



AN IN DEPTH STUDY OF INDIAN TELECOM INDUSTRY – ITS MARKET SIZE, CONSUMER TRENDS AND OPPORTUNITIES

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Abstract:

Due to recent growth in the IT industry, there has been a boom in the Indian telecom sector because of which market size has increased. Since there has been great dependency of the Indian population on this sector; as several companies are operating in India as well as overseas, due to which there has been frequent problems in the smooth functioning of this sector as customer's needs and desires are increasing day by day. This study will provide an insight into the telecom sector and the steps being taken by them to improve their relationship with their customers. From the study, one can understand the present scenario of the practices and programs being followed by the leading players in this sector and the process followed by them to enhance customer retention and customer satisfaction that in turn, leads to enhanced profits and brand image in the minds of the customers. . The paper would also help provide customized as well as tailored solutions to the telecom industry in terms of planning long-term strategies relating to marketing and other operating divisions.

Index Terms: Telecom sector, customer satisfaction, economic growth, mobile market

INTRODUCTION

India has witnessed a transformation from an agriculture based economy to a knowledge based economy. This phenomenal growth in the heterogeneous service sector in India has been so rapid that today the country stands at number five in terms of tertiary sector output. The growth in this sector is much higher than that in the agricultural or the manufacturing sectors. Services, which is the fastest growing sector in India has led to the simultaneous growth in GDP, employment generation, trade and investment. In statistical terms, India's service sector contributes about 60 per cent of the country's gross domestic product (GDP), almost 35 per cent of employment, a quarter of the total trade and over half of the foreign investment inflows. The growth in the service sector had picked in mid 80's and had catapulted in the 1990's. The main reason for such growth in the service sector in India is liberalization and the economic reforms of the 1990s which have led to privatization and removal of FDI restrictions in the sector. The main reasons for this trajectory growth are increase in per capita income, more leisure time, greater life expectancy and increasing complexity of life, increasing complexity of products and the increasing number of products, higher number of working women, migration of people from rural to urban or semi-urban areas, cultural changes etc. Further, technological advancement, availability of large pool of knowledge and highly skilled workers have ushered the growth in the sector. The sector has become the backbone of the social and economic development of the country. This sector covers a wide range of activities, such as transportation, communication, research and consultancy, accounting, banking and insurance, real estate, media, entertainment, tourism and hospitality, healthcare, education, retailing, IT and ITES and BPO.

Telecommunications has been one of the fastest growing industries in India. The telecom services have been recognized the world-over as an important tool for socio economic development for a nation and hence telecom infrastructure is treated as a crucial factor to realize the socio-economic objectives in India too. The Indian Telecom sector has come a long way since liberalization starting with New Telecom Policy (1999). Telecom sector has witnessed exponential growth especially in the wireless segment in the last few years. Telecom has evolved as a basic infrastructure like electricity, roads, water etc. and has also emerged as one of the critical components of economic growth required for overall socio economic development of the country (Department of Telecom). Cellular telephony has emerged as the fastest growing segment in the Indian telecom industry. According to the United Nations Conference on Trade and Development, there is a direct correlation between the growth in mobile teledensity and the growth in GDP per capita in developing countries, which tend to have a high percentage of rural population. The fixed line segment has actually seen a decline in the subscriber base. It had declined to 34.8 m subscribers in February 2011. The decline was mainly due to substitution of landlines with mobile phones. Mobile phones are popular due to their personal, portable and digital nature, enabling people to be always connected. There are increasing innovations, especially

development of mobile applications. The low cost of handsets in India and the innovative budget telecom network have lowered the barrier to entry of consumers to the market (TRAI'2010). The Indian telecom industry is presently the second largest industry globally in terms of subscriber base after China. Telecom contributes approximately 3% to India's GDP. The number of telephone subscribers in India stands at 897.02 million at the end of April, 2013. The share of urban subscribers is 60.71% whereas share of rural subscribers is 39.29% in the month of April 2013. With this, the overall teledensity in India is 73.16 at the end of April, 2013 (TRAI'2013). The direct economic benefits of growth in the telecom sector are increase in GDP, government revenue and generation of employment in the country. The indirect economic benefits include increased productivity of business due to voice and data services, better access to information, healthcare and educational services, etc. Other intangible benefits are integrating a country with large diversity, providing an altogether different mode of business, the only technology to reach the poor too.

Rural markets: The next avenue of growth

The Indian telecom sector is poised to witness strong growth in the coming years especially with a renewed focus on the rural market, a potential market that has largely remained untapped for years. There are over 62,443 uncovered villages in India; the government plans to connect these villages with subsidy support from the government's Universal Service Obligation Fund (thereby increasing rural teledensity). As of February 2018, the rural subscriber base accounted for 43.24 percent of the total subscriber base, thereby fuelling the growth across the sector. With 70 percent of the population staying in rural areas, there is robust demand.

The growing receptiveness to explore possibilities with newer technologies including satellite-based connectivity is a positive sign but the industry is still far from leveraging its full potential. There has been a long pending demand for the overhaul of the VSAT industry, which is still ailing from policy and infrastructure challenges.

Reliance Jio, one of the recent players, has sparked a wave of disruption with an aggressive approach and increased focus on rural and remote regions. The 4G telco is connecting more than 400 LTE sites largely in remote and hilly locations, which are beyond the reach of terrestrial backhaul services through a satellite backhaul-based network. Beyond expanding networks, initiatives to connect the rural masses are already visible with service provider tie-ups with content providers for services related to agriculture, weather, and livelihood. The government of India has introduced the Digital India program under which all the sectors such as healthcare and retail will be connected through the internet. The Department of Information Technology intends to set up over 1 million internet-enabled common service centres across India as per the National e-Governance Plan. Major telecom service providers including Hughes are working with the government towards fulfilling the connectivity needs and bridging the digital divide.

Emerging technologies and the future of Indian telecom

With growing demand for data and speed among new age consumers, the thrust has been seen across the industry. Among the various BWA technologies, the recent developments such as LTE and emergence of IoT technologies have seen tremendous interest from industry counterparts. Reliance Jio, Bharti Airtel, and Vodafone have already launched VoLTE services in select regions with BSNL looking to join the queue. The government's vision for smart cities has also provided the much-needed impetus to adoption and investment in newer industrial technologies including the likes of the Internet of Things (IoT). The Indian government is planning to develop 100 Smart City projects, where IoT would play a vital role in the development of those cities.

The development of a telecom infrastructure is critical to the growth of the nation and there is no doubt that India has made significant progress. There is still a lot to achieve and government support including tax benefits and recognizing telecom infrastructure as an essential infrastructure will go a long way in making India as one of the fastest, strongest, and most affordable telecom market.

CUSTOMER SATISFACTION

Customer satisfaction, a business term is a measure of how products and services supplied by a company meet or surpass customer expectation. It is seen as a key performance indicator within business and is part of the four of a balanced scorecard. Increasing competition (whether for-profit or nonprofit) is forcing businesses to pay much more attention to satisfying customers. In a competitive marketplace where businesses compete for customers, customer satisfaction is seen as a key differentiator and increasingly has become a key element of business strategy.

Organizations need to retain existing customers while targeting non-customers. Measuring customer satisfaction provides an indication of how successful the organization is at providing products and/or services to the marketplace.

Customer satisfaction is an abstract concept and the actual manifestation of the state of satisfaction will vary from person to person and product/service to product/service. The state of satisfaction depends on a number of both psychological and physical variables which correlate with satisfaction behaviours such as return and recommend rate.

Customer satisfaction is the most common form of market research in business-to-business markets and is often connected to quality and production measurement, rather than as straight marketing based research. Before setting up a customer satisfaction programme, it is necessary to ensure that the organization has the will to actually make changes for improvement; otherwise you will simply be annoying customers by taking their time to collect information, then not doing anything with it.

Customers or buyers are exposed to more of the world than ever before i.e. in the changing economy through cable and satellite television, the internet and increased travel and as a result, their tastes and interests have broadened dramatically. Moreover, the long economic dominance of the United States, Europe and Japan is giving way, and economic power is increasingly shared with developing economies.

