THE INDIAN INSTITUTE OF PLANNING AND MANAGEMENT, AHMEDABAD

THESIS TOPIC

"Critically analyze the customer preference and satisfaction measurement in Indian Telecom Industry"

SUBMITTED BY

Naman Shah
PGP/SS/06-08

ALUMNI REFERENCE ID:

SS/06-08/AHD/MKTG/2

SUMISSION DATE:

27th August, 2008

GUIDED BY

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LETTER OF CONSENT

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To,
The Dean,
IIPM-Ahmedabad
Date: November 6, 2007

Respected Sir,

Subject: Letter of Consent

I, Prof. Pabitra Ranjan Chakravorty, a faculty of Marketing Management of IIPM-Ahmedabad, expressing my interest in guiding for a thesis on "***To critically analyze the customer preference and satisfaction measurement in Indian Telecom Industry***" to Mr. Naman Shah, a student of PGP/SS/06-08.

This is to inform that I shall support him as a guide for his thesis on the above mentioned topic and extend my knowledge and help in all ways possible.

Thank You.

Yours faithfully,

Prof. Pabitra Ranjan Chakravorty.

LETTER OF APPROVAL

PREFACE

The customers are very important and play a crucial role in any process of marketing. Today, customers are the kings of the market because the customer loyalty and customer preference are built by the products and the services offered to the customers and they seek for the more benefits and money's worth for the amount they spend. That is where the concept of customer preference and consumer behavior comes because the customers make the marketers to rethink about designing the products and services. They have to think about the market segmentation, market strategies, consumer behavior, consumer's tastes, consumer's lifestyle etc also. Many marketers are smart enough to understand consumers' needs, wants and demands and perform beyond their expectations i.e. they delight them. It provides them growth, profitability and creativity with lot of inventions.

ACKNOWLEDGEMENT

A mammoth thesis of this nature calls for intellectual nourishment, professional help, and encouragement from many quarters. I would like to express my gratitude to:

- The pioneers in the field of marketing management who have shaped their understanding through their rich and varied contributions.

- Professors and seniors for providing the stimulus for making this thesis successful.

- A number of academics and practitioners for generously sharing their insight and experience with me.

It is my immense pleasure to work under the guidance of **Prof. Pabitra Ranjan Chakravorty**, and we heartily thank them for providing me the guidance whenever needed. I am also thankful to beloved **The Dean and Professor Dipankar Sarkar**, who gave me guidance in each and every matter all the time. My heuristic approach towards the project was one of the major contributors in the outcomes that we arrived at. I'd like to thank my institution, IIPM – Ahmedabad, for providing me this great opportunity and attempting to inculcate the traits needed to succeed.

I am also thankful to various industry experts and executives for sharing relevant information and valuable thoughts with me and helped me in writing my thesis.

SYNOPSIS

➤ *Aim:*

The aim of this study is to analyze critically the customer preference and their satisfaction in Telecom Sector.

➤ *Objectives of the study:*

- To understand the improvement and customer preferences in Telecom Sector.

- To study the service providers and their service quality in the Telecom Sector.

- To study the customer satisfaction and understand the current market scenario in Telecom Sector.

➤ *Commercial viability of the study:*

In today's scenario, communication has become much faster day by day by telephones, internet, media etc. One of them is a growth of telecom sector. Today many organizations provide services for the telecom purpose. This study will help to understand customer preferences and their satisfaction by the services provided by different organizations

in this sector. It will also help to these organizations to form various strategies and getting the results from marketing efforts.

➢ *Research Methodology:*

This research consists of primary and secondary research:

Primary:-

1. Interaction with customers by filling up of questionnaires.

2. Interview with Sales or Marketing Personnel.

Secondary:-

1. Books

2. Internet

3. Articles

4. Magazines/ Project Reports

5. Newspapers

EXECUTIVE SUMMARY

The development of the telecom sector has experienced a major process of transformation in terms of its growth, technological content, and market structure in the last decade through policy reforms introduced by the Government. The impetus of these changes is expected to continue, and at a much faster pace.

The study aims to analysis that with the increase in competition in telecom services, higher levels of consumer satisfaction with affordable prices and improved quality of services achieving or not. Wireless telephony and the Internet are expected to be the preferred means of communication as convergence of telecommunications, broadcasting, and information technology progresses.

The study also shows the supportive policy framework needs to be in place during this period of rapid growth and transformation. The Government has undertaken the implementation telecom policy with utmost earnestness, in letter and spirit to usher in competition in almost all the service sectors. The migration package to revenue sharing in place of a fixed license fee, has led

to a virtual 'take off" in growth of the cellular and basic service sectors. National and International data connectivity has been opened.

Liberalization of telecom sector of the Indian economy aims at improving accessibility, availability, reliability and connectivity through private sector participation and to bring about much needed improvement in the Quality of Service. Through increased competition, the service providers are expected to become more sensitive and responsive to the customers needs and choices and endeavor to give him greater satisfaction. The Telecom Regulatory Authority of India (TRAI) has the mandate to safeguard the customer's interests and to set the standards of quality of service. The rapid technological advances which have taken place in the telecom sector have brought about significant improvements in the quality of service provided to customers. With the digitization of exchanges, and upgradation of external network, the fault rate has come down.

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Chapter 1: INTRODUCTION

1.1] *History and Reforms in Indian Telecom Sector:-*

India's telecom sector has been doing exceptionally well in past decade. Its structural and institutional reforms have provided tremendous growth opportunity to this sector. India has nearly 200 million telephone lines making it the third largest network in the world after China and USA. With a growth rate of 45%, Indian telecom industry has the highest growth rate in the world.

The first reforms in Indian telecommunications sector began in 1980s when the private sector was allowed in telecommunications equipment manufacturing. In 1985, Department of Telecommunications (DOT) was established.

Evolution of the industry-Important Milestones

Year	History of Indian Telecommunications
1851	First operational land lines were laid by the government near Calcutta (seat of British power)
1881	Telephone service introduced in India
1883	Merger with the postal system

1923	**Formation of Indian Radio Telegraph Company (IRT)**
1932	**Merger of ETC and IRT into the Indian Radio and Cable Communication Company (IRCC)**
1947	**Nationalization of all foreign telecommunication companies to form the Posts, Telephone and Telegraph (PTT), a monopoly run by the government's Ministry of Communications**
1985	**Department of Telecommunications (DOT) established, an exclusive provider of domestic and long-distance service that would be its own regulator (separate from the postal system)**
1986	**Conversion of DOT into two wholly government-owned companies: the Videsh Sanchar Nigam Limited (VSNL) for international telecommunications and Mahanagar Telephone Nigam Limited (MTNL) for service in metropolitan areas.**
1997	**Telecom Regulatory Authority of India created.**
1999	**Cellular Services are launched in India. New National Telecom Policy is adopted.**
2000	**DoT becomes a corporation, BSNL**

1.2] *Indian Telecom Policy:-*

After 1991's liberalization in Government's policies, the telecom sector has allowed various private players to enter into the Indian market. Earlier, sector was operating under public sector giants like Bharat Sanchar Nigam Limited (BSNL), Mahanagar Telephone Nigam Limited (MTNL) and Videsh Sanchar Nigam Limited (VSNL) but after the National Telecom Policy (NTP) by Government in 1994 many private players entered in Indian

telecommunication market. But this market is regulated by Telecommunication Regulatory Authority of India (TRAI). It acts as an independent regulator of the business of telecommunications in the country which was set up in 1997 by the government of India.

Growth of Subsriber base from 1998 to 2007
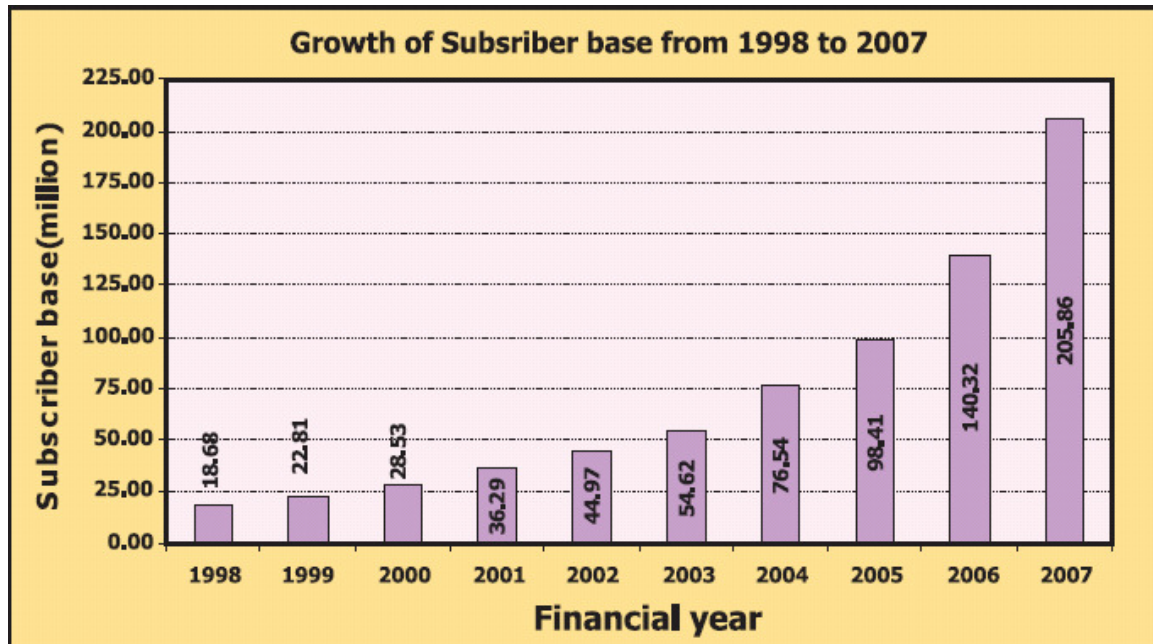
(Source: TRAI Report 2006-07)

Indian telecommunications today benefits from among the most enlightened regulation in the region, and arguably in the world. The sector, sometimes considered the "poster-boy for economic reforms," has been among the chief beneficiaries of the post-1991 liberalization. Unlike electricity, for example, where reforms have been stalled, telecommunications has generally been seen as removed from "mass concerns," and thus less subject to electoral calculations. Market oriented reforms have also been facilitated by lobbying

from India's booming technology sector, whose continued success of course depends on the quality of communications infrastructure.

Despite several hiccups along the way, the Telecom Regulatory Authority of India (TRAI), the independent regulator, has earned a reputation for transparency and competence. With the recent resolution of a major dispute between cellular and fixed operators, Indian telecommunications already among the most competitive markets in the world appears set to continue growing rapidly. While telecom liberalization is usually associated with the post-1991 era, the seeds of reform were actually planted in the 1980s. At that time, Rajiv Gandhi proclaimed his intention of "leading India into the 21st century," and carved the Department of Telecommunications (DOT) out of the Department of Posts and Telegraph. For a time he also even considered corporatizing the DOT, before succumbing to union pressure. In a compromise, Gandhi created two DOT-owned corporations: Mahanagar Telephone Nigam Limited (MTNL), to serve Delhi and Bombay, and Videsh Sanchar Nigam Limited (VSNL), to operate international telecom services. He also introduced private capital into the manufacturing of telecommunications equipment, which had previously been a DOT monopoly.

These and other reforms were limited by the unstable coalition politics of the late 1980s. It was not until the early 1990s, when the political situation stabilized, and with the general momentum for economic reforms, that telecommunications liberalization really took off. In 1994, the government released its National Telecommunications Policy (NTP-94), which allowed private fixed operators to take part in the Indian market for the first time (cellular operators had been allowed into the four largest metropolitan centers in 1992). Under the government's new policy, India was divided into 20 circles roughly corresponding to state boundaries, each of which would contain two fixed operators (including the incumbent), and two mobile operators.

As ground-breaking as NTP-94 was, its implementation was unfortunately marred by regulatory uncertainty and over-bidding. A number of operators were unable to live up to their profligate bids and, confronted with far less lucrative networks than they had supposed, pulled out of the country. As a result, competition in India's telecom sector did not really become a reality until 1999. At that time the government's New Telecommunications Policy (NTP-99) switched from a fixed fee license to a revenue sharing regime of approximately 15%. This figure has subsequently been lowered (to 10%-

12%), and is expected to be reduced even further over the coming years. Still, India continues to derive substantial revenue from license fees ($800 million in 2001-2002), leading some critics to suggest that the government has abrogated its responsibilities as a regulator to those as a seller.

Another, perhaps even more significant, problem with India's initial attempts to introduce competition was the lack of regulatory clarity. Private operators complained that the licensor – the DOT – was also the incumbent operator. The many stringent conditions attached to licenses were thus seen by many as the DOT's attempt to limit competition. It was in response to such concerns that the government in 1997 set up the Telecom Regulatory Authority of India (TRAI), the nation's first independent telecom regulator. Over the years, TRAI has earned a growing reputation for independence, transparency and an increasing level of competence. Early on, however, the regulator was beleaguered on all fronts. It had to contend with political interference, the incumbent's many challenges to its authority, and accusations of ineptitude by private players. Throughout the late 1990s, TRAI's authority was steadily whittled away in a number of cases, when the courts repeatedly held that regulatory power lay with the central government. It was not until 2000, with the passing of the TRAI

Amendment Act, that the regulatory body really came into its own. Coming just a year after NTP-99, the act marks something of a watershed moment in the history of India telecom liberalization.

Today, there are many private players like Vodafone, Airtel, Tata, Reliance, Idea etc. There are basically **two** areas in which these players operate: **Fixed** and **Cellular Services.**

In **Fixed line**, MTNL and BSNL have captured major part of the market. Whereas, **Cellular Services**, can be further divided into **two** parts: **Global System for Mobile Communications (GSM)** and **Code Division Multiple Access (CDMA)**.

Chapter 2: GSM vs. CDMA

2.1] *GSM and CDMA facts:-*

GSM segment consists of players like Airtel, Vodafone, Idea, and BSNL.

Whereas, **CDMA** segment consists of players like Reliance, Tata etc.

GSM and CDMA subscription numbers:

Year	GSM Subscribers (millions)	GSM Annual Growth	CDMA Subscribers (millions)	CDMA Annual Growth
2000	3.1	94%	-	-
2001	5.05	76%	-	-
2002	10.5	91%	0.8	-
2003	22.0	110%	6.4	700%
2004	37.4	70%	10.9	70%
2005	58.5	57%	19.1	75%
2006	105.4	80%	44.2	131%
2007	180.0	71%	85.0	92%

(*Source:* COAI report)

As per Cellular Operator Association of India (COAI), India's GSM telecom service providers added 5.92 millions new subscribers in February, taking their total customer base up to 184.67 millions. In January, they had added 6.19 millions new users. At the end of February last year, the total GSM subscriber base stood at 115.29 millions while the same was 178.41 millions

as at January 31, 2008. Customers in the Metro Circle rose by 38.3% from the year earlier to 29.49 millions, while in the A Circle the user base grew by 64.7% from last year's level to 67.08 millions. Growth in the B Circle jumped by 63.6% to 67.19 millions and the C Circle subscribers expanded by 71.54% to 20.9 millions. Company wise break-up shows that Bharti Airtel, leader in the GSM space, added 2.25 millions new customers last month while Vodafone Essar saw its subscriber base swell by 1.41 millions new users. Idea Cellular added 918,871 new customers and Spice Communications added 141,377 new users. State-run BSNL added around 0.8mn new customers last month. At the end of February, Bharti Airtel held a market share of 32.31% with a total of 59.67 millions customers, while Vodafone Essar had a market share of 23.04% at 42.55 millions subscribers. BSNL accounted for 18.72% of the GSM market at 34.57 millions customers and Idea held a market share of 12.39% at 22.87 millions. India presently follows a CPP model, whereby calling party pays. Incoming calls were made free since April 1, 2002 and that has substantially boosted the subscriber growth rate in India. However, making incoming calls free reduced operators' ARPU.

Operator-wise Market Share of GSM service providers
as on 30th September 2007
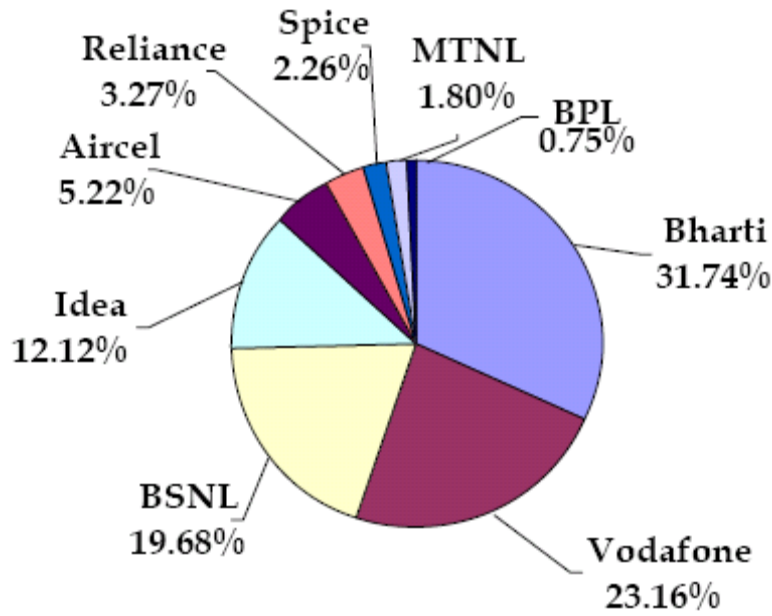
(***Source:*** TRAI Report 2007-08)

Operator-wise Market Share of CDMA Wireless as on 30
September 2007

(***Source:*** TRAI Report 2007-08)
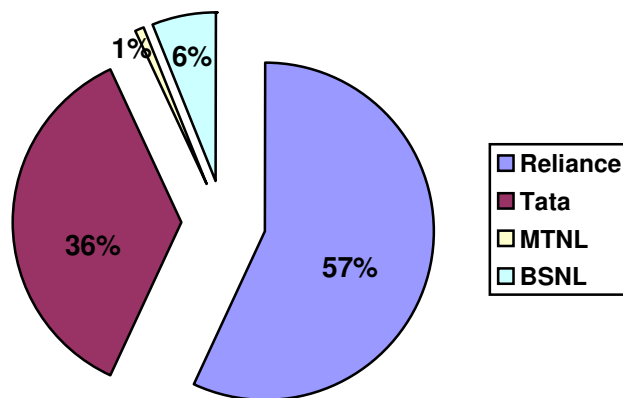
According to TRAI report, the total number of mobile subscribers by the March 31,2008 were 261.08 million as against last year's 165.09 millions (58.14% increment), which was 56.89 millions subscribers across India. This figure shows that in just within three years, the number of mobile subscribers has amplified over 4.5 times. In May 2008, there were 316.97 millions subscribers were added including 8.5 millions subscribers of wireless market. Total wireless subscribers 277.92 millions were added in this month.

Wireless-including WLL for October-07
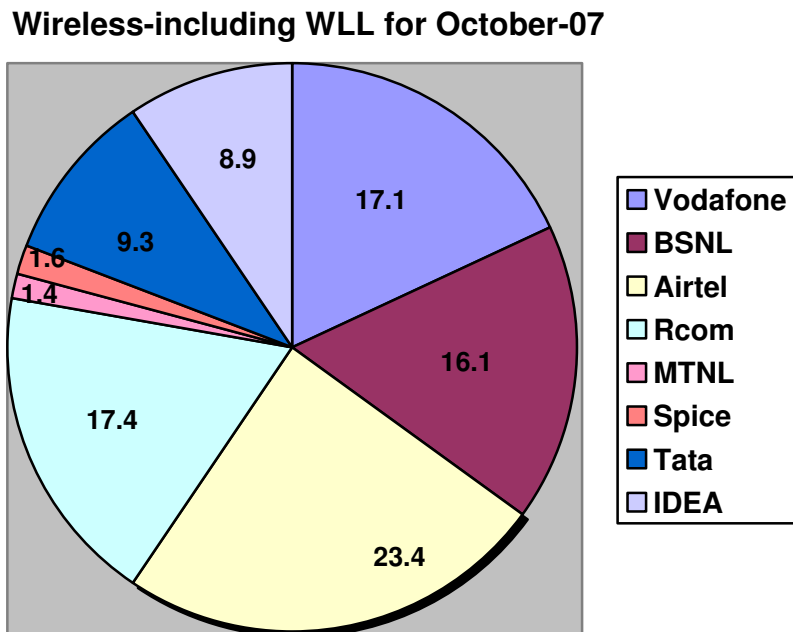
(*Source:* TRAI Report 2007-08)

DoT has told to review of call termination charges to TRAI to make them on cost-based which may fall tariff charges significantly. Termination charges are the ones paid by a telecom operator from whose network call originates to a service provider on which call terminates. Currently the charges for that are 0.30 which are very high. They were fixed in 2003. If the charges are reduced, the service providers would have to forego some portion of their revenues. On the other hand, high termination charges may smother the competition and may disturb the level playing field.

Chapter 3: GROWTH DRIVERS

3.1] *Industry Growth Drivers*:-

- Fixed Line Segment.

- Capacity expansion of fixed line exchanges helped consumers avail quick connections.

- Quick connection availability boosted number of fixed line connections during 1985 – 1995.

- Wireless Segment.

- Vast geographic expanse of India acted as a catalyst to boost mobility.

- Low call costs since 2002 fueled the wireless segment.

- Narrowing gap of call costs between fixed and wireless convinced customers to subscribe to wireless connections.

- Nationwide roaming facilities on GSM.

- SMS facility.

- Internet + Subscription bundling.

- Reduced cost of handsets (affordability factor).

- Customs duties have been reduced from 10% to 5%.

➢ In remote areas where providing fixed line connections were difficult, wireless did the magic.

➢ CDMA fixed wireless gave customers 3 in one advantage – mobility, internet and easy access.

➢ Many telecom service providers provide Global Calling Card (GCC) to their customers. These cards help them to make calls from the foreign countries and it saves up to 80-90% in international roaming.

3.2] *Segmentation of the Indian Telecom Consumer Market:-*

With the proliferation of mobile phone users, several micro segments have also emerged lately, each with their own specific needs. The Indian Mobile consumer market has been segmented as follows:
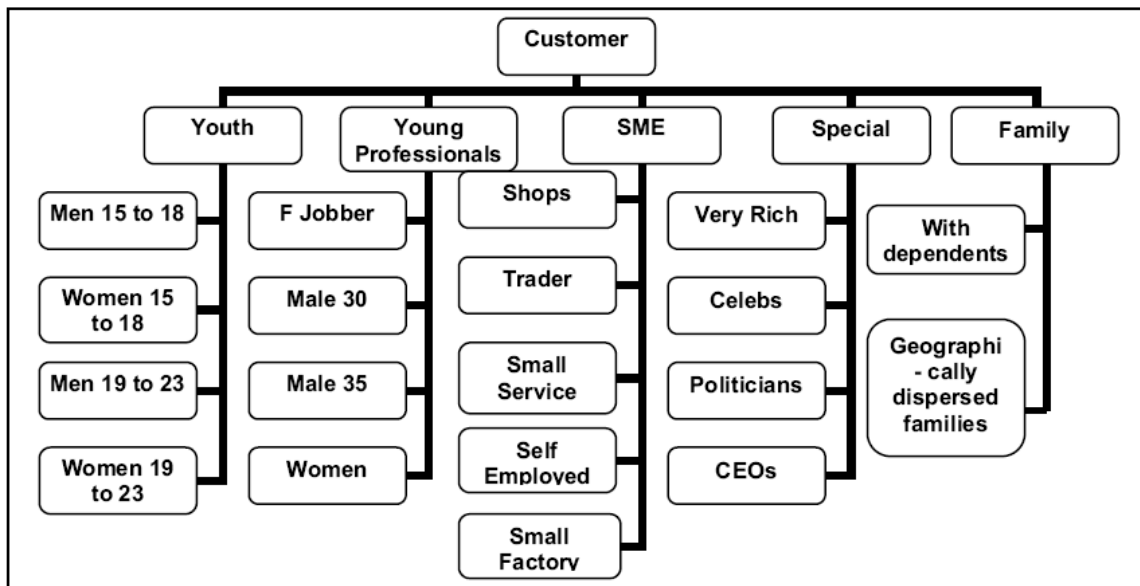
(*Source:* India Cellular)

The rationale behind the above segmentation is to identify customers on the basis of their stage in life and hence to tailor-make schemes for each customer segment. The different segments are explained as follows:

➢ **Youth:-**

Over the years, service providers have started giving greater attention to this segment, as it has emerged as one of the biggest users of mobile phones. For the youth, mobile phones are not just a necessity, but rather an indispensable accessory. This segment particularly values prepaid schemes with free SMS services. It is further differentiated into various micro-segments based on age and gender. For instance, youngsters in the age group of 19 to 23 years generally have a large circle of friends and more access to money. Companies thus focus on providing services like group talk and group SMS to these people. This segment is very dynamic as its needs keep changing very frequently, driven by the latest trends and fads. For instance, downloading new ring-tones is the latest fad among the youth today. This is a huge revenue source for service providers and so they need to keep up with the changing tastes of this segment.

