentially, Vodafone is likewise now putting resources into key and beneficial territories, concentrating on controlling expenses in non-priority sectors, decreasing the quantity of data plans and keeping up a base minimum recharge for consumers so as to raise their ARPU (Average Return per User). The organization is additionally expecting to utilize big data and analytics to improve ARPU. The organization has no plans of financing handsets; however, will keep on offering bundled packages with various handset producers to cut down cell phone price point focus. The organization will continue to utilize the strengths of the two its brands, i.e., both Vodafone and Idea (Gupta, Raghav, and Dhakad, 2019). Thus, from this review, disruptive market strategies, market penetration, mergers, acquisitions, tie-ups with the smartphone manufacturers, market segmentation, and enhancement of the existing service offerings by providing quality at competitive prices can be observed as the

strategies that are currently in use in the Indian 4G telecom industry.

Customers' intention towards 4G mobile service

It is difficult to assess and compare alternative offerings of high-tech products in a context of rapid technological progress by consumers. A good way for consumers to choose products is selecting those with a trusted brand name (Ahmad, 2012). Since the latest innovation in mobile technology leads to the introduction of the increasingly complex and rich variety of smartphones, tablets etc. it can impact the behavior of customers choosing from different service providers. Behavioral intention is the significant measure of actual behavior as determined by previous studies (see, for example, Abubakar and Ahmed, 2013; Mandal and McQueen, 2012; Venkatesh et al., 2012). A further study conducted by Tsai and Huang (2007), explained that increasing customer retention, minimizing the rate of customer defections are primary keys to the capability of a service provider to be aware of the customer's intention towards new technological services.

In the contemporary telecommunication environment, demographics (gender, age, income and education) have a crucial role in influencing the acceptance of 4G services. Despite the vast growth potential of 4G technology in the present-day scenario, age and gender gap in the choice of technology has been a global bone of contention (Lee, 2010). As discussed previously, the changing scenario and increased competition directs towards the need of development of marketing strategies to boost the profitability of the

subscribers which would further enable enhancement in mobile users' intention to embrace 4G services in India. Extended consideration to provide voice and data services for sustained use of 4G mobile services and advance modernized technologies that are user-friendly, less complicated and have compatible factors. The marketers should focus on using strategies which are built upon reduction of perceived lack of use and complicatedness as this may impair service acceptance. Marketers need to be conscious of these factors as the attitude towards the adoption of 4G mobile services has a crucial role to play in the user's intention towards its use. Further, against the popular belief, one key outcome that the marketers should remember is that gender does not influence behavioral intentions. Women as a target audience should be given equal importance, and marketing strategies should be structured in a manner to involve women and motivate them to adopt 4G technology (Kanimozhi & Sundar, 2017).

Further, Ashok et al. (2016) instituted that social influencers combined with media influence in the form of reviews, vendor promotions, and articles play a critical role in the development of a positive outlook towards 4G technology. The convenience and portability associated with 4G technology along with a value for money service offerings are certain other factors which influence the consumer intention to adopt 4G technology. Thus, on reviewing the major studies pertaining to the users' intentions towards the adoption of 4G services in India, it came to surface that marketers need to focus on increasing customer retention and decreasing the rate of consumer defections by developing

marketing strategies which are aimed at providing less complicated and user friendly modernized voice and data services at competitive prices. Moreover, the strategies should be eyeing upon every segment of the market to ensure the inclusion of all individuals irrespective of their demographic profile.

Reviewing customer satisfaction towards 4G connectivity

In emerging business, customer loyalty plays a very crucial role for achieving the competitive advantages (Lin & Wang, 2006). With the growth of mobile telecommunication services around the world, a significant body of literature has emerged over the past several years. For example, Turel and Serenko (2006) empirically investigated customer satisfaction with mobile services in Canada. They adapted the American Customer Satisfaction Model to identify the antecedents and consequences of customer satisfaction for young cellular subscribers. The results indicated that perceived service quality and perceived value are the key constructs affecting the customer's satisfaction with mobile services. Satisfaction, in turn, leads to customer loyalty. Aydin and Ozer (2005) used the SEM technique to study the impact of service quality, perceived value, customer expectations and complaint handling on customer satisfaction in the Turkish mobile telephone market. The results showed that service quality, customer expectations and complaint handling had positive and significant effect on customer satisfaction.