Customer satisfaction survey further illuminates the relationship between the customer experience and business performance. Around the world, consumers expect better service quality. It confirms that consumers are more likely to leave a provider because of poor service than for any other reason. It also reveals that service quality is the most powerful factor, more influential than price in choosing providers or to do business with them.

Customer satisfaction ratings can have powerful effects. They focus employees on the importance of fulfilling customers' expectations. Furthermore, when these ratings dip, they warn of problems that can affect sales and profitability. These metrics quantify an important dynamic. When a brand has loyal customers, it gains positive word-of-mouth marketing, which is both free and highly effective. Therefore, it is essential for businesses to effectively manage customer satisfaction. To be able to do this, firms need reliable and representative measures of satisfaction.

In researching satisfaction, firms generally ask customers whether their product or service has met or exceeded expectations. Thus, expectations are a key factor behind satisfaction. When customers have high expectations and the reality falls short, they will be

disappointed and will likely rate their experience as less than satisfying. For this reason, a luxury resort, for example, might receive a lower satisfaction rating than a budget motel—even though its facilities and service would be deemed superior in 'absolute' terms. Customer satisfaction provides a leading indicator of consumer purchase intentions and loyalty. Customer satisfaction data are among the most frequently collected indicators of market perceptions. Their principal use is twofold. Within organizations, the collection, analysis and dissemination of these data send a message about the importance of tending to customers and ensuring that they have a positive experience with the company's goods and services. Although sales or market share can indicate how well a firm is performing currently, satisfaction is perhaps the best indicator of how likely it is that the firm's customers will make further purchases in the future. Much research has focused on the relationship between customer satisfaction and retention. Studies indicate that the ramifications of satisfaction are most strongly realized at the extremes." On a five-point scale, "individuals who rate their satisfaction level as '5' are likely to become return customers and might even evangelize for the firm. (A second important metric related to satisfaction is willingness to recommend. This metric is defined as "The percentage of surveyed customers who indicate that they would recommend a brand to friends." When a customer is satisfied with a product, he or she might recommend it to friends, relatives and colleagues. This can be a powerful marketing advantage.) "Individuals who rate their satisfaction level as '1,' by contrast, are unlikely to return. Further, they can hurt the firm by making negative comments about it to prospective customers. Willingness to recommend is a key metric relating to customer satisfaction. According to Philip Kotler, "Satisfaction is a person's feelings of pressure or disappointment resulting from product's perceived performance (outcome) in relation to his or her expectations. Customer satisfaction is the level of a person's felt state resulting from comparing a product's perceived performance (outcome) in relation to the person's expectations". This satisfaction level is a function of difference between perceived performance and expectations. If the product's performance, exceed expectation the customer highly satisfied or delighted. If the performance matches the expectations the customer is satisfied. If the products performance fall shorts of expectations the customer is dissatisfied. Many companies are aiming for high satisfaction because customers who are just satisfied still find it easy to switch when a better offer comes along. High satisfaction or delight creates an emotional affinity with brand. Variety of factors that affect customer satisfaction includes product quality, product availability and after sales support such as warranties and services. Customer satisfaction is seen as a proof of delivering a quality product or service. It is believed that customer satisfaction brings sales growth, and market share. A company can always increase customer satisfaction by lowering its price or increasing its services but this may result in lower profits. Thus the purpose of marketing is to generate customer value profitability. India is on the threshold of a new millennium. India chose for global economy, exposing her to winds of change in the market place, which has expanded vastly and become fiercely competitive. In the changed environment, decision makers view the marketing concept as the key to success. Marketing in practice has to manage products, pricing, promotion and distribution. A successful product can be developed by exploring these opportunities. While delivering the value of the consumer we make use of marketing support. This support is based on the knowledge of consumers and distribution. Marketing support both at the introduction of products and maturing is considered Marketing, as suggested by the American Marketing Association is "an organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders". The two major factors of marketing are the recruitment of new customers (acquisition) and the retention and expansion of relationships with existing customers (base management). Marketing methods are informed by many of the social, particularly psychology, sociology, and economics. Anthropology is also a small, but growing, influence. Market research underpins these activities. Through advertising, it is also related to many of the creative arts. For a marketing plan to be successful, the mix of the four "Ps" i.e. product, price, place, promotion must reflect the wants and desires of the consumers in the target market. Trying to convince a market segment to buy something they don't want is extremely expensive and seldom successful. Marketers depend on marketing research, both formal and informal, to determine what consumers want and what they are willing to pay for. Marketers hope that this process will give them a sustainable competitive advantage. Marketing management is the practical application of this process. The offer is also an important addition to the 4P's theory.

Method to Measure Customer Satisfaction

Companies use the following methods to measure customer satisfaction.

1) Complaints and suggestion system

Companies obtaining complaints through their customer service centres, and further suggestions were given by customers to satisfy their desires.

2) Customer satisfaction surveys

Responsive companies obtain a direct measure of customer satisfaction by periodic surveys. They send questionnaires to random sample of their customers to find out how they feel about various aspects of the company's performance and also solicit views on their competitor's performance. It is useful to measure the customer's willingness to recommend the company and brand to other persons.

3) Lost Customer Analysis

Companies should contact customers who have stopped buying or who have switched to another supplier to learn why this happened.

1) Consumer Behaviour Vs Consumption Behaviour

Consumer behaviour refers to the manner in which an individual reaches decision related to the selection, purchases and use of goods and services. Walters and Paul says that, consumer behaviour is the process whereby the individual decides what, when, how and from whom to purchase goods & services.

Consumer behaviour relates to an individual person (Micro behaviour) where as consumption behaviour relates to and to the mass or aggregate of individuals (Macro behaviour) consumers behaviour as a study focuses on the decision process of the individual consumer or consuming unit such as the family.

In contrast the consumption behaviour as a study is to do with the explanation of the behaviour of the aggregate of consumers or the consuming unit. Consumer is a pivot, around which the entire system of marketing revolves. The study of buyer behaviour is one of the most important keys to successful mark

Mergers & Acquisitions

Sinha (2011) says mergers and acquisitions in the telecommunication industry have grown by substantial proportions in India since the mid 1990s. Economic reforms undertaken in the 1990s in India opened up the telecom sector which used to be a predominantly state controlled one. Private investment in the telecom sector in India not only facilitated the rapid expansion of telecom services in the urban, as well as rural parts of India, it also provided the opportunity for mergers and acquisitions in this sector. The Indian telecom sector has at present around 13 mobile phone service providers with some of them expected to go for consolidation once the final guidelines for mergers are in place. The guidelines that have been okayed in-principle include expeditious approval to merger proposals of telecom companies if their combined market share is up to 35 per cent. The sector regulator TRAI's recommendation is required in case the resultant entity has market share between 35 to 60 per cent. Consequent upon the merger of licences, the total spectrum held by the resultant entity should not exceed 25 per cent of the spectrum assigned (Business Today, July'2013). Babu & Sheriff (2012) explained that DoT, TRAI, SEBI, MRTP, FEMA and Competition Commission of India all have a regulatory role in M&As in the telecom industry.

Table: M&A Deals in Indian Telecom Sector

Company/Service Name	% Stake Sold	Buyer	Seller	Year	Deal size (U\$)	Indicative Enterprise value (U\$)	Per sub value (U\$)
Orange, Mumbai	41%	Hutchison Group, Hong	Max Group, Delhi	1998	560mn	1.36Bln	NA
Hutch, India	8.33%	Max India	Kotak Mahindra, India	2005	225mn	-	NA
Hutch Essar, India	5.1%	Hutchison Group, Hong	Hinduja	2006	450mn	9 Bln	NA
Hutch Essar	3.17%	Essar Group	Max India	2005	146mn	-	570
Command Cellular, Kolkata	100%	Hutchison & Indian Group	Usha Martin & others	2000	-	138 Mln	
Idea Cellular	48.14%	Adity Birla Group	Tata Group	2005	NA	2 Bln	400
Modi Telestra, Calcutta	100%	Bharti Group, India	B.K. Modi and Telestra	2000	NA	160 Mln	
Bharti	9.3%	Private investors	Warburg Pincus	NA	873mn	NA	1000
Bharti Airtel	10%	Vodafone	Bharti Group	2005	1.5bln	16 Bln	1000
Aircel, Chennai	79.24%	Sterling Group, Chennai	RPG Group	2003	210Cr		
Aircel, TN, Chennai and NE	74%	Maxis, Malaysia	Sterling Group	2006	750mn	1.07 Bln	496
Spice, (Punjab and Bangalore)	49%	Telekom Malaysia, Malaysia	NA	2006	178mn	363 Mln	-
Reliance CDMA	-	Qualcomm, San Diego, US	Reliance Infocomm	2002	-	10Bln	-
BPL Mobile and BPL Cellular	-	Promoters		2005	1.15Bln	NA	-

Source: Sinha, 2011, Economic Analysis of Competition and Merger Issues in the Indian Telecom sector.

