CHAPTER - I

INTRODUCTION
Introduction

The telecom services have been recognized the world-over as an important tool for socio-economic development for a nation. It is one of the prime support services needed for rapid growth and modernization of various sectors of the economy. Indian telecommunication sector has undergone a major process of transformation through significant policy reforms, particularly beginning with the announcement of (National Telecom Policy) NTP 1994 and was subsequently re-emphasized and carried forward under (National Telecom Policy) NTP 1999. Driven by various policy initiatives, the Indian telecom sector witnessed a complete transformation in the last decade. It has achieved a phenomenal growth during the last few years and is poised to take a big leap in the future also.

Status of Telecom Sector

The Indian Telecommunications network with 430 million connections (as on March 2009) is the third largest in the world. The sector is growing at a speed of 46-50% during the recent years. This rapid growth is possible due to various proactive and positive decisions of the Government and contribution of both by the public and the private sectors. The rapid strides in the telecom sector have been facilitated by liberal policies of the Government that provides easy market access for telecom equipment and a fair regulatory framework for offering telecom
services to the Indian consumers at affordable prices. Presently, all the telecom services have been opened for private participation. The Government has taken following main initiatives for the growth of the Telecom Sector:

*Trend in Tele-density*

Tele-density in the country increased from 5.11% in 2003 to 36.98% in March 2009. In the rural area teledensity increased from 1.49% in Mar 2003 to 15.11% in March 2009 and in the urban areas it is increased from 14.32% in Mar 2003 to 88.84% in March 2009. This indicates a rising trend of Indian telecom subscribers.
Table 1.1.

*Indian Telecommunications at a glance*

*(Data As on 31st March 2009)*

<table>
<thead>
<tr>
<th>Telecom Subscribers (Wireless + Wireline)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Subscribers</td>
<td>429.72 Million</td>
</tr>
<tr>
<td>% Growth During Quarter</td>
<td>11.68 %</td>
</tr>
<tr>
<td>Urban Subscribers</td>
<td>309.43 Million (72 %)</td>
</tr>
<tr>
<td>Rural Subscribers</td>
<td>120.29 Million (28 %)</td>
</tr>
<tr>
<td>Overall Teledensity</td>
<td>36.98 %</td>
</tr>
<tr>
<td>Urban Teledensity</td>
<td>88.66 %</td>
</tr>
<tr>
<td>Rural Teledensity</td>
<td>14.8 %</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wireline Subscribers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Wireline Subscribers</td>
<td>37.96 Million</td>
</tr>
<tr>
<td>% Growth During Quarter</td>
<td>0.15 %</td>
</tr>
<tr>
<td>Urban Wireline Subscribers</td>
<td>27.38 Million (72.13 %)</td>
</tr>
<tr>
<td>Rural Wireline Subscribers</td>
<td>10.58 Million (27.87 %)</td>
</tr>
<tr>
<td>Village Public Telephones (VPT)</td>
<td>5.61 Million</td>
</tr>
<tr>
<td>Public Call Office (PCO)</td>
<td>6.20 Million</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wireless Subscribers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Wireless Subscribers</td>
<td>391.76 Million</td>
</tr>
<tr>
<td>% Growth During Quarter</td>
<td>12.93 %</td>
</tr>
<tr>
<td>Urban Wireless Subscribers</td>
<td>282.05 Million (72 %)</td>
</tr>
<tr>
<td>Rural Wireless Subscribers</td>
<td>109.71 Million (28 %)</td>
</tr>
<tr>
<td>GSM Subscribers</td>
<td>297.26 Million (75.88 %)</td>
</tr>
<tr>
<td>CDMA Subscribers</td>
<td>94.50 Million (24.12 %)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Internet &amp; Broadband Subscribers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Internet Subscribers (including Broadband)</td>
<td>13.54 Million</td>
</tr>
<tr>
<td>% Growth During Quarter</td>
<td>5.30 %</td>
</tr>
<tr>
<td>Broadband Subscribers</td>
<td>6.22 Million</td>
</tr>
<tr>
<td>Wireless Data Subscribers</td>
<td>117.82 % Million</td>
</tr>
</tbody>
</table>

Source: www.Trai.gov.in
HISTORY OF TELECOMMUNICATION INDUSTRY

The history of telecommunication industry started with the first public demonstration of Morse's electric telegraph, Baltimore to Washington in 1844. In 1876 Alexander Graham Bell filed his patent application and the first telephone patent was issued to him on 7th of March 1876.

In 1913, telegraph was popular way of communication. AT&T commits to dispose its telegraph stocks and agreed to provide long distance connection to independence telephone system.

In 1956, the final judgment limited the Bell System to Common Carrier Communications and Government projects but preserving the long-standing relationships between the manufacturing, researches and operating arms of the Bell System. In this judgment AT&T retained bell laboratories and Western Electric Company. This final judgment brought to a close the justice departments seven –year-old antitrust suit against AT&T and Western Electric which sought separation of the Bell Systems Manufacturing from its operating and research functions. AT&T was still controlling the telecommunication industry.

In 1982, AT&T was requested to divestiture its stock ownership in Western Electric; termination of exclusive relationship between AT&T
and Western Electric; divestiture by Western Electric of its fifty percent interest in Bell Telephone Laboratories, AT&T 's telecommunication research and development facility, is a jointly owned subsidiary in which AT&T and Western Electric each own 50% of the stock; separation of telephone manufacturing from provision of telephone service and the compulsory licensing of patents owned by AT&T on a non-discriminatory basis.

It was telecommunication act of 1996 that true competition was allowed. The act of 1996 opened the market to all competitors. AT&T being the first telecommunication company paved the road for the telecommunication industry as well as set the policy and standards for others to follow.

Beginning of telecommunication in India

- 1851 - First operational land lines were laid by the government near Calcutta
- 1881 - Telephone services introduced in India
- 1883 - Merger with postal system
- 1923 - Formation of Indian radio Telegraph Company
- 1947 - Nationalization of all foreign telecommunication companies to form the posts, telephone and telegraph, a monopoly run by the government’s ministry of communications
• 1985 - Department of telecommunication established, an exclusive provider of domestic and long-distance services that would be its own regulator

• 1986 - Conversion of dot into two wholly government-owned companies the VSNL for international telecommunication and MTNL for services in metropolitan areas

• 1997 - Telecom regulatory authority created

• 1999 - Tariff rebalancing exercise gets initiated

• 1999 - National telecom policy is announced

• 2000 - Amendment of TRAI Act

• 2002 - VSNL came under private management. International Long Distance Service opened for private competition. Internet telephony was started

Telecommunication is important not only because of its role in bringing the benefits of communication to every corner of India but also in serving the new policy objectives of improving the global competitiveness of the Indian economy and stimulating and attracting foreign direct investment. Indian Telecom industry is one of the fastest growing telecom markets in the world. In telecom industry, service providers are the main drivers; whereas equipment manufacturers are
witnessing growth and decline in successive quarters as sales is dependent on order undertaken by the companies.

**Marketing** is the process of interesting potential customers in the organization products and/or services. The key word in this marketing definition is "process"; marketing involves researching, promoting, selling, and distributing your products or services. When you're putting together a marketing program for your business, concentrate on the marketing basics, the four key components of any marketing plan:

- Products and services
- Pricing
- Distribution
- Promotion

**Marketing Definitions:**

"Marketing is the social process by which individuals and groups obtain what they need and want through creating and exchanging products and value with others" - Kotler.

"The right product, in the right place, at the right time, at the right price" - Adcock

"1. The act of buying and selling in the market. 2. All business activity involved in the moving of goods from the producer to the"
consumer, including selling, advertising, packaging, etc."
- Webster’s

".. The performance of business activities that direct the flow of goods and services from producer to consumer or user."
- American Marketing Association (AMA)

"Marketing is the management process responsible for identifying, satisfying and anticipating customer requirements profitably."
- The Chartered Institute of Marketing (CIM), UK

Importance of Marketing :-

To the society:-

➢ Marketing is a connecting link between the consumer / costumer and the producer

➢ Marketing helps in increasing the living standard of people

➢ Marketing helps to increase the nation’s income

➢ Marketing removes imbalances of supply by transferring the surplus to deficit areas through better transport

➢ Marketing helps to maintain economic stability

To the individual firms:-

➢ Marketing generates revenue of firms. A firm fulfills its motivate only through marketing
➢ Marketing section of a firm is the source of information to the top management for taking overall decision on production

➢ Marketing and innovations are the two basic functions of all business.