➢ Young Professionals:-

People entering the workforce and thus moving out of the dependent bracket constitute this market segment. They generally prefer using post paid schemes with value added services like information about stock markets, news updates and so on.

➢ Small and Medium Enterprise:-

This segment mainly consists of people who are switching over from landlines to mobile phones, seeking a cost advantage. The focus here is on economy-packages rather than value added services.

➢ Family:-

Family as a segment consists of more number of dependents. These dependants are serviced by prepaid schemes. Geographically dispersed families tied by the same cellular service providers may get cost advantages in terms of lower pulse rates.

➢ **Special:-**

The 'Special' category includes a small but growing segment which requires largely customized services sought by celebrities, politicians, CEOs and the super-rich. Tailor made schemes for each segment have been a great success so far. This customization, however, has reached such a stage that every service provider has numerous schemes being provided at the same time. Being short term schemes, they keep changing frequently and customers thus start switching from one service provider to another based on the attractiveness of the scheme. This has brought down customer loyalty and hence service providers are finding it difficult to retain existing customers. It is estimated that in the near future the plethora of schemes provided by the different service providers will stop being a differentiating factor.

3.3] *Market Factors:-*

There are basically two market factors which are considered while segmenting the market as well as deciding the strategic moves for the markets and competition.

1) Strategic Factors
2) Economic Factors

	Mature markets	Growth markets
Strategic factors	• Product design, user interface, pricing • Time-to-market • Flexibility to respond to mobile network operator requirements	• Product design, user interface, pricing • Ability to adapt to me-too approach/imitate • Ability to flexibly deliver large volumes • Access and cooperation with intermediaries
Economic factors	• Size (number of handset shipments globally) to achieve supply chain scale • Average selling price • Production efficiency (direct costs: total system costs, costs of goods sold) • Overhead (Research & Development and selling, general and administrative expenses)	

(*Source:* microsite mobile)

3.4] *Success Factors:-*

It is very important for any company or service provider to stay in the market for a long period otherwise it will be out of the market and suffer a lot. To taste the success, companies have to perform well continuously and make their customers happy all the time by proper CRM and other techniques. Apart from that, there are two types of factors for these companies: (1) shall have and (2) must have factors.
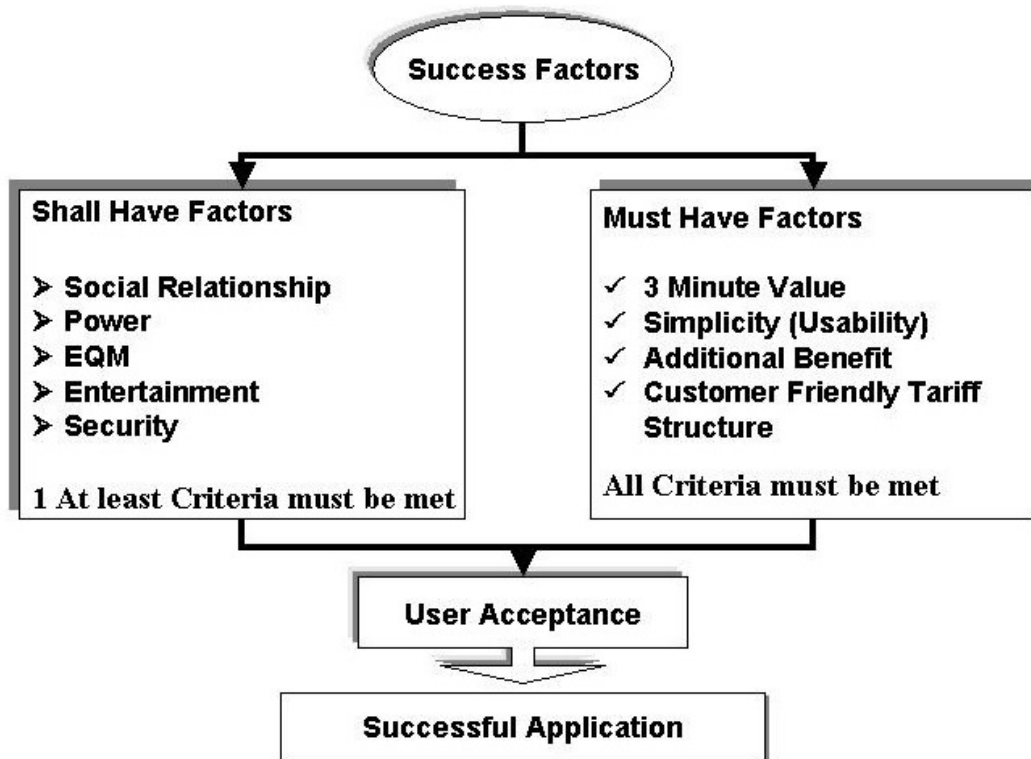
(*Source:* Bernhard Goldberger- 19th Bled e-Conference eValues)

1) Shall Have Factors:

> *Social relationships:* Humans are social beings. They interact constantly with each other and social relationships are a vital part of life. The mobile phone is perfectly suited to satisfy the need of maintaining social relationships. Services that support social relationships are likely to be successful.

➢ ***Power****:* One important aspect of social relations is status which is strongly related to power. Two types of power can be distinguished: Power to access and power to execute. The first type of power refers to the possibility to intervene in other people's life, as for instance parents influencing the life of their children. But also the limitation of the power to access can be useful. One famous example is SMS (Short Message Service). They provide the opportunity to communicate without giving the receiver the chance to reply directly. This way unpleasant information can be communicated.

➢ ***EQM (Easier, Quicker, More):*** **Easier** means that solutions that are simpler and/or more convenient are accepted by customers. One good example for "easier" is the phonebook of cell phones (compared to typing in the complete number when you call someone).

Quicker refers to the opportunity to fulfill customer needs faster than traditional products.

One of the reasons why e-mails are common nowadays is that they are faster than traditional letters.

More is related to the fact that humans tend to maximize their benefits. Thus they will welcome every new product allowing them to increase their benefit.

> *Entertainment:* There are two types of entertainment: "scheduled" entertainment, such as visiting a theatre and entertainment during niche times, for example when waiting for public transport. In such time slots a mobile phone can be the perfect entertainment or gaming console.

> *Security:* Security is one of the most important needs of humans. Because of security provided by service providers, the information of users is kept confidential. Apart from that, there can't be any manipulation done in case of post-paid bills and various services provided as user can have an idea specially in case of pre-paid customers where regular balance can be checked.

(2) Must Have Factors:

> *The 3 minute value:* The average WAP application takes five minutes. In Japan the popular i-mode applications last for less than one and a half minutes on average. The time a customer uses an application may vary from country to country. However, it is quite evident, that a mobile application has to produce a clear, perceived value for the customer within a short period of time. As a rule of thumb the value should be delivered within 3 minutes.

> *Simplicity:* The services provided to the customers should be simple. It should be easy to understand and the customer should be able to use the services intuitionally like GPRS, caller tunes etc. Thus the usability has to meet the customer's standards.

> *Additional benefit:* For a successful service it is essential that the customer perceives a clear additional value. There are several types of additional values. For example fun, cost saving, time saving or location based additional value.

> *Customer friendly tariff structure:* The willingness to pay for new technologies and new applications is limited since the customer cannot clearly judge the additional benefit a new application yields. This is especially true for B2C markets where the customers tend to be more prices sensitive. For this reason a customer friendly price structure, preferably with a price model that eases diffusion of a new application, is essential.

Chapter 4: TELECOM OPERATORS

4.1] *Introduction:-*

There are three types of players in telecom services:

• State owned companies (BSNL and MTNL)

• Private Indian owned companies (Reliance Infocomm, Tata Teleservices,)

• Foreign invested companies (Vodafone, Bharti Tele-ventures, Escotel, Idea Cellular, BPL Mobile, Spice Communications)

4.2] *Mobile Service Providers:-*

➢ **BSNL:**

On October 1, 2000 the Department of Telecom Operations, Government of India became a corporation and was renamed Bharat Sanchar Nigam Limited (BSNL). BSNL is now India's leading Telecommunications Company and the largest public sector undertaking. It has a network of over 45 million lines covering 5000 towns with over 35 million telephone connections.

The state-controlled BSNL operates basic, cellular (GSM and CDMA) mobile, Internet and long distance services throughout India (except Delhi and Mumbai).The aim is to provide a telephone density of 9.9 per hundred by March 2007. BSNL, which became the third operator of GSM mobile services in most circles, is now planning to overtake Bharti to become the largest GSM operator in the country. BSNL is also the largest operator in the Internet market, with a share of 21 per cent of the entire subscriber base.

BSNL's estimated total capital outlay for 2008/09 will rise to 185.91 billion rupees ($4.7 billion) from 140.65 billion rupees in 2007/08.

(Amount in lakhs)

Profit before tax	Rs. 815381
Profit after tax	Rs. 780587
Earning per share	Rs. 14.03
Turnover	Rs. 3461621

(*Source:* BSNL's balance sheet 2006-07)

Recently, BSNL has done a very good business in last quarter of 2008 i.e. at the end of the March-2008; it has left behind all other telecom service providers. It had sales of Rs. 10747.79 crores.

Telecom service providers at the end of Q4 for the year 2008:-

Company	Sales(Rs. in crores)
BSNL	10747.79
Bharti	8381
Vodafone	4681.44
Rcom	4318.74
Idea	2150.84
Tata Teleservices	2057.30

(*Source:* The Economic Times)

BSNL is also operating in landline, WLL, mobile, internet (BSNL broadband) etc. It has been doing very well in landline and internet connections as it is a leader in both these segments. BSNL broadband gives following benefits:

- **High speed Internet Access**: This is the always-on Internet access service with speed ranging from 256 kbps to 8 Mbps.

- **Bandwidth on Demand**: This will facilitate customer to change bandwidth as per his / her requirement. For example a customer with

256 kbps can change to 1 Mbps during the video Conferencing session.

- **Multicasting**: This is to provide video multicast services for application in distance education, telemedicine etc

- **Dial VPN Service**: This service allows remote users to access their private network securely over the NIB-II infrastructure. For example, Virgin Mobile and TTSL.

- **Video and Audio Conferencing**

- **Content based Services**: Like Video on Demand, Interactive Gaming, Live and time shifted TV.

The subscriber base in fixed line telephony segment has been increasing over the last few years. Whereas, in Feb 2005, there were 45.59 million fixed line subscribers, 79% of which are controlled by BSNL, this number grew by 8% to 49.21 million in Feb 2006. But mobile substitution is now starting to take gradually hold. In Jan 2007, fixed line subscriber growth was negative, with a loss of 300,000 lines. The official figure now stands at 40.40 million at the end of Jan 2007. This includes a correction of WLL subscribers which are now counted towards wireless subscribers. BSNL held on to 84%, MTNL to 9% and other private sector

operators to 7% of fixed lines. BSNL has an almost 100% market share of rural fixed (wire) lines.

Total (Urban+ Rural) wire line market share
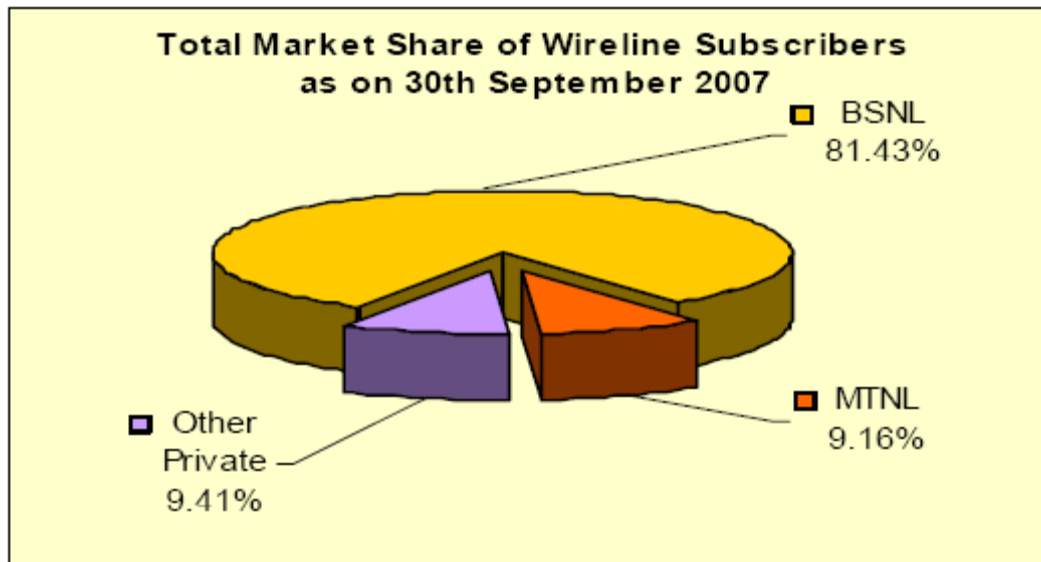
(*Source:* TRAI report 2007-08)

Here, it clearly shows that BSNL is a clear winner of a fixed line market share with around 86% combining rural and urban area. Recently, BSNL has reduced STD rates by 50% which will be affected to pre-paid and post paid customers as well as landline subscribers. BSNL is also going to invest Rs. 5000 crores for the project of WiMax facility across India. The company wants to provide wireless broadband connectivity through this technology which will start in Maharashtra (except Mumbai), Gujarat and Andhra

Pradesh initially. BSNL is currently waiting for the required spectrum frequency to launch this facility. For this technology, BSNL has also tied up with **Soma Networks** for the purpose of WiMax technology.

➢ **BHARTI AIRTEL:**

Established in 1985, Bharti has been a pioneering force in the telecom sector with many firsts and innovations to its credit, ranging from being the first mobile service in Delhi, first private basic telephone service provider in the country, first Indian company to provide comprehensive telecom services outside India in Seychelles and first private sector service provider to launch National Long Distance Services in India. Bharti Tele-Ventures Limited was incorporated on July 7, 1995 for promoting investments in telecommunications services. Its subsidiaries operate telecom services across India. Bharti's operations are broadly handled by two companies: the Mobility group, which handles the mobile services in 16 circles out of a total 23circles across the country; and the Infotel group, which handles the National Long Distance (NLD), International Long Distance (ILD), fixed line, broadband, data, and satellite-based services. Together they have so far deployed around 23,000 km of optical fiber cables across the country, coupled with approximately 1,500 nodes, and presence in around 200

locations. The group has a total customer base of 6.45 million, of which 5.86 million are mobile and 588,000fixed line customers, as of January 31, 2004. In mobile, Bharti's footprint extends across 15 circles.

Recently, Bharti has planned to merge with MTN and bid was $ 22 billion. It has planned to acquire it with 60% cash and rest with equity part. MTN is one of the biggest telecom operators mainly in South Africa and apart from that Iran, Nigeria etc. It has a network in 21 countries with 6.8 billion customers. This merger will be world's fifth largest merger. But right now this merger is abolished as MTN wanted the amount of $ 50 billion whereas Bharti was ready to buy at $ 45 billion. Bharti has also tied up with Apple for i-phone.

Particulars	*March 07-08(in US $ million)*
Income	6658
EBITDA	2803
Net Profit	1669
Net Debt	1042
Debt/Equity	19%
Debt/EBITDA	0.37%

(Source: Company Reports & City Investment Research Estimates)

Telecom service providers market shares for 31st March-07
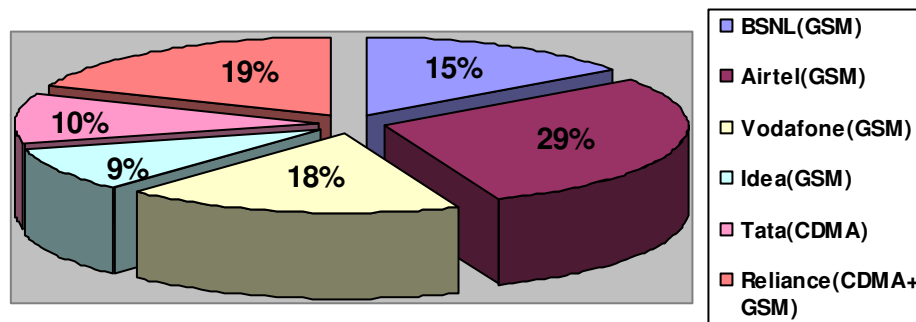
(*Source:* India-Cellular)

Like any other telecom service provider, Bharti also considers information technology a key driver of its business. The service provider has a WAN set-up in place; it has a mix of leased lines and E1 and E3 lines for wide area connectivity. The company also has an extranet in place through which it extends different applications to its dealers and partners. In a telecom services company like Bharti, airtime is considered a product. It is vital for Bharti to manage the expectations of its customers and provide them with innovative products and services in a manner which makes them loyal. So Bharti implemented CRM tool. Today Bharti is using the Oracle CRM platform. Before choosing its CRM tool, Bharti evaluated many options. It considered factors like proper workflow automation, facilitation of knowledge sharing, and integration with the billing system. After a thorough evaluation, it decided to go ahead with the Oracle CRM platform.

Strategy has also played a major role in improving customer service at Airtel. After starting its services in Delhi, Bharti acquired lot of circles and sought new licenses in other circles; whenever they got a new license, they implemented the CRM tool immediately. But they had to put in a migration strategy in those acquired circles which had an existing subscriber base. The CRM strategy at Airtel revolves around two aspects: operational CRM and analytical CRM. The first is about helping their call centres in the workflow part, helping them in their day-to-day activities. The second provides staff with the required information on customers; this is used for business development activities. Together they help Bharti provide better services to its customers. Apart from that, now Bharti has come up with new service i.e. if the customer has lost his mobile, still he can get back his all the data of that mobile including video files, calendar, pictures, messages, music files, events, tasks etc. This facility will be free of cost. But this facility can be useful in high-end handsets only and to get the data back, a user needs to have his user id and PIN number. Bharti has made a deal with companies of Malaysia and Indonesia for back-up services to get the data back. This way, Bharti has come up with new innovations with new technologies which ultimately benefit the end users and CRM increases.

➢ <u>**MTNL:**</u>

MTNL was set up on 1st April 1986 by the Government of India to upgrade the quality of telecom services, expand the telecom network, and introduce new services and to raise revenue for telecom development needs of India's key metros – Delhi, the political capital, and Mumbai, the business capital. In the past 17 years, the company has taken rapid strides to emerge as India's leading and one of Asia's largest telecom operating companies. The company has also been in the forefront of technology induction by converting 100% of its telephone exchange network into the state-of-the-art digital mode. The Govt. of India currently holds 56.25% stake in the company. In the year 2003-04, the company's focus would be not only consolidating the gains but also to focus on new areas of enterprise such as joint ventures for projects outside India, entering into national long distance operation, widening the cellular and CDMA-based WLL customer base, setting up internet and allied services on an all India basis.

The market for fixed wireline phones is stagnating, MTNL faces intense competition from the private players—Bharti, Hutchison and Idea Cellular, Reliance Infocomm—in mobile services. MTNL recorded sales of Rs. 60.2 billion ($1.38 billion) in the year 2002-03, a decline of 5.8 per cent over the

previous year's annual turnover of Rs.63.92 billion. There has been a tremendous increase in the Cellular subscriber base as MTNL has added a total of 286971 cellular subscribers and total cellular subscriber had increased to 3241851 as on 31.03.2008.

MTNL's financial performance was also good despite the competition. Its turnover was Rs. 5582.85 crores in 2006-07. It had Profit before Tax of Rs. 792.68 crores in the same financial year. Its net profit was Rs. 681.74 crores in the same year. MTNL has tied up with handset manufacturers Nokia and Samsung for limited mobility services using wireless in the local loop (WLL-M) services.

➢ **<u>RELIANCE INFOCOMM:</u>**

Reliance Infocomm is now known as Reliance Communications (RCom). Reliance Communications Limited founded by the late Shri Dhirubhai H Ambani (1932-2002) is the flagship company of the Reliance Anil Dhirubhai Ambani Group. The Reliance Anil Dhirubhai Ambani Group currently has net worth in excess of Rs. 55,000 crores. Reliance Communications corporate clientele includes 1,850 Indian and multinational

corporations, and over 250 global carriers. It is also an integrated telecom service provider with licenses for mobile, fixed, domestic long distance and international services. Reliance Communications offers a complete range of telecom services, covering mobile and fixed line telephony including broadband, national and international long distance services, data services and a wide range of value added services and applications. Reliance IndiaMobile, the first of Rcom's initiatives was launched on December 28, 2002. This marked the beginning of Reliance's vision of ushering in a digital revolution in India by becoming a major catalyst in improving quality of life and changing the face of India. Reliance Infocomm plans to extend its efforts beyond the traditional value chain to develop and deploy telecom solutions for India's farmers, businesses, hospitals, government and public sector organizations.

Until recently, Reliance was permitted to provide only "limited mobility" services through its basic services license. However, it has now acquired a unified access license for 18 circles that permits it to provide the full range of mobile services. It has rolled out its CDMA mobile network and enrolled more than 6 million subscribers in one year to become the country's largest mobile operator. It now wants to increase its market share and has recently

launched pre-paid services. Having captured the voice market, it intends to attack the broadband market. Rcom is currently having a subscriber base of around 4.8 crores. It has got license to operate in Sri Lanka and Uganda. Rcom will provide telecom coverage to 234000 villages by setting up 8982 sites in the remotest parts of India by the end of FY 2007.

Rcom has recently acquired UK based VANCO Group and it has also bid for MTN after Airtel. And now it is ready to acquire it by giving 61% equity share to MTN which is allowed up to 74% to foreign investors as per the norms. Currently, MTN is having the subscriber base of around 6.8 crores. MTN has an income of $ 9.7 billions and operating profit of $ 4.1 billions as per FY 2007-08. The financial details of Rcom for March-2008 are as under:

Particulars	*March-2008*
Net Profit	Rs. 5401 crores
EBITDA	Rs. 8199 crores
Net Debt/Equity Ratio	0.39:1
Revenues	Rs. 19068 crores

(**Source: *Rcom press release***)

If MTN and Rcom could have got combined, they would have maximum number of subscribers as well as they would have been the fourth largest operators and second highest market after China but somehow the deal between Rcom and MTN mobile could not be executed because of some legal issues. Rcom has done a joint venture with Alcatel-Lucent to offer Managed Network Services to Telcos across the globe. Merging company of Rcom and MTN will be listed in London.

o *FLAG TELECOM*:

Flag Telecom is rebranded as Reliance Globalcom.

Reliance Globalcom, a division of Reliance Communications, manages the Global Telecom operations of India's largest Integrated Telecom Service Provider. The company serves a customer base of over 1200 enterprises, 200 carriers and 1.5 million retail customers in 50 countries across 5 continents.

The company operates 'Reliance FLAG' which is the world's largest private undersea cable system spanning 65,000 km. This is seamlessly integrated with 110,000 km of domestic optic fiber of Reliance Communications connecting it to 40 key business destinations in India, the Middle East, Asia,

Europe, and the U.S. Reliance Globalcom's Enterprise Division (formerly Yipes Inc.) provides managed Ethernet and application delivery services for the global enterprise. Reliance Globalcom also recently acquired Global Wimax operator called Ewaves and a leading Virtual network operator - Vanco Group.

➢ TATA TELESERVICES:

Tata Teleservices (TTSL) is a part of the $12 billion Tata Group, which has 93 companies, over 200,000 employees and more than 2.3 million shareholders. Tata Teleservices provides basic (fixed line services), using CDMA technology in six circles: Maharashtra (including Mumbai), New Delhi, Andhra Pradesh, Tamil Nadu, Gujarat, and Karnataka. It has over 800,000 subscribers. It has now migrated to unified access licenses, by paying a Rs. 5.45 billion ($120 million) fee, which enables it to provide fully mobile services as well. The company is also expanding its footprint, and has paid Rs. 4.17 billion ($90 million) to DoT for 11 new licenses under the IUC (Interconnect Usage Charges) regime. The new licenses, coupled with the six circles in which it already operates, virtually gives the CDMA mobile operator a national footprint that is almost on par with BSNL and Reliance

Infocomm. The company hopes to start off services in these 11 new circles by August 2004. These circles include Bihar, Haryana, Himachal Pradesh, Kerala, Kolkata, Orissa, Punjab, Rajasthan, Uttar Pradesh (East) & West and West Bengal.