Table: M&A among the Telecom Infrastructure Sharing Companies in India

Year	Target/ Seller	Merger/ Acquirer	Type of Deal
2012	Indian Telecom Infrastructure Ltd	Ascend telecom Infrastructure Ltd	Merger
2010	Chennai Network Infrastructure Ltd	GTL Infrastructure Ltd	Merger
2010	Aircel Ltd	GTL Infrastructure Ltd	Sale of Assets
2009	Idea Cellular	Idea Cellular Infrastructure ltd	Sale of Assets
2009	Xcel telecom Private Ltd	ATC	Sale of Assets
2009	Reliance Communication	Reliance Infratel	Sale of Assets
2009	Viom Network	QTL	Merger
2008	Tata Teleservices	21st Century Infratel Ltd	Sale of Assets
2008	Swan Telecom	BSNL	Agreement
2007	Idea Cellular Ltd	Vodafone Essar Tower Ltd	Sale of Assets
2007	GTL Ltd	France Telecom	Sale of Assets
2006	Reliance Communication	Reliance Infratel	Sale of Assets
2006	GTL Ltd	GTL Infrastructure Ltd	Sale of Assets

Source: Bhardwaj, 2013, Infrastructure Sharing in Telecom Industry: Growth of new business models & their prospective trends

Competition in the Telecom Sector

Another major concern that has come to the forefront in the recent past has been heightened competitive intensity in the industry that has correspondingly fuelled the price war between industry players. The Indian wireless market is one of the world's most competitive markets, with 13 operators across 23 wireless circles and 6 to 8 competing operators in each circle. The auction of new 3G licences and the introduction of mobile number portability (MNP) are likely to heat up competition in the industry. Unrealistic pricing levels to grab subscribers are already in play. The pricing strategy of per second billing has already taken the price war between telecom operators to the next level. The intensifying price war could put significant downward pressure on the industry revenue growth. Further, the ongoing price war and the concomitant decline in telecom traffic could raise the entry barrier for new companies (Dun & Bradstreet India report'2009). The Average Revenue per User (ARPU) in India is among the lowest in the world. With the cancellation of telecom licences following the February 2012 order of the Supreme Court (SC), the number of telcos in the industry is expected to reduce, which in turn should lead to some abatement in the competitive intensity. (ICRA'2012).

The Telecom Customer

Meltzer (2006) states that in this electronic era, the need to manage customer relations for profit is a marketing dilemma that many telecommunication companies face. Pathak and Rastogi (2007) say that churn in Indian telecom is among the highest in growing telecom markets. The future churn is dependent on satisfaction level of the customer with the service provider, attitude, and loyalty of the customer. Shanthi (2005) suggests that deploying proactive strategies through predictive churn modeling is gaining its acceptability as an effective tool to reduce churn. Krishna & Khatri (2008) in their study analyzed the antecedents of customer relationships in the telecommunication sector and suggest that mobile industry is witnessing exceptional growth rates and amidst growing competition it would be tough for mobile operators to survive, unless they provide value added services and understand what will lead customers to enter into a long-term relationship with them. The results of their survey showed that the seven highly desired value added services are variety of service, price, advertisements, employee behaviour, customer service, accuracy in billing and timely information. Whereas Ling & Run (2009) found in their study that factors with significant impact on customer satisfaction are promotion, cost efficient plans, free services, technology factors, line quality, convenience and handiness, while factors affecting customer loyalty are service quality, subscription status, promotion and inconvenience in switching phone number. Potluri & Mangnale (2010) emphasize that the marketing and maintenance professionals of telecom companies are required to assign due weightage to the areas of dissatisfaction and introduce radical changes in their existing practices for meeting the telecom needs of the customers and make every effort to deal with the attitudinal changes among the existing customers for retaining them. Arora (2013) stated that customer attrition is high due to presence of close substitutes and near-zero switching costs and service providers are trying to attract customers from competitors by giving attractive offers. The beneficiaries of competition being customers, the players are

worried about sustainability and are required to deploy customer centric strategies like, customer relationship management, not only to grab a share in the market but to sustain in the long run.

OBJECTIVES OF THE STUDY

The objective of this paper is to study the market trend in the telecom industry, how consumers behave, the market size and the opportunities in telecom industry (specially targeted for UP, Lucknow). The telecom industry in India has been displaying sustained high growth rates. Riding on expectation of overall high economic growth and consequent rising of income levels, it offers an unprecedented opportunity for foreign investment. Combination of factors is deriving growth in telecom market, promising rich return on investment.

- ◆ To analyse the shortcomings through discussions, questionnaire and analysis in the above-mentioned area of research.
- ◆ To suggest ways for the better satisfaction of consumers.
- ◆ SWOT analysis of telecom industry.
- ◆ To study the customers spending pattern (specific to telecom).
- ◆ To study the customers perception about the service provider.

PROBLEM DEFINITION/HYPOTHESIS

Due to recent growth in the IT industry, there has been a boom in Indian telecom sector because of which market size has been increased. Since there has been great dependency of the Indian population on this sector; as several companies are operating in India as well as overseas, due to which there has been frequent problems in the smooth functioning of this sector as customer's needs and desires are increasing day by day. On the other hand, many private players have been providing opportunities and growth to both individuals as well as to the economy, which need to be studied in the coming years for the self-sufficiency of the Indian economy. Hence, the paper would provide customized as well as tailored solutions to the telecom industry in terms of planning long-term strategies relating to marketing and other operating divisions.

REVIEW OF LITERATURE

Following are some important reviews of related literature for the proposed study:

Das and Srinivasan (2000) estimated the aggregate demand for telephone usage in India, by using both time series and panel data models. In time series model (using data from 1964 to 1997), demand for per capita metered call units was estimated as a function of price of per metered call unit, telephone density, share of services in GDP and per capita GDP. In panel data model (using pooled data for 19 states for the years 1992-93 to 1996-97), determinants of telephone usage were estimated in 'n' terms of price of metered call unit, telephone density and share of services in State Domestic Product. This survey disclosed the increased demand for telecom services in rural areas.

Manoj Rengarajan (2000) decided that the pressure for the consolidation of the telecom industry was driven by the increasing customer demands, falling tariffs, fast changing technologies and shift in competitive strengths. According to his observation, the global telecom market was undergoing a paradigm shift and the market was expected to be dominated by agile players that could capture and retain customer base and run business profitably after catering to an ever increasing demand for higher bandwidths from the heavy usage segment.

According to him, determinants of demand were useful for many policy purposes, such as, estimation of gross value added (in terms of gross earnings, however) by telecom service providers through introduction of new services, changes in price of existing services and due to changes in purchasing power of people. In essence, this calls for estimation of price and income elasticity of demand for telecom services.

Surprisingly, this estimation has remained a neglected area of academic and policy interest in India. This was evident, for instance, by the absence of Indian studies in the excellent and recent international survey articles on demand for telecom services.

In view of **Moazzem Hossain and Rajat Kathuria (2001)** the telecommunication service in India was an example of a paradox of the 1990s. There was still an opportunity to reform and simplify the regulatory framework further and maintain the growth rates during the next decade as seen in the past. What were the lessons from the Indian experience? First, the analysis of the Indian telecom sector presented a picture of 'managed competition'. While the traditional public monopoly was coming to an end, effective competition had been hard to achieve for a number of reasons. The incumbent with an extensive network had retained market power. The number of networks that have come up or were about to come up were limited because of the costs of building the network. The availability of spectrum is a constraint in the market especially for cellular mobile services. Given these circumstances, however, the expansion of telecommunications services has been phenomenal over the last decade. Second, new market-based approaches to the supply of telecommunications services have been introduced in India and technological changes have led to cost reduction and expanded scope of product choice. The number of initiatives on the drawing board makes impressive reading and present immense opportunity for the sector and thus for the economy. TRAI has already issued consultation papers on Internet Telephony and Interconnection and opening of international long distance (ILD) services to private competition. These initiatives suggest a greater reliance on market forces than before. As market-based approach to the provision of telecom services has been adopted, the question to be addressed is whether there should be more or less regulatory intervention.