To the Customer/Consumer:-

➢ All the marketing activities satisfy the human wants at a needed place and time

➢ Marketing helps the consumers to increase their standard of living

➢ Marketing views the customers as the very purpose of the business, therefore first customer need is know and then production takes place hence marketing satisfies customer wants

Services:

Services are intangible activities that are offered after sale or in connection with the sale of goods. For example, Consultants, Banking and telecom, Etc.,

Service may be of two types

Personal: - It comprises of education, communication, medical, logical services etc.,

Business services: - It comprises of advising, mercantile credits, collection agencies, etc.,
MARKETING PROCESS

The Marketing Process:

Under the marketing concept, the firm must find a way to discover unfulfilled customer needs and bring products to market products that satisfy those needs. The process of doing so can be modeled in a sequence of steps: the situation is analyzed to identify opportunities, the strategy is formulated for a value proposition, tactical decisions are made, the plan is implemented and the results are monitored.

The Marketing Process

<table>
<thead>
<tr>
<th>Situation Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>↓</td>
</tr>
<tr>
<td>Marketing Strategy</td>
</tr>
<tr>
<td>↓</td>
</tr>
<tr>
<td>Marketing Mix Decisions</td>
</tr>
<tr>
<td>↓</td>
</tr>
<tr>
<td>Implementation &amp; Control</td>
</tr>
</tbody>
</table>

Situation Analysis:-

A thorough analysis of the situation in which the firm finds itself serves as the basis for identifying opportunities to satisfy unfulfilled customer needs. In addition to identifying the customer needs, the firm must understand its own capabilities and the environment in which it is operating.
The situation analysis thus can be viewed in terms an analysis of the external environment and an internal analysis of the firm itself, the external environment can be described in terms of macro-environmental factors closely related to the specific situation of the firm.

The situation analysis should include past, present, and future aspects. It should include a history outlining how the situation evolved to its present state, and an analysis of trends in order to forecast where it is going. Good forecasting can reduce the chance of spending a year bringing a product to market only to find that the need no longer exists.

There are several frameworks that can be used to add structure to the situation analysis:

- **5 C Analysis**:

  Company, customers, competitors, collaborators, climate. Company represents the internal situation; the other four cover aspects of the external situation.

- **PEST Analysis**:

  For macro- environmental political, economic, societal, and technological factors. A PEST analysis can be used as the "climate" portion of the 5 C framework.
SWOT Analysis:

Strengths, weaknesses, opportunities, and threats – for the internal and external situation. A SWOT analysis can be used to condense the situation analysis into a listing of the most relevant problems and opportunities and to assess how well the firm is equipped to deal with them.

Marketing Strategy:

Marketing Strategies: A marketing strategy serves as the foundation of a marketing plan. A marketing plan contains a list of specific actions required to successfully implement a specific marketing strategy. An example of marketing strategy is as follows: "Use a low cost product to attract consumers. Once our organization, via our low cost product, has established a relationship with consumers, our organization will sell additional, higher-margin products and services that enhance the consumer's interaction with the low-cost product or service."

A strategy is different than a tactic. While it is possible to write a tactical marketing plan without a sound, well-considered strategy, it is not recommended. Without a sound marketing strategy, a marketing plan has no foundation. Marketing strategies serve as the fundamental underpinning of marketing plans designed to reach marketing objectives. It is important that these objectives have measurable results.
A good marketing strategy should integrate an organization's marketing goals, policies, and action sequences (tactics) into a cohesive whole. The objective of a marketing strategy is to provide a foundation from which a tactical plan is developed. This allows the organization to carry out its mission effectively and efficiently.

One used the following techniques to device the Marketing Strategy for the product/service: Segmentation Targeting Positioning

Segmentation:

Market segmentation is the process in marketing of grouping a market (i.e. customers) into smaller subgroups. This is not something that is arbitrarily imposed on society: it is derived from the recognition that the total market is often made up of submarkets (called 'segments'). These segments are homogeneous within (i.e. people in the segment are similar to each other in their attitudes about certain variables). Because of this intra-group similarity, they are likely to respond somewhat similarly to a given marketing strategy. That is, they are likely to have similar feeling and ideas about a marketing mix comprised of a given product or service, sold at a given price, distributed in a certain way, and promoted in a certain way.
Market segmentation is widely defined as being a complex process consisting in two main phases: - identification of broad, large markets - segmentation of these markets in order to select the most appropriate target markets and develop Marketing mixes accordingly. Everyone within the Marketing world knows and speaks of segmentation yet not many truly understand its underlying mechanics, thus failure is just around the corner. What causes this? It has been documented that most marketers fail the segmentation exam and start with a narrow mind and a bunch of misconceptions such as "all teenagers are rebels", "all elderly women buy the same cosmetics brands" and so on. There are many dimensions to be considered, and uncovering them is certainly an exercise of creativity.

Positioning

Simply, positioning is how your target market defines you in relation to your competitors. A good position is:

1. What makes you unique
2. This is considered a benefit by your target market

Positioning is important because you are competing with all the noise out there competing for your potential fans attention. If you can stand out with a unique benefit, you have a chance at getting their attention.
It is important to understand your product from the customer’s point of view relative to the competition.

Environment

In order to begin positioning a product, two questions need to be answered:

1. What is our marketing environment?
2. What is our competitive advantage?

The marketing environment is the external environment. Some things to consider: How is the market now satisfying the need your Telecom satisfies?

- What are the switching costs for potential users for your market?
- What are the positions of the competition?

The competitive advantage is an internal question. What do you have that gives you advantage over your competitors. Some things to consider:

- Is your company small and flexibility?
- Do you offer low cost and high quality?
- Does your product offer unique benefits?
• Are you the first on the market with this product (First mover advantage)

Positioning Strategies

There are seven positioning strategies that can be pursued:

*Product Attributes*: What are the specific product attributes?

*Benefits*: What are the benefits to the customers?

*Usage Occasions*: When / how can the product be used?

*Users*: Identify a class of users.

*Against a Competitor*: Positioned directly against a competitor.

*Away from a Competitor*: Positioned away from competitor.

*Product Classes*: Compared to different classes of products.

Targeting:

Target Marketing

Involves breaking a market into segments and then concentrating your marketing efforts on one or a few key segments. Target marketing can be the key to a small business’s success. The beauty of target marketing is that it makes the promotion, pricing and distribution of your products and/or services easier and more cost-effective. Target marketing provides a focus to all of your marketing activities. While market segmentation can be done in many ways, depending on how you want to slice up the pie, three of the most common types are:
• Geographic segmentation – based on location such as home addresses;

• Demographic segmentation – based on measurable statistics, such as age or income;

• Psychographic segmentation – based on lifestyle preferences, such as being urban dwellers or pet lovers.

**Marketing Mix Decisions:**

Detailed tactical decisions then are made for the controllable parameters of the marketing mix. The action items include:

- Product development – specifying, designing and producing the first units of the product.
- Pricing decisions
- Distribution contracts
- Promotional campaign development

**Implementation and Control:**

At this point is the process, the marketing plan has been developed and the product has been launched. Given that few environments are static, the results of the marketing effort should be monitored closely. As the market changes, often small changes in consumer wants can
addressed by changing the advertising message. As the changes become more significant, a product redesign or an entirely new product may be needed. The marketing process does not end with implementation—continual monitoring and adaptation is needed to fulfill customer needs consistently over the long-term.

Need for the study:-

Due to the explosive growth of telephone networks world over in the last eight years, the graph of the magic figure tale-density has been shooting up fast and has reached 36.98 at the end of March 2009. With the unification of basic and cellular licenses, the number of mobile service players has leapfrogged. All the cellular service providers are fighting it out for subscriber base. Marketing strategies has been a buzzword for most firms that wish to create and keep a competitive advantage in today’s highly competitive world.