Tata Teleservices' bouquet of telephony services includes Mobile services, Wireless Desktop Phones, Public Booth Telephony and Wire line services. Other services include value added services like voice portal, roaming, post-paid Internet services, 3-way conferencing, group calling, Wi-Fi Internet, USB Modem, data cards, calling card services and enterprise services.

Tata Indicom redefined the existing prepaid mobile market in India, by unveiling their offering – Tata Indicom '**Non Stop Mobile'** which allows customers to receive free incoming calls. Tata Teleservices today has India's largest branded telecom retail chain and is the first service provider in the country to offer an online channel to offer postpaid mobile connections in the country. TTSL has a 3G-ready telecom infrastructure in partnership with Motorola, Ericsson, Lucent and ECI Telecom.

Recently, Virgin Mobiles with TTSL by providing them handsets and getting network which is also known as Mobile Virtual Network Operator (MVNO). It is not a known fact that an MVNO is a mobile operator that

owns spectrum nor has its own network infrastructure, instead, it buys airtime from cellular operators in bulk and resells it under its own branding.

Tata Teleservices is talking with Srei group company Quippo Telecom Infrastructure Limited (QTIL) to merge its tower arm, Wireless Tata Telecom Infrastructure Limited (WTTIL). QTIL has emerged as the top bidder for a 49 per cent stake in TTSL's tower business. However, as QTIL is an independent tower firm, it can't compete with WTTIL, in which it will have a 49 per cent stake. With close to 5,000 towers in its portfolio, QTIL is valued at Rs 3,000 crores ($700 million). According to analysts, WTTIL, which has over 10,000 towers under its belt, has an enterprise valuation of over $3.5 billion. The merged entity will command a valuation of around $ 4.5 billions.

As per the Profit & Loss A/C of TTSL, on 31st March, 2007, it is running in losses. Its loss after tax is Rs. 310.61 crores. Its EPS is -1.94. TTSL had fixed wireless 1.13 millions as on 31st March, 2007. Apart from that, it had mobile subscribers of 1.64 millions as on 31st March, 2007. The Company continued to focus on Value Added Service (VAS) offerings. The launch of Welcome Tunes (Caller Ringback Tunes), video streaming and other data services and content brought in improved revenues.

Tata Telecom and Avaya Inc, a global provider of communications networks, today introduced new software applications and phones that provide greater control over the growing number of communication devices.

The new converged communications solutions are based on SIP (Session Initiation Protocol), which enables integration of Internet applications, such as instant messaging, with voice and telephone features such as conferencing, voice mail and click-to-dial capabilities.

With a significant presence across the telecom value chain and the possible synergies after the acquisition of VSNL by the TATA group, TATA Teleservices is planning to expand the range of its coverage and services; the advanced communication solutions now include seamless integration of voice, video, data and IP systems. TATA Teleservices is fully equipped to offers a gamut services to customers with a strong commitment to quality of service and customer experience.

As a basic telephone services provider, TTSL provides the backbone for India's corporate leaders such as GE Capital, Wipro, Magnacom Pvt. Limited, Citicorp Overseas software (now called Orbitech), Dr. Reddy's

Labs, Standard Chartered Bank, Motorola India Electronics Limited, TCS and Satyam, in addition to servicing the telecom needs of retail customers.

➤ **<u>VSNL:</u>**

On April 1, 1986, the Videsh Sanchar Nigam Limited (VSNL) - a wholly Government owned corporation - was born as successor to Overseas Communication Service (OCS). The company operates a network of earth stations, switches, submarine cable systems, and value added service nodes to provide a range of basic and value added services and has a dedicated work force of about 2000 employees. VSNL's main gateway centers are located at Mumbai, New Delhi, Kolkata and Chennai. The international telecommunication circuits are derived via Intelsat and Inmarsat satellites and wide band submarine cable systems.

The company's American Depository Receipt (ADR) is listed on the New York Stock Exchange and its shares are listed on major Stock Exchanges in India. The Indian Government owns approximately 26 per cent equity, M/s Panatone Finvest Limited as investing vehicle of Tata Group owns 45 per cent equity and the overseas holding (inclusive of FIIs, ADRs, Foreign

Banks) is approximately 13 per cent and the rest is owned by Indian institutions and the public. The company provides international and Internet services as well as a host of value-added services. Its revenues have declined from Rs. 70.89 billion ($1.62 billion) in 2001-02 to Rs. 48.12 billion ($1.1 billion) in 2002-03, with voice revenues being the mainstay. To reverse the falling revenue trend, VSNL has also started offering domestic long distance services and is launching broadband services. For this, the company is investing in Tata Teleservices and is likely to acquire Tata Broadband.

VSNL announced the acquisition of Tyco Global Network for $130 millions in a cash deal. With the acquisition, VSNL piped to the post Reliance, another serious bidder, especially after it bought over US-based FLAG Telecom in January for $211 millions. The acquisition will give the company control over a 60,000 km cable network spread over three continents.

➢ **VODAFONE:**

Vodafone is basically the biggest telecom service provider of the U.K which has a market value of £ 75 billions by June, 2008. Vodafone currently has

equity interests in 25 countries and Partner Networks (networks in which it has no equity stake) in a further 42 countries. The name Vodafone comes from *Vo*ice *Da*ta *Fone*, chosen by the company to "reflect the provision of voice and data services over mobile phones." It had agreed to acquire a controlling interest of 67% in Hutchison Essar Limited (Hutch) for US$11.1 billion. At the same time, it agrees to sell back 5.6% of Airtel stake back to the Mittals. Vodafone retained 4.4% stake in Airtel. Vodafone is the world's leading international mobile communications company. It now has operations in 25 countries across 5 continents and 40 partner networks with over 200 million customers worldwide. Vodafone has also tied up with Apple's i-phone.

Vodafone's revenues have been increased by 50% during the year driven by rapid expansion of the customer base with an average of 1.5 million net additions per month since acquisition.

As on 31st March, 2008, Vodafone's customer base was 260 millions. Its turnover was £ 35478 millions with a profit of £ 6756 millions. Vodafone has also tied up with Apple's i-phone which is going to be launched in India

by June-2008. i-phone's 3G version will be launched with a 50% rate of what it was earlier.

> ## **IDEA:**

Indian regional operator IDEA Cellular Ltd. has a new ownership structure and grand designs to become a national player, but in doing so is likely to become a thorn in the side of Reliance Communications Ltd. Idea operates in eight telecom circles or regions in Western India, and has received additional GSM licenses to expand its network into three circles in Eastern India -- the first phase of a major expansion plan that it intends to fund through an IPO. Idea has become fifth largest company with a subscriber base of 3.1 crores customers.

Recently, Idea has decided to take over Spice telecom. It has decided to buy 40.8% share in Spice telecom at Rs. 2176 crores. Apart from that, Idea is going to merge with Telecom Malaysian International (TMI) and going to give 15% share to TMI out of 20% open offer. Idea will get $1.7 billions out of that. TMI has 4.4 crores customers in 10 countries. Idea is also planning

to invest Rs. 10000 crores for its growth strategy and will start in other parts of the country like Bombay, Bihar, Orissa and Tamilnadu.

On 31st March, 2008, Idea's debt was Rs. 6515.40 crores and equity was Rs. 2639 crores. So, debt-equity ratio was 2.5:1. Idea's net profit was Rs.10443.62 millions and Earning per Share (EPS) was 3.96.

Chapter 5: DIFFERENT OPERATORS SEGMENT

5.1] *Introduction to various segments:-*

The telecom sector has shown robust growth during the past few years. It has also undergone a substantial change in terms of mobile versus fixed phones and public versus private participation.

1) Fixed Line Overview:

- A monopoly sector controlled by Government until 1996

- Today 6 service providers, 2 State Owned, rest private

- Subscriber base 40.48 millions (September 2006)

- Sector growth slowed since mobile tariffs fell

- Only 1.83 million subscribers were added in one year (May 2003-May 2004)

- Increased competition from CDMA Services

The major players like BSNL, MTNL, and VSNL in the fixed line are coming up with new tariffs and discount schemes to gain the competitive advantage. The Public Players and the Private Players share the fixed line

and the mobile segments. Currently the Public Players have more than 60% of the market share.
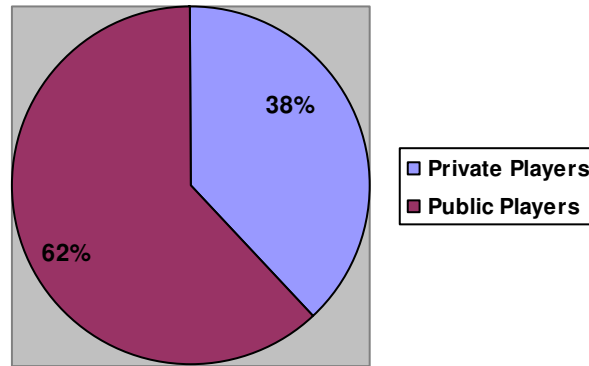
(*Source:* DoT)

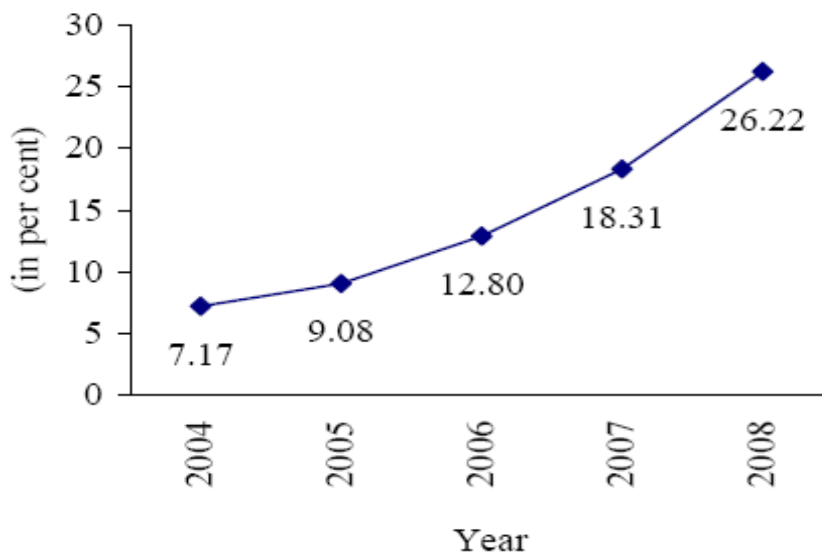There were 94.65 millions telephony customers added during the year of 2007-08. Indian telephony has achieved the growth of 43% from 2007 to 2008. Tele-density can be described as telephones per hundred populations.

India's telephony tele-density by March-2008.

(*Source: TRAI)*

In India, fixed line service is firstly run by BSNL/MTNL and after there are several other private players too, such as Reliance Infocomm, Tata Teleservices and Airtel fixed line is facing stiff competition from mobile telephones. The competition has forced the fixed line services to become more efficient. The fixed line network quality has improved and connections are now usually available on demand, even in high density urban areas.

There were 0.24 millions fixed line subscribers added during March-2008. With this, total 39.42 millions fixed line subscribers were added in March-2008.

2) Wireless Overview:

- 29 million GSM, 9 million CDMA subscribers (June 2004)
- Both GSM 900 & 1800 present
- CDMA operators use 1800 MHz Band
- Number portability is missing
- Government is yet to make decision on 3G spectrum

- India's telecom sector is carved into 23 circles or zones, classified as "metro" and "A", "B" and "C" circles, based on subscriber potential

- Unified licensing introduced in 2004

- As a part of Unified license policy, 15% of operator revenues go to the government

- To operate, each circle requires a different license

- Lowest call tariffs in the world -- as low as one Euro cent a minute on average

The Wireless (Mobile and WLL [F]) Market has reached 129.54 million as on 30th September 2006 against 112.14 million subscribers in the previous quarter. During this quarter, 17.4 million subscribers were added, thus recording a growth of 15.52%. By the end of March 2007, total wireless subscribers were increased to 1650.11 lakhs.

Total Wireless Subscribers

(**Source:** TRAI Report 2007-08)
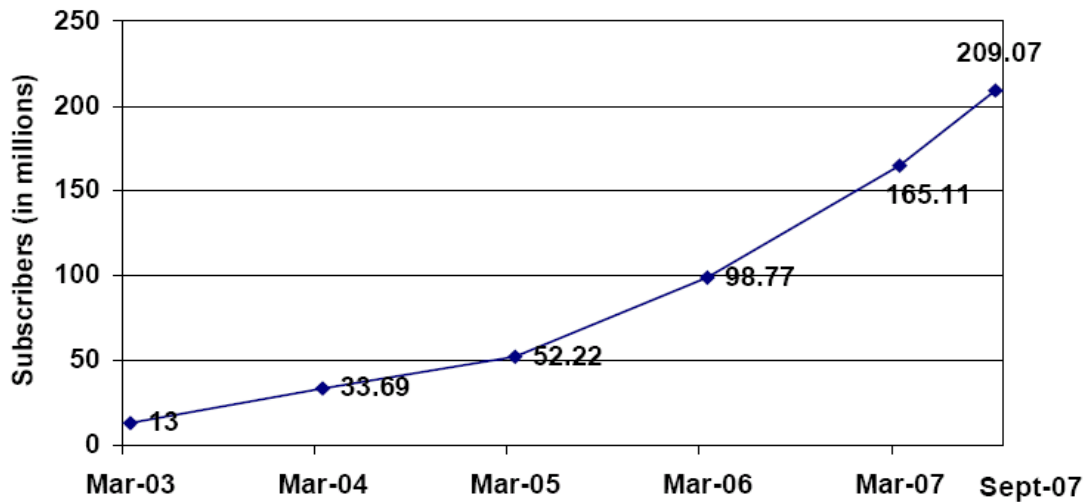
3) Broadband Overview:

Broadband is mainly used for the purpose of internet connections. BSNL is more popular than any other service providers in this segment. It carries highest market share. Apart from BSNL, Airtel is also providing this service. The growth of broadband in India is comparatively slow. After the announcement of the broadband policy in October 2004 India had just 3.13 millions broadband connections at the end of December 2007. There were 9.63 millions wireline Internet Subscribers at the end of September 2007.

Internet Subscriber Base
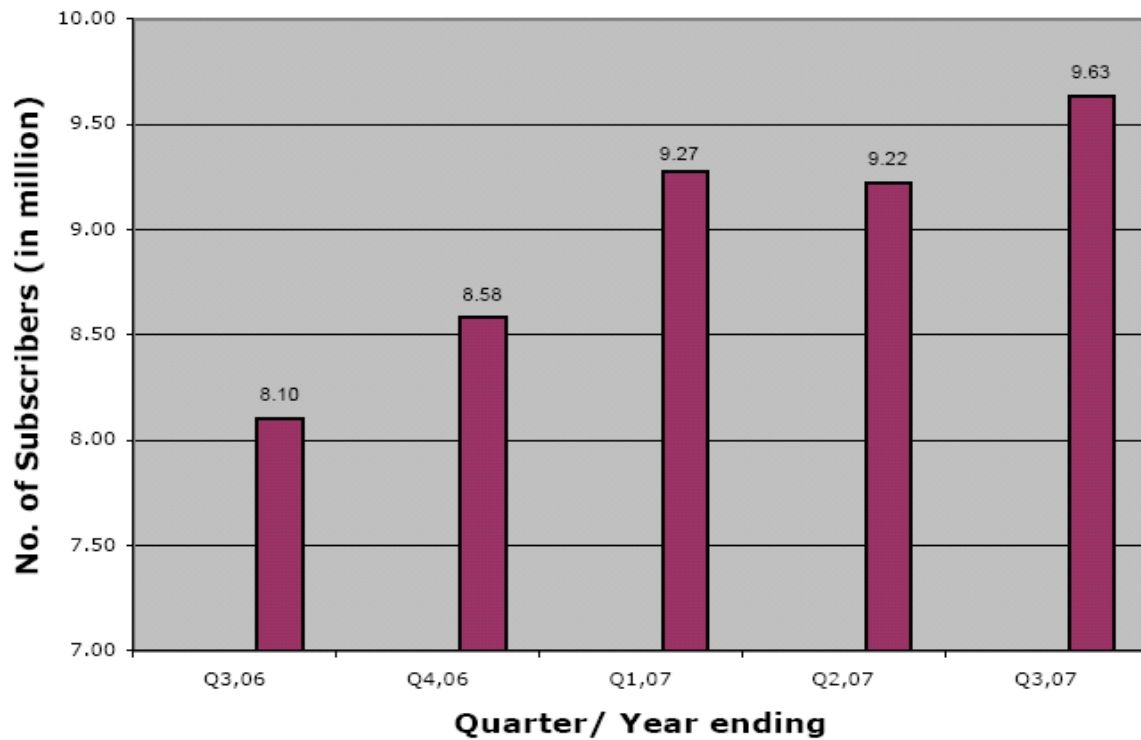
(*Source:* TRAI Report 2007-08)

Total Broadband connections in the country have reached 2.47 millions by the end of July 2007. During July 2007 there is addition of 0.05 millions connections. The broadband subscribers' growth from March 2006 to July 2007 is shown below:

(*Source:* TRAI press release)   (In millions)

March-06	June-06	September-06	December-06	March-07	June-07	July-07	Addition during April-07 to July-07
1.35	1.57	1.82	2.10	2.34	2.42	2.47	0.05

Broadband access can be provided using various technologies:

- *Digital Subscriber Line:* Existing PSTN infrastructure having copper loops up to the subscriber provides the most cost effective option for broadband delivery. Digital Subscriber Line (DSL) has become an important technological option for provisioning broadband services through the copper loop of public switched telephone network (PSTN). DSL speeds are influenced by the distance between the subscriber and the local exchange, the gauge of the phone wire, and the type of DSL technology. This technology offers a dedicated amount of bandwidth that does not vary with the number of subscribers logged on, in an area.

The fixed wireline subscribers in India have been accounted to a population of around 39 millions (14 millions in rural areas and 25 millions in urban areas) and are mainly owned by BSNL and MTNL. The existing cable networks need to be suitably upgraded and then around 50-60% of the cable network can be used for providing broadband services with varying speeds depending upon the length of the copper cable. The challenge before BSNL/MTNL is to make use of these copper cables quickly for broadband

services, to have a commanding position in the market and to achieve this, they will have to device various innovative ways.

- *Cable TV:* New technological developments in cable TV networks have made it possible to send data in both directions via usage of different channels on separate blocks of 6 MHz frequencies, making Internet access over cable TV a viable solution. Presently, there are 71 millions Cable TV subscribers in India, hence one can assume that this last mile infrastructure reaches more people than even the copper loop infrastructure (40 millions) and can be leveraged in providing cable operators with a new business model while giving a stimulus to broadband penetration. However, this cable TV network requires lot of up-gradation, and, in turn, added cost. In the US and Canada, the cable TV network is a dominant form of access for broadband services.

- *Direct to Home:* DTH is another technology that could be used for providing broadband services. At present, it is being used for TV transmission only; however, it can be utilized as the downlink path for providing broadband connections. Uplink (connectivity to the ISP equipment/node) shall have to be through independent connections,

may be, through dial up/GPRS/EDGE, but the cost of the uplink is the main issue to determine success and popularity of this option.

- *Satellite:* The provision for broadband using satellite is another option but the cost of such a network is extremely high. Hence, satellite can at best be used in remote and inaccessible hilly areas but it might not be the most appropriate option where other technologies can provide cheaper broadband service.

- *Fiber Optics:* The fiber optics technology can provide unlimited bandwidth and the national long distance network has major deployment of this technology. This technology has also replaced the copper network in the intra-city backbone network. The fiber-based models are capable of providing a huge amount of bandwidth in the last mile, as well as, provide a true IP and converged network that can deliver high quality voice, data, and video. Fiber To The Curb (FTTC) and Fiber To The Home (FTTH) networks make use of fiber cable into the last mile. Such a network is quite suitable for providing high-speed broadband services. Some operators have implemented overlay optical fiber networks in big towns for providing large bandwidths to industrial and big commercial organizations. However, their initial

deployment cost is very high, mainly due to the high cost of laying the cable.

- *Wireless Technology:* Wireless network is another option to provide wider broadband access solutions. Initially, wireless networks were considered a solution for providing telecom facilities to harsh landscapes and lightly populated areas where it was difficult to provide conventional wire-line networks, as the cost of wireless networks were comparatively higher.

Technological developments in the wireless facility during the last one-decade have completely changed the telecom scenario. Mobile services have taken over the fixed line network on account of reduction in the cost of the equipment, ease of installation, operation and maintenance, flexibility for service providers, and convenience to end users. Wherever the penetration of copper loops is not widely spread, the laying of new copper cables and optical fiber cables is an expensive option due to high cost of right-of-way and high operational cost. Therefore, wireless-based access is an ideal solution for widespread last mile coverage through a combination of different technologies like WiMax, Wi-Fi, etc. These technologies have the added advantage of interoperability and economy of scale due to international standardization. However, for the deployment of any wireless

technology, suitable and sufficient spectrum availability and its efficient utilization is a must.

- *Wireless fidelity (Wi-Fi)* is a term used for a certain type of wireless local area networks. Wireless LANs are most commonly used in the last mile to provide coverage for few hundred meters as diffusers of a broadband connection. This can be used in the office environment for providing connectivity to portable devices such as laptops, and commercial hotspot solutions for wireless connectivity for the Internet. For implementing Wi-Fi access networks, a backhaul network is required; this can be copper cable, optical fiber, or WiMax. Wi-Fi can operate in unlicensed 2.4 GHz band and 5 GHz band depending upon its version in the 802.11 family.

- *WiMax* (worldwide interoperability for microwave access) is a high-speed wireless technology that supports fixed, nomadic, portable, and mobile access. It is claimed that WiMax can provide speeds up to 14.4 Mbps and is likely to support much higher speeds with further advancement. Due to the support for higher speeds, wider coverage and ease of installation, WiMax is considered one of the most promising technologies to provide high-speed Internet.

5.2] *Public vs. Private:-*

- o Private Sector is growing faster than the public sector. In total telephone connections, the share of private sector increased to 72.40% in December 2007 compared to 20.9% in 2003.

- o The private sector is mainly active in wireless segment than the fixed line segment. Fixed line segment only consists of about 2%.

Growing Share (%) of private sector
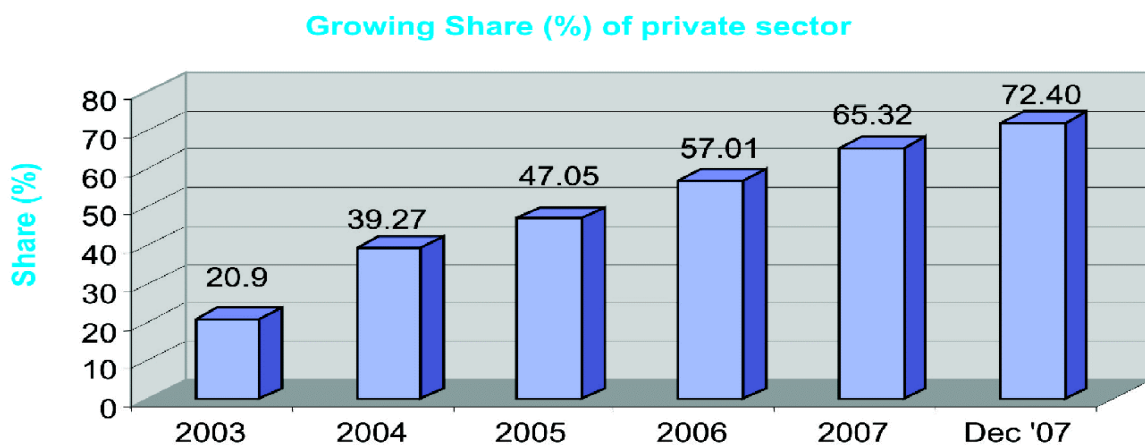
(Source: DoT)

Government has issued new guidelines and new single license for internet services in the year 2007 instead of four licenses required earlier. As on December 31, 2007, there were 378 licenses for internet services and 9.69 internet subscribers.

5.3] *<u>Licensing issues in India:-</u>*

- Different regulatory tariffs and business models are to be relooked.

- Different service providers are in different licensing regime, having different license fees, performance obligation guarantee, and annual rental and spectrum charges.

- Mismatch in the rules and regulation governing cable operators, broadcasting agencies and telecom service providers.

- Difference in areas like quality of service, Tariff and subscribers centric codes.

- Popularizing of Voice over IP Networks services in managed environment are creating various licensing issues:

  o Numbering scheme related issues

  o Interconnection between ISPs and traditional telecom service providers for IP telephony

 o Security

Chapter 6: RURAL MARKET

6.1] *Introduction:-*

Access to telecom services is the key to development and growth and that access in rural market is one of the most challenging aspects of the growth. Information and Communication Technologies (ICTs) provide new and exciting opportunities to those who have access to them. However, existing economic imbalances and social inequalities will be deepened if access is unequally distributed. Unequal access to communications, leading to a huge digital divide between the rich and the poor, the urban and the rural populace only, increases the existing divide. That is why rural market is very much important in today's scenario. There are many opportunities available for development. Low cost wireless solutions are now available for rural areas at affordable prices.