Third, following the widespread adoption of market-based approaches to the supply of telecommunications services, there is also a growing consensus that regulators should not be involved in detailed "management" of the sector. Instead, the regulators' role is seen to involve maintenance of a regulatory environment conducive to the efficient supply of telecommunications services to the public. Also, while there is likely to be an increase in regulatory activity around the time of introduction of competition, the level of regulatory intervention can be expected to reduce once competitive markets are established. Regulation where none is justified can distort or undermine competition. Finally, under the given market-based approach and the current regulatory framework in place, the telecommunications industry has contributed to establish a 'new' sector in the economy driven by the IT/Software and IT enabled services. Within a short period of time, the 'new' economy sector has substantially contributed to reversing the age old current account problem and has created hundreds and thousands of jobs in newly established domestic companies and in India based major MNCs. These achievements, however, are not immune from any threat in the future. The major challenges can be identified in terms of India's image problem to outside world, gradual withdrawal of tax incentives in place, WTO intervention on behalf of the other member nations and direct competition faced from East and South East Asian nations.

Leonard Waverman, et al (2003) investigated into telecom sector and the authors find that mobile phones in less developed economies are playing the same crucial role that fixed telephony played in the richer economies in the 1970s and 1980s. Mobile phones substitute for fixed lines in poor countries, but complement fixed lines in rich countries, implying that they have a stronger growth impact in poor countries. Many countries with under-developed fixed-line networks have achieved rapid mobile telephony growth with much less investment than fixed-line networks would have needed.

They subjected the impact of telecoms rollout on economic growth in poorer nations to thorough empirical scrutiny. We employed two different approaches– the Annual Production Function (APF) approach following the work of Roeller and Waverman (2001) and the Endogenous Technical Change (ETC) approach similar to the work of Robert Barro (1991). The latter provided with the most robust and sensible estimates of the impact of mobile telephony on economic growth.

They used data on 92 countries, high income and low income, from 1980 to 2003, and tested whether the introduction and rollout of mobile phone networks added to growth.

They found out that mobile telephony has a positive and significant impact on economic growth, and this impact may be twice as large in developing countries compared to developed countries. This result concurs with intuition. Developed economies by and large had fully articulated fixed-line networks in 1996. Even so, the addition of mobile networks had significant value-added in the developed world: the value added of mobility and the inclusion of disenfranchised consumers through pay-as-you-go plans unavailable for fixed lines. In developing countries, we find that the growth dividend is far larger because here mobile phones provide, by and large, the main communications networks; hence they supplant the information-gathering role of fixed-line systems.

The growth dividend of increasing mobile phone penetration in developing countries is therefore substantial. All else equal, the Philippines (a penetration rate of 27 percent in 2003) might enjoy annual average per capita income growth of as much as 1 percent higher than Indonesia (a penetration rate of 8.7 percent in 2003) owing solely to the greater diffusion of mobile telephones, were this gap in mobile penetration to be sustained for some time.

A developing country that had an average of 10 more mobile phones per 100 population between 1996 and 2003 would have enjoyed per capita GDP growth that was 0.59 percent higher than an otherwise identical country. For high-income countries, mobile telephones also provide a significant growth dividend during the same time period.

Sweden, for example, had an average mobile penetration rate of 64 per 100 inhabitants during the 1996 to 2003 period, the highest penetration of mobiles observed. In that same period, Canada had a 26 per 100 average mobile penetration rates. All else equal, we estimate that Canada would have enjoyed an average GDP per capita growth rate nearly 1 percent higher than it actually was, had the mobile penetration rate in Canada been more-than-doubled.

The research also provides new estimates of demand elasticity in developing countries – they find both the own-price and income elasticity of mobile phone demand to be significantly above 1. That is, demand increases much more than in proportion to either increases in income or reductions in price. They also suggest that mobile phones are substitutes for fixed-line phones.

Pentland et.al, (2004) and Gunasekaran and Harmantzis, (2007) made two different studies on rural telecom in North Indian States. According to their views, the characteristics of the rural areas, low population density and spread out population, difficult topographical and climatic conditions make it difficult to provide telecommunication service of acceptable quality by traditional means at affordable prices. So, they have recommended that villages near a larger town can take advantage of the fiber backbone; a remote village can be connected via VSAT link.

From the fiber backbone, a point-to-point or point-to multipoint WiMAX link can be used to connect one or more villages near the town, thus enabling WiMAX to distribute locally among all rural community groups in a given village using long distance Wi-Fi technology. The technology angle to providing telecom services has been not been given much attention as it has been written on by many authors and the focus of the current paper is marketing issues related to marketing of telecom services.

Recent international studies use cross-country empirical models to estimate the impact of telecom services on economic growth in developing countries, mainly due to the availability of data on large number of countries. These studies include El Khoury and Savvides (2006) which captures the impact openness policies (e.g. privatization, deregulation, and competition) in telecom sector as one of the determinants of economic growth. The empirical evidence offers support for the positive impact of telecom openness on economic growth of less developed countries (i.e. 23 countries below a threshold level of GDP that included India). These studies are in contrast to studies, such as, Sridhar and Sridhar (2004) which mainly used penetration indicators (e.g. tele density of mainline telephones) to estimate impact of telecom on economic growth in developing countries.

Prahalad (2004) made an empirical study on marketing issues in Rural Telecom in India and he established a conceptual model (Bottom of Pyramid - BOP) in his research. He has tried to address the issue of the urban and rural gap and reaching to the rural masses can be addressed by falling back on the Bottom of the Pyramid (BOP) marketing strategies.

The 4 'A's are Availability, Affordability, Acceptability and Awareness. The BOP marketing strategies basically talk about aggregating the demand of consumers who have low individual purchasing power and are spread out. The basic commercial infrastructure suggested by Prahalad and Hart (2002) for the bottom of the pyramid markets constitutes of four things,

DATA COLLECTION

Primary data: In the present research study, the primary data will be collected through raising questionnaires among the customers.

Proposed Sample size: 75

Sample area: UP, Lucknow

Sample Unit: Customers of the various service providers

Secondary data may be used which can be collected through various articles, reports, journals, magazines, newspaper reports prepared by research scholars and internet in the field of banking in India. The official sites of TRAI, COAI, Airtel, Idea, BSNL and TATA will also be visited to get clear information.

EXPECTED CONTRIBUTION OF THE STUDY

The present study is on market size, consumer trends, etc. for the Indian Telecom Industry in UP, Lucknow. This study will also provide an insight into the telecom sector and the steps being taken by various service providers to establish good relationship with their guests/customers. This topic is of great interest to me as well as it will help the service providers to understand the in-depth details about their customers related to telecom industry interaction by them. This study will help in completely understanding the service marketing of different service providers and their functions in UP, Lucknow. Apart from the above, the study will also facilitate to give an inside view of the strengths and opportunities in Indian telecom sector, its growth, size and many other aspects with reference to UP, Lucknow.

LIMITATIONS OF THE STUDY

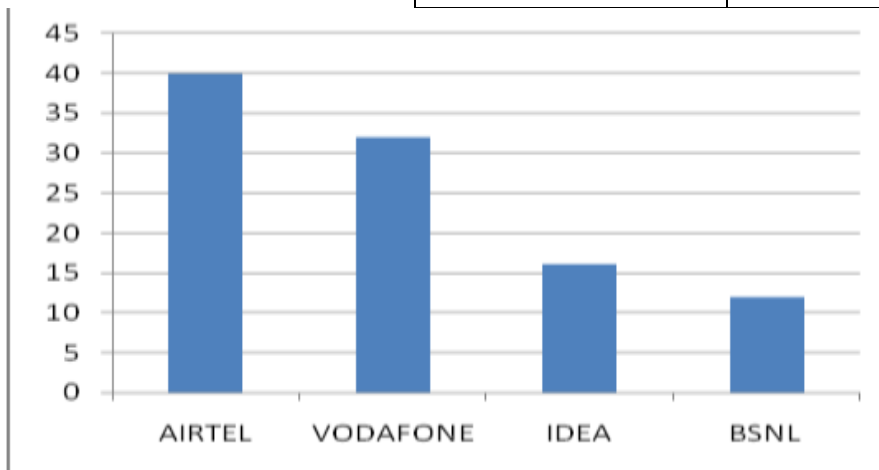
This paper is unable to approach all the service providers. The scope of this thesis is limited to the customers in UP, Lucknow. The scope of the study is very large, number of respondents is very high and I am covering a very small fraction so this may not be a concrete outlook, less written material available (secondary data) and many such problems.