Marketing strategies for cellular mobile service providers are based on services provided by the operators. The price is nowhere seen as a tool for attracting and retaining consumer, which is a rock bottom. The strategy cannot be framed for long period as prices setting cost plus mark-up levels. It is time for service providers to look at other determinants to consumer satisfaction for getting competitive edge. The effect of product attributes can be moderated by individual consumer differences such as
age, gender, education, occupation and income levels. In cellular market there exist differences in buying criteria among different gender and age groups.

Now, quality is an important factor in determining the overall competitiveness of the service-providers. Quality is the overall competitiveness of the service-providers. Quality is multidimensional and is related to a number of features of the products/services/ in telecom, quality can be broadly defined between two facets- infrastructure and consumer service. Quality features that are related to infrastructure include fault incidence, network coverage's, voice quality, grade of the service, call completion rate, call dropping percentages, network down time, accuracy of billing and variety of value added services provided. It is also based on perception of consumers about pre/post sales service, service activation time, time to repair faults, knowledge level and courtesy of consumer service agents, easily understandable offers and tariff schemes.

Cellular mobile industry has gone rapid changes as a result of liberalization and globalization. In such an ever-changing scenario, expansion and maintaining the loyal marketing strategies, which is a great challenge for the mobile service providers. Marketing strategies can
facilitate feedback and recognizes as a key influence in the formation of consumers future purchase intentions.

Hence, the service providers have to provide improved quality of service and value added services in order to survive and gain market share. Thus, the study was conducted among India consumers in Andhrapradesh state. There are several mobile service providers present in the state and they have all been considered for this study. Cellular mobile service providers, which offer different services, were chosen for the study. Over the last few years, the use of mobile phones in the region has grown tremendously and new players have entered the city. The cellular mobile service industry was chosen because service providers offer both tangible elements. Further, competition is fierce in the cellular industry. Users have many choices, and if they find that the service provided is not satisfactory, they can easily find other providers at minimal or no additional cost. As a result, the need of marketing strategies study is to search for the satisfaction level of consumers which is influenced by many factors such as age, experience of product quality, expertise brand perceptions, level of service charges, level of call charges and etc. It has become important goal for mobile service providers.

The study is focused on Cellular mobile Services only.
A brief literature would be of immense help to the researcher in going into the selected problem. The researcher would gain good background knowledge of problems by viewing certain studies. A reference to their earlier studies will be helpful.

Dr. Sanjeev Panandikar & Mr. Rahul Rajput in his work on "Comparative study on Service Quality of Mobile Operators: An approach of Multidimensional Profile Analysis" The telecom services have been recognized the world-over as an important tool for socio-economic development for a nation and hence telecom infrastructure is treated as a crucial factor to realize the socio-economic objectives in India. Accordingly, the Department of Telecom has been formulating developmental policies for the accelerated growth of the telecommunication services. The government of India recognizes that provision of world-class telecommunications infrastructure and information is the key to rapid economic and social development of the country. It is critical not only for the development of the Information Technology industry, but also has widespread ramifications on the entire economy of the country. The Indian Telecom sector is passing through a dynamic transitional phase, as it is clearly undergoing the operation of market forces of demand and supply. The sovereignty of consumers is
quite evident through their revealed preference in favor of economically rational decisions.

"Satisfaction Derived by the Airtel Subscribers in Coimbatore" by Dr. R. Vijay Kumar P.Ruthra Priya in their work Mobile phones have become an essential and important device for communication in the modern days. Mobile phone communication is a part of telecommunications, which comes in the form of oral communication. Mobile devices are growing in popularity with reduction in prices and improved functionality. Consumers prefer the flexibility and versatility of mobile phone devices. Mobile phone facilitates easy and faster means of communication and one can communicate with family and friends and transact the business anywhere, anytime at a reasonable cost.

Dr.R.Srivastava, Dr.Jatin Bhangle, K.J.Somaiya, Dr.R.Srivastava, Dr.Jatin Bhangle, K.J.Somaiya in their work on "Role of Competition in Growing Markets: Telecom Sector". This paper studies the booming service sector. The focus is on the cellular service providers in the country. As the topic suggests ‘the role of competition in growing markets’ an industry, which is in the growth stage, has been identified. The theory of product life cycle is explained with emphasis on the growth stage. It then studies the marketing strategies adopted by the major players like Bharti, Reliance, Orange, Tatas etc.. It also tries to show how
in the product life cycle the various service providers are trying to fit in their products and services. The analysis of the survey puts into perspective the role of competition in the telecom industry.

"Customers' Attitude Towards Cellphone in Communication System" by Dr.(Mrs) S.Banumathy & S.Kalaivani in their views Communication plays an indispensable role in promoting effective, social, economic, political and personal developments. Cellular telephone services have achieved great commercial success, because the users recognize that mobile telephone access can improve productivity and enhance safety. Increase in demand and the poor quality of existing telecommunication services led mobile service providers to find out ways to improve the quality of service and to support more users in their systems. The present study has been made to identify the customers' attitude towards cellphone services in communication system. Many private service providers have entered in this line, which has brought heavy competition in the market. Hence, it is necessary to find out the customers' attitude in communication services, which could be useful to formulate new strategies, policies and market the communication services in a better way. The data was collected from 300 respondents to find out the reasons for choosing the cellphone service, viz., prepaid/postpaid scheme, and landline connection/disconnection, knowledge about the
facilities of cellphone, SMS, changing service providers and its position. The level of satisfaction of customers in communication services have also been measured and analysed. The survey indicates that the customers are satisfied with the services and there exists some problems, which deserve the attention of the cellphone service providers.

"Promotional Strategies of Cellular Services: A Customer Perspective" by Dr.M.Chinnadurai & Dr.(Mrs.) B.Kalpana in her work on Major driver of social changes, which shapes the possibilities and conduct of business, is technology. Every business whether it is manufacturing or service faces large amount of problems in marketing their products in the modern business world today. Due to change in the economic, business, cultural and political environment, the consumers resort to have change in their preferences. These changes on the part of consumers may provide either positive or negative impact on the business of modern firms. Accordingly, these firms have to make their business plans more comprehensive and effective. Obviously, the business firms have to sue adequate and appropriate promotional tools for establishment and promotion of their business without more interruptions.

Dr. R.Srivastava, Dr.Jatin Bhangle, Dr.Nirav Bhatt, Dr.Kunal Gogri, Dr.Hemal Marfatia in their views "Role of Competition in
Growing Markets: Telecom Sector" This paper studies the booming service sector. The focus is on the cellular service providers in the country. As the topic suggests 'the role of competition in growing markets' an industry, which is in the growth stage, has been identified. The theory of product life cycle is explained with emphasis on the growth stage. It then studies the marketing strategies adopted by the major players like Bharti, Reliance, Orange, Tatas etc.. It also tries to show how in the product life cycle the various service providers are trying to fit in their products and services. The analysis of the survey puts into perspective the role of competition in the telecom industry.

"Analyzing Growth of Cellular Telecom Sector and Understanding Consumer's Preferences and Choices on the Use of Cell phone" by Dr.S.K.Sinha, Ajay Wagh in his work on The Indian telecom sector has emerged as the fastest growing telecom market in the world. With more affordable services, increased penetration and a supportive government along with regular fall in tariffs in the sector has brought significant changes in number of consumers and usage of cellular telecom services. However, with galloping achievements, there are few challenges too, to be overcome by the Indian telecom industry to ride high on the next growth wave. Among the fastest growing sector of the economy the Indian telecom sector continued to maintain its growth during the year as
one of the key sectors responsible for the economy's impressive performance. The sector has been growing in the range of 20 to 40 percent during the last three years (2002-05). The telecom sector is getting more sops from the government, which will help it in growing faster more to align with objective of achieving the goal of reaching 250 million subscribers and a tele-density of 22% by 2007, reducing urban and rural disparities.