6.2] *Growth of Telecom Services in Rural market:-*

Inadequate access in rural India- Over 70% of the population lives has caused further marginalization of the marginalized. Therefore, it is vital that an enabling environment through policy and regulatory measures is created

for the transformation of the existing digital divide into digital opportunity.
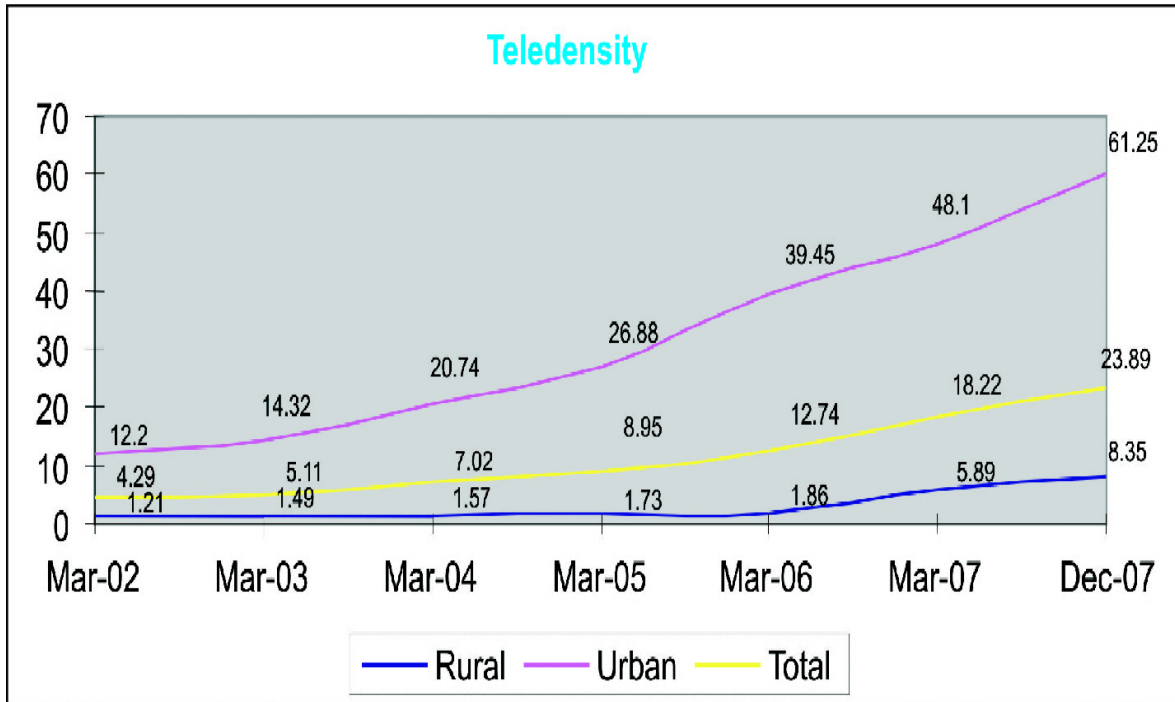
(Source: DoT report 2007-08)

These graphs clearly show the huge success in our policies towards urban telecommunications and perhaps a failure in replicating the same for rural areas. To drive telecom development, the Indian Government has imposed a Universal Service Obligation (USO) on operators with the threat of penalties if they don't reach their rural targets.

The average cost of taking a telephone line to rural areas is almost Rs. 60,000 to 80,000 compared to about Rs. 20,000 to 25,000. Rural Wireline

Subscriber base stood at 11.99 millions in quarter ending September 2007 as compared to 12.27 millions in quarter ending June 2007.

Rural Wireline Subscribers
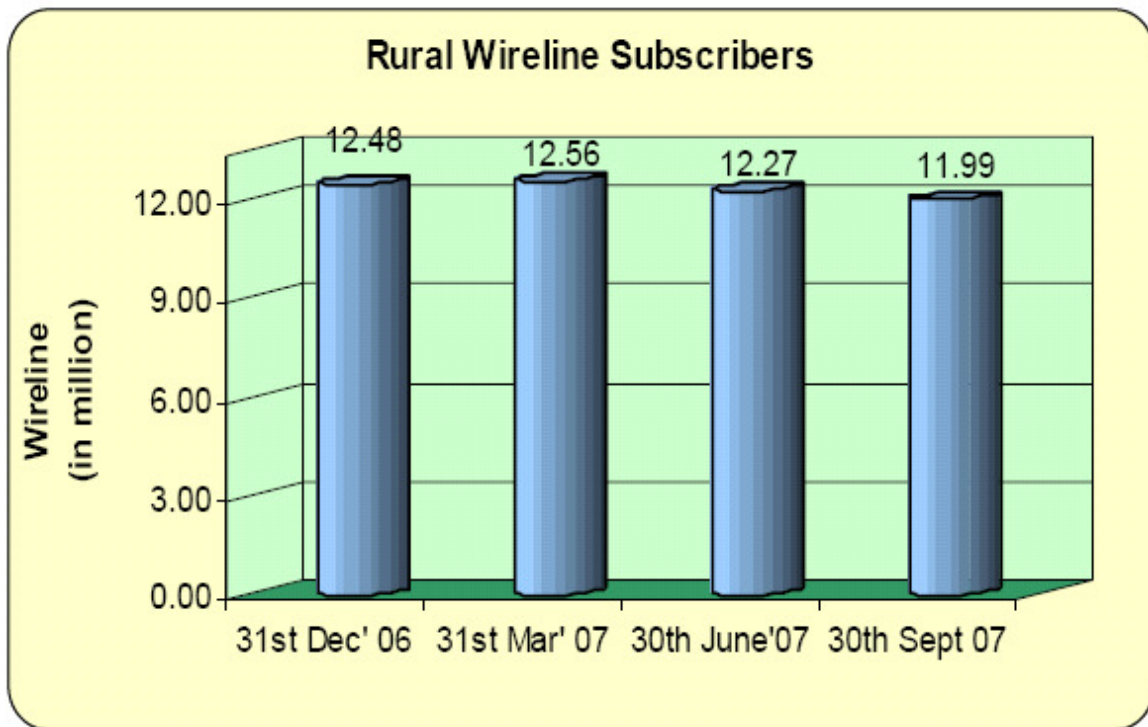
(*Source: TRAI Report 2007-08*)

BSNL is a clear winner in rural market in case of wireline market. There is no competition in rural market with BSNL. BSNL is leading with almost 100% market share. Following graph shows the true picture of rural telephony market:
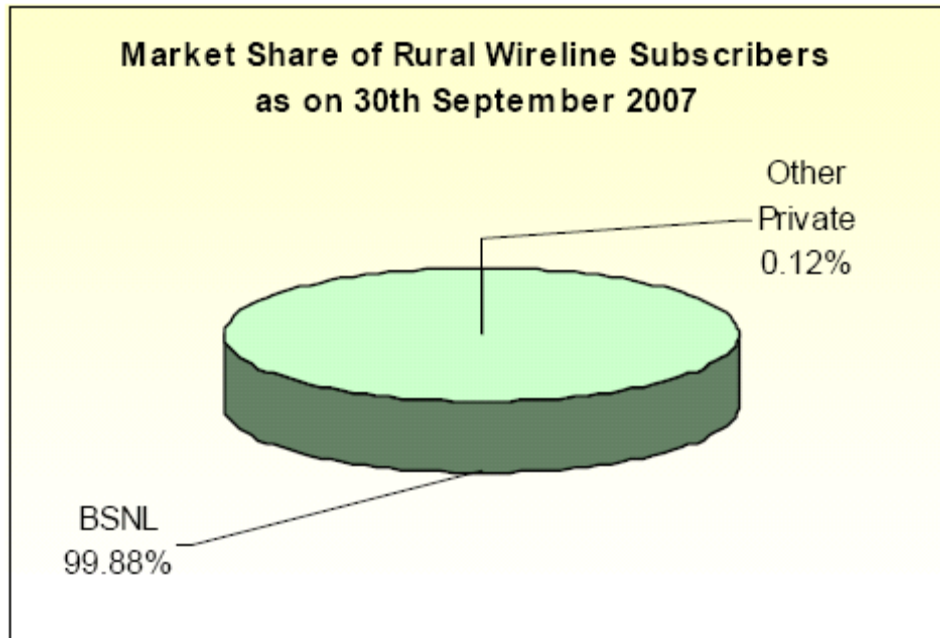
(*Source:* TRAI report 2007-08)

Rural telephony is mainly based on BSNL. BSNL has provided Village Public Telephones (VPTs) in 5.18 lakhs villages and 241.31 lakhs Direct Exchange Lines (DELs) in rural areas as on December 31, 2007.

Chapter 7: Foreign Direct Investments in Indian Telecom

7.1] *Introduction:-*

FDI plays an important role in telecom sector as well as an economy as a whole. Earlier, there were very few public players like BSNL, MTNL and VSNL in this sector but as the time progressed and competition increased, the private players like Airtel, Reliance, Tata, Vodafone and Idea came into play which changed whole scenario of telecom sector. FDIs are important because they not only bring capital and technology into the market but they provide employment opportunities and effective productivity also.

The liberalization measures post-1990 have changed with foreign investments radically, now portfolio as well as Foreign Direct Investment are not only allowed but also actively encouraged. During the decade of the nineties, the 'ceilings' on FDI in different sectors were progressively raised. In 2001, 100 per cent foreign investments were allowed in several industrial sectors. Also, 100 per cent Foreign Direct Investment is allowed in almost all the infrastructure sectors.

FDI policy provides the investor friendly environment growth to the telecom sector. It is one of the sources pf huge funds to meet fast network expansion. During the year 2007-08, total FDI equity inflow was Rs. 3901 crores in India. FDI in Indian telecom sector has a bright future ahead. It is the third largest recipient of FDI after financial and non-financial services and computer hardware and software, which attract 20.43% and 15.21% respectively.

FDI Equity Inflows in Telecommunications (Rs crore)
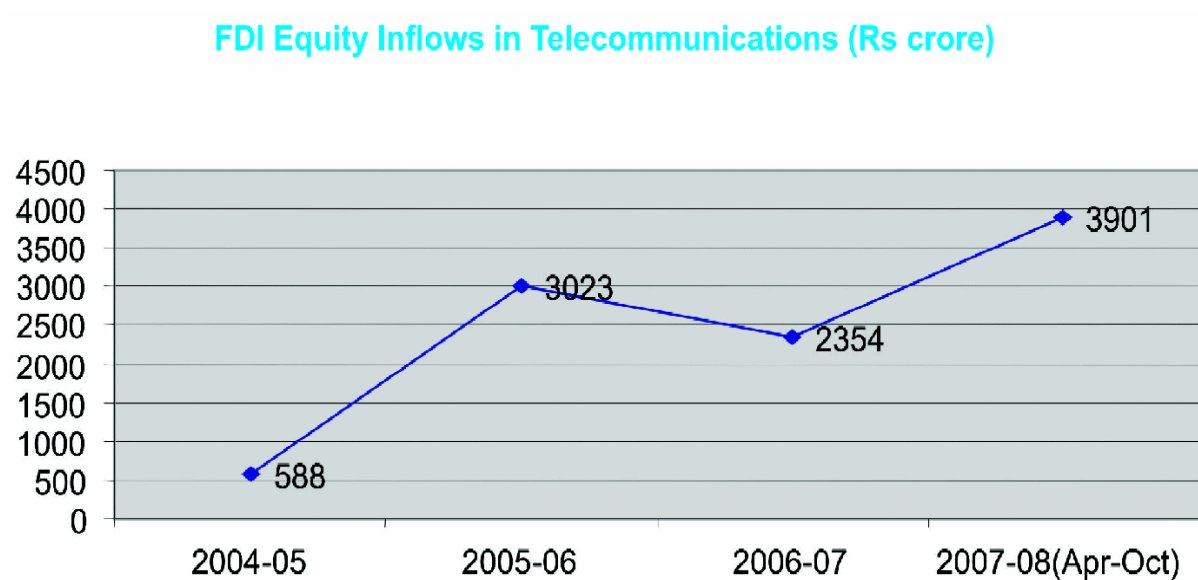
(*Source:* DoT report 2007-08)

7.2] *Effects of FDI in Indian Telecom:-*

- Telecom service at subsidized prices.

- FDI inflows will allow multiple benefits such as technology transfer, market access and organizational skills.

- In India where 70% of population still resides in rural areas, there is a dire need of infrastructure in telecom, which FDI can provide.

- Foreign currency flowing in the country.

- Harmonious relationship with country from which foreign investment is being made.

- There will be increase in competition with local players, which will benefit consumers.

- It will have a multiplier effect.

- Telecommunication facility at reasonable price, affordable to many.

- More technological inflow, will improve voice & data quality.

- Free flow of capital is good for Indian consumers.

Foreign direct investment in telecom has been hiked up from 49% to 74%. This move is positive for the sector, as it requires investments of Rs 700 – 900 million over the next 5 years. There are restrictions related to remote

access, transfer of network information outside India and international transit routing of Indian traffic. It has been decided to enhance the FDI in telecom services in areas like basic telecom, cellular unified access services, intranet, long distance vast, public mobile, radio service etc.

FII (Foreign Institutional Investors) holding in Rcom is reduced in last one year. In March-2007, FII holding in Rcom was around 13% which has gone down to 10% in March-2008 which is around 25% reduction. In Idea, FII holding has increased. In December-2007, Idea's FII holding was around 6.6% which has gone up to 7.7% in March-2008.

Chapter 8: 3G SPECTRUMS

8.1] *What is 3G?*

3G is 3rd Generation mobile phones. It is a new concept in Indian telecom market. There are 2G (2nd Generation) and 1G (1st Generation) mobile handsets are available also in the market. Apart from that, 4G technology stands to be the future standard of wireless devices. 3G is notable for its ability to support faster and larger quantities of data, which enables additional service offerings in the form of games, music and video using voice, video and data (together known as "triple play") and helps to bring about broadband on mobiles.

Japan was the first country to introduce 3G on a large commercial scale. There are about 60 3G networks across 25 countries. 3G services are supposed to provide high-speed data rates at a minimum of 144 Kilobits per second in all use scenarios going up to 2 Megabits per second in low mobility and indoor environments. In addition, it has higher capacity and improved spectrum efficiency.

8.2] *What is Spectrum?*

Radio spectrum refers to a range of radio frequencies. The bandwidth of a radio signal is the difference between the upper and lower frequencies of the signal.

For example, in the case of a voice signal having a minimum frequency of 200 hertz (Hz) and a maximum frequency of 3,000 Hz, the bandwidth is 2,800 Hz (3 KHz). The amount of bandwidth needed for 3G services could be as much as 15-20 MHz, whereas for 2G services a bandwidth of 30-200 KHz is used. Hence, for 3G huge bandwidth is required.

8.3] *Difference between 1G, 2G and 3G:-*

1G networks used are analog; 2G networks are digital and 3G technology is used to enhance mobile phone standards. 3G helps to simultaneously transfer both voice data (a telephone call) and non-voice data (such as downloading information, exchanging e-mail, and instant messaging.) The highlight of 3G is video telephony.

3G spectrums have been provided to GSM and CDMA players like BSNL, MTNL, Bharti, Reliance, Tata and Vodafone. GSM players operate on 900 MHz and 1,800 MHz, while CDMA players operate on 800 MHz.

8.4] *3G issues for service providers and users:-*

- o High spectrum licensing fees for the 3G services
- o Huge capital required to build infrastructure for 3G services.
- o Health impact of electromagnetic waves.
- o Prices are very high for 3G mobile services.
- o Difficulty in switching from 2G technology to 3G technology
- o Takes time to catch up as the service is new.

Presently spectrum allocation in India is linked with the issue of license. Licensees are entitled for frequency bands as per the provisions in the license and guidelines for spectrum allocation.

8.5] *Suggestions for spectrum issues:-*

- o No discrimination on the basis of technology used.
- o Equal opportunity for growth of all technologies.

o Review of earlier reservations based on experience of frequency used.

o Adequate and appropriate spectrum.

o Proper balance between the securities needs and needs for commercial deployment.

o Need for appropriate measure of efficiency and additional requirements of spectrum (only subscriber base is not the appropriate criteria).

o Frequency allocation in bands in which equipment and handsets are readily available.

o Availability from multiple vendors and multiple regions to avoid dependence on a single vendor or single country.

o No allocation with the hope that in future some vendor may develop the equipment /infrastructure/multimode handsets.

o International practices are followed.

8.6] *3G Auction/Allocation:-*

In 3G auction, local players as well as international players can take part also. Earlier it was decided that international players can't take part in that auction but now rules have been changed by TRAI. It is also decided if

international players will be successful in buying these spectrums then they will be allocated new licenses.

For the bidding of the spectrum, companies have to pay minimum Rs. 2260 crores as a reserve price in which Metro cities and Circle-A cities have to pay Rs. 160 crores, Circle-B cities have to pay Rs. 80 crores and Circle-C cities have to pay Rs. 30 crores.

Now, TRAI has given a green signal to number portability and 3G spectrum auction. From this auction, government is expected to earn Rs. 30000-40000 crores. Foreign companies who want to bid, have to pay Rs. 1651 crores as a bid amount and have to get license for that. Base price for 3G is set as Rs. 2020 crores and for Wi-Max; it is Rs. 505 crores all over the world. BSNL and MTNL will be allocated spectrums immediately. Private players will have to wait till the year 2009 for allocation. As per TRAI's guidelines, in case of number portability, central agency has to shift the service provider from one to another within 48 hours of customer's application. 3G services will enhance the speed of internet, fast downloading and video calling.

Chapter 9: VALUE ADDED SERVICES

9.1] *Introduction:-*

Value Added Service (VAS) is that service which is not part of the basic voice offer and is availed off separately by the end user. It is provided by telecom service providers. These services are used as a tool for differentiation and allow the mobile operators to develop another stream of revenue.

9.2] *Various Value added services:-*

Here is a list of some Value Added Services provided by the telecom operators to the end users.

- News- e.g. Business, sports, politics etc.
- Finance- e.g. Share market, foreign exchange etc.
- Entertainment- e.g. Games, jokes, films etc.
- Travel- e.g. Railway, airlines etc.
- Download- e.g. Caller tunes, wallpapers etc.
- Astrology- e.g. Horoscope

- Contest- e.g. Reality shows

- MMS- e.g. Picture messages, video clips etc.

- E-mail- e.g. SMS, e-mail etc.

- Music- e.g. Ring tones

- Cricket- e.g. Score, video clips etc.

- GPRS- e.g. Internet, chat etc.

- Call Alert- e.g. Missed call alerts when mobile is switched off or busy

- Health- e.g. Health tips, beauty tips etc.

- M-Commerce- e.g. mobile transactions like mobile banking

- Others- e.g. movies, music etc.

As per COAI, in the year 2006-07, the income from VAS out of total income of service providers was 10%. Out of that, 57% was from SMS, 19% was from other VAS, 7% from ring tones, 6% from caller line identification, 6% from content downloads and 5% from GPRS. Normally, service providers make money of around 10-14% as VAS from total income.

Value-added services are supplied either in-house by the mobile network operator themselves or by a third-party Value Added Service Provider (VASP), also known as a Content Provider (CP). VASPs typically connect

to the operator using protocols like Short Message Peer-to-Peer Protocol (SMPP), connecting either directly to the Short Message Service Centre (SMSC) or, increasingly, to a messaging gateway that allows the operator to control and charge of the content better. There are many national and international investors are ready to invest in this segment of telecom market.

9.3] *Challenges:-*

- Lack of content localization

- Shortage of spectrum

- Slow adoption of GPRS mobiles (Only 6.1 millions GPRS users compared to 200 millions overall subscribers)

9.4] *Future trends:-*

- Location Based Services

- Mobile Music update will increase with better bandwidth

- Migration to 3G will result in increased ARPU

- Local content is on the rise - regional/rural Interactive Voice Response (IVR) seen as a major opportunity

- Mobile commerce does not look too promising (India is still a cash and cheque country)

- IVR will see large scale adoption, especially in rural areas.

- Mobile E-Mail will primarily be driven by enterprises

- Stocks on mobile will see an uptake

Chapter 10: RESEARCH METHODOLOGY

10.1] *Research Objectives:-*

- To understand the improvement and customer preferences in Telecom Sector.

- To study the service providers and their service quality in the Telecom Sector.

- To study the customer satisfaction and understand the current market scenario in Telecom Sector.

10.2] *Samples:-*

Sample size   : 100

Sample frame   : Ahmedabad city

Sample unit   : West Ahmedabad and East Ahmedabad

Sampling Method : Simple random sampling

Constraints   : Time, number of respondents
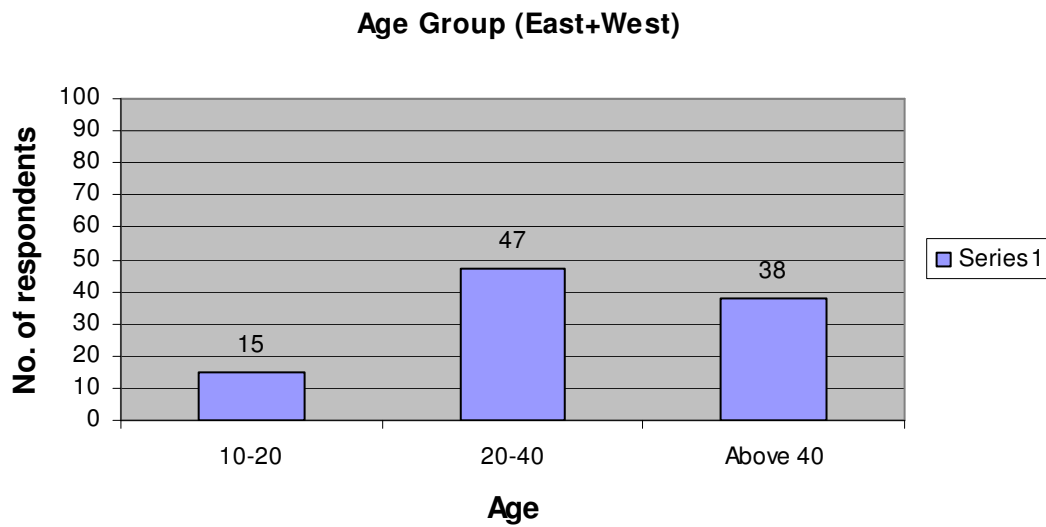
Sampling error   : Non-response- 16
                       Response- 84

Survey   : Questionnaire

10.3] *<u>Observations and Findings:-</u>*
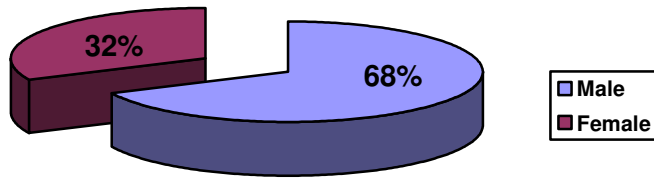
1. Age Group:
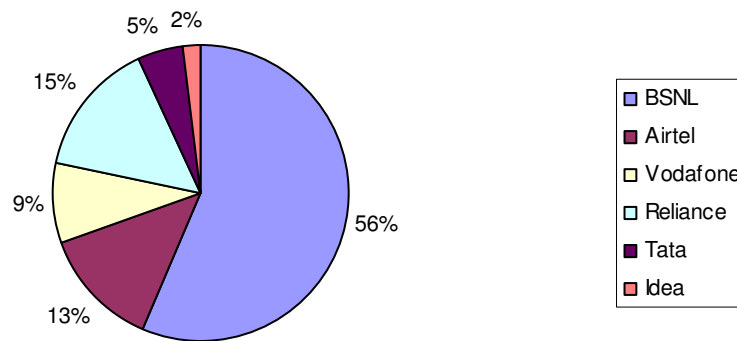
☐ 10-20   15

☐ 20-40   47

☐ Above 40   38

Age Group (East+West)

2. Gender:

☐ Male

☐ Female

Gender (East+West)

3. Whose service(s) are you rendering now?

East
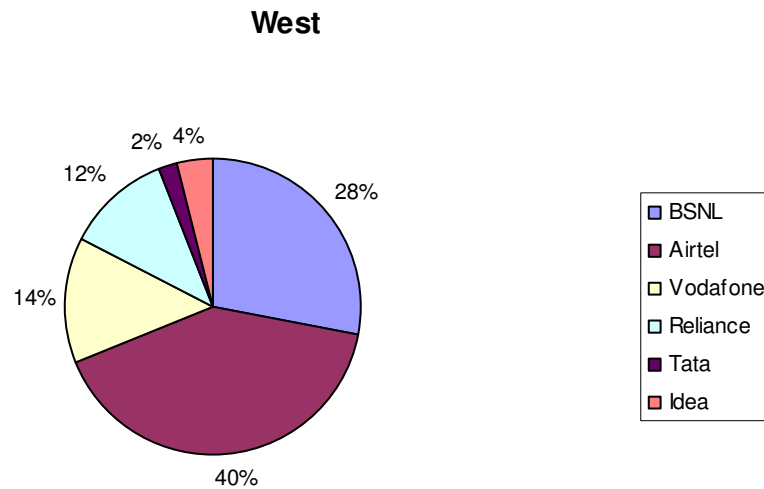
West

Through the above analysis, we can easily find out that in Eastern part; majority of the people still prefer BSNL more. But in Western part, people prefer Airtel as their preferred connection. BSNL is a clear winner with 56% in case of East region but in case of West region, Airtel is leading with 40%. In both the regions, there is a huge competition among private players as per the conducted survey. In Western part, it clearly shows the tough competition between Vodafone and Reliance but in Eastern part, Reliance is very far from Vodafone. It is because of Reliance's different schemes like Reliance to Reliance free talk etc. have helped it to gain the more market share which is found out from the survey.