Data analysis is the act of transforming data with the aim of extracting useful information and facilitating conclusions. Data analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data. According to Shamoo and Resnik (2003) various analytic procedures provide a way of drawing inductive inferences from data and distinguishing the signal (the phenomenon of interest) from the noise (statistical fluctuations) present in the data.

The organization, analysis and interpretation of data and formulation of conclusions and generalizations are necessary steps to get a meaningful picture out of the raw information collected. The analysis and interpretation of data involves the objective material in the possession of the researcher and the subjective reactions and desires to derive from the data the inherent meanings in their relation to the problem.

1. Which mobile connection do you have?

Particular	Respondents (%)
AIRTEL	40
VODAFONE	32
IDEA	16
BSNL	12

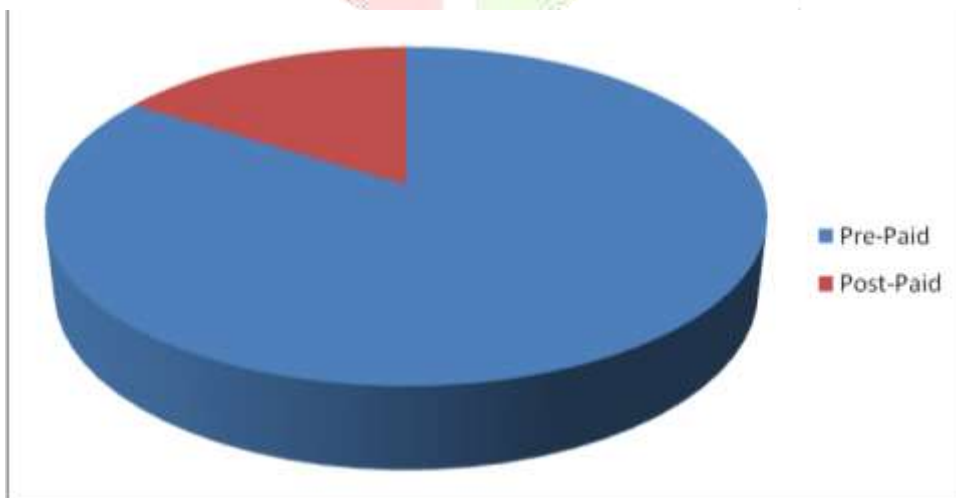


Interpretation:

The area of my study is Lucknow, where the market leader is Airtel. That's why majority of the questionnaire I got filled by Airtel. Above data analysis shows that majority of the market that is approximately 50%, is covered by two market leaders Airtel and Vodafone. Minor is bsnl.

2. What kind of service you have?

Particular	Respondents (%)
Pre-Paid	84
Post-Paid	16

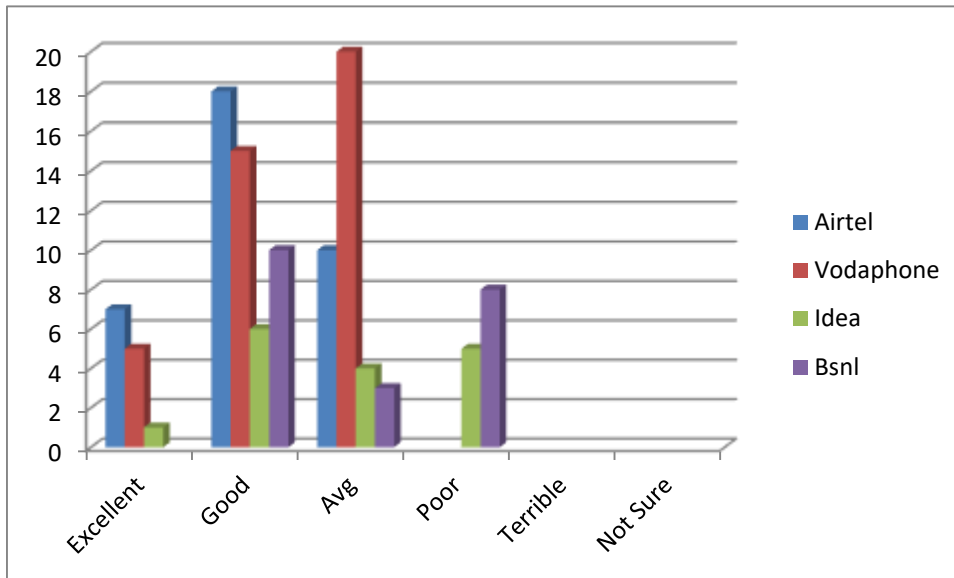


Interpretation:

Above data shows that most of the respondents in the area have pre-paid connections. And I got only 16% questionnaire filled by post-paid users.

3. Overall, how would you rate your service provider?

Brands	Excellent	Good	Avg	Poor	Terrible	Not Sure
Airtel	7	18	10	0		
Vodaphone	5	15	20	0		
Idea	1	06	04	05		
Bsnl	0	10	03	08		



Interpretation:

From the graphic it depicts that Airtel is the most excellent and good service provider as 19 out of 20 respondents believe that the service of the company is excellent. Then Vodaphone has also a good rate of excellence as 16 out of 18 respondents rated Vodaphone as a good service provider. But the Idea and Bsnl are not under good ratings. 8 respondents of BSNL and 5 of Idea have rated their service provider as Poor. BSNL is found to be the worst service provider from all above as 12 respondents rate it as an average service provider and 8 as a poor service provider.

4. Rank the following factors which influenced you the most to buy the service of your choice?

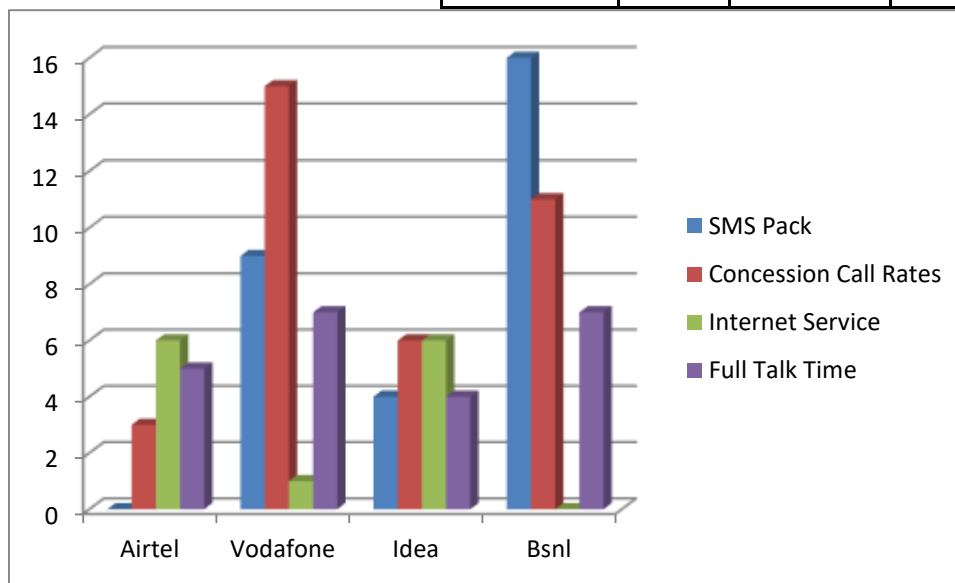
Brands	Price	Network Service	Brand Image	VAS	Expected values
Airtel		16	4		25
Vodafone	7	4	3	6	25
Idea	6	7	3	10	25
Bsnl	22			10	25

Interpretation:

Above data analysis shows that Airtel is being preferred because of its best network service and Brand image as well. Vodafone is preferred because of its good pricing strategy, network service, brand image and the most Value Added Services of the company. And Idea is preferred because of all the above factors. Bsnl is preferred the most because of its low price as compared to its competitors and because of its value added services as well.