Mayank Vinodbhai Bhatt is added "Understanding Mobile Phone Usage Pattern among College-Goers", India is one of the fastest growing telecommunication markets in the world. It is the youth which is the real growth driver of the telecom industry in India. Considering this fact, the present paper is an attempt to give a snapshot of how frequently young people use their mobile phones for several embodied functions of the cell phones. Data was collected from a sample of 208 mobile phone owners, aged between 20 and 29. The study sheds light on how gender, monthly voucher amount and years of owning mobile phones influence the usage pattern of this device. The findings show that there is a significant difference in the usage pattern of mobile phones because of these three variables. Findings of the study would be helpful for the telecom service providers and handset manufacturers to formulate a marketing strategy for different market segments. A Study of Mobile Phone Usage among
The Post Graduate Students Usage of mobile phone has increased among the students in the recent time. Rapid growth and competition among the mobile handset companies and mobile service provider companies have decreased the rates for mobile handsets as well as mobile services. This has resulted in the increase of customer base. Now a days we can find a mobile phone with every student. Thus it is of significant interest to assess the student’s view on usage, necessity and spending on mobile phones. However, to the best of our knowledge, there has not been any survey that exclusively compares the student’s perspective on the different mobile handset companies and mobile service providers

"Promotions and Barriers towards Services Sector Economy" by A.Kadhar Lal

Service sector is playing an important role in an economy. The Service industry such as computer and software development, Business Consultancy, Telecommunication, banking, finance and insurance are growing very fast when compared to the manufacturing and agriculture. Though it is having rapid development there are many barriers standing in the way of the development of service sector. The main objective of this paper is to understand the concept of services, promotions and barriers towards Services Sector Economy going the distance with telecom customers. Carriers can increase their profits—by
getting more value from existing customers and being more selective about new ones.

Rick\textsuperscript{10} (2008) This study finds that companies with sound customer strategies can use that ultimate loyalty program as a differentiator in an increasingly muddled market. In an increasingly competitive market, customer loyalty efforts can play a major part in the attraction of new customers and the retention of current ones. Marketers dealing in the telecommunications arena are established in an exciting era of industry growth. As consumers' choices expand, the importance of a sound customer relationship strategy becomes more and more important for the success of the company.

Inger\textsuperscript{11} (2008), This study aims at deepening understanding of the role of emotion in customer switching processes and identifying the relative frequency of negative discrete emotions in terms of different triggers. The main finding was that the identified emotions were located in the trigger part of the relationship, and was expressed by the respondents during the switching process in form of annoyance, anxiety, disappointment, dissatisfaction, distress, depression, rage, stress and tension. Mainly study is trying to find one answer that do customers return rather quickly to the switched-from operator when the trigger was
influential/stress-related, or do they become stable at the switched-to-operator.

Gamie \(^{12}\) (2008), undertook a research to explore the challenges of reaching low-income customers in developing markets. The whole study is just one interview based in which Anderson is asking question from Gurdeep Singh Operations Director with Hutchison Essar India. Now that discussion concludes that managers need to go beyond traditional approaches to serving the poor, and innovate by taking into account the unique institutional context of developing markets. In most cases, MNOs have served the poorest consumers through shared-use models such as Grameen Phone's Village phone concept in Bangladesh, due to the commonly held belief that reaching these consumers is difficult due to two key challenges – affordability and availability. This paper demonstrates that MNOs can deliver availability and affordability to achieve increased individual or household penetration through business model innovation.

Thomas\(^{13}\) (2008) Empirical findings of the study showed that the respondents attended the event mainly for business and networking opportunities. Overall, they were satisfied with Hong Kong as the location for the ITU Telecom World 2006. Additionally, there were no significant differences in perception between overseas and local attendees.
in all but two attributes. This study showed that location, infrastructure and safety did not seem to influence attendees' decision for attending the event. Moreover, attendees considered traveling to or visiting the destination would have a low influence on their decision to attend the event.

Shankar (2006) This article examines the emergence of innovation and value creation for enhancing customers' experience, as a result of increasing competition in the Indian telecom industry during the late 1990s and early 2000s. The report provides a detailed account of the evolution of the Indian telecom industry. It traces various developments in the industry before, during and after the liberalization of the Indian telecom sector. It also provides information about the increasing popularity of cellular services, which led to the emergence of several private telecom operators like Bharati Tele Ventures, Hutchison Telecom, Idea Cellular Ltd, Reliance Telecom Ltd, etc.

Gustafsson (2005) The purpose of this study is to enhance understanding of the club's role in the customer relationships of a telecommunications company by re-considering the concepts of frequency and commitment in a telecom-customer club. Study found an umbrella concept for the club regarding loyalty: A keeping function, which divided the customer club in two ways,: the affective role makes
the customer stay with the company and the calculative role with a more inferred loyalty function. The expressions that were not connected to loyalty are the attracting function. So it seems obvious that customers do not merely look at certain parts of the club offering where loyalty is concerned: they evaluate the club and their relationship with the service provider according to different criteria.

Robins\textsuperscript{16} (2008) This paper is about marketing the next generation of mobile telephones. The study is about third generation of cell phone technology, what is usually known as "3G" for short. There are various issues about that new innovative. One is how to price 3G handsets and services at a level, which will enable telephone-operating companies to recoup the high prices they have already paid to governments for operating licenses. Second the technology is not yet complete, there are no agreed international standards and companies do not yet know what new services the technology will prove capable of delivering effectively. All variants of 3G remain dependent on largely unproven technology. Marketing 3G is going to be about services which are new and in many cases, yet to be designed. At the same time, it will involve services which can also be obtained by computer and other means. It follows that the marketing task will be high risk. First, 3G has no obviously unique selling proposition to build on except, perhaps, the combination of live video and
easy portability. Second, the potential customers have not yet had adequate opportunity to signal their service likes and dislikes. Third, the cost and complexity of service provision leave doubt about the market's reaction to price.

Fernandez (2007) in their study titled "Understanding Dynamics in an Evolving Industry: Case of Mobile VAS in India" analyzed that Mobile Value Added Services (VAS) is a rising star in the fast growing wireless business. In the paper, attempt is made at understanding the strategic dynamics of the evolving environment within which the Indian players are operating, the challenges and structure of the same. Our literature and industry review indicates that - while the value chain of industry is complicated yet one can observe the bipolar nature of bargaining powers between mobile network operators and content aggregators.

Kaliyamoorthy and Kumar (2007) in their study titled "Influence of Demographic Variables on Marketing Strategies in the Competitive Scenario" analyzed that Demographic variables have much significance in marketing. They are used as bases for segmenting the market, and their role in consumer's buying decision is notable and vital. Even when the target market is described in non-demographic terms (say, a personality type), the link back to demographic characteristics is needed in order to
estimate the size of the target market and the media that should be used to reach it efficiently. So, identifying the demographic profile of the target consumers is very important for the marketers. The paper, with a strong backing of literature, explains why the marketers must give much importance to the changing demographic trends while evolving marketing strategies in the prevailing competitive business environment.

Kalpana and Chinnadurai (2006) in their study titled "Promotional Strategies of Cellular Services: A Customer Perspective" analyzed that the increasing competition and changing taste and preferences of the customer's all over the world are forcing companies to change their targeting strategies. The study revealed the customer attitude and their satisfaction towards the cellular services in Coimbatore city. It was found that advertisement play a dominant role in influencing the customers but most of the customers are of opinion that promotional strategies of cellular companies are more sale oriented rather than customer oriented.

Seth et al (2008), in their study titled "Managing the Customer Perceived Service Quality for Cellular Mobile Telephone: an Empirical Investigation" analyzed that there is relative importance of service quality attributes and showed that responsiveness is the most importance dimension followed by reliability, customer perceived network quality,
assurance, convenience, empathy and tangibles. This would enable the
service providers to focus their resources in the areas of importance. The
research resulted in the development of a reliable and valid instrument for
assessing customer perceived service quality for cellular mobile services.

G. Sridhar21 (2005) in his views “Opportunism in Distribution
Channels” In an organization, distribution function satisfies the utilities
like place, form, time and cost. In order to maximize these utilities,
functioning of the channels of distribution should be effective and
intermediaries like wholesalers, distributors, and retailers should work
collectively and unidirectional. Organizations have to be built with little
or no gaps in the distribution system. Gaps would possibly lead to
intermediaries becoming opportunistic and thus shirk or free ride. In
order to check the opportunistic behaviour, understanding intermediaries
on behavioral front in addition to the systems and structures in control
would be a logical step. Researchers and industry are continuously
undertaking numerous studies in order to read the opportunistic behaviour
of the intermediaries, its causes and consequences.