4. Which technology do you prefer?

East+West regions
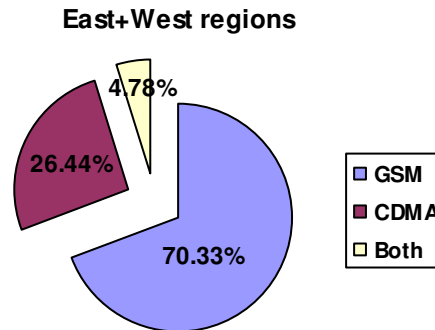
As per the data, it can be analyzed that in spite of tough competitions between GSM and CDMA service providers, the GSM has earned a huge market share with 71%. There are only 4% people who are willing to use both the technologies. Only 26 % people prefer CDMA which is very less compared to the level of competition and GSM's market share.

5. How long have you been using this connection of your service provider?

From the below analysis, it can be found that in the East part, 43% of the total people have kept their connection for more than 3 years period. Whereas, only 7% of the total people prefer to keep the existing connection

for 3-6 months. The graph also reveals that more the duration is, more

people prefer to keep the existing connection.
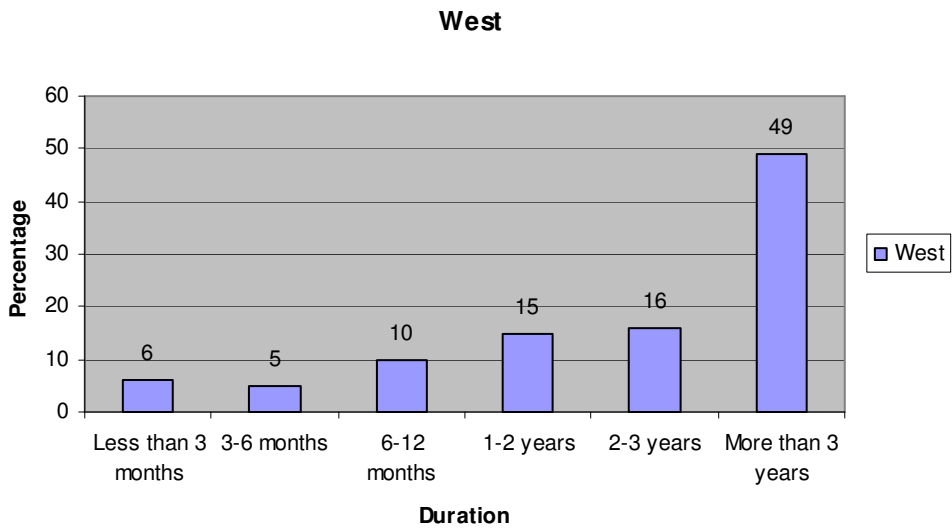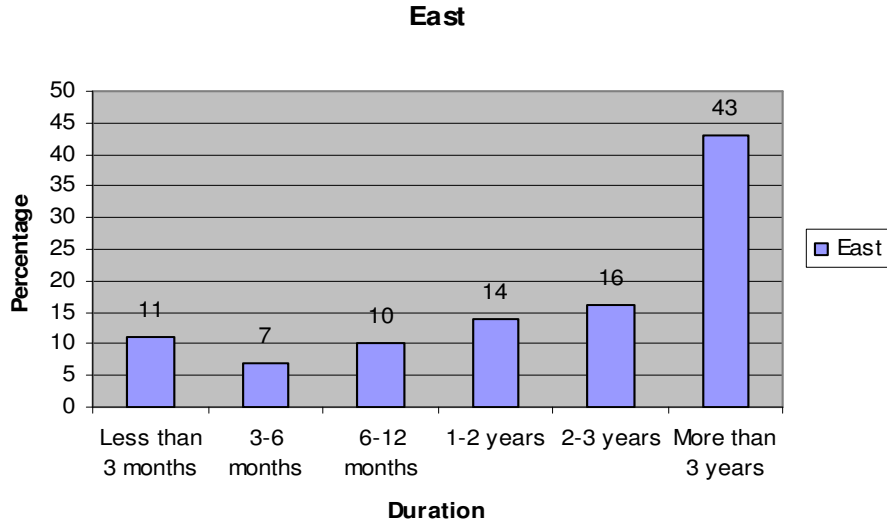
East

West

The above graph shows that in West part where mainly urban population is

living, 49% people have kept their connection for more than 3 years which is

also higher than East part. The data also shows that numbers of people who keep or want to keep their existing connection for longer period are more than the short period like 1-2 years, 2-3 years and more than 3 years.

6. Rate your satisfaction level of your service provider.
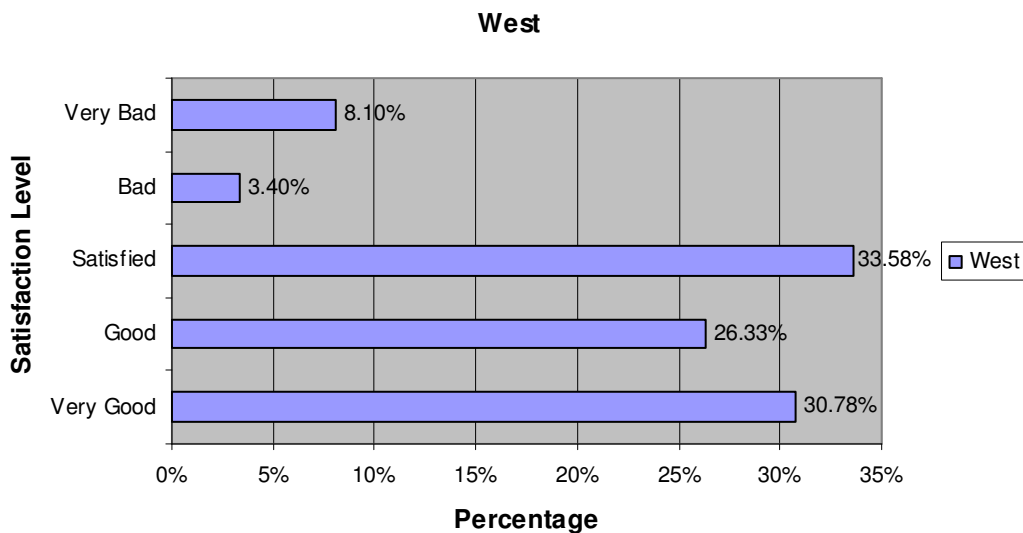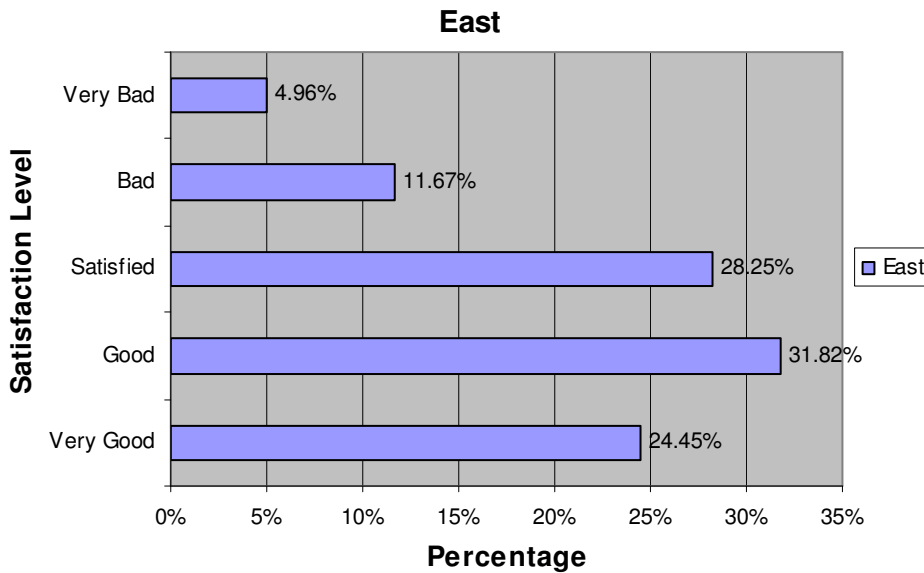
East

West

Customers' satisfaction plays a crucial role for the service providers. In the Eastern part, 28.25% people are satisfied with their service providers whereas in Western part, 33.58% people are satisfied with their service providers. In Western part, overall satisfaction level i.e. scales of satisfied, good and very good is higher than the satisfaction level of Eastern region. Though, there are people who are not happy with their connections. But still in Eastern part bad experience level is higher than the Western part. In East region around 17% people have bad and very bad experiences or not satisfied but in West part it is around 12% only.

7. What kind of expectations do you have from your service provider?
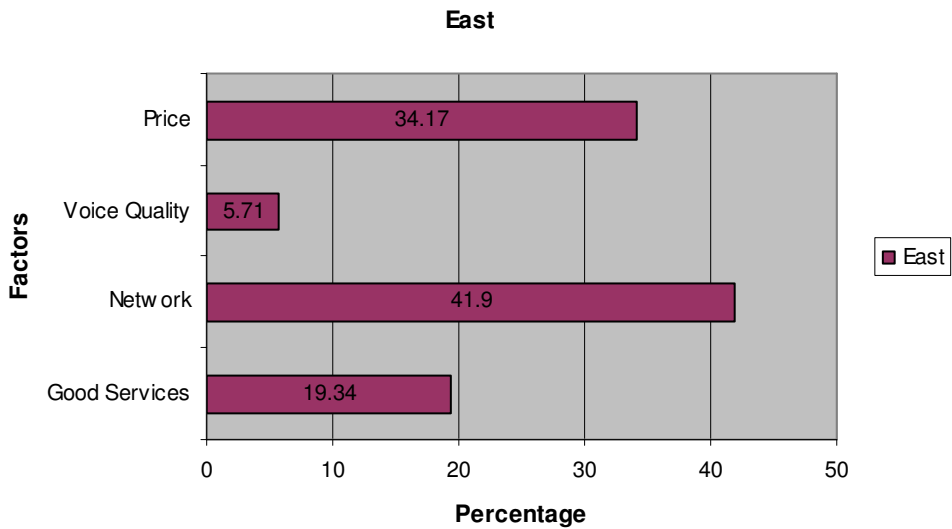
East

As per the research, people of Eastern part of the city are more inclined towards network of their service providers followed by prices offered by service providers. Here, the price not only includes amount of the pre-paid or post-paid connection but it also includes different schemes, tariff plans etc. As per the data, almost 42% of the total population in the eastern part prefer network as a priority than the other features. People in Eastern part are mainly looking for the money's worth so price is a second highest factor for them.
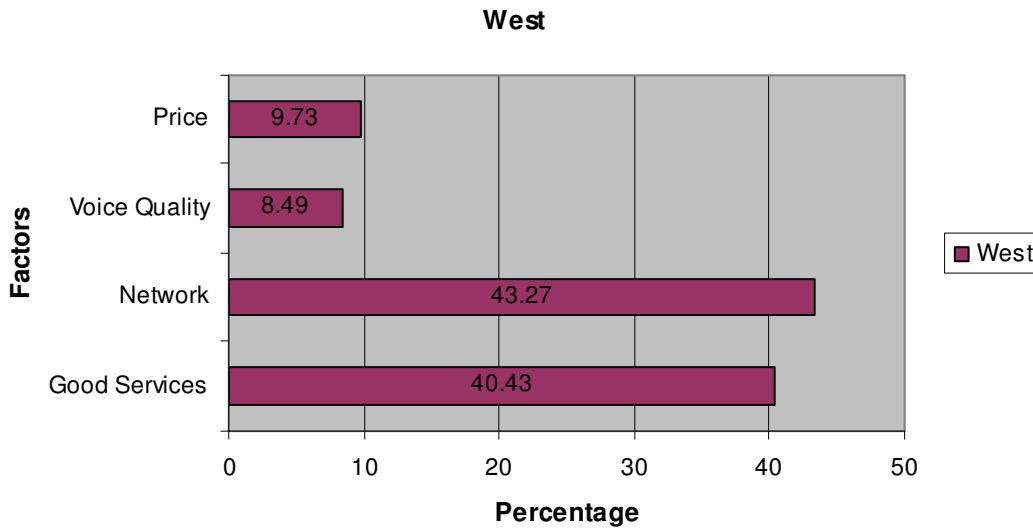
West

In the Western part, people are more inclined towards network and good services of service providers. From the above graph, it can be seen that two factors i.e. network and good services are very close to each other having 43.27% and 40.43% respectively. Though, people prefer more of network just like the East region but it can be said that services offered by service

providers also matter. Here, the price and the voice quality factor are comparatively lower. Voice quality, is lowest in both the areas having 5.71% in East region and 8.49% in West region.

8. Are you aware of role of telecom services in providing broadband without using cable TV network?

East

31.27%

69.54%

☐ Yes
☐ No

West

44.13%

57.68%

☐ Yes
☐ No
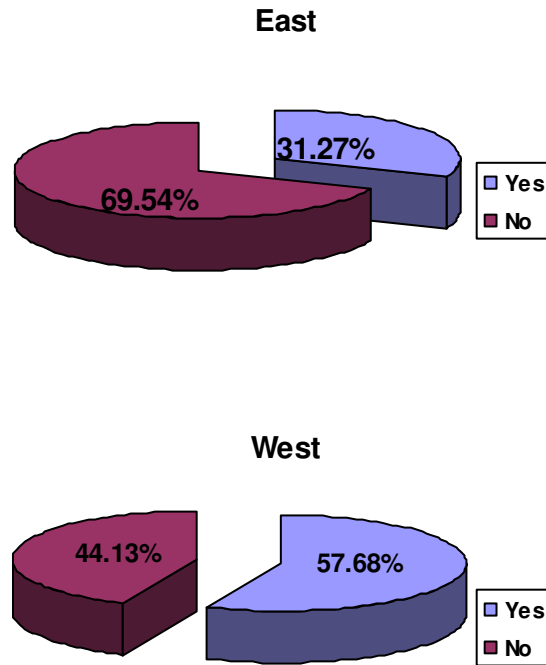
As per the findings and from the above chart, it can be found out that Eastern area is not much aware of the broadband services without using cable TV network. 69.54% people are unaware of this facility and only

31.27% people are aware of it. Whereas, in Western area, 57.68% people are aware of this facility and 44.13% people are unaware of it. Both the charts show a huge difference between them.

9. How much do you spend per month on your mobile connection?

East
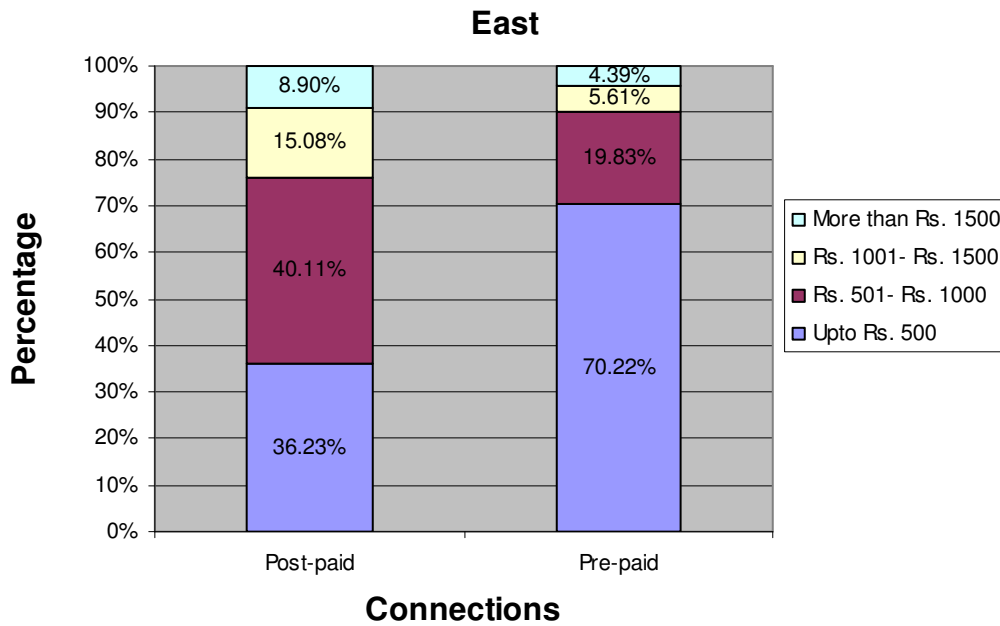
Spending pattern is also another criterion which is crucial for any telecom service providers. Customers' spending habits ultimately help in deciding their loyalty towards the product. For example, if a customer frequently spends money on the same product then it shows that he prefers to buy that product than other products which ultimately leads to his loyalty towards that brand.

In Eastern region, maximum spending is between Rs. 501- Rs.1000 ranges, done by 40.11% of the total Post paid connection users out of surveyed people. Whereas, the lowest spending is in the range of above Rs. 1500 by 8.9% people. Whereas, in case of Pre-paid connections, highest spending is done up to Rs. 500 which is done by 72.22% of the total surveyed people and the lowest is in the range of more than Rs. 1500 which is done only by 3.34% people. Here, it can be also seen the usage difference in the range of Rs. 501- Rs. 1000.
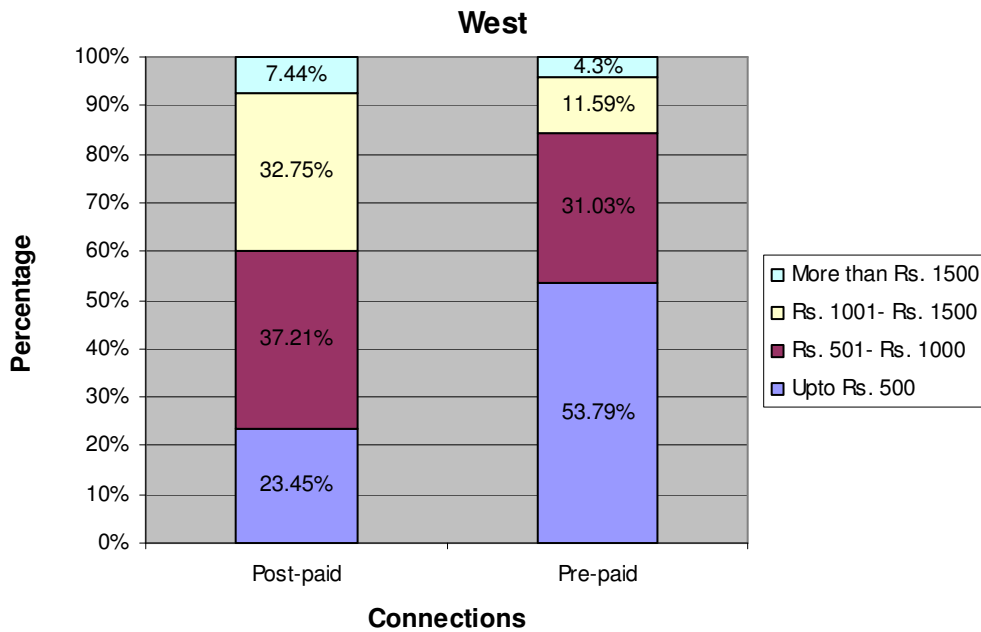
West

Above graph shows that the Western area's usage pattern is very much different than the Eastern area. In case of post-paid connections, it can be

seen that there is a lot of consumption by 37.21% and 32.75% in the ranges of Rs. 501- Rs.1000 and Rs. 1001- Rs. 1500 respectively. The usage pattern is very close to each other in these two ranges. There are 23.45% customers whose usage is up to Rs. 500 and only 7.44% customers in above Rs. 1500 range. Whereas, in case of Pre-paid connections, once again just like Eastern region maximum usage is up to Rs. 500 by 53.79% people is dominating followed by Rs. 501- Rs.1000 range which is consumed by 31.03% people. In the range of Rs. 1001- Rs. 1500, only 11.59% customers are spending that much amount and 4.30% customers above Rs. 1500 are spending.

10. How do you find the behavior of customer care executives of your service provider?

East+West region
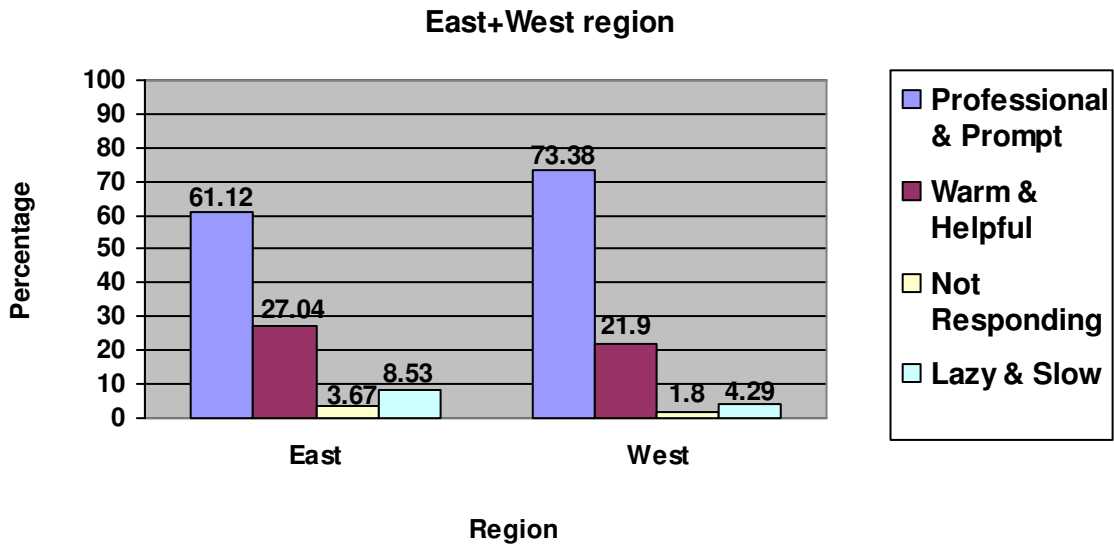
Acceptance or rejection of any product is largely depended on the services provided by the customer care which is also known as after sales service or Customer Relationship Management (CRM). If a company provides better services to the customer by solving their queries, it can be successful to retain them. Similarly, in case of the telecom service providers play a major role to retain customers by solving their problems.

As per the survey, it was found that in Eastern area, around 61% of the surveyed people find the executives are professional and prompt in their approach and only 8.53% customers feel that they are lazy and slow in their approach and 3.67% customers are not happy with the services which means customer care executives are not responding to them properly. But in case of Western area, it was found that 73.38% customers find customer care executives as professional and prompt. Only 4.29% find them lazy and slow but only 1.80% customers find that they are not responding.

11. What do you think about the competition in the market?

East
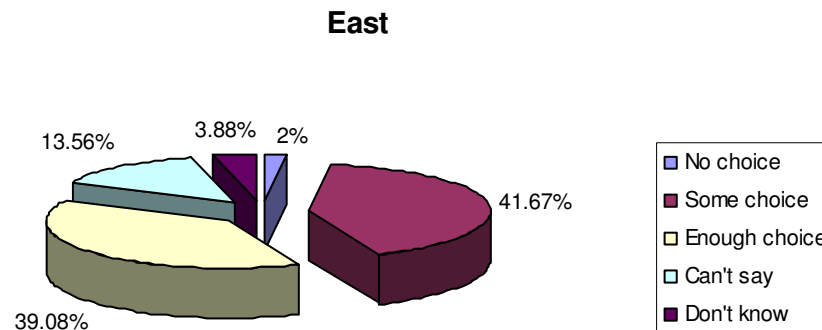
There is a huge competition in the market in today's scenario. Many companies try to gain as many customers as they can by providing them different schemes and try to retain the existing customers with the same. So competition is an important factor and plays an important role to earn more market share.