5. Rank the following VAS which attracted you the most to buy or retain the mobile service

Particular	Airtel	Vodafone	Idea	Bsnl
SMS Pack	0	9	4	16
Concession Call Rates	3	15	6	11
Internet Service	6	1	6	0
Full Talk Time	5	7	4	7

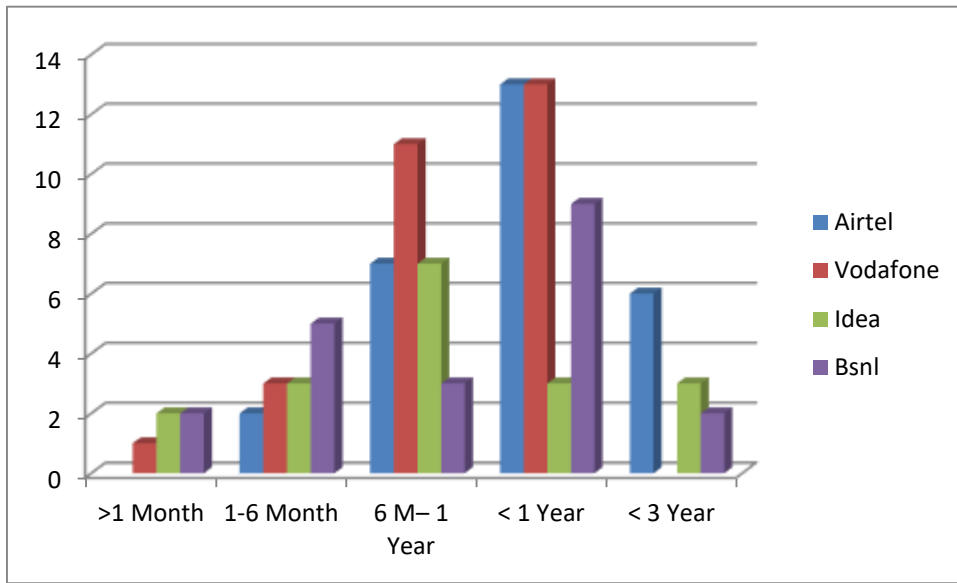


Interpretation:

Above data analysis shows that Airtel is being preferred because of its internet service. And Vodafone because of its concession calls rates and full talk time VAS. Where Idea the most because of its Concession Call Rates and SMS pack. But BSNL because of its SMS pack mainly and then concession rates also.

6. How long have you used the service of that company?

Brands	>1 Month	1-6 Month	6 M– 1 Year	< 1 Year	< 3 Year
Airtel		2	7	13	6
Vodafone	1	3	11	13	
Idea	2	3	7	3	3
Bsnl	2	5	3	9	2

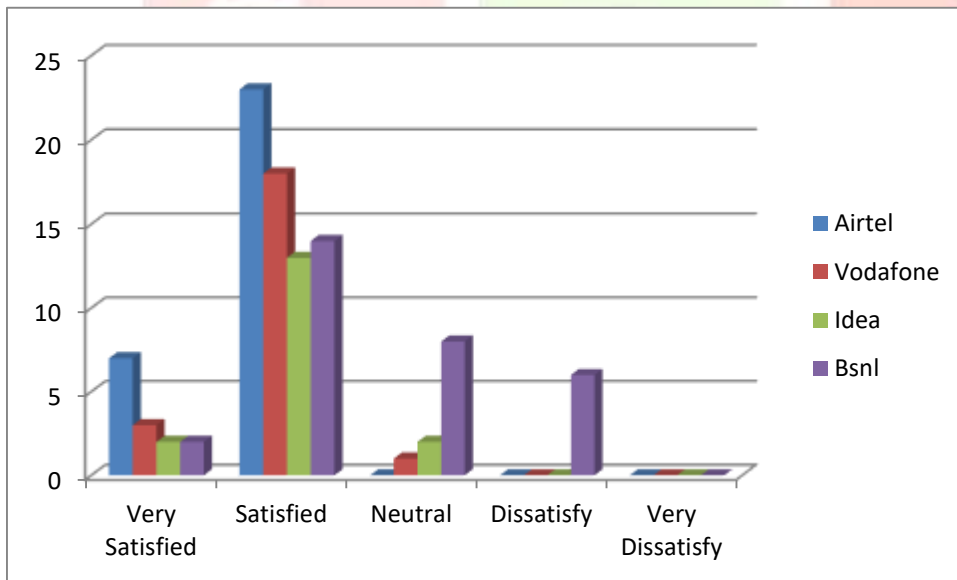


Interpretation:

Above table analysis depicts that most of the users are using their telecom service from last one year. Some of the users are also using it from last 3 year, where majority of the users are BSNL connection holders. Most of the users of the Vodafone are using it from last 6 months. Very few respondents are new users of their services that let our study not vague.

7. Overall, how satisfied are you, with network service of your company?

Brands	Very Satisfied	Satisfied	Neutral	Dissatisfy	Very Dissatisfy
Airtel	7	23	0	0	0
Vodafone	3	18	1	0	0
Idea	2	13	2	0	0
Bsnl	2	14	8	6	0

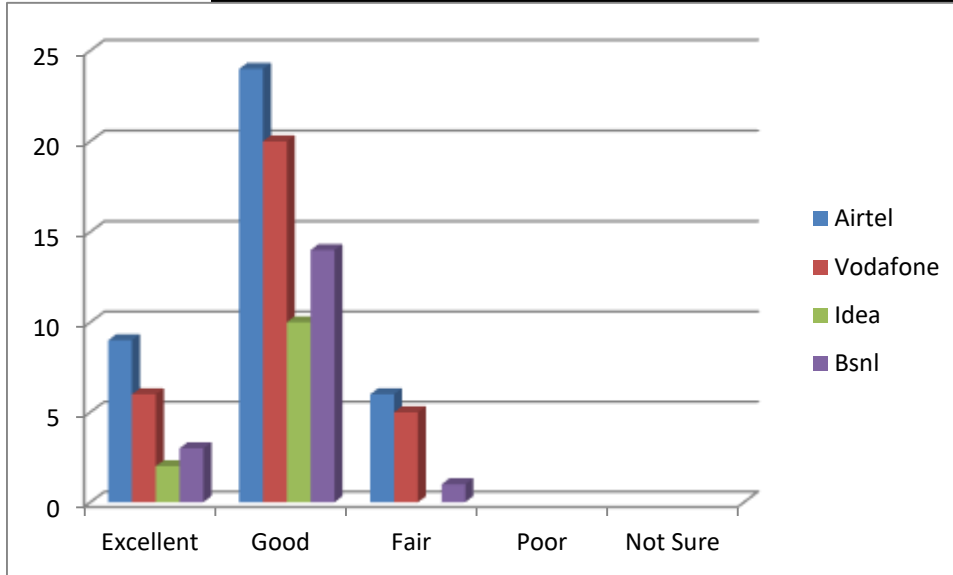


Interpretation:

Above table data analysis shows that the satisfaction rate of network service is lead by Airtel as not a single user of service is neutral or dissatisfy. And Vodafone network service satisfaction rate is also good. And it can be also found that BSNL network service is not good as compare to others competitors as 14 respondents are found to be not satisfied with the company network service.

8. How would you rate the service's value for money?

Brands	Excellent	Good	Fair	Poor	Not Sure
Airtel	9	24	6		
Vodafone	6	20	5		
Idea	2	10			
Bsnl	3	14	1		

**Interpretation:**

Above data and chart analysis depicts that BSNL has the highest rating of Value for /money as 33 persons out of 34 has rated it as a excellent and good service provider. Then Idea Company is following Bsnl as a best service provider for value for money. Other two players Airtel and Voda has similar performance approximately. Both has been rated good and excellent, where good has been rated more as compare to other options.

9. What kind of problems occurs the most for which you need to contact customer care/service department of your service provider?