Dr. Urvashi Makkar22 (2005), in their study title “Advertising
Effectiveness through Message Strategies- A case study of Airtel” Sunil
Bharti Mittal, the founder-chairman of Bharti Enterprises (which owns
Airtel), is today, the most celebrated face of the telecom sector in India.
He symbolizes the adage that success comes to those who dream big and then work assiduously to deliver it. Sunil Bharti Mittal began his journey manufacturing spare parts for bicycles in the late 1970s. His strong entrepreneurial instincts gave him a unique flair for sensing new business opportunities. In the early years, Bharti established itself as a supplier of basic telecom equipment. His true calling came in the mid 1990s when the government opened up the sector and allowed private players to provide telecom services. Bharti Enterprises accepted every opportunity provided by this new policy to evolve into India's largest telecommunications company and one of India's most respected brands.

Airtel was launched in 1995 in Delhi. In the ensuing years, as the Airtel network expanded to several parts of India, the brand came to symbolize the very essence of mobile services.

P. Chandiran (2005) in his views “Product Life Cycle and Promotion Strategies in Cellular Telecom Industry” since the launch of the first cellular mobile service in August 1995, the Indian cellular industry has not looked back. Despite several hurdles in terms of policy and regulatory challenges, despite being on the verge of bankruptcy at the end of 1998, the industry has maintained its vigorous growth. During 2003, 17.7 million new subscribers were added, raising the total to 28.2
million. These services are now available in almost 1400 cities and towns and the customer base is growing by nearly two million every month.

Dr. (Mrs) S.Banumathy and S.kalaivani (2006) in theirs thought “Customers' Attitude Towards Cell phone in Communication System” Communication plays an indispensable role in promoting effective, social, economic, political and personal developments. Cellular telephone services have achieved great commercial success, because the users recognize that mobile telephone access can improve productivity and enhance safety. Increase in demand and the poor quality of existing telecommunication services led mobile service providers to find out ways to improve the quality of service and to support more users in their systems. The present study has been made to identify the customers’ attitude towards cell phone services in communication system. Many private service providers have entered in this line, which has brought heavy competition in the market. Hence, it is necessary to find out the customers’ attitude in communication services, which could be useful to formulate new strategies, policies and market the communication services in a better way. The data was collected from 300 respondents to find out the reasons for choosing the cell phone service, viz., prepaid/postpaid scheme, and landline connection/disconnection, knowledge about the facilities of cell phone, SMS, changing service providers and its position.
The level of satisfaction of customers in communication services have also been measured and analyzed. The survey indicates that the customers are satisfied with the services and there exists some problems, which deserve the attention of the cell phone service providers.

Pakola et al (2003)\textsuperscript{25} surveyed and results indicated that price and properties were the major influential factors affecting the purchase of a new mobile phone, where as audibility, price and friends were regarded as the most important in choice of the mobile phone operators.

Consumers have certain amount of self-knowledge i.e. telephone features, connection fee, access cost, mobile-to mobile phone rates, call rates and free calls which are related to mobile phone purchasing respondents had to important rate while choosing a mobile phone service. Many researchers found that consumers with prior experience about a product could able predict their choices relatively well but tend to overestimate the importance of a monthly access fee, mobile-to-mobile rates and connection fees.

G.V.Chalam (2005)\textsuperscript{26} conducted a study on \textit{Quality of Services in Indian Telecom Sector: Users' Perception- An Assessment}. This study deals with growth, working and types of services provided by the Telecom circle in macro environment. The findings of the study reveal
that the expectations of the telecom users are high among the subscribers of recent times because of their Sense of time vs. money value and awareness of their rights. The basic motto of the telecom department is to provide excellent services to its customers against the present competition from the private sector. In this direction, it is doing its best to acquire and retain its new and old customers.

**Literature on Telecommunications**

The study on planning constraints for local subscriber’s loop by N.P. Sen deals about the requirements speech performance level and the minimum and maximum operative current for switching system and related constraints imposed on the planner to select proper economical cable to meet the objective. With the introduction of digital system allowing higher loop resistance and no loss in function, it is proposed to increase the loss allocation. Thus, increasing over all economy with out distortion of any global SRE performance at international gateway. Similarly, ten percent deterioration in the performance for ten percent of network is allowed to avoid totally uneconomical network solution. This study has also drawn a guideline principle on the economics of the system.
J.S. Amrit, in his study on the Social synthesis through Telecommunications explains the evolution of engineering skills and the impact of telecommunications. He admits that telephone is not a luxury and declares that in the world scenario it is more a need than luxury and more so in a vast country like India. He remarked that early in the next decade many in the western world would be den g a part of the office work from home and thus there will be a a reduction of 20.0 percent commuting from home to office.

In his paper on Light Wave Telecommunications Laser for telecommunications V.R.K.Iyengar, recent development in the field of communications has been the use of laser. A new interest in light wave communication began in 1960s with the invention of laser, which emits a narrow non-scattering beam of light or pure frequency. Since the information carrying capacity increases with higher frequency and the light wave have a much higher frequency than radio waves, exciting new communication possibilities opened up in countries of the world.

The study on Direct indialling special facilities by S.Rajendran observed that direct indialling special facilities is add –on facility to the telecom system for providing various additional facilities to the subscribers like long distance dialing facility, STD barred subscribers,
free phone service, emergency service etc. It is common for the users as the investment per user is very low.

S.C. Joshi, in his article on Network management plan - case study for MTNL, Bombay\textsuperscript{31} describes three important aspects of telecommunications i.e., transmission network management – a central supervision system for transmission network surveillance, necessity of a network performance and analysis center to monitor the important programmers of digital exchanges on real time basis and taking immediate action for avoiding traffic congestion, Centrally computerized network management center so that control can be done on the real time basis.

G.S. Grover, in his paper on Data Modems\textsuperscript{32} dealt with data modems and its functions, classification, selection, transmission, techniques etc. It also dealt with microprocessor modems having latest capabilities of auto dialing, voice data capabilities, security features, password protection, callback features, data encryption, fall back features. It also gives the details relating to V 26 modem and V 23 modem, which is used in telex concentrator data bit model CA 985 and CA 986 respectively.
In his paper on Location of RLUs, C.B.L. Srivatsava describes that there had been continuous deliberation on the issue of location of RLUs especially beyond the local town. Some circles had been advocating the location of RLUs in the adjoining districts having potential of telephone connections less than 4000 lines in coming 3 to 4 years during which it is expected that the problem of having adequate number of indigenously manufactured supply of independent switching of the capacities 500 to 4000 lines is expected to be sorted out and such RLUs can be provided economically during these difficult periods. But there had been apprehension in the minds of some switching experts of long failures due to media faults whereas some transmission experts were apprehensive of extra responsibilities, which might come not only for long distance calls but also for the local calls from such remote located RLUs. Because of these controversies, telecom commission have recently laid down most safest guidelines restricting the location of RLUs only with in approximately 30 kilometers and in the same SSA with a provision that there will be two media connecting the main E-IOB exchange of RLU. Further, this article discusses the various merits and demerits of location of RLUs, and brings out the convenience and advantages in providing such remote RLUs in the absence of the supplies of independent switches at economical cost for coming three years or so.
The work of A.M.Khan on An overview of system Vs exchange\textsuperscript{34} outlines the facts that today's technology trend is to have voice and data communication equally simple, economic and cost effective and commonplace. It should be just as easy for a data file to be sent from Delhi to London as it is for a voice call to be placed. The system switch is designed for this flexibility through the addition of CC/TT no 7 and ISDN. System exchange is undergoing validation for 10 K capacity installed at Hyderabad.