As per the survey in the Eastern region, it was found from this question that there are only 2% customers who do not have any choice to choose their service providers and change them if they are not satisfied with their services and facilities. But 41.67% customers said that they have some choice and 39.08% said that they have enough choice for the same. But 13.56% customers were in dilemma and 3.88% were not aware of the competition.
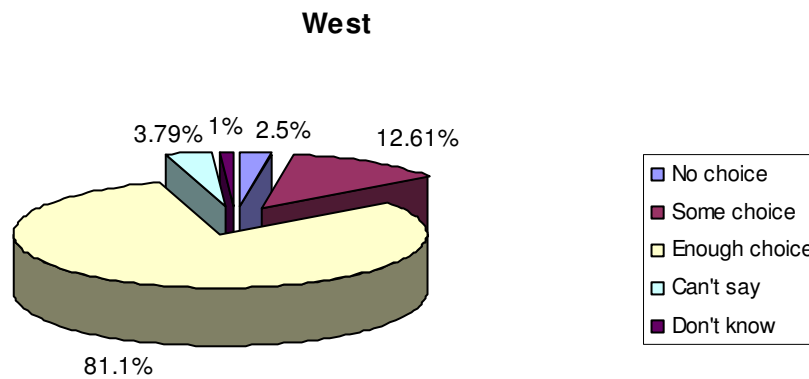
West

In the Western region, as per the graph it was found that, 81.10% customers feel that they have enough choice in the market in this competitive market. 12.61% customers feel that they have some choice for service providers and 3.79% people are not sure. Only 1% customers are unaware of the competitive scenario in market and 2.5% customers do not have choice.

12. Given a choice with same number, which service provider will you select?

As the below chart suggests and as per the findings, it can be seen that in the East part, in majority cases customers prefer to have BSNL having 46.59% preference opinion, followed by Reliance and Airtel having preferred by 28.18% and 14.26% customers respectively. Only 1% people prefer to have

Tata and 3.33% in case of Idea. Vodafone is preferred by 6.84% customers

as it is little bit expensive though it has very good network coverage.

East
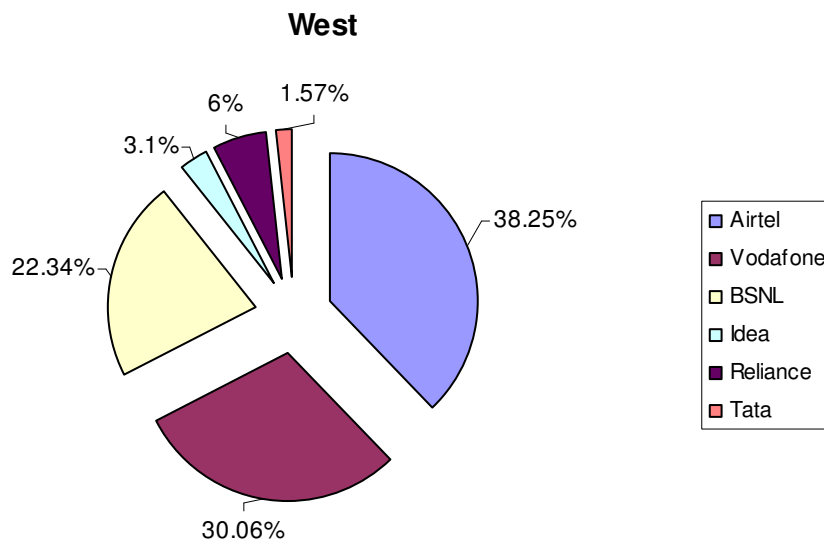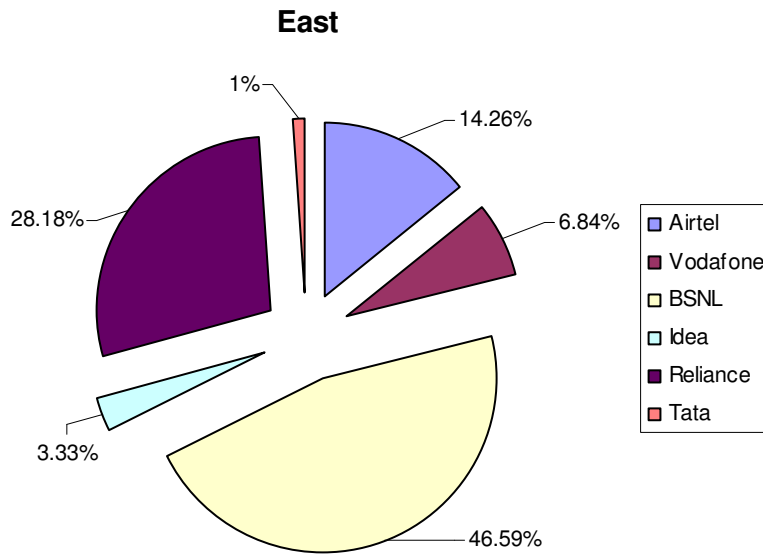
West

In the West part, there is a tough competition among Airtel, Vodafone and BSNL. Airtel is preferred by 38.25% customers and Vodafone by 30.06% customers. BSNL is preferred by 22.34% customers. Reliance is preferred by 6% people, followed by Idea and Tata with 3.10% 1.57% respectively.

So, in the East part, customers will prefer BSNL more and in the West part, Airtel is preferred more by customers if they are given a choice with the same number.

13. What is your purchase intent for news alerts on mobile phone?

East+West

	East	West
Astrological predictions	3.3	2.09
Sports	8.16	5.21
Business	54.35	51.88
Entertainment	11.78	25.1
General News	22.44	16.15

Regions
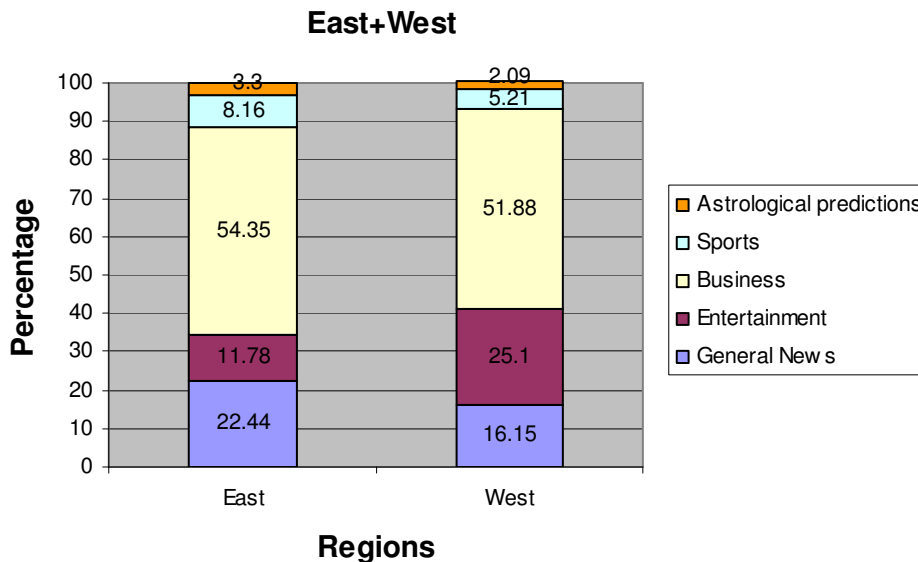
Customers usage is not only dependent on how much he spends on talking on phone but also on various value added services he uses. As per the

survey findings, it can be concluded that there are many similarities in the usage patterns of the East and the West region customers.

Maximum usage for news alerts on mobile of both the regions is for business news, 54.35% in the Eastern region and 51.88% in the Western region which is very close. But second preference in case of news alerts is an entertainment in case of the West region but in case of the East region, it is only 11.78%. In the East region, 22.44% customers prefer General news as their second preference but it is third preference in case of the West region with 16.15%. Sports and Astrological predictions are very less preferred by both the region customers, especially astrological news are the lowest preferences in both the cases.

14. Rate the following attributes of your service provider.

1) Customer care:

As per the survey conducted and its findings, it was concluded that Airtel is leader in maintaining a good relations with its customers and it solves customers' problems efficiently and effectively. It has got the highest preference by the customers with 73.46%, followed by Vodafone with

68.83%. The lowest preference is of BSNL. Its customer care is not as good as the other players in the market, as per the findings. It is preferred by only 17.92% customers.

Customer care(East+West)

2) Per call charges:

Per call charges- ISD (East+West)
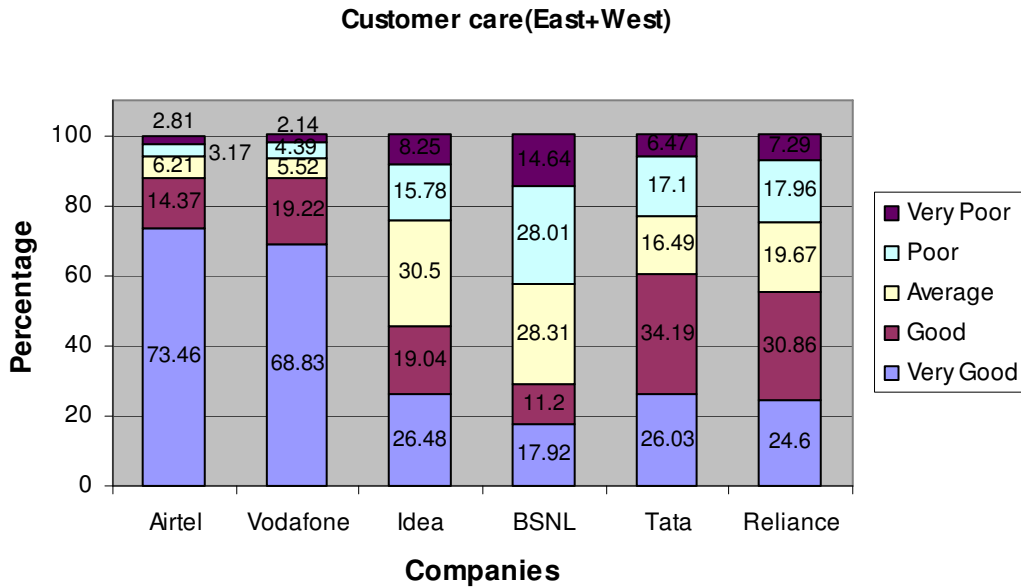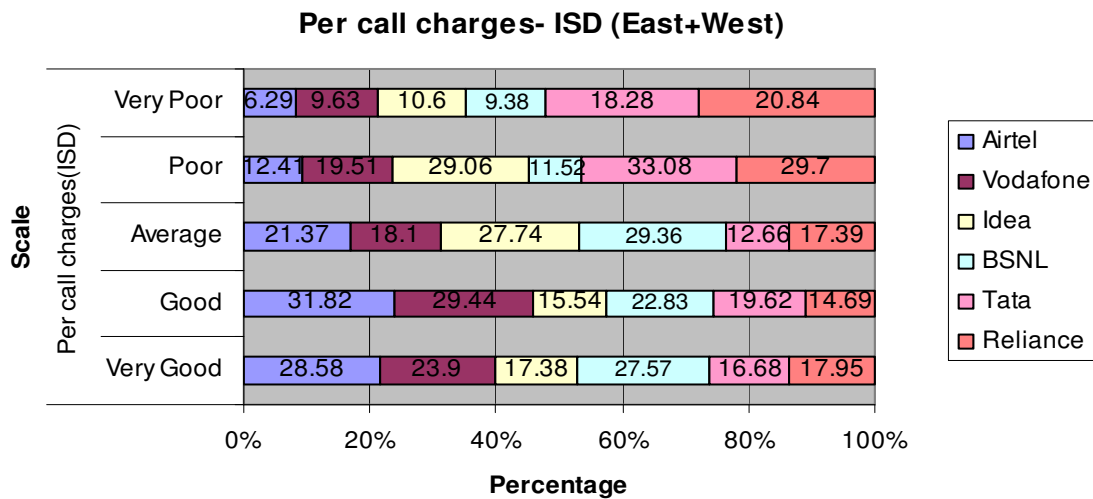
As per the findings, it was concluded that in both the regions together, once again Airtel's ISD charges are very good compared to the other operators. 28.58% people think that it has very good ISD charges, followed by BSNL and Vodafone having 27.57% and 23.90% preference respectively. The poorest ISD call charges are of Reliance which is voted by 20.84% people, followed by Tata with 18.28% voting. Among the average category, highest is 27.74% of Idea which means 27.74% customers feel that Idea has an average ISD call charges.

Per call charges-STD (East+West)
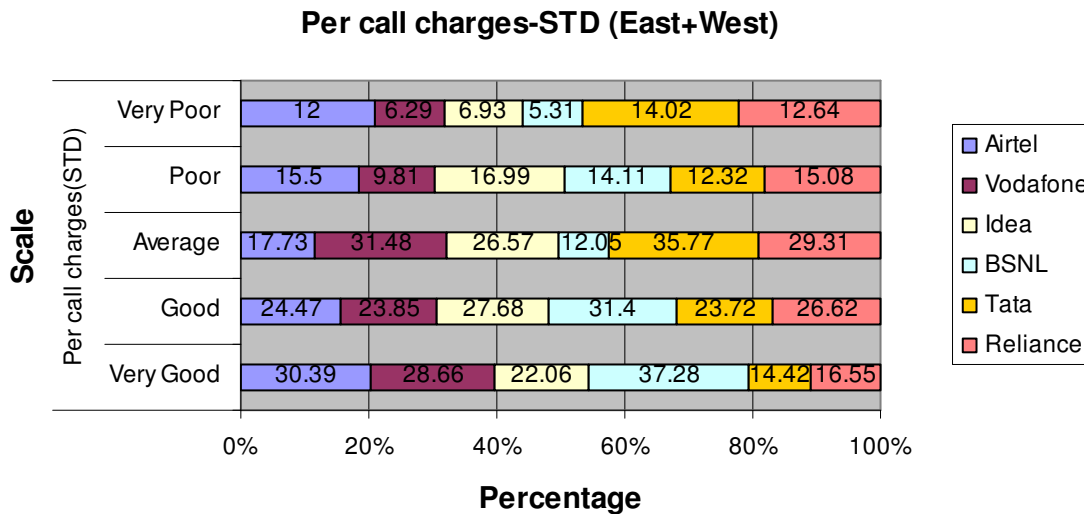
As the above graph shows, it can be said that STD call charges are very good in case of Airtel. 30.39% people prefer that, followed by Vodafone which is preferred by 28.66% people. In case of very poor category, Tata is having the poorest STD call rates with 14.02% customers' preference,

whereas, in poor category, Vodafone is poor with 9.81% customers'
preference. In average and good category, Tata and Idea with 35.77% and
27.68% preference respectively.

Per call charges-Local (East+West)
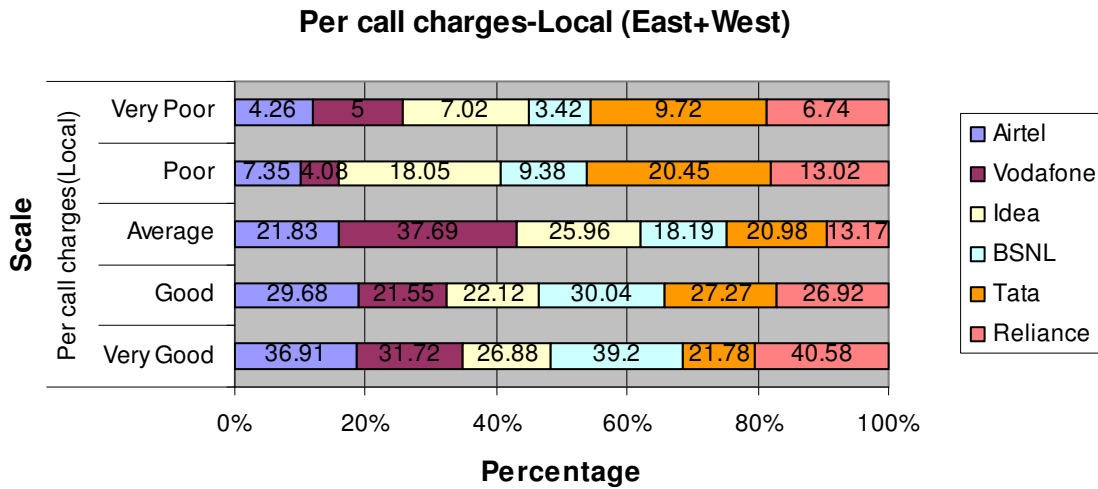
As the above graph reveals, in local charges of operators in both the regions
combined, Reliance is leading with 40.58% customers' preference. It is
because of its scheme like Reliance to Reliance free talk. It has become
more popular than the other schemes provided by the other operators. In the
poorest local charges, Tata is a leader with 9.72% voting. In case of average
charges, Vodafone is leading with 37.69% voting and preference by
customers.

3) <u>Message service:</u>

From the survey, the information related to message service was found and it was concluded that Vodafone provides the best messaging services to its customers and it is preferred by 36.20% customers, followed by Airtel with 30.41% customer preference. In case of the poorest message service, BSNL is rated highest with 13.89% customers, followed by Idea with 11.63%. There is very close rating in very poor section. Reliance is just behind Idea with 10.11% rating. In case of average rating, Idea is at the top place with 31.91% customer preference, followed by Airtel with 31.91% ratings.

Message service (East+West)

4) <u>Network:</u>

As per the findings on the basis of this attribute, it was found that Vodafone has very good network coverage with 43.72% rating, followed by BSNL with 40.24% rating. It shows very close competition for network. BSNL got this higher rating because according to the survey, people also take roaming network into consideration and on the basis of that it was found that BSNL has got the best network facility in roaming. In case of the poorest network, it was very close rating. But as per the survey, Idea has the poorest network as it has got the highest rating by the customers from both the regions together. In case of the average preference, Idea has got the average rating having 29.07% customers' rating.

Network (East+West)
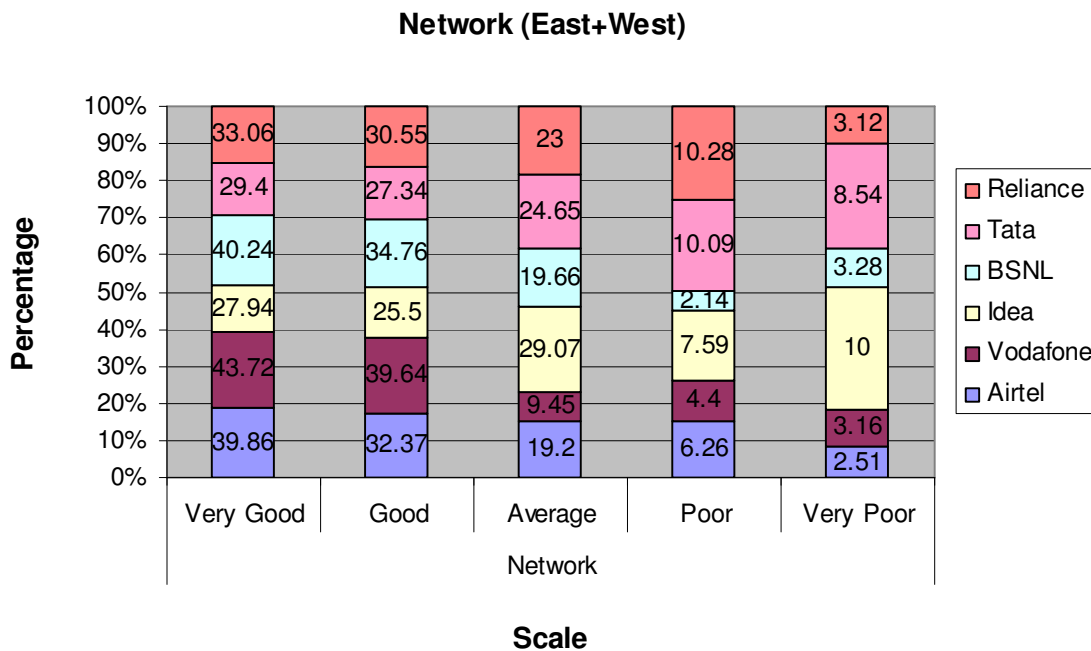
5) <u>Schemes:</u>

As the graph shows, the customers' preferences in case of service providers' different schemes are maximum in case of BSNL as it is the cheapest as per the customers' responses and findings. BSNL is rated highest as a provider of very good schemes with 36.28% customers' preferences, followed by Airtel with 31.80% customers' preferences. Here, the graph also shows that there is a close competition between Airtel and Reliance in case of very good rating category. Reliance is just behind Airtel with 30.77% rating.

Schemes (East+West)
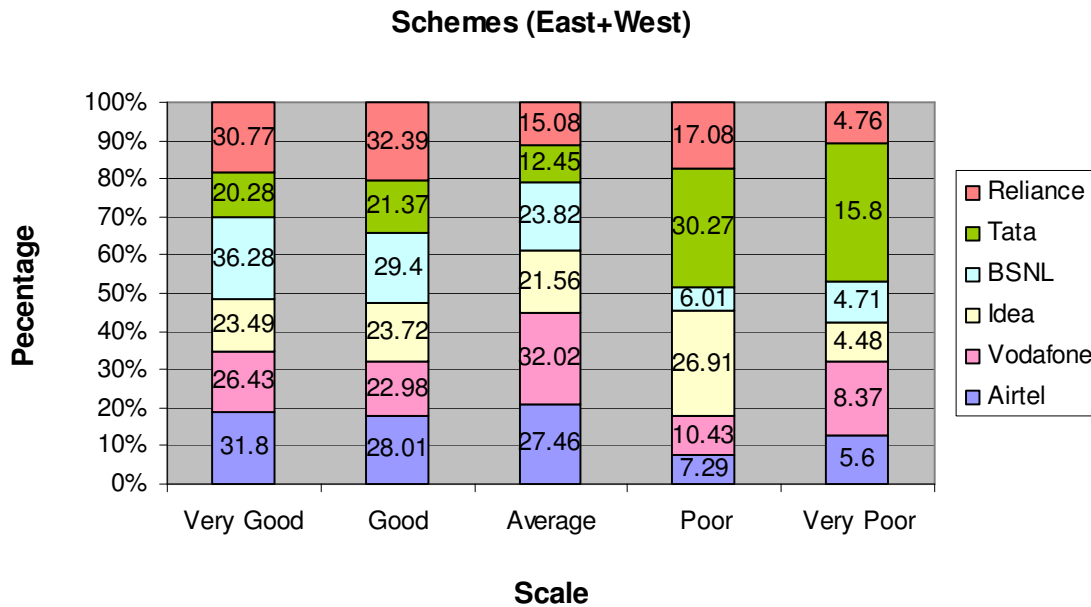
The graph also reveals about the poorest rating by customers as their lowest preference. The lowest preference is of Tata with 15.8% customer ratings. It

has got the highest rating among all the operators. The average rating is of Vodafone in case of providing schemes. It has got the average preference of 32.02% customers' rating.

6) <u>Talk-time and Validity:</u>

Talk-time & Validity (East+West)
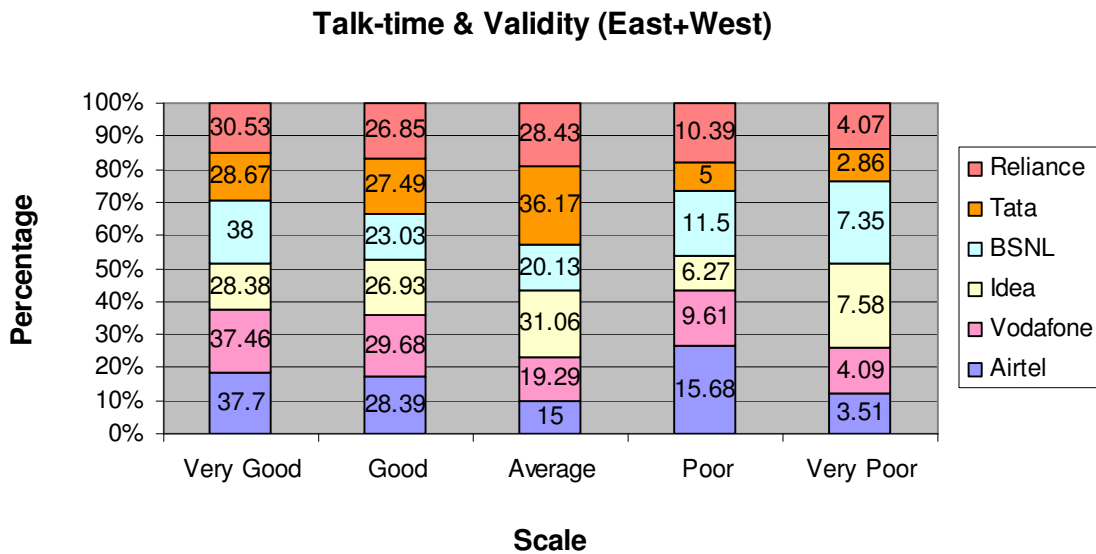
Customers' choices differ from area to area. Here, by combining both the regions, it was found from the gathered information that BSNL has got very good talk time and validity. In spite of the close competition, BSNL has leaded the market with 38% customers' preferences, followed by Airtel and Vodafone with 37.70% and 37.46% ratings respectively. In case of the average customers' preferences, Tata is a leader with 36.17% ratings

followed by Idea with 31.06% customer ratings. But among all the telecom operators, the poorest talk-time and validity provider is Idea with 7.58% customers' ratings.