Brands	Billing Related	Activation/ Deactivation	Information of VAS's	Network Problem	Expected values
Airtel	1	8	10		25
Vodafone		18	7		25
Idea	6	12	5	3	25
Bsnl		6	11	13	25

Interpretation:

From the above data analysis it has been found that most of the users of telecommunication contact to their customers care for activation and deactivation of various services. Then they also contact for information about various value added services provider by companies like validity, call rates, sms pack, caller tones etc. Network service has been found a problem of mainly BSNL users and to some extent of Idea users as well.

10. In thinking about your most recent experience with that company, how much satisfied are you with the customer care service?

Brands	Very Satisfied	Satisfied	Neutral	Dissatisfy	Very Dissatisfy
Airtel	14	6			
Vodafone	3	12	3		
Idea	1	11	6	3	7
Bsnl		2	3	7	22

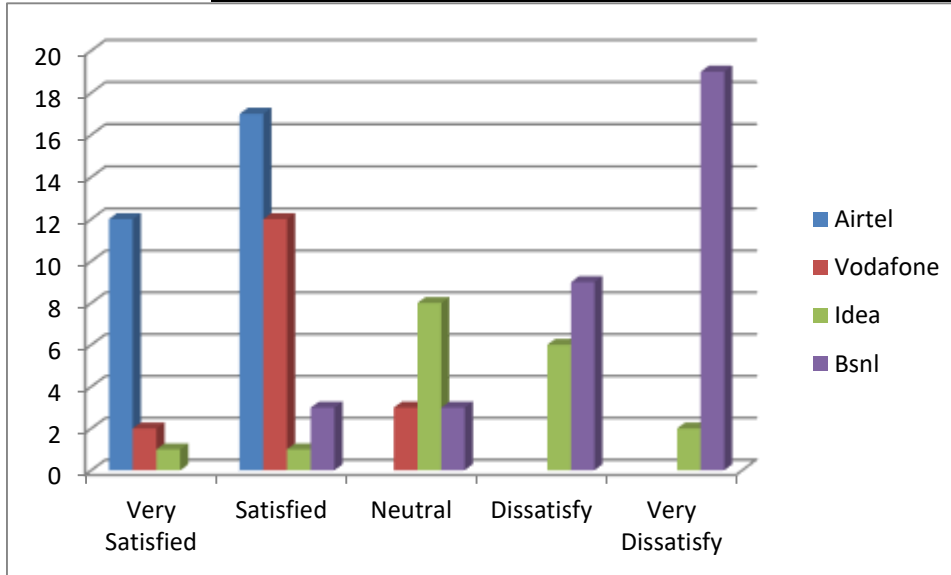
Interpretation:

From the above data interpretation we can conclude that Airtel is the best service provider of customer care service. It has been also found that Airtel is expending more on its customer care service as compared to other competitors in the market. The Vodafone service is also

satisfactory as most of the users have rated it as satisfied service provider. But Bsnl is to be found as a not satisfactory service provider. Most of the users said that they did not need to talk to their customer care service provider even for a single time.

11. How satisfied are you with the process of getting your queries resolved?

Brands	Very Satisfied	Satisfied	Neutral	Dissatisfy	Very Dissatisfy
Airtel	12	17			
Vodafone	2	12	3		
Idea	1	1	8	6	2
Bsnl		3	3	9	19

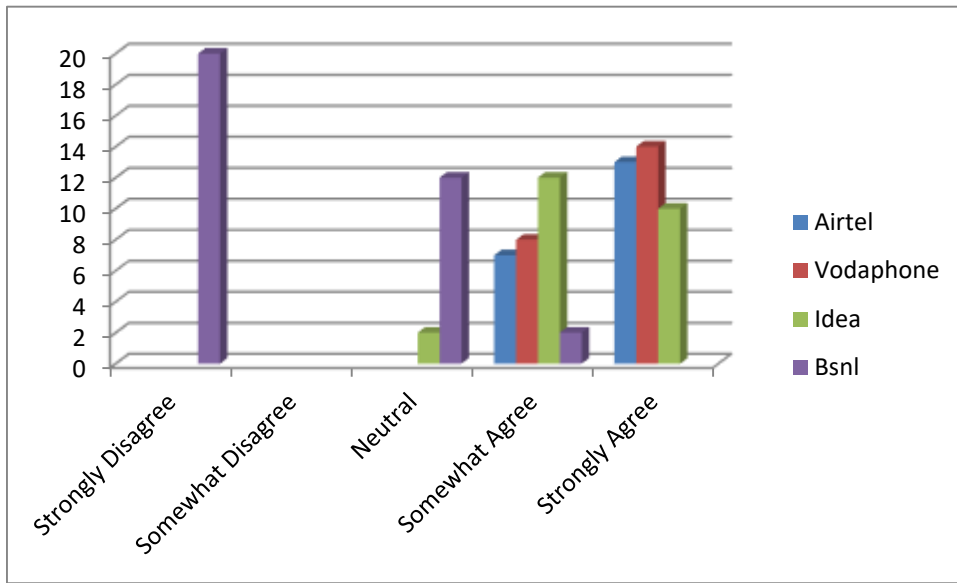


Interpretation:

From above data analysis we can say that most of the users, who are satisfied with their customer care service, are also satisfied with the process of getting their queries resolved. Airtel again has been rated as the best service provider for getting queries resolved. Results are similar approximately with the 10-question analysis.

12. The customer service representative was very courteous.

Brands	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Airtel				7	13
Vodaphone				8	14
Idea			2	12	10
Bsnl	20		12	2	

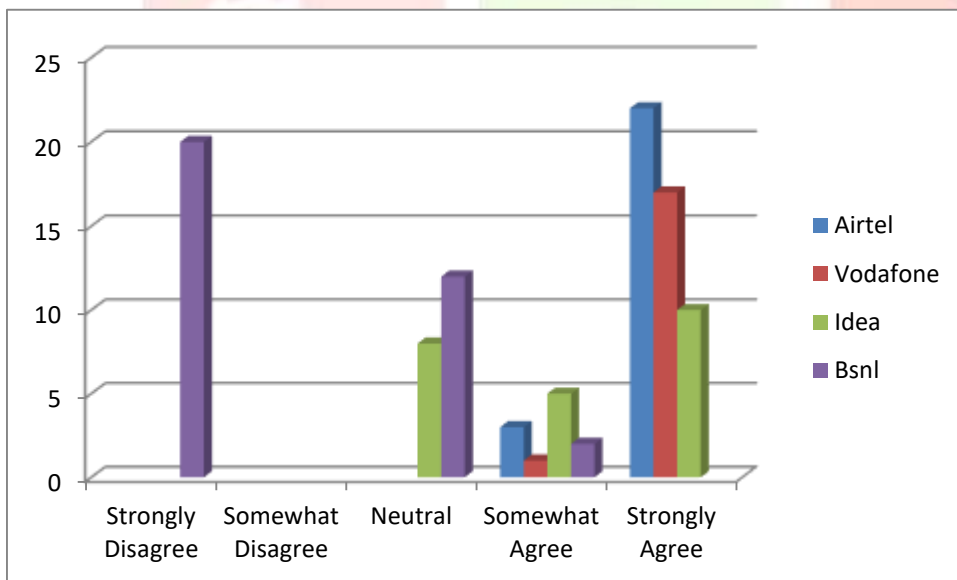


Interpretation:

Above data analysis shows that most of the users of all companies found their customer service provider courteous. But the result of BSNL is not good as the users say that they haven't talked to their customer care service provider even for a single time. Some of them had a talk but after a lot of waiting time. So they are found not satisfied and rated this question also as dissatisfied. So after studying their views with a personal discussion we cannot say that the customer care representatives of BSNL are not courteous.