The study on Digital subscriber connection\textsuperscript{35} unit by S.S.Prasad explains the advantages, architecture, specification, functioning, technical features, construction practices and special features used in CSN. It is the new subscriber interface rack. This is called concentrator spatial numeric in French. This can be known as digital subscriber connection unit. This is used in place of CSEL racks. This unit gives many functional advantages over CSE racks. The technical features and facilities of CSN are many and varied.

Provision of STD facility to villages and taluqs – present scenario and future impacts article by G.Gopalan\textsuperscript{36} describes the efforts of the Department of Telecommunications to introduce STD facility in a full scale in the network and its impact on the existing long distance media and the equipment of digital transmission media in the next few years.
This activity necessitates the automation of the telephone exchanges at taluq towns and the other exchanges.

Ambrish Agarwal in his work on Course design and its implementation for effective training\textsuperscript{37} describes that training has been assigned a high priority by the Department of Telecommunications during the eighth five-year plan. Apart from the officers of the department who are to be trained in new switching and transmission technologies; we have to gear ourselves for the large number of employees whose skill is to be upgraded for adapting themselves to the new technologies. This plan to retrain our men whose number is more than 0.44 million is perhaps the biggest challenge faced by any telecommunication organization in the world.

Most widely talked about Synchronous Digital Hierarchy (SDH) has been dealt with elaborately in the study by Dr. S.G.K.Pillai on An introduction to synchronous digital hierarchy\textsuperscript{38}. It is in the domain of digital transmission, which provides an internationally supported framework for the development of a managed global transport network. The most important impact of SDH is that widen and signals can be transported worldwide in a pleslochronous environment without any loss of data just like PDH with the benefits of a synchronized frame structure that simplifies drop and insert and cross connects functions. SDH does
not deal with the multiplexing of individual signals. It defines mappings for byte structured first level signals, which does not alter the characteristics of the multiplexing method. This work covers the relevant recommendations of the government and the layered model of the transport network, explains the terms and concepts and elucidates the multiplexing method terminating and adaptation.

N.Sundara Raman and U.K.Srivatsave, in their work on cellular radio mobile system\textsuperscript{39} found that the cellular radio mobile system is on the threshold of being introduced in our network in a big way. It attempts to familiarize with the concepts involved in cellular radio mobile systems. It also deals with the GSM technology exclusivity and mentions that until the advent of cellular radio systems, a car telephone was virtually impossible to acquire, the reason was that the limited number of communication channels allocated to radio phones would support only a few simultaneous conversations, and therefore a small number of subscribers.

In the paper on Application and growth of voice mail service, G.S.Grover\textsuperscript{40} elaborated the inter working with other systems. He says that voice mail ‘is a value added service, which caters to the confidential messaging need, with or without personal telephone. This is one of those value added services, which use the public switched telephone network.
The ordinary telephone service caters to only voice transmission whereas in voice mail service, storage and processing of voice messages is done. It has far more chances for growing as compared to videotex.

N.P.Sen\(^{41}\) elaborately deals with the issue of the cost analysis of telephones in his study on the Cost Analysis For Telephone Cables. He describes the history of telephone cables, different specifications and impact of the specifications on technical need, mechanical strength and cost. Based on an international tender, a detailed analysis has been done as to how the cost varies depending on size of the cables, conductor, insulation f the cables, filling of the cable etc. This helps to analyze properly the cost benefit ratio so that applying different specifications; the cost is also taken into account.

P.V.Ramanathan\(^{42}\) has comprehensively discussed the record maintenance of telephone exchanges in his detailed study on the Provision of STD public telephones and the maintenance of records in the telephone exchanges and Telephone Regulatory Authority. He asserts that the provision of STD public telephones is an art of the scheme to improve access to the public, to STD and ISD services. It is a boon to the public and a windfall to many public telephone attendants, who are enabled to earn a steady income as commission. However, the scheme calls for strict vigilance on the part of departmental staff to prevent leakage of
revenue and accumulation of out standings. This study seeks to throw light on some aspects of the functions of exchange and TRA collection staff associated with the STD PTs.

A study on Digital microwave system design aspects for link engineering\textsuperscript{43} by M.S.Srinivasan reveals that the ever growing need for data transmission throughout the world and the rapid evolution towards an integrated digital services network is ushering in replacement of Analogue microwave system by digital microwave communication system everywhere. The rapid growth of various technologies like VSNL, thick film circuits, thin film circuits etc in electronics have spurred a rapid changeover. Hence, it has become necessary for all telecommunication engineers to be aware of the system design features that are vital for any digital link engineering. Hence, the author presents the fundamental aspects of the digital microwave link designs as well as link performance details based on BER.

The background paper submitted to the Committee on Telecom Sector India\textsuperscript{44} Vision 2020 by Manas Bhattacharya, IES gives a brief account of the era of competition that was heralded in Indian telecom sector and the results achieved. Analysis of the results, particularly comparison with other major countries intrigued further discussions, on economic structure, synergy between telecom and competition policy and
technology. Logical extension of the arguments, as they developed, extended in a vision for 2020 in each of the divisions of the report. It also deals with the current policy stance affecting telecom sector in India. Two state-owned public sector incumbents with a large existing subscriber base dominate the fixed line service.

BSNL and MTNL are the two public sector enterprises allowed to enter into the cellular segment in the beginning of the present decade. Consequently their cellular base is tiny compared to the private operators. Despite asymmetry in initial market endowments between public sector incumbents and private operators, the act of opening up of the market unleashed dynamism that was hitherto latent in the sector. This is evident from a number of performance indicators in terms of overall size or main telephone lines in operation.

In his article on Indian Telecom Scenario, Shyamal Ghosh observed that India should be a major destination for new investments with its rate of growth being second only to China. He found that in spite of the significant growth in tele-density, three is still a divide between the rural and urban areas, while the urban tele-density exceeds 15.0 percent; the rural penetration is about 1.5 percent. However, with the telecom sector poised for higher growth rate, it should be possible to exceed the
Tenth five year plan target of achieving 11.5 percent tele-density by 2005 and 15.0 percent by 2010 will be more than exceeded.

T.H. Chowdary’s paper on Public Telephones in the Villages reveals the fact that more than one half of the India’s telephones are in 29 cities. Hence discussed the question of how to make the telephone available for use in the 5.0 lakh villages? He feels that it is the Government’s policy to put a public telephone in all the villages, eventually. Next problem is where should a public telephone be placed in the village?

Productivity in Telecommunication Administrations with special reference to India by D.K. Sangal describes that telecommunication services form an essential infrastructure and play a vital role in the life of individuals, institutions and enterprises. In many cases there is no alternative. In others alternative is either too costly or inconvenient. By the very nature of operations, telecommunication services the world over, are generally managed by some form of monopoly. Except for the countries in the North America, this monopoly generally is a state monopoly. In such cases any increase in the cost can always be covered by increase in tariff.
R.P. Dhawan, in his study on Rural Communication\textsuperscript{48} outlines that the experiences with rural telecommunications indicate external social benefits beyond the internal economic return in rural telecommunications investment. However, the investment required for rural terrestrial facilities may be beyond the reach of many developing countries. For many rural areas, especially those in more remote locations are separated by more rugged terrain; satellite communication may be significantly more economical than terrestrial alternatives. In most cases, the least-cost solution will involve a hybrid system combining satellite and terrestrial technology, e.g. rural radiotelephone.

The study on Rural Telecommunication\textsuperscript{49} by S.K.Hajela noted that the development plans of the country have given due emphasis on improvement of rural economy and coping with the problem of poverty. This has brought about a significant change; particularly form the mid-sixties when traditional farm technology began to be substituted by more technical methods. All these have resulted in greater flow of communication and infrastructure such as speedier transport, mail, and telegraph services and telephones.

Ajay Shah, in his work on Telecommunications – Monopoly Vs Competition\textsuperscript{50} finds that modern telecommunications and computer networks are the key conduit through which India gains access to ideas.
from all over the world. The Internet is the key vehicle for freeing India's intellectual elite from its state of isolation from the ideas of the worldwide intelligentsia. To the extent the telecom and computer networking grows swiftly. It would benefit the skills of India's citizens and thus help rapidly raise productivity in India's economy.