7) Value Added Services (VAS):

Value Added Services (East+West)
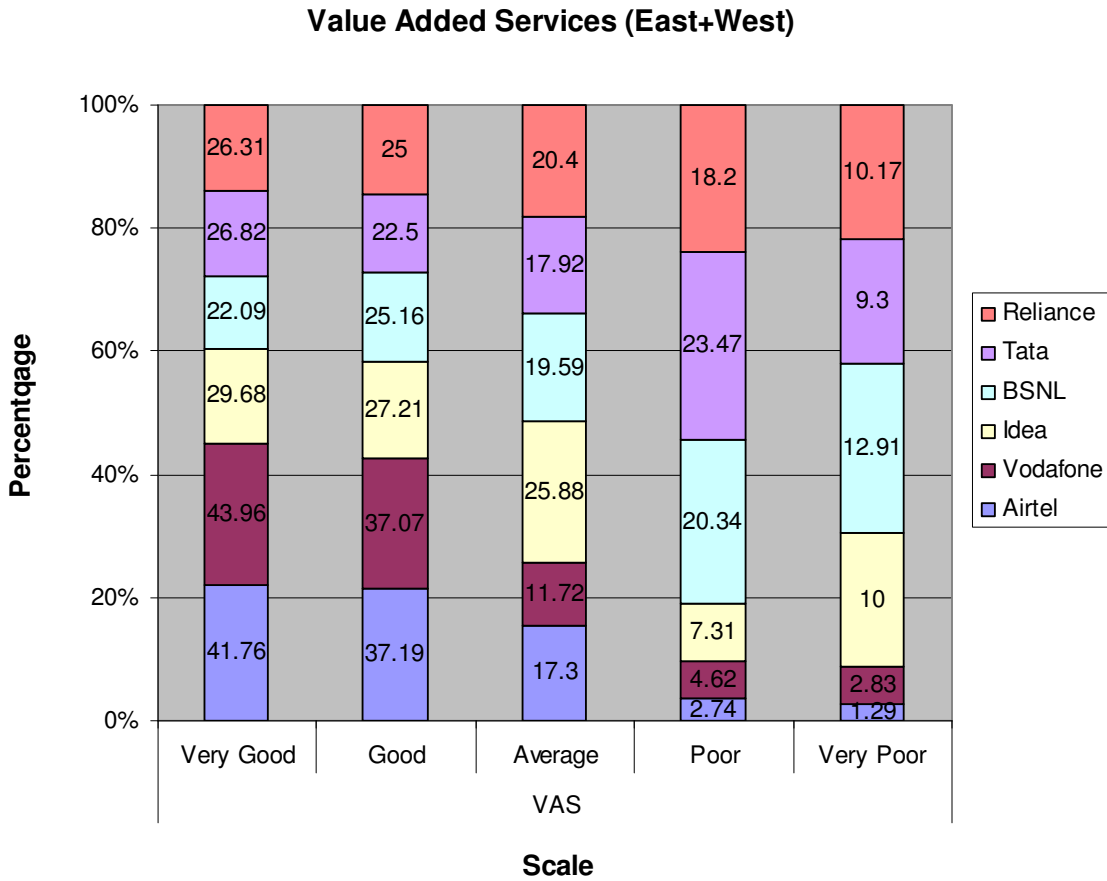
As the above graph clearly depicts that extra benefits i.e. VAS are very well provided by Vodafone with 43.96% followed by Airtel with 41.76% customers' preference. There is a tough competition between Vodafone and

Airtel in the market. But the poorest and the lowest VAS are provided by BSNL as per the customers' preferences survey. It has the highest rating i.e. the poorest rating of 12.91%. The average VAS preferred by the customers is of Idea which has the rating of 25.88%.

8) Availability:

Availability (East+West)
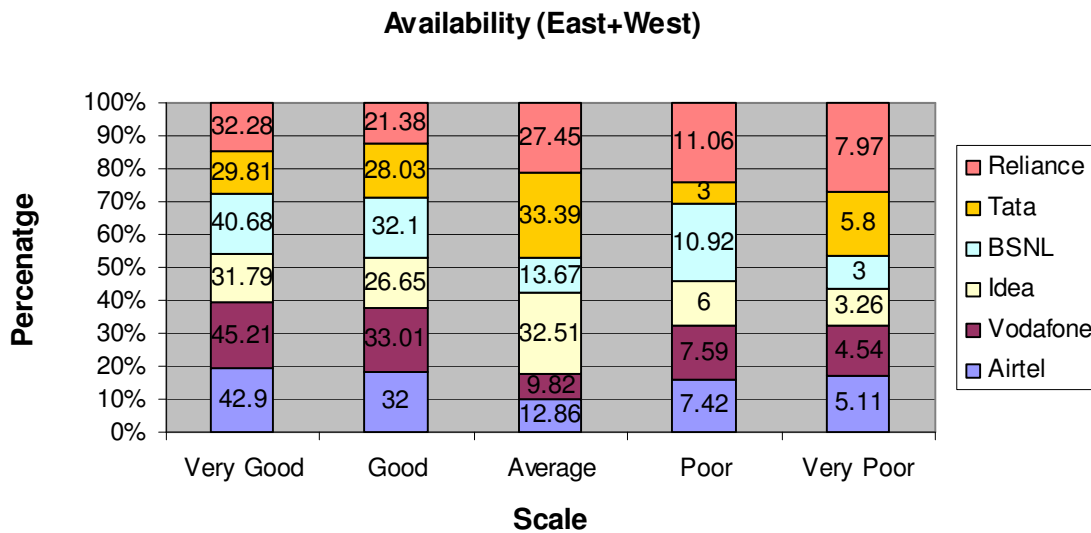
As the above graph reveals, the very good availability of the telecom brand is Vodafone having 45.21% customers' ratings. Airtel is at the second place with the minor difference of 42.90%. There is a tough competition going on among Vodafone, Airtel and BSNL in case of availability as per the data gathered. The average availability is of Tata with 33.39% followed by Idea with 32.51%. Very poor availability is of Reliance. It has got 7.97% customers' ratings.

9) Billing system:

As the below graph shows, the billing system is very good of Airtel with 42% customer preferences followed by 41.68% of Vodafone. As it can be seen from the graph that all the operators are very close to one another in case of effective billing service.

Billing system (East+West)
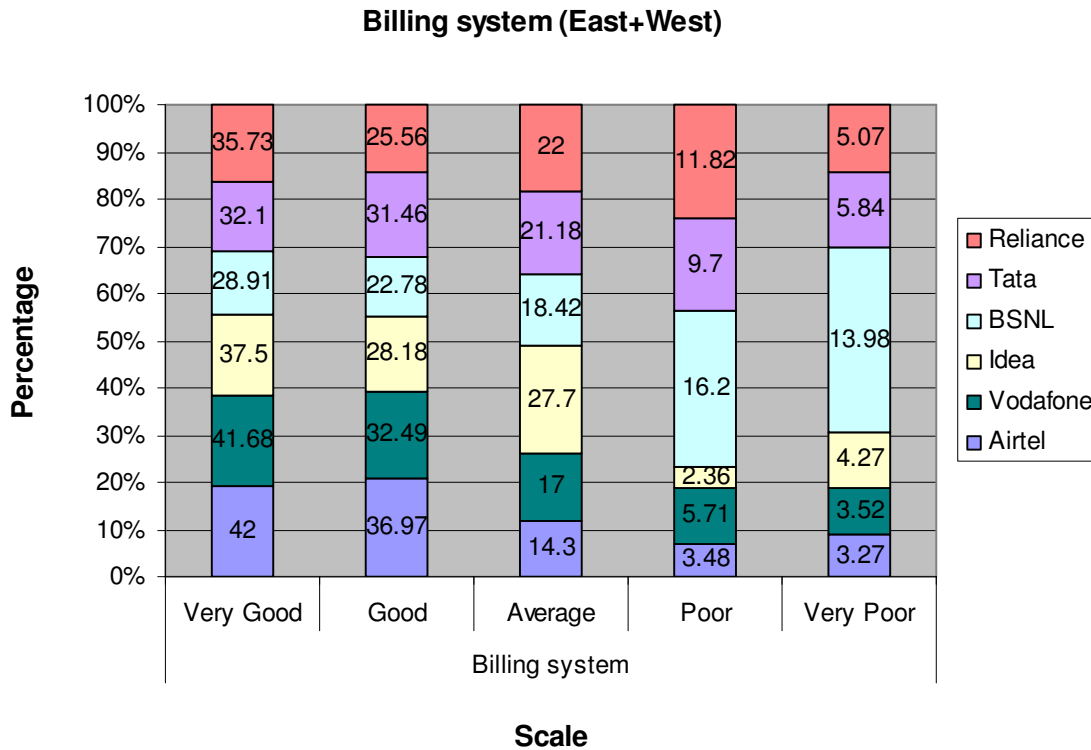
The graph also depicts that average billing system is of Idea which has got 27.70% highest customers' ratings followed by Reliance with 22% ratings.

But the poorest billing system among all is of BSNL which has got highest 13.98% customers' ratings.

10) Voice clarity:

Voice clarity (East+West)
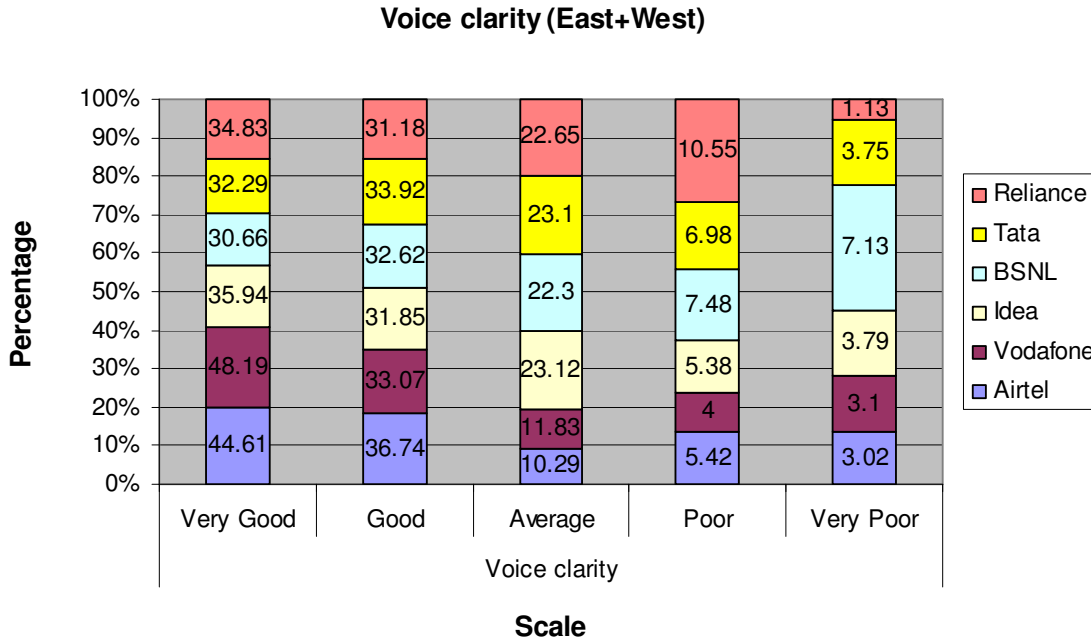
From the survey conducted and from the above graph, it was concluded that voice clarity is much better of Vodafone which is rated highest having 48.19% customers' preferences. At the second place, it is Airtel with 44.61% rating. The average quality of voice clarity is of Idea with 23.12% ratings. It is very close to Tata having 23.10% customers' preference as average voice clarity. BSNL has the poorest voice clarity and rated as the worst operator by 7.13% people.

15. How do you find ISD rates of your service provider?

ISD rates (East)
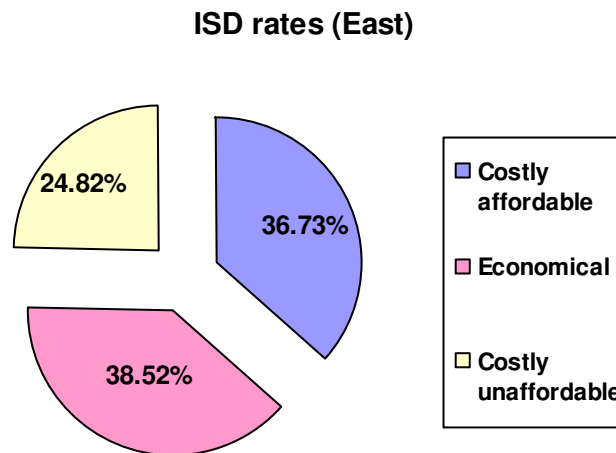
As the above chart shows, the customers in the Eastern area think that the services they are rendering are economical. 38.52% customers think like that. Though, there is a close rating between Economical and Costly affordable but it shows that there are 36.73% people who think that the services they are offered are costly but can be afforded and only 24.82% people think that they are too costly to afford.

Whereas, in case of the Western area, it was found that 48.37% customers think that their service providers are economical. But 30.61% customers think that it is costly affordable and 21.14% customers think that it is costly unaffordable. So compared to Eastern area customers, Western area

customers are less who think that their operators are costly affordable and more in terms of economical.

ISD rates (West)
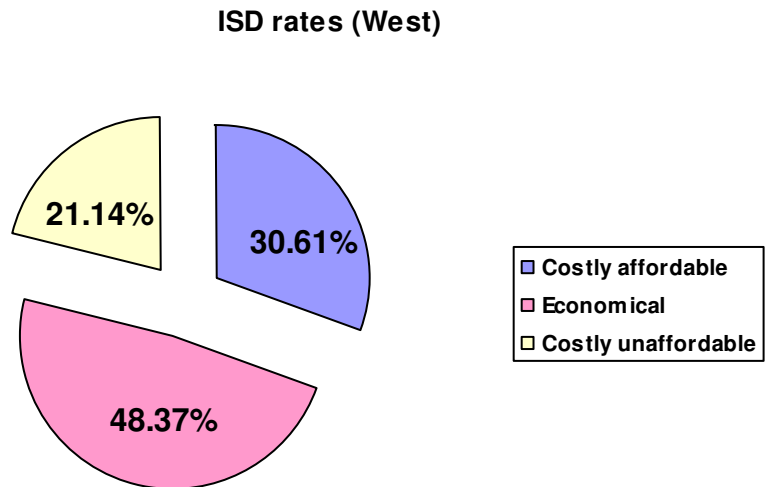
16. How long do you have to wait in customer care?

East+West
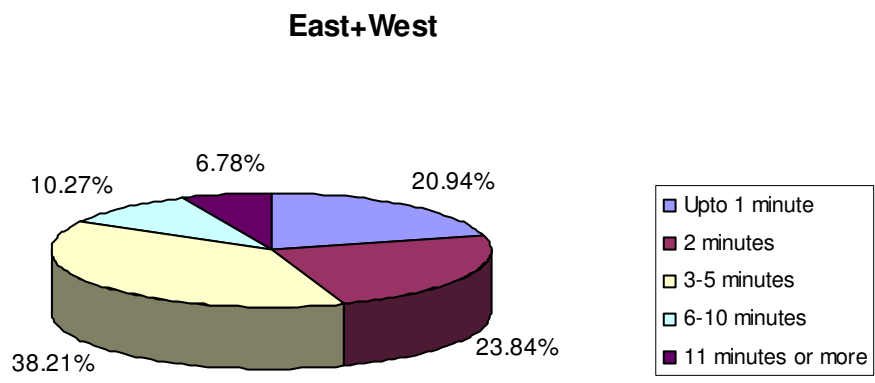
The customer's liking about a particular service provider is also depended on how the customer care executive solves his problem and how much time he takes to reach the customer. So, here the data is collected on the basis of how much a customer has to wait while calling the customer care.

The data reveals that in both the regions together, majority of the customers' i.e. 38.21% have to wait for an average time of 3-5 minutes. The second highest rating is for 2 minutes which is rated by 23.84% of the customers which is quite fair. There are 6.78% customers who have to wait for 11 minutes or more which is not bad. Surprisingly, there are 20.94% customers who have to wait up to 1 minute time to reach to the customer care executive which is very good.

17. Are you aware of 3G technology?

There are new inventions and technologies come up in the market to enhance the competition and make the usage much faster and also useful as well as easy to use. 3G technology is one of those technologies. In the survey, it was asked to the customers whether they are aware of new 3G technology or not.

3G technology (East+West)
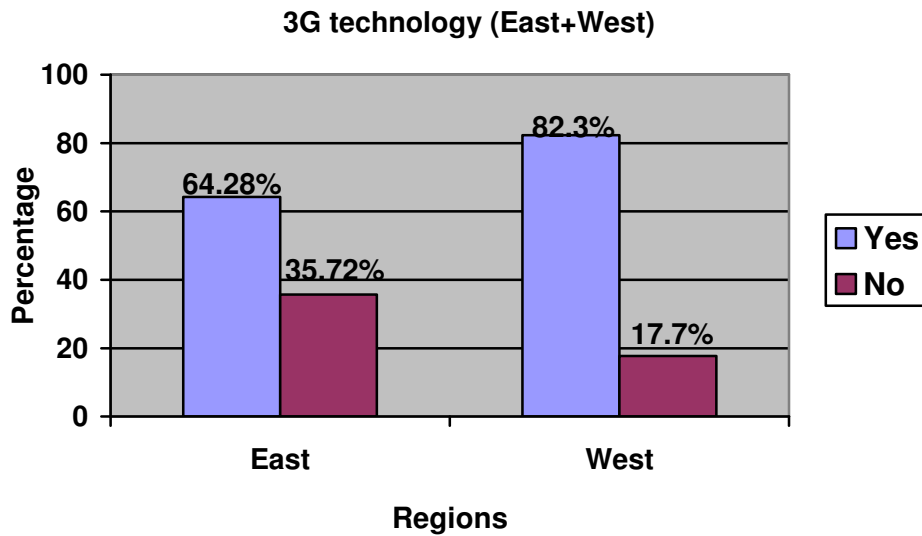
The results are mentioned in the above chart. In the Eastern part, 64.28% people are aware of this technology and 35.72% people are not aware of it. But in case of the Western part, 82.3% people are aware of that technology and 17.70% people are unaware of it. It can be seen that there is a huge difference between the awareness of 3G technology in the Eastern and the Western part of the city.

So, this is the primary information which was collected through the survey in both the regions of the city.

Chapter 11: SWOT ANALYSIS OF INDIAN TELECOM

Strengths:

- Huge wireless subscriber potential

- One of the fastest growing sectors

- Consumers are ready to pay for cutting edge services

- FDI limits are 74%

- Unified license regime

Weaknesses;

- Lowest call tariffs

- Market is regulated by Government bodies

- Too many authorities are ruling this sector

- Wide scales of consumer churn in this sector. Now the number portability is coming up so it will increase the consumer churn rate

- Value Added Services (VAS) is restricted because of literacy and language problems

➢ It is difficult to make into the semi-rural and rural areas because of the lack of infrastructure.

➢ Problem of limited spectrum availability and the issue of interconnection charges between the private and state operators.

Opportunities:

➢ To offer more VAS on GSM, CDMA and Internet Service Providers (ISP)

➢ Language independent services. E.g. sending the message in local language, information available in local language etc.

➢ New innovations in service providers

➢ Huge content providing to local culture as well as globally

➢ Foreign investments in form of equity or technology

➢ Unified messaging platforms

Threats:

➢ Weak Intellectual Property Rights (IPR)

➢ Threat of low cost service providers

➢ Political instability

➢ Regulator interference

➢ The service providers have to incur a huge initial fixed cost to make a mark in rural markets. Achieving break-even under these circumstances may prove to be difficult.

Chapter 12: FUTURE OF INDIAN TELECOM

Indian Telecom is advancing day by day in every aspect. Everyday new technology emerges which helps to solve lot of problems and makes the process smoother for the telecom service providers as well as customers. The competition is increasing and many players are ready to grasp the hands of customers by using CRM techniques. Different VAS (Value Added Services) will play a crucial role in future development.

Indian telecom's total mobile subscriber base is around 160 millions but still there are lots of opportunities in rural areas as well. Government is also supporting the service providers. Apart from that, many telecom operators like Reliance, Bharti and MTNL have decided to enter into different countries like Bharti is planning to launch in Sri Lanka. Reliance is planning to move into Uganda and Sri Lanka also. MTNL is planning to start its proceedings in Mauritius. Apart from that, it is also planning to grow in other markets like Kenya, whereas MTNL is already into the joint venture in wireless market in Nepal.

Launch of new 3G i-phone will change the telecom scenario completely. Government has also taken some steps for the 3G telecom companies for the

improvement of rural market. Future technology projections in broadband indicate that microprocessors will run one thousand times as many computations as are being done today, which mean enormous gain in productivity and efficiency, giving people unimaginable power to access, organize, and transform information. The road for India achieving the top most position in telecommunication is no longer a dream as India is moving towards its milestone and in few years India will over power all countries and achieve its target of top most position in telecom industry.

Number portability is another technology which will enhance the competition as well as it will benefit the consumers more. In this technology, a consumer can change the service provider without changing the number. This technology is likely to come by 2009. The proposed merger of BSNL and MTNL is consuming a lot of ink. There have been various suggestions floated in the media about the ways and means the "synergies" could be obtained. BSNL should concentrate more on rural spread and better Internet connectivity. MTNL should be divested totally. In case of Broadband, there is a late non-starter here. In terms of pricing and download limits, this is pathetic for users who wish to consume bandwidth for file sharing or extensive web surfing for any reason.

The emergence of VAS is one trend that is being followed closely and with great interest by industry analysts and policy makers worldwide. In India, the mobile phone has emerged as the most prevalent device to access the Internet. Most of the industry up till now has been focused on investments in wireless infrastructure. Now that a large part of that investment is behind us, attention is inevitably shifting to VAS.

The consumer is asking for the next set of services-beyond ring-tones, wallpaper, games, SMS. However, few VAS providers have realized that simply taking the web experience and miniaturizing it for mobile delivery doesn't work. The consumer is left with a poor experience and abandons the service quickly.

These range from applications in social media to dynamic widgets scaled down to fit the way people actually interact with information on the go. People want to buy train or movie tickets, read their horoscopes and catch up on the gossip about their favorite Bollywood or Hollywood stars.

Chapter 13: CONCLUSIONS AND RECOMMENDATIONS

13.1] *Conclusion:-*

India has one of the world's largest telecommunication networks. The telecom story continues to be the best evidence of the efficacy of the reforms process. In just six years, the number of mobile subscribers has gone up from just about one million to 100 million, a subscriber base that only four other countries China, the US, Japan and Russia can boast of. None can doubt the correlation between this explosive growth in numbers and the steep decline in the cost of the mobile phone and of its usage. Effective tariffs have dropped from over Rs 14 a minute to Re 1, bringing the phone within reach of people even below the middle-class.

The Government may have, therefore, landed itself a winner in the mobile phone service providers, but the task of taking telecom to the other 90 per cent of the population will call for even greater innovation in policymaking, technology and marketing. Still three-fourths of the land mass is not illuminated by a cellular signal and the price of the instrument is beyond the

reach of a substantial section of the population let alone the charges for its use. These issues, of course, can be resolved by decisive policy action, such as a creative use of the Universal Services Obligation fund that now has over Rs 70 billion, releasing adequate spectrum to operators in the metros, and a proactive investment policy that invites many more equipment manufacturers to set up base in this country. The number portability issues will solve many problems and will help the end users, which will change the whole scenario of competition and will make the game tougher for the service providers.

Looking at the competition trend, it seems that soon in future, rural schools will be having broadband and internet facilities as their part of studies as well as routine lives. There is availability of internet facility in many villages. But soon it will be taught in secondary and higher secondary schools in all villages and various technologies like 3G and various VAS have made the market more competitive and made easy for the users. Implementation of number portability and 3G technology have solved many problems and made easy and comfortable for the customers.