13. The customer service representative was very knowledgeable.

Brands	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Airtel				3	22
Vodaphone				1	17
Idea			8	5	10
Bsnl	20		12	2	

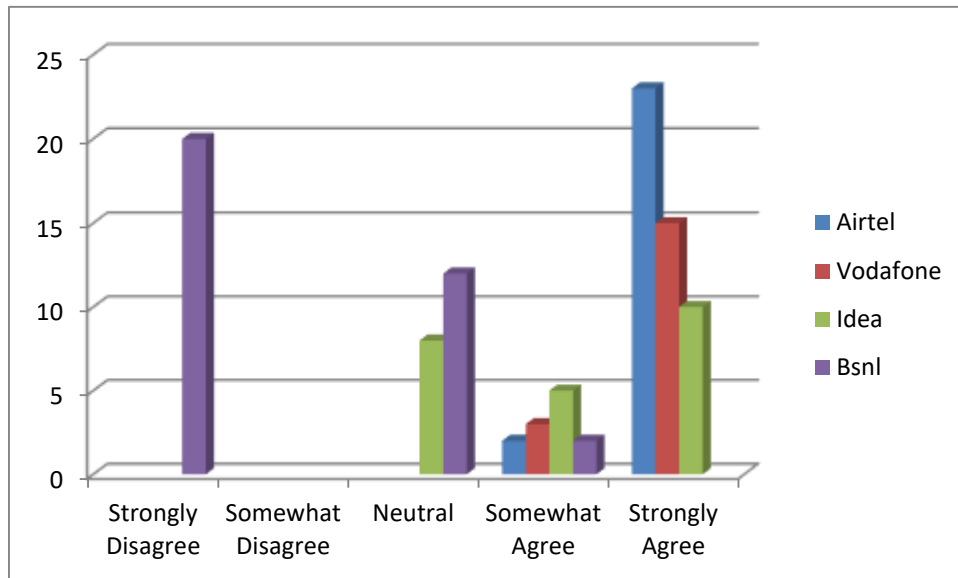


Interpretation:

Above data analysis shows that most of the users of all companies found their customer service provider knowledgeable. But the result of BSNL is again not good as the users say that they have not talk to their customer care service provider even for a single time. Some of them had a talk but after a lot of waiting time. So they are found not satisfied and rated this question also as dissatisfied. So after studying their views with a personal discussion we can not say that the customer care representatives of BSNL are not knowledgeable. But one more finding is there in that question that Idea is not perfect in hiring best personnel for customer care representatives as 8 users are neutral for this question reply.

14. The waiting time for having my questions addressed was satisfactory.

Brands	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
Airtel				2	23
Vodafone				3	15
Idea			8	5	10
Bsnl	20		12	2	



Interpretation:

Above data analysis shows that most of the users of all companies are found satisfactory with the waiting time their queries resolved. But the result of BSNL is again not good as the users say that they have not talk to their customer care service provider even for a single time. Some of them have talk but after a lot of waiting time. So they are found not satisfied and rated this question also as dissatisfied and neutral. So after studying their views with a personal discussion we cannot say that the customer care representatives of BSNL are not able to solve their customer queries in a satisfactory time.

SWOT ANALYSIS OF INDIAN TELECOM INDUSTRY

SWOT Analysis – Mobile market

Strengths

- Strong mobile subscriber growth is continuing, with the market benefiting from a healthy degree of competition.
- The mobile market plays host to a large number of strategic investors including Singapore Telecommunications, Vodafone, Malaysia's Maxis, Norway's Telenor, Japan's NTT DoCoMo and Russia's Sistema.
- Demand for mobile value-added services is strong and expected to grow.

Weaknesses

- Mobile market is still highly skewed towards prepaid users, with around 30% of total subscriptions calculated to be inactive.
- The dominance of prepaid services has contributed to declining mobile ARPU levels.
- Disagreements between the Telecom Regulatory Authority of India and government ministries have led to delayed policy implementation in a number of areas.
- The country's regulatory framework has been under intense spotlight amid corruption and mismanagement scandals, which could affect investor confidence in the long term.
- Despite major ongoing investments, mobile network infrastructures in rural areas remain limited.

Opportunities

- The government is currently considering recommendations made by the country's telecoms regulator to allow the operation of MVNOs in the mobile market.
- MNP would allow operators that deliver better value to grab market.
- Deployment of NGN infrastructure and the launch of new multimedia mobile handsets should have a positive impact on data service usage.
- All of the leading operators have been actively deploying multimedia content services, providing opportunities for content providers.
- The proportion of prepaid users relative to postpaid subscribers remains high; this provides the operators with opportunities to migrate prepaid users to contract tariffs.
- Several operators have announced plans to use broadband wireless access (BWA) spectrum to deploy 4G mobile services based on LTE technology.

Threats

- Uncertainty as to whether spectrum allocations for 3G services will be sufficient; severe lack of spectrum in 9 of the 22 calling circles.
- Network capacity, particularly in the mobile market, could struggle to keep up with demand.
- MNP will make migration between operators easier, thus adding pressure on operators to retain existing customers.
- Although operators have started to increase tariff rates, it would take some time to where profitability could be seen.

CONCLUSIONS

- As per my belief we have seen that the choice of mobile handset and services cannot be separated came out true when we tried to find out the customer decision. We successfully classified customers in to eight groups each with some special requirement service wise and handset's attribute wise. Competition in telecom industry is heating up its time for Indian telecom players also to align up in the new dynamic business environment.
- Telecom majors should think to launch the product according to the needs of customers to satisfy them and make them brand loyal as very soon this blue ocean of Indian telecom scenario will convert into red ocean where the loss of one is the gain of other .They should also think for searching new space or we can say either creating a new blue space to sustain their growth in long run.
- There is more room for data analysis but the rest of the part is beyond the scope of this paper. According to the results, the most important determinant for a consumer is price and sacrifice perception (monetary and non-monetary sacrifice). These are periodical fixed cost, minute or traffic charge and opening cost when purchasing mobile phone. The results indicate that the minute charge is the most influential factor when a customer assesses to purchase. The second most important factor is the periodical fixed cost and another factor is the opening cost. These indicate, not surprisingly, that communication firms need to deeply consider. Also, this indicates that a lot of effort must be put in the pricing strategy.
- Quality of service and the ability to attract and retain customers dictate the success or failure of next-generation communications service providers. In today's competitive environment, customers are quick to abandon services that do not meet expectations. The ease with which customers can switch from their current service to another, demands that providers deliver the highest possible levels of service quality and performance. To be successful, communications service providers must deliver positive customer experiences with rich, value-added services supported by comprehensive service quality management. To this effect, a Mobile service has experienced negative attributes of not being customer focused and realizes that quality is an attribute that creates customer satisfaction profitably. Therefore quality must be fused with all resources channelled towards their customers.

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Questionnaire On**AN IN DEPTH STUDY OF INDIAN TELECOM INDUSTRY – ITS MARKET SIZE, CONSUMER TRENDS AND OPPORTUNITIES****Respected Sir/madam**

Kindly answer the following questions. The information provided by you will be kept confidential and it is only for my academic purpose. So please cooperate with me.

A. BASIC INFORMATION

1. Name of the Respondent:
2. Sex:
3. Age:
4. Occupation:
5. What is your average monthly income?

B. SPECIFIC INFORMATION

6. For which purpose you mostly use BSNL services?

Personal Business

7. What is your monthly average bill?

Below Rs.500	Rs. 500-1000	Rs. 1000-1500	Rs. 1500-2000	Above 2000

8. Rate the services offered by BSNL according to your satisfaction level

Services	Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied
Coverage					
Connectivity					
Billing					
Handset					
Quality of Service					
Internet					
Call charges					
Value added service					
Overall					

9. Does the bill specify all the details about the usage of the BSNL?

Yes No

10. Do you receive your bill on time?

Regular	Mostly	Neutral	Rarely	Irregular

11. Please rank your preference to pay your BSNL bill?

Nearest Bank	Pickup boy	Collection Center	Drop Boxes	Others

12. Are you aware of the internet facility available in the BSNL?

Yes No

13. If yes, which internet connection of BSNL do you prefer most?

Dial-Up (Sanchar Net)	Dial-Up (Net One)	Broadband	Others

14. Does the bandwidth provided for the internet is enough for your usage?

Yes No

15. How would you rate the internet charges in BSNL when compared to other internet service providers?

Very High	High	Medium	Low	Very Low

16. How do you feel about the customer care in BSNL?

Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied

17. How do you feel about the call charges of BSNL when compared to other service providers?

Very High	High	Medium	Low	Very Low

18. In which are of BSNL do you frequently encounter problems?

Billing Connectivity Customer Care Service quality