In his book on Quality of Telecommunication Services\textsuperscript{51}, Manjjit Singh states that with the awareness of utility of telecommunication service and establishment of various consumer forums in different parts of the country, the quality of telephone services is gaining much. This book has given criteria recommendations regarding the quality of service in national International network. Certain revisions are also taken for the improvement of these services by the quality of service development group.

The article by U.R.G.A Charya on Control in relaxation to specifications\textsuperscript{52} feels that strict control on relaxation to specific clauses of technical specifications of telecommunication products is being exercised on behalf of purchaser. This systematic effort began in 1979, with the acceptance of quality assurance approach in procurement. The article indicates the, origin, the guidelines of operation, its implementation and a few comments on some specific aspects of this control.
Dr. S. G. K. Pillai, in his article on Fiber Optic Cable System\textsuperscript{53} found that optic fiber network would form the backbone of the communication system of our country in the next decade. Hence the knowledge of fiber optic cable system is essential for all telecommunication engineers. In this article the author describes the various types of optic fiber cable and some problems encountered in the cable.

The study on the planning utilization and maintenance of underground cable ducts by J.V. Subba Rao\textsuperscript{54} has been based up on the field experience. Besides giving guidelines for acceptance resting and maintenance of ducts it highlights the preparatory work to be carried out while drawing cables through ducts.

The world is rapidly moving toward an economic system based on the continuous and ubiquitous availability of information. Recent development in telecommunications technology has been an important vehicle in permitting information exchange to develop as a valuable commodity. With the use of telephone, productivity has increased in all industries. As compared to other infrastructure investments, investments in telecommunication have increased the demand for the goods and services used in production and increased in national output. Such investment has increased employment through both direct and indirect effects stated by Alleman et al (2002)\textsuperscript{55}.
Hardy (1980) found the impact of telecommunication on growth taking 45 counties data into consideration. It was found that telecommunication has largest effect in the least developed countries and the smallest effect in the developed countries.

Shridhar & Sridhar (2004) observed that telecommunication infrastructure development and economic growth proceed together taking 68 countries data in the study for analysis. It was found that a significant impact of cellular services on national output. That impact of telecom penetration on total output is significantly lower for developing countries. Maximum time telephones were used for economic purposes such as finding out employment opportunities, price of a product, land transactions, remittances and other business opportunities. The average prices of the agricultural commodities were higher in villages with phones than without phones found by Bayes et al (1999). Telecommunications can create market through information dissemination to local people and improve the standard of living leading to growth has stated by eggleston et al (2002).

Fink et al (2003) analyses the impact of policy reform in telecommunication for 86 developing countries over the period from 1985 to 1999. The study concludes that both privatization and competition leads to significant improvements in performance. Due to
the reform process, the level of productivity has increased compared to years of partial and no reform.

It was noted by the researchers that to become at par with developed countries, developing countries where telephone penetration rates are extremely low has meant investment in wireless and cellular mobile systems. For developing countries, cellular services are becoming a very significant proportion of the overall telecom infrastructure. The reason for growth of cellular services in developing countries is due to technology availability, low line cost and cellular mobile systems.

The economic conditions, market structure, policies regarding tariffs and interconnect agreements and consumer characteristics are significant forces affecting the growth of cellular services. R.C. Natarajan (2006) stated that the regulated monopoly enjoyed by the department of telecommunications has entered the stage of deregulated market competition. Cellular service providers are attracted towards Indian market due to low tele-density demand from middle class and the rapid change in consumer behavior towards this sector.

Advanced Technology and globalization are the two major influential elements that forces change in the market function and firms relate to consumers. Globalization has powerful influence on the
homogenization of different markets. This has changed consumer choice and permanently altered the competitive landscape of business across the globe. Jeffi Thomas and Rajen K. Gupta (2005) attempted to identify that organizations adapt to those changing environmental realities that changes in value distribution to value creation, consumer acquisition to consumer retention and Immediate consumer to value chain of marketing. The shifts are from a goods-centered view to service-centered view and co-creating valued consumer experience.

Prahlad and Ramaswamy (2000) have rightly states that customers are changing the dynamics of the marketplace. The market has become a forum in which consumers play an active role in creating and competing for value consumers are becoming a new source of competence for the corporation. The competence that consumers bring is a function of the knowledge, skills and their willingness to learn and experiment and ability to engage in an active dialogue.

From the above literature review, it is seen that telecommunications have grown faster than the economy as a whole during the period. The previous studies presented an analytical framework for analyzing the market dynamics of telecom industry including mobile telephony. It has helped researcher to understand the importance of operating environment (Technological changes,
Digitalization Convergence, Standardization of process, R & D intensity and Regulatory reform process) and various external forces that govern the growth of industry.
References:

1. Dr. Sanjeev Panandik and Mr. Rahul Rajput, Analysis Comparative studies on Service Quality of Mobile Operators, *Indian Journal of Marketing*, Volume XXXV • Number 8 • August 2005.


3. Dr. R. Srivastava, Dr. Jatin Bhalgle, K. J. Somaiya, Dr. R. Srivastava, Dr. Jatin Bhalgle, K. J. Somaiya, Role of Competition in Growing Markets: Telecom Sector, *Indian Journal of Marketing*, Volume XXXVI • Number 9 • September 2006.


6. Dr. R. Srivastava, Dr. Jatin Bhalgle, Dr. Nirav Bhatt, Dr. Kunal Gogri and Dr. Hemal Marfatia, Role of Competition in Growing Markets: Telecom Sector, *Indian Journal of Marketing*, Volume XXXVI • Number 9 • September 2006.


37. Ambrish Agarwal, Course design and its implementation for effective training, Indian Journal of Telecommunications, December 1996


44. Government of India, Manas Bhattacharya, Telecom Sector in India; Vision 2020 Background paper submitted to the committee on India, 1995.


49. S K.Hajela The study on Rural Telecommunication, Magazine of Telecom News, November 1986


56. Hardy, Andrew, the role of the telephone in economic development, telecommunications policy, 1980, vol.4, issues 4, pp 278-286.


60. Fink, Carsten; Mattoo, Aaditya; Rathindranm Randeep, An Assessment of telecommunications reform in developing countries, Information Economics & Policy, December 2003, Vol. 15, Issue 4, p443.


Objectives of the study:-

Based on the inputs from the various literature studies, a research study was carried out with the following objectives.

1. To study the growth of telecom sector in India
2. To discuss the national telecom policy.
3. To analyze the profile of the private operators along with BSNL in telecom sector.
4. To examine the problems faced by the consumers in telecom sector.
5. To discuss the problems faced by the different operators in the telecom sector
6. To suggest ways and means to overcome the problems of both telecom users and operators

Statement of the problem:-

Even with the outstanding performance of BSNL, and its achievements in serving the people, it is revealed that there is enormous scope for the mobile cellular service in India, as it has high potential still untapped. It is reflected in certain independent studies that the mobile service business is performing very well in certain areas, while there performance to tap the potential is out rich in certain areas. Evidence also suggest that there is more untapped potential in India, the liberalization of the economic reforms in 2000 and gave way to privatization of mobile cellular service sector in India, and the question of accepting, the private players to enter the mobile service sector in India, and whether can they win the market is a problem.
It is also brought to highest that, how the BSNL has withstood the competition of private players, how it has maintained its loyalty. It is reported that in some areas, the marketing of products designed by the private players has become a services problem to customers to understand the schemes while in other areas, the mobilization of savings is a problem of lack of knowledge about the product, lack of awareness of the schemes from the private players. There is also variation in the levels of awareness created by the BSNL and private players among the people in India. So also there is variation in the level's of getting scheme from the public to private players with comparison to BSNL and to know whether the growth in the industry has been accelerated after opening up with the intervention of private players how the private players and BSNL without affecting the growth of the business of mobile service in India. Thus there are several issues which need to be examined carefully for removing the drawbacks in the mobile cellular service in order to make it more effective in achieving the objective of TRAI are fulfilled. This requires undertaking an independent and in depth research on the different aspects of mobile cellular services in India in order to find answers to the various dilemmas faced during the implementation of privatization in India. In this context, the present study is attempted to examine the BSNL and private operators performance in mobile cellular service. A comprehensive and through analysis of the problem of this
type is possible only through a micro level study. The present study addresses the policy and implementation connected with the privatization in India, in order to make a critical assessment of its performance and impact on the mobile cellular services however the main focus of the study is on how the BSNL has achieved its objective of economic and infrastructure development and awareness and implementation of cellular service in rural areas, and also on the organizational and administrative constraints that are impeding the effective implementation of the privatization of the mobile cellular service in India.