13.2] *Recommendations:-*

As mentioned in the future of Indian telecom and on the basis of the *primary research* and *secondary research*, the following recommendations can be concluded:

- ➤ Lowering the tariff plans of service providers will increase more competition.
- ➤ In order to allow technological upgradation, segment policies should be technology-neutral, and not specifically prescriptive.
- ➤ Resolve spectrum allocation and create need-based licensing of spectrum bandwidth to facilitate the policy of unlimited new entrants in basic services.
- ➤ Pass rules on number portability (service migration) to allow free market conditions for fixed line consumers, without taxing new entrants or consumers for moving away from a monopoly service provider.
- ➤ Bringing more upgradation in VAS for the betterment of the users.
- ➤ Improvement of network infrastructure in both the urban and the rural areas.

- ➢ Reducing the STD and ISD charges for the users.

- ➢ More FDI inflows can be enhanced.

- ➢ More Direct To Home (DTH) services will give benefits to the customers.

- ➢ CDMA technology providers i.e. Tata and Reliance are slowly coping up with the competition with GSM operators which gives a good benefit to the end users. These operators should also indulge into providing various services.

- ➢ Mobile banking is a new concept which is recently adopted by Airtel and it provides recharge from mobile phone by tie ups with banks. This new concept will bring a new revolution in case of inventions.

- ➢ Broadband services can be more focused more if the spectrum issues are solved. Still there are many rural areas where broadband services are not available.

- ➢ Companies can provide new and different schemes to their customers.

- ➢ Enhance data services on fixed and wireline services.

- ➢ Increase in internet speed on mobile can be the criteria for the operators.

The above recommendations for customer's satisfaction can be shown

from the chart below:

Branding recommendation model in Indian telecom sector

```
                    ┌──────────────────────────┐
                    │ Upgradation of technology │
                    └──────────────────────────┘
┌────────────────┐                                    ┌─────────────────┐
│Increase internet│                                   │ Better Network  │
│     speed       │                                   └─────────────────┘
└────────────────┘
                                                       ┌─────────────────┐
┌────────────────┐                                     │ Mobile Banking  │
│    Provide      │          ┌──────────┐              └─────────────────┘
│   different     │          │ Customer │
│    schemes      │          └──────────┘              ┌─────────────────┐
└────────────────┘                                     │   More Value    │
                                                       │ Added Services  │
┌────────────────┐                                     └─────────────────┘
│  Reduce STD     │
│ and ISD rates   │                                    ┌─────────────────┐
└────────────────┘                                     │ Lowering Tariff │
                                                       │     Plans       │
┌────────────────┐                                     └─────────────────┘
│ More Direct To  │
│ Home Services   │                                    ┌─────────────────┐
└────────────────┘                                     │Improve Broadband│
                                                       │    Services     │
                         ┌──────────────┐              └─────────────────┘
                         │ Satisfaction │
                         └──────────────┘
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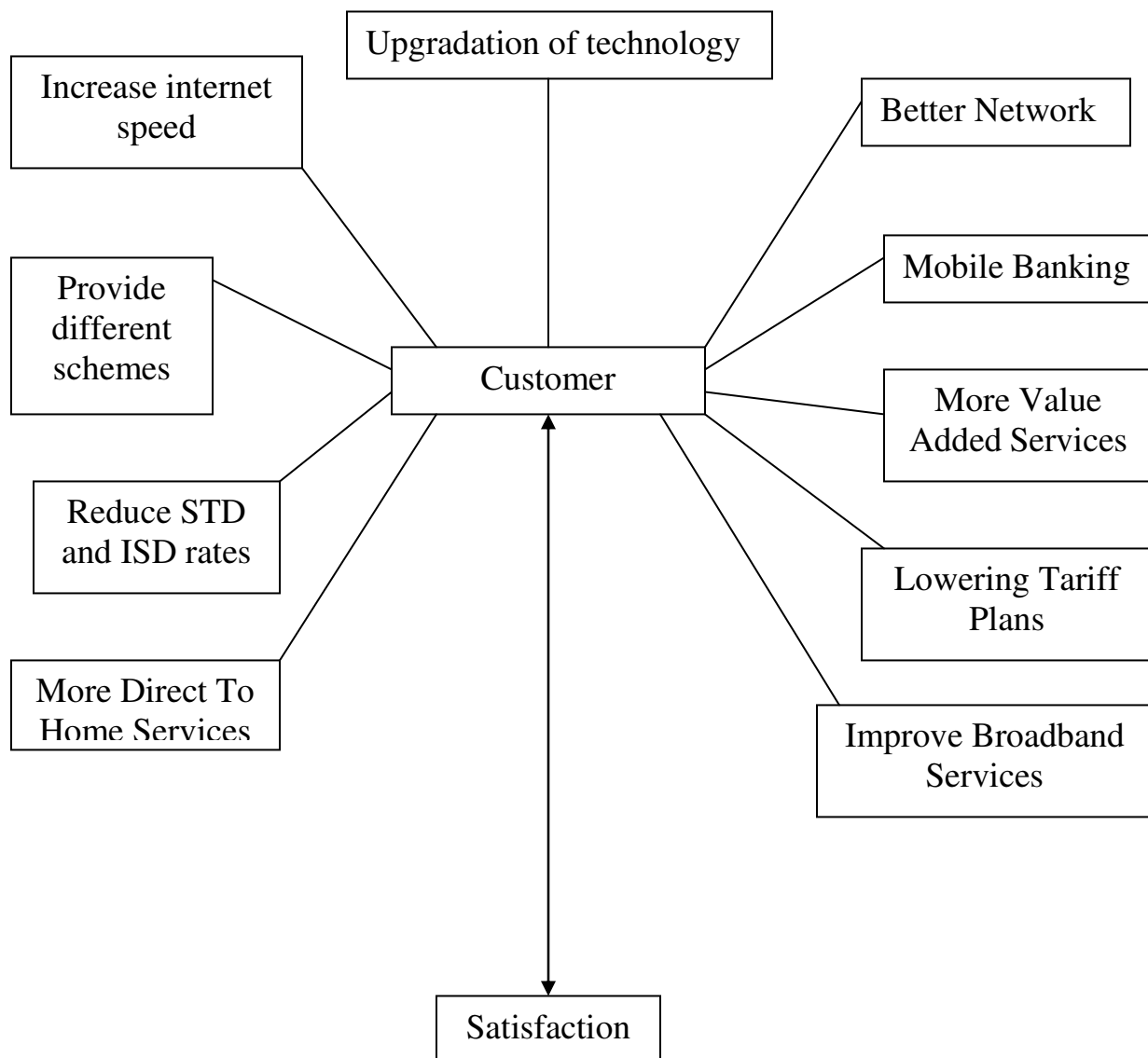
After talking to customer care executives of telecom sector, the following recommendations can be concluded as a part of their strategies for acquiring or retaining new customers:

➤ The telecom operators should take less time for the solving customer's queries.

➤ Majority of the operators focus on the special occasions to launch new schemes but they can also launch schemes on weekly or monthly basis to attract new customers.

➤ TV media is more effective for the operators as per the findings. But they should also focus on radio and newspapers for more effectiveness.

➤ Customer care executives should concentrate more on pre-paid connections for the price sensitive customers and post-paid connections for business class people or high class people. They should use their media tools accordingly.

➤ They should concentrate more on the attributes like talk-time facility, network, voice clarity etc apart from SMS, VAS and schemes.

➤ They should focus more on VAS like GPRS facilities, games, astrology, and music for young people and business news for business people.

➢ They should also focus on new technologies like 3G.

➢ They should also focus on pilot projects before launching a product, especially in case of rural areas.

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ABBREVIATIONS

VAS- Value Added Service

WAP- Wireless Application Protocol

DoT- Department of Telecom

TRAI- Telecom Regulatory Authority of India

EPS- Earning Per Share

TTSL- Tata Teleservices Limited

RCom- Reliance Communications

EQM- Easier, Quicker, More

IRT- Indian Radio Telegraph Company

IRCC- Indian Radio and Cable Communication Company

PTT- Posts, Telephone and Telegraph

VSNL- Videsh Sanchar Nigam Limited

MTNL- Mahanagar Telephone Nigam Limited

BSNL- Bharat Sanchar Nigam Limited

NTP- National Telecommunications Policy

IUC- Interconnect Usage Charges

GSM- Global System for Mobile communications

CDMA- Code Division Multiple Access

COAI- Cellular Operators Association of India

GCC- Global Calling Card

WLL- Wireless Local Loop

VPN- Virtual Private Network

NIB- Non Interference Basis

NLD- National Long Distance

ILD- International Long Distance

WAN- Wide Area Network

MVNO- Mobile Virtual Network Operator

CRM- Customer Relationship Management

QTIL- Quippo Telecom Infrastructure Limited

WTTIL- Wireless Tata Telecom Infrastructure Limited

IPR- Intellectual Property Rights

ISP- Internet Service Provider

GPRS- General Packet Radio Service

SIP- Session Initiation Protocol

ADR- American Depository Receipts

OCS- Overseas Communication Service

USB- Universal Serial Bus

TMI- Telecom Malaysian International

EPS- Earning Per Share

WiMax- Worldwide interoperability for Microwave Access

PSTN- Public Switched Telephone Network

DSL- Digital Subscriber Line

Wi-Fi- Wireless Fidelity

USO- Universal Service Obligation

VPT- Village Public Telephone

DEL- Direct Exchange Line

FTTC- Fiber To The Curb

FTTH- Fiber To The Home

ICT- Information and Communication Technology

FDI- Foreign Direct Investment

IP- Internet Protocol

VAS- Value Added Services

VASP- Value Added Service Provider

CP- Content Provider

SMPP- Short Message Peer-to-Peer Protocol

SMSC- Short Message Service Centre

FII- Foreign Institutional Investor

IVR- Interactive voice response

ANNEXURES

Annexure 1: Telecom ministry unveils 3G policy in India, fierce bidding

Seen

By Vinita Ganju

4th August, 2008

The Indian Government has unveiled norms for distribution of high-speed 3G (third generation) spectrum, saying it will hold a global auction in which all mobile operators, including eligible foreign operators, can participate.

Communications and Information Technology Minister Andimuthu Raja said India has 60 MHz of 3G spectrums available and plans to let five operators initially avail of the service.

Mobile services providers holding a Unified Access Service License (UASL), and any operator who qualifies for an UASL in India and has experience in 3G services will be allowed to participate in the auction, the telecom ministry said. Foreign operators, which fall in the second category, will require forming joint ventures (JVs) with Indian firms, and, according to

Indian FDI rules, in telecom sector, their stakes in the JVs cannot be more than 74 percent.

New and foreign players such as AT&T (US), Deutsche Telekom AG (Germany) and NTT DoCoMO (Japan), which are keen on entering the Indian market, will also have to pay an additional entry fee of Rs.1650 crores to acquire the UASL to qualify for 3G services.

Spectrum will be auctioned in blocks of 2x5 MHz, and the number of blocks to be auctioned will range from 5 to 10 depending on the availability of spectrum in each circle, the telecom ministry said.

Each bidder will be allocated only one block in each circle, and the license for the 3G spectrum will be for period of 20 years, it added.

"The actual number of blocks to be auctioned in a service area will be announced well before the auction," the Department of Telecommunications (DoT) said in a statement.

Raja said both GSM and CDMA players can bid at the auction but CDMA platform-based mobile operators have the option of getting the spectrum without having to participate in the auction.

According to the policy announced on Friday, CDMA operators can seek one slot in the 800 MHz, which is the most efficient and cost effective frequency band for 3G services as far as CDMA is concerned.

The catch, however, is that spectrum in this band will be allocated to the operator with most number of subscribers in a circle.

There are only two slots available in the 800 MHz frequency band and 4 pan-India CDMA operators - state-run BSNL (MTNL in Mumbai and Delhi), Reliance Communications, Tata Teleservices and Sistema-backed Shyam Telecom.

As BSNL will get one slot, the other slot is expected to go to either Reliance or Tata as Shyam Telecom is a new player. And, between Reliance and Tata, Reliance is expected to get the lucrative bandwidth in most circles, as it has more subscribers in almost all the circles except Delhi and Maharashtra where Tata is the No.1 CDMA operator. There are 22 circles in India.

The CDMA player will also have to pay a fee proportionate to the amount quoted by the highest bidder during the auction for GSM-based 3G services.

BSNL and MTNL have also been allowed a 4-6 months head start ahead of private sector rivals for the launch of 3G mobile services.

The winning bidders will be exempted from paying any annual fee in the first year of operations, but they will have to pay 1 percent of their adjusted gross revenue as an annual spectrum charge from the second year onwards.

Raja said talks are also going on to allow the Defense Ministry to release additional spectrum. "The number of operators (in the 3G spectrum) can go up to 10 in the circles...when more spectrums become available," he said.

However, in regions like Mumbai or Delhi, due to lack of spectrum, only 2-3 operators can be accommodated at the moment, he added.

The complete details of auctioning of the spectrum and the number of players allowed in each circle will be finalized in 3-4 months, the telecom minister said.

An agency will be appointed to supervise the auction which will be "fully transparent," Raja said, adding that the auction will help the government earn around Rs.30, 000 crores to Rs.40, 000 crores.

The government has imposed a floor reserve price of Rs.2020 crores for the 3G licenses.

"Quality of voice telephony will be improved" with 3G spectrum that would allow operators to "provide good quality services to a larger number of subscribers," the government said in a statement.

"We welcome the government's announcement of its 3G policy and believe this will benefit the entire wireless communications ecosystem," said Kanwalinder Singh, president for India operations of Qualcomm - a major player in 3G industry.

"3G will bring efficient voice and rich data services to Indian consumers," Singh said.

"The government's 3G licensing plans represent a major boost to India's economy," GSMA, the global trade body for the mobile industry, and the Cellular Operators Association of India (COAI) said in a joint statement.

According to Madhusudan Gupta, analyst at industry research firm Gartner, 3G mobile services will enable operators to be more competitive. "Users can expect more contract based subsidized, and hence cheaper, 3G handsets from service providers and we estimate that by 2012 every fifth handset in India will be 3G enabled," Gupta said.

The auction ensures that only "a few serious players will come in," noted Prashant Singhal, head of telecom practice at Ernst & Young.

Top industry chamber, the Federation of Indian Chambers of Commerce and Industry (FICCI) said the 3G policy will attract huge investments in the country to the tune of $8-10 billion over the next three years.

It also spell opportunities for network gear makers such as Nokia Siemens, Ericsson, Motorola, and Huawei, as successful bidders are expected to spend billion of dollars building 3G networks.

The launch of 3G spectrum (radio frequencies that enable wireless communication) in India is a significant step as it allows the country to join many others in moving to the next-generation high-end services which give users a chance to enjoy fast Internet access (Internet speed on 3G bandwidth is at least 30 times faster than the present 2G bandwidth), games, music, video and other multimedia content on their mobile phones.

Meanwhile, in a separate development, the government has decided to allow number portability which has left many mobile services providers worried.

Number portability will allow any mobile subscriber to change his mobile services provider, without having to change his mobile number. This system

is a boon to new entrants in the telecom sector as it gives them an opportunity to poach on subscribers from existing mobile services providers.

Two clearinghouses will be given licenses to handle the backend work for number portability, the government said, adding the new system will be launched by year.

DoT has also outlined guidelines for auction of broadband wireless spectrum using protocols such as Wimax, short for worldwide interoperability for microwave access, a standard that is capable of data speeds of 10 megabytes per second up to 2 km away from a radio transmitter. Spectrum rights for such services will be given at one-fourth the price of 3G licenses but the winning bidders will be offered 20 MHz spectrum each, DoT said.

Thanks to call rates of as low as $0.01 a minute, availability of cheaper handsets and expansion of networks to smaller towns and rural areas, the Indian mobile market has leapfrogged the US to become the second largest (after China) and the world's fastest growing mobile market in the world. With Indian operators adding 8-9 million subscribers a month, at the end of June, total number of mobile users stood at 287 million and research firm Gartner expects the number to touch 737 million by 2012.

According to market analysts, mobile users in India have jumped 25 times between 2002 and 2007, but the potential for growth remains huge as just 23 percent of the billion-plus population has a mobile phone. Though India's mobile revolution is mainly confined to the cities, the real prize for phone companies is the vast rural market, where nearly 70 percent of India's 1.1 billion populations live.

In India, the top GSM players are Bharti Airtel, Vodafone-Essar, BSNL, Idea and Aircel while top CDMA players are Reliance Communications and Tata Teleservices.

Annexure 2: Questionnaire for Customers

This survey is conducted for the purpose of finding out **the feasibility of the telecom service providers** by students of IIPM, Ahmedabad and whatever information we get will be kept confidential and used for research purpose only. Put a tick (√) for the right options.

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1. Age Group: ☐ 10-20   ☐ 20-40   ☐ Above 40

2. Occupation: _____

3. Designation: _____

4. Gender: ☐ Male   ☐   Female

5. Which type of connection do you prefer?

○ Pre-paid   ○ Post-paid

6. Whose service(s) are you rendering now?   ☐   BSNL ☐   Tata   ☐ Reliance

☐ Vodafone   ☐ Airtel   ☐ Idea

7. Which technology do you prefer?   ☐   CDMA   ☐   GSM   ☐   Both

8. How long have you been using this connection of your service provider?

○ Less than 3 months   ○ 6-12 months

○ 3-6 months   ○ 1-2 years

○ 2-3 years   ○ More than 3 years

9. Rate your satisfaction level of your service provider.

☐ Very Good   ☐ Good   ☐ Satisfied   ☐ Bad   ☐ Very Bad

10. What kind of expectations do you have from your service provider?

☐ Good service   ☐ Network   ☐ Voice quality   ☐ Schemes   ☐ Price

11. Are you aware about the role of telecom services in providing broadband without using cable TV network?   ◯ Yes   ◯ No

12. How much do you spend per month on your mobile connection?

◯ Up to Rs. 500
◯ Rs. 501- Rs. 1000
◯ Rs. 1001- Rs. 1500
◯ More than Rs. 1500

13. How do you find the behavior of customer care executives of your service provider?

◯ Professional & prompt   ◯ Not Responding

◯ Warm & helpful   ◯ Lazy & slow

14. What do you think about the competition in the market?

☐ No choice   ☐ Some Choice   ☐ Enough Choice   ☐ Can't Say   ☐ Don't Know

15. Given a choice with same number, which service provider will you select?

☐ Tata   ☐ BSNL   ☐ Airtel

☐ Reliance   ☐ Idea   ☐ Vodafone

16. What is your purchase intent for news alerts on mobile phone?

◯ General News
◯ Entertainment
◯ Business
◯ Sports
◯ Astrological Predictions

17. How will you rate the following attributes for your service providers? Please tick (√) the appropriate.

No.	Attributes	Very Good	Good	Average	Poor	Very Poor
1.	Customer care					
2.	Per call charges ISD STD Landline					
3.	Message service					
4.	Network					
5.	Schemes					
6.	Talk-time & validity					
7.	Value added service					
8.	Availability					
9.	Billing system					
10.	Voice clarity					

18. How do you find ISD rates of your service provider?

◯ Costly affordable   ◯ Economical   ◯ Costly unaffordable

19. How long do you have to wait in customer care?

☐ Up to 1 minute   ☐ 3-5 minutes

☐ 2 minutes   ☐ 6-10 minutes

☐ 11 minutes or more

20. Are you aware of 3G technology?

◯ Yes   ◯ No

Thank You

Annexure 3: Questionnaire for Marketers

This survey is conducted for the purpose of finding out **the feasibility of the telecom service providers** by students of IIPM, Ahmedabad and whatever information we get will be kept confidential and used for research purpose only. Put a tick (√) for the right options.

1. Age Group: ☐ 10-20   ☐ 20-40   ☐ Above 40

2. Gender: ☐ Male   ☐ Female

3. Company Name: ☐ BSNL   ☐ Tata   ☐ Reliance

☐ Vodafone   ☐ Airtel   ☐ Idea

4. Designation: _____

5. On which type of connection do you concentrate more?

○ Pre-paid   ○ Post-paid

6. When do you launch new schemes?_____

7. What factors do you consider while launching a new scheme?

  _____

8. Which Strategy do you implement to acquire new customers?

  _____

9. Which strategy do you implement to retain customers?

  _____

10. Do you do any pilot project before launching any product to know customers preference?

○ Yes   ○ No

11. How do you solve problems of customers?

12. Do you have any grievance handling department to solve customer's problems?

◯ Yes   ◯ No

13. On which Value Added Service do you focus more?

_____

14. According to you, How does a technology and network play role in customer's satisfaction?

_____

_____

15. How does a media tool can play a role in branding your product and providing customer's satisfaction?

_____

_____

Thank You

RESPONSE SHEETS

Response Sheet-1

1. **Name: -** Naman Shah
   Centre: - IIPM, Ahmedabad

2. **ID No:-** SS/06-08/AHD/MKTG/2

3. **The topic of Study: -** Critically analyze the customer preference and satisfaction measurement in Indian Telecom Industry

4. **Details of Meeting: -** Guide explained how to start thesis and to start with secondary data collection.

5. **Date when the Guide was consulted:-** 7/4/2008

6. **The outcome of the meeting/discussion: -** Secondary data collection through books, internet and articles started.

7. **The Progress of the thesis: -** Basic details about telecom details found through secondary sources.

Signature of thesis guide

<u>Response Sheet-2</u>

1. **Name: -** Naman Shah
2. **Centre: -** IIPM, Ahmedabad

3. **ID No:-** SS/06-08/AHD/MKTG/2

4. **The topic of Study: -** Critically analyze the customer preference and satisfaction measurement in Indian Telecom Industry

5. **Details of Meeting: -** Gathered some secondary data related to Indian telecom and showed to the guide and got suggestions from the guide to find out company and its market share details.

6. **Date when the Guide was consulted:-** 2/5/2008

7. **The outcome of the meeting/discussion: -** Started collection of data according to the suggestions received.

8. **The Progress of the thesis: -** Data collected related to market share and companies profile through secondary data.

Signature of thesis guide

<u>Response Sheet-3</u>

1. **Name: -** Naman Shah
2. **Centre: -** IIPM, Ahmedabad

3. **ID No:-** SS/06-08/AHD/MKTG/2

4. **The topic of Study: -** Critically analyze the customer preference and satisfaction measurement in Indian Telecom Industry

5. **Details of Meeting: -** To search about telecom in rural area and comparisons between GSM and CDMA. Apart from that, also to find about recent updates and issues.

6. **Date when the Guide was consulted:-** 28/6/2008

7. **The outcome of the meeting/discussion: -** Suggestions about GSM and CDMA received and how to find out details on the basis of that.

8. **The Progress of the thesis: -** Recent issues were found out as explained by guide. Also found out latest updates in Indian telecom and also data related to rural area. GSM and CDMA comparison was done.

Signature of thesis guide

<u>Response Sheet-4</u>

1. **Name: -** Naman Shah
2. **Centre: -** IIPM, Ahmedabad

3. **ID No:-** SS/06-08/AHD/MKTG/2

4. **The topic of Study: -** Critically analyze the customer preference and satisfaction measurement in Indian Telecom Industry

5. **Details of Meeting: -** The guide told me to start with primary research and to prepare questionnaires about that.

6. Date when the Guide was consulted:- 6/8/2008

7. **The outcome of the meeting/discussion: -** Asked the guide about the questionnaire details to include.

8. **The Progress of the thesis: -** Prepared questionnaire as per the guidelines.

Signature of thesis guide

<u>Response Sheet-5</u>

1. **Name: -** Naman Shah
2. **Centre: -** IIPM, Ahmedabad

3. **ID No:-** SS/06-08/AHD/MKTG/2

4. **The topic of Study: -** Critically analyze the customer preference and satisfaction measurement in Indian Telecom Industry

5. **Details of Meeting: -** Showed the questionnaires if there are any changes required and if not then to get approval for the same to proceed with the primary details.

6. **Date when the Guide was consulted:-** 11/8/2008

7. **The outcome of the meeting/discussion: -** Got approval from the guide to proceed with the primary research.

8. **The Progress of the thesis: -** Started primary research and after completion of analysis decided to show it to the guide.

Signature of thesis guide

<u>Response Sheet-6</u>

1. **Name: -** Naman Shah
2. **Centre: -** IIPM, Ahmedabad

3. **ID No:-** SS/06-08/AHD/MKTG/2

4. **The topic of Study: -** Critically analyze the customer preference and satisfaction measurement in Indian Telecom Industry

5. **Details of Meeting: -** Meeting after final analysis is done and if any changes are required.

6. Date when the Guide was consulted:- 23/8/08

7. **The outcome of the meeting/discussion: -** Changes are done as per the guide's suggestions.

8. **The Progress of the thesis: -** Final thesis is to be submitted.

Signature of thesis guide