In the Indian context, John and Sheeja R. (2018) undertook a study on the satisfaction of the consumers

with their 4G network's connectivity. They discovered that the majority of the customers reported higher satisfaction levels with 4G network coverage as compared to the 3G network. Furthermore, it was recognized in their study that one of the major problems in India is the absence of network coverage in the rural areas and the heavy traffic on network in the urban areas. Thus, the service providers can fair well on customer satisfaction if they leverage their services in the area of network coverage. Darlami (2016) conducted a study to find the market penetration and consumer satisfaction with 4G connectivity of Reliance JIO in Muradnagar. The researcher employed a structured questionnaire to gather relevant data from the customers. The study revealed that majority of the respondents (71.23%) were content with service offerings of Reliance JIO, and overall, the customers were satisfied with the 4G services rendered by Reliance JIO. Chinthala et al. (2017) established similar results on their study on consumer satisfaction with Reliance JIO 4G services.

As proposed by Singh and Pangrikar (2013), the shift from 3G to 4G can be pushed by enhancement of quality, elevated refinement of large-scale information requirements, increased bandwidth, and improved customization abilities to bolster user interests. The study also confirmed that the majority of the customers in Pune (India) had been willing to switch from 3G to 4G and the prime motivation behind this move had been high network speed which was being provided on the 4G network. To sum up, in the Indian context, the consumers are more or less satisfied with the services being provided

by the 4G telecom operators. The mobile networking companies can leverage their consumer-base further by focusing on quality enhancement, increased network coverage, customization of data plans, and competitive pricing. Also, the companies can formulate expansive market penetration strategies to utilize the unexplored market in the rural India.

III. Findings and Discussion

After reviewing the existing literature in this respect, numerous inferences have been drawn. First, after reviewing the prevailing scenario of the Indian telecom industry, it came to surface that emergence of Reliance JIO in the Indian market acted as a disruptive force for the incumbent players (Airtel and Vodafone) and now, it has become indispensable for these players to focus upon acquiring better insights on the relationship between the service-related factors, customer satisfaction, repurchase intentions and recommendation of services to others. With other telecom mammoths in the Indian economy striving to give fierce competition to Reliance JIO, attention on guaranteeing customer satisfaction for customer retention and utilization of economy pricing for consumer acquisition could be an ace in the hole for them to defend and recover their piece of the pie. Next, on ruminating upon the existing strategies that have been already put to use by the 4G telecom operators to safeguard their market-share, disruptive market strategies, market penetration, mergers, acquisitions, tie-ups with the smartphone manufacturers, market segmentation, and enhancement of the existing service offerings by providing quality at

competitive prices were identified to be the strategies in use.

Third, the review confirmed that the users' intention to adopt 4G technology depends majorly upon being able to access less complicated, user friendly and modernized voice and data services at competitive prices. Also, inclusion of every segment of the market, irrespective of their gender or age needs to be followed by the telecom companies to ensure inclusion of all the potential customers. Lastly, contemplating on the overall satisfaction of the subscribers from the 4G network services being provided by their telecom service providers, on the whole, the customers were observed to be largely satisfied with the services being offered to them in this respect. Moreover, the review suggested that mobile networking companies can strengthen their clientele further by fixating their eyes upon quality enhancement, customization of data plans, increased network coverage, and competitive pricing. Also, the companies can develop and exercise expansive market penetration strategies to tap the unexplored potential of Rural India concerning the adoption of 4G technology.

IV. Conclusion

As there is a transformational change in the Indian telecommunication sector since liberalization, companies are adopting different strategies to win the customers through providing them pre-sales and post-sales services. With remarkable advancement in the telecom establishments, tremendous penetration and noteworthy presence of Reliance JIO in the Indian market, other players in this industry are progressively keen on

preserving their existing customer base while focusing on new customers. The companies are now wanting to predict customers' behavioral intention towards a particular product or service especially innovative technology-driven products or services which is likely to assist them with consumer acquisition and retention. As a contribution to such considerations, the present study attempted to review the users' intention to adopt 4G technology in India, the factors which have been prompting the Indian users to embrace 4G with open arms and the strategies of the telecom service providers that have proved to be successful in this respect. From the studies reviewed above, it can be deduced that in the telecommunication industry, disruptive market strategies, market penetration, mergers, acquisitions, tie-ups with the smartphone manufacturers, market segmentation, quality considerations, economy pricing, and aggressive tariffing are the strategies in use. Also, the users' intention to adopt 4G technology was seen to be reliant upon their ability to access less complicated, user friendly and modernized voice and data services at competitive prices. The companies can focus on rendering user-friendly experience while simultaneously prioritize quality enhancement, customization of data plans, increased network coverage, and competitive pricing to have an edge over other players in the telecom industry. Thus, the policymakers of the telecom companies in India can draw from such considerations to formulate effective marketing strategies which will act as an opportunity for them for enhancing the business-related outcomes of their organizations.

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