**Hypotheses:**

The hypotheses that can be established from the research objectives are:

1. The choice of cellular service significantly depends upon sex, age, education, occupation and income levels of consumers.

2. Employees are not happy with the private organizations rather than BSNL organization due to more workload, targets etc.

**Research design and Methodology:**

A. **Sampling:** The study is restricted to Andhra Pradesh state. Six hundred consumers and one hundred and twenty employees were selected randomly. Andhra Pradesh state is divided into three geographical regions.
viz., 1. Rayalaseema, 2. Costal and 3. Telangana from each region two districts were selected.

**Consumers**

1. Rayalaseema - Anantapur, Kurnool

2. Costal - Krishna, Vijayawada

3. Telangana - Hyderabad, Rangareddy

From each district two towns (one urban town and the second the semi urban town) were selected.

1. Rayalaseema - Anantapur (Anantapur, Dharmavaram)
   Kurnool (Kurnool, Nandyal)

2. Costal - Krishna (Guntur, Mangalagiri)
   Vijayawada (Vijayawada, Ibrahimpatnam)

3. Telangana - Hyderabad (Khairathabad, L.B. Nagar)
   Rangareddy (Jeedimetla, Medchal)

**Table 1.2.** From each urban town and semi urban town 50 consumers were selected.

<table>
<thead>
<tr>
<th>S.NO</th>
<th>Region</th>
<th>Urban</th>
<th>Semi Urban</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rayalaseema</td>
<td>Anantapur 50×1= 50</td>
<td>Dharmavaram 50×1= 50</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kurnool 50×1= 50</td>
<td>Nandyal 50×1= 50</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Costal</td>
<td>Guntur 50×1= 50</td>
<td>Mangalagiri 50×1= 50</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vijayawada 50×1= 50</td>
<td>Ibrahimpatnam 50×1= 50</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>Telangana</td>
<td>Khairathabad 50×1= 50 (Hyd)</td>
<td>L.B.Nagar 50×1= 50 (Hyd)</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jeedimetla 50×1= 50 (Rangareddy)</td>
<td>Medchal 50×1= 50 (Rangareddy)</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total 300</td>
<td>300</td>
<td>600</td>
</tr>
</tbody>
</table>

Source: Field Survey
The consumers constitute college students, employees, business persons, women and housewife’s with demographic factors such as sex, age, education, occupation and income. The employees are from BSNL and private companies with demographic factors such as sex, age etc.,

B. Data Collection: Primary data was collected from consumers and employees and Secondary data was collected from office records. Schedule for consumers focuses on demographic factors, reasons for using mobiles and drawbacks for not using mobiles. Schedule for employees concentrates research on problems with the management and happiness with the management.

C. Data collection Tools: Survey method was adopted to collect the data from consumers and employees.
D. **Data Analysis**: Data Analysis is a significant function of the study. After collection of data, the researcher focused his attention on data analysis and interpretation. The analysis of data involves processing of data with statistical analysis. After the collection of data were processed with the help of computer. Data were processed with MS-EXCEL, which is essentially spreadsheet. But for managing types and quantum of data, SPSS (11.0) package was used to summarize and analyze the responses. SPSS is nothing but Statistical Package for the Social Sciences. This helps in coding and entering data for all respondents. Coding (Categorization of data) was done for all questions on a schedule. This is because all data must be converted into numerical form. Simple percentages were used for analysis.

**Data Analysis**

Data Analysis is a significant function of the study. After collection of data, the researcher focused his attention on data analysis and interpretation. The analysis of data involves processing of data and statistical analysis.

After the collection of data, data were processed with the help of computer. Data were processed with MS-EXCEL, which is essentially spreadsheet. But for managing types and quantum of data, SPSS (11.0) package was used to summarize and analyze the responses. SPSS is
nothing but Statistical Package for the Social Sciences. This helps in coding and entering data for all respondents. Coding (Categorization of data) was done for all questions on a questionnaire. This is because all data must be converted into numerical form. Otherwise, it cannot be counted or manipulated for analysis.

SCOPE 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.

The purpose of this study was to understand the growth of cellular service in India and to determine marketing strategies towards the cellular service providers. Cellular telephones played an important role and have changed the life of people in the society.

The market for cellular service is enormous though many players have entered the field of cellular industry. GSM and CDMA services are classified into two different aspects of cellular mobile technology in mobile service industry, but a strict difference between the two technologies exists. Therefore a comprehensive study will be required to analyze the difference of quality of service in GSM and CDMA.
Pre-paid consumers constitute maximum share in cellular subscriber base as compared to post-paid consumers. The difference between these two services exists in the market. In spite of the difference, the study conducted integrated analysis regardless of the difference. Therefore, further study will be required to analyze the difference in use of services by the consumer.

The liberalization, privatization leads the competitive threat to BSNL and fro BSNL to private operators is continuing. All of a sudden consumer became the king and found right to choose a telecom service. The fact now is written on the wall that whoever offers quality and continuous service at an affordable price will be the winner. No company can afford to dissatisfy the consumers and if any does so will definitely pay the penalty.

This study would serve as the basis for understanding marketing strategies towards cellular service providers. It will provide much needed data to survey several thousands of mobile phone users by asking the questions pertaining to the satisfaction scale towards the individual services (customer care, call drop, signal problems, etc) that will yield a more accurate measurement of marketing strategy.
It will be interesting to investigate youths and their usage of cellular services. The age of the adopter of cellular technology is getting younger making more high school and college users an interesting demographic group to study regarding their cellular telephone use.

The use of telecom services in the areas of Banking, Insurance, trade and commerce divisions, and management of different Institutions has become the inherent feature and inevitable characteristic of modern era. Thus, the importance and relevance of telecom services are of great help for keeping pace with the rapidly changing global environment.

Regarding services, cellular service providers may wish to consider the responses from participants in this survey regarding their satisfaction with and complaints about cellular service. Their preferences should be considered carefully by service providers in order to provide the services that consumers want.
Limitations of the study:-

This study was mainly conducted with the aim of determining marketing strategies on telecom sector, this study had several limitations.

- A convenience data sample was used. Although it was conducted that this data collection procedure produced reliable and valid results, the external validity of the results cannot be guaranteed.

- The sample of 600 valid responses may be inadequate for an exploratory research only and larger sample size is required for future confirmatory studies.

- The sample of 120 valid employees was inadequate for an exploratory research only.

- The respondents were not asked about how much minutes they spend talking on cellular telephones. This information could have revealed differences among consumer groups in terms of usage.

- The employees were restricted time boundaries in somewhere to give their response.

- Marketing strategies may change from time to time according to the market trend.
Chapterization

The entire research report has been divided into seven chapters and again each chapter is further divided into various sections and sub sections.

The first chapter deals with the introduction part of research study, Significance of the study, objective and research methodology and with review of literature.

The Second chapter describes the progress of telecom services provided by the Government of India during the five-year plan periods in the country.

The Third chapter deals with the Telecom policy. It is of vital importance to the country that there must be a comprehensive and forward-looking telecommunications policy, which creates an enabling framework for development of this industry.

The Fourth chapter elucidates the profile of the cellular companies, in today’s world, most people communicate through the use of cellular phones.

The Fifth chapter covers analysis of the Schedule, which was administered to consumers for collecting primary data from the
consumers. The schedule explains the problems of consumers in using mobile phones.

The Sixth chapter deals with the employees/operators if BSNL and private sector to know their problems and happiness with the management.

The Seventh chapter presents conclusions and suggestions. Further, it describes and assesses the interpretations of the study. The chapter highlights conclusions concerning marketing strategies. This chapter is also provides recommendations and suggestions for the service providers to improve up on the service to satisfy consumer to stay in Indian market for a long